



Open Source Used In AppDynamics_Python_Agent 23.8.0

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1.2 debconf 1.5.79ubuntu1

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1.3 libxdata 1.7.5-1ubuntu0.2

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1.4 zulu-ca-jre-headless 11.0.20-1

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1.5 alpine-baselayout-data 3.4.0-r0

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pkgname=perl-software-license

_pkgreal=Software-License

pkgver=0.103004

pkgrel=0

pkgdesc="packages that provide templated software licenses"

url="http://search.cpan.org/dist/Software-License/"

arch="noarch"

license="GPL PerlArtistic"

cpandepends="perl-text-template perl-data-section perl-sub-install"

cpanmakedepends=" "

depends="\$cpandepends"

makedepends="perl-dev \$cpanmakedepends"

subpackages="\$pkgname-doc"

source="http://search.cpan.org/CPAN/authors/id/R/RJ/RJBS/\$_pkgreal-\$pkgver.tar.gz"

_builddir="\$srctdir/\$_pkgreal-\$pkgver"

prepare() {

cd "\$_builddir"

export CFLAGS=`perl -MConfig -E 'say \$Config{ccflags}'`

PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor

```
}
```

```
build() {  
  cd "$_builddir"  
  export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`  
  make && make test  
}
```

```
package() {  
  cd "$_builddir"  
  make DESTDIR="$pkgdir" install || return 1  
  find "$pkgdir" \( -name perllocal.pod -o -name .packlist \) -delete  
}
```

```
md5sums="0c5fd53d93818566234578b27d667b35 Software-License-0.103004.tar.gz"
```

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```
/*
```

```
* Create mount directories in fstab
```

```
*
```

```
* Copyright(c) 2008 Natanael Copa <natanael.copa@gmail.com>
```

```
* May be distributed under the terms of GPL-2
```

```
*
```

```
* usage: mkmntdirs [fstab]
```

```
*
```

```
*/
```

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pkgrel=0
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="http://search.cpan.org/dist/BSD-Resource/"
arch="all"
license="GPL PerlArtistic"
cpandepends=""
cpanmakedepends=""
depends="$cpandepends"
makedepends="perl-dev $cpanmakedepends"
subpackages="$pkgname-doc"
source="http://search.cpan.org/CPAN/authors/id/J/JH/JHI/_pkgreal-$pkgver.tar.gz"

_builddir="$srcdir/_pkgreal-$pkgver"

prepare() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor
}

build() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    make && make test || return 1
}

package() {
    cd "$_builddir"
    make DESTDIR="$pkgdir" install || return 1
    find "$pkgdir" \( -name perllocal.pod -o -name .packlist \) -delete
}
```

```

md5sums="3c6dd2fa953088aa87e263f40818d012 BSD-Resource-1.2909.tar.gz"
sha256sums="c47d460e2bd00d8d049f6ff4a0f1f61957e289e8de45af5fc79e851e2e855e06 BSD-Resource-
1.2909.tar.gz"
sha512sums="5f489eaac5089e82081b7cf51d62638750e443751b49415407354da96b17771819b5e6e85529faa41ddd
85743363750157943c7f7700276cce2bd40a429fa430 BSD-Resource-1.2909.tar.gz"
# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
# Maintainer: Fabian Affolter <fabian@affolter-engineering.ch>
pkgname=py-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.1
pkgrel=1
pkgdesc="Extension for flake8 which checks for copyrights"
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"
depends="python flake8"
depends_dev=""
makedepends="python-dev py-setuptools"
install=""
subpackages=""
source="http://pypi.python.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"

_builddir="$srcdir"/$_pkgname-$pkgver
prepare() {
    local i
    cd "$_builddir"
    for i in $source; do
        case $i in
            *.patch) msg $i; patch -p1 -i "$srcdir"/$i || return 1;;
        esac
    done
}

build() {
    cd "$_builddir"
    python setup.py build || return 1
}

package() {
    cd "$_builddir"
    python setup.py install --prefix=/usr --root="$pkgdir" || return 1
}

md5sums="8fab17d27f0b417c44ea0bebf579d71b flake8-copyright-0.1.tar.gz"
sha256sums="34cba5411ef3f677b7ba8d7b063493c9ed5af9985b2da77807be94bf9e65823b flake8-copyright-
0.1.tar.gz"
sha512sums="c1ef4b8ad4bd422b629ec481074256d33ca4c8e8f10c7a7da6619b01c18ccf6f8a86bf6c7ce4d73f29a93e

```

```
0f23797c1a356abcf242e9f556b979b75e3a8bfe46 flake8-copyright-0.1.tar.gz"
# Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-igpl
pkgver=2.3.21
pkgrel=5
pkgdesc="A library for high-performance 2D graphics"
url="http://www.levien.com/libart/"
arch="all"
license="LGPL"
depends=
makedepends=
subpackages="$pkgname-dev"
source="http://ftp.gnome.org/pub/GNOME/sources/libart_igpl/2.3/libart_igpl-$pkgver.tar.bz2"
"
```

```
_builddir="$srcdir"/libart_igpl-$pkgver
```

```
prepare() {
  cd "$_builddir"
  update_config_sub || return 1
}
```

```
build() {
  cd "$_builddir"
  ./configure \
  --build=$CBUILD \
  --host=$CHOST \
  --prefix=/usr \
  || return 1
  make || return 1
}
```

```
package() {
  cd "$_builddir"
  make DESTDIR="$pkgdir" install || return 1
}
```

```
md5sums="08559ff3c67fd95d57b0c5e91a6b4302 libart_igpl-2.3.21.tar.bz2"
```

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1.6 libmd 1.0.4-1build1

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man/sha2.3

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1.7 jzmq-devices 3.1.1-SNAPSHOT

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```

ByteArray.kt", "kotlin/UIntArray.kt", "kotlin/ULongArray.kt", "kotlin/ULong.kt", "kotlin/UShortArray.kt", "kotlin/Comparator.kt", "coroutines/Continuation.kt", "util/Preconditions.kt", "generated/_ArraysJs.kt", "comparisons/Comparisons.kt", "util/Standard.kt", "generated/_ComparisonsJs.kt", "generated/_Collections.kt", "kotlin/collections.kt", "collections/Iterators.kt", "generated/_Comparisons.kt", "generated/_Maps.kt", "kotlin/ranges.kt", "generated/_Sequences.kt", "dummy.kt", "generated/_Sets.kt", "generated/_Strings.kt", "text/Strings.kt", "kotlin/string.kt", "generated/_UArrays.kt", "generated/_UCollections.kt", "generated/_UComparisons.kt", "generated/_URanges.kt", "generated/_USequences.kt", "Collections.kt", "Iterators.kt", "ProgressionIterators.kt", "Progressions.kt", "Range.kt", "Unit.kt", "annotation/Annotations.kt", "internal/InternalAnnotations.kt", "internal/progressionUtil.kt", "reflect/KParameter.kt", "reflect/KType.kt", "reflect/KVariance.kt", "reflect/KVisibility.kt", "kotlin/builtins.kt", "generated/_CollectionsJs.kt", "generated/_StringsJs.kt", "generated/_UArraysJs.kt", "jquery/ui.kt", "kotlin/annotations.kt", "kotlin/annotationsJVM.kt", "kotlin/jsTypeOf.kt", "kotlin/kotlin.kt", "kotlin/char.kt", "kotlin/collections/AbstractMutableCollection.kt", "kotlin/collections/AbstractMutableList.kt", "kotlin/collections/AbstractMutableMap.kt", "kotlin/collections/AbstractMutableSet.kt", "kotlin/collections/ArrayList.kt", "kotlin/collections/ArraySorting.kt", "kotlin/collections/ArraysJs.kt", "kotlin/collections/EqualityComparator.kt", "kotlin/collections/HashMap.kt", "kotlin/collections/HashSet.kt", "kotlin/collections/InternalHashMap.kt", "kotlin/collections/Utils.kt", "kotlin/collections/InternalMap.kt", "kotlin/collections/InternalStringMap.kt", "kotlin/collections/LinkedHashMap.kt", "kotlin/collections/LinkedHashSet.kt", "kotlin/concurrent.kt", "kotlin/console.kt", "kotlin/coroutines/CoroutineImpl.kt", "util/Result.kt", "kotlin/coroutines/SafeContinuationJs.kt", "kotlin/coroutines/intrinsics/IntrinsicsJs.kt", "kotlin/coroutines/js/internal/EmptyContinuation.kt", "kotlin/date.kt", "kotlin/dom/Builders.kt", "kotlin/dom/Classes.kt", "text/regex/RegexExtensions.kt", "text/StringBuilder.kt", "kotlin/dom/Dom.kt", "kotlin/dom/EventListener.kt", "kotlin/dom/ItemArrayLike.kt", "kotlin/dom/Mutations.kt", "kotlin/dynamic.kt", "kotlin/exceptionUtils.kt", "kotlin/exceptions.kt", "collections/Grouping.kt", "kotlin/grouping.kt", "kotlin/js.math.kt", "kotlin/json.kt", "kotlin/math.kt", "kotlin/numbers.kt", "kotlin/numberConversions.kt", "kotlin/promise.kt", "kotlin/random/PlatformRandom.kt", "kotlin/reflect/JsClass.kt", "kotlin/reflect/KClassImpl.kt", "kotlin/reflect/primitives.kt", "kotlin/reflect/reflection.kt", "kotlin/regex.kt", "kotlin/regexp.kt", "kotlin/sequence.kt", "kotlin/stringsCode.kt", "kotlin/text.kt", "org.w3c/org.khronos.webgl.kt", "org.w3c/org.w3c.dom.clipboard.kt", "org.w3c/org.w3c.dom.css.kt", "org.w3c/org.w3c.dom.events.kt", "org.w3c/org.w3c.dom.kt", "org.w3c/org.w3c.fetch.kt", "org.w3c/org.w3c.dom.mediacapture.kt", "org.w3c/org.w3c.dom.pointerevents.kt", "org.w3c/org.w3c.dom.svg.kt", "org.w3c/org.w3c.files.kt", "org.w3c/org.w3c.notifications.kt", "org.w3c/org.w3c.workers.kt", "org.w3c/org.w3c.xhr.kt", "annotations/Experimental.kt", "annotations/Inference.kt", "annotations/Multiplatform.kt", "collections/AbstractCollection.kt", "collections/AbstractIterator.kt", "collections/AbstractList.kt", "collections/AbstractMap.kt", "collections/AbstractSet.kt", "collections/Arrays.kt", "collections/IndexedValue.kt", "collections/MapAccessors.kt", "collections/MapWithDefault.kt", "collections/MutableCollections.kt", "collections/ReversedViews.kt", "collections/SequenceBuilder.kt", "collections/SlidingWindow.kt", "collections/UArraySorting.kt", "contracts/ContractBuilder.kt", "coroutines/ContinuationInterceptor.kt", "coroutines/CoroutineContext.kt", "coroutines/CoroutineContextImpl.kt", "coroutines/intrinsics/Intrinsics.kt", "experimental/bitwiseOperations.kt", "experimental/inferenceMarker.kt", "internal/Annotations.kt", "properties/Delegates.kt", "properties/ObservableProperty.kt", "random/Random.kt", "random/URandom.kt", "random/XorWowRandom.kt", "ranges/Ranges.kt", "text/Char.kt", "text/Indent.kt", "text/Typography.kt", "text/regex/MatchResult.kt", "util/HashCode.kt", "util/KotlinVersion.kt", "util/LateInit.kt", "util/Lazy.kt", "util/Suspend.kt", "util/Tuples.kt", "kotlin/UIntRange.kt", "kotlin/UITerators.kt", "kotlin/ULongRange.kt", "kotlin/UMath.kt", "kotlin/UProgressionUtil.kt", "kotlin/UStrings.kt", "kotlin/annotations/Unsigned.kt", "kotlin/MathH.kt", "Intrinsics.kt", "CoroutinesLibrary.kt", "coroutines.kt", "coroutinesIntrinsics.kt", "ContinuationInterceptor.kt", "CoroutineContext.kt", "CoroutineContextImpl.kt", "Coroutines.kt", "SequenceBuilder.kt", "sourcesContent": ["(function (root, factory) {\n if (typeof define === 'function' && define.amd) {\n define('kotlin', ['exports'], factory);\n }\n else if (typeof exports === 'object') {\n factory(module.exports);\n }\n else {\n root.kotlin = {};\n factory(root.kotlin);\n }\n})(this, function (Kotlin) {\n var _ = Kotlin;\n insertContent();\n});\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n *\n Kotlin.isBooleanArray = function (a) {\n return (Array.isArray(a) || a instanceof Int8Array) && a.\$type\$ ===\n \"BooleanArray\";\n }\n Kotlin.isByteArray = function (a) {\n return a instanceof Int8Array && a.\$type\$!==

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\"BooleanArray\";};\n\nKotlin.isShortArray = function (a) {\n  return a instanceof
Int16Array\n};\n\nKotlin.isCharArray = function (a) {\n  return a instanceof Uint16Array && a.$type$ ===
\"CharArray\";};\n\nKotlin.isIntArray = function (a) {\n  return a instanceof
Int32Array\n};\n\nKotlin.isFloatArray = function (a) {\n  return a instanceof
Float32Array\n};\n\nKotlin.isDoubleArray = function (a) {\n  return a instanceof
Float64Array\n};\n\nKotlin.isLongArray = function (a) {\n  return Array.isArray(a) && a.$type$ ===
\"LongArray\";};\n\nKotlin.isArray = function (a) {\n  return Array.isArray(a) &&
!a.$type$;\n};\n\nKotlin.isArrayish = function (a) {\n  return Array.isArray(a) ||
ArrayBuffer.isView(a)\n};\n\nKotlin.arrayToString = function (a) {\n  var toString = Kotlin.isCharArray(a) ?
String.fromCharCode : Kotlin.toString;\n  return \"[\" + Array.prototype.map.call(a, function(e) { return
toString(e); }).join(\", \") + \"]\";\n};\n\nKotlin.arrayDeepToString = function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepToStringImpl(arr);\n};\n\nKotlin.arrayEquals = function (a, b) {\n  if (a ===
b) {\n    return true;\n  }\n  if (!Kotlin.isArrayish(b) || a.length !== b.length) {\n    return false;\n  }\n  for
(var i = 0, n = a.length; i < n; i++) {\n    if (!Kotlin.equals(a[i], b[i])) {\n      return false;\n    }\n  }\n  return true;\n};\n\nKotlin.arrayDeepEquals = function (a, b) {\n  return
Kotlin.kotlin.collections.contentDeepEqualsImpl(a, b);\n};\n\nKotlin.arrayHashCode = function (arr) {\n  var
result = 1;\n  for (var i = 0, n = arr.length; i < n; i++) {\n    result = ((31 * result | 0) + Kotlin.hashCode(arr[i])) |
0;\n  }\n  return result;\n};\n\nKotlin.arrayDeepHashCode = function (arr) {\n  return
Kotlin.kotlin.collections.contentDeepHashCodeImpl(arr);\n};\n\nKotlin.primitiveArraySort = function (array) {\n
array.sort(Kotlin.doubleCompareTo);\n};\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\nKotlin.getCallableRef = function(name, f) {\n  f.callableName = name;\n  return
f;\n};\n\nKotlin.getPropertyCallableRef = function(name, paramCount, getter, setter) {\n  getter.get = getter;\n
getter.set = setter;\n  getter.callableName = name;\n  return getPropertyRefClass(getter, setter,
propertyRefClassMetadataCache[paramCount]);\n};\n\nfunction getPropertyRefClass(obj, setter, cache) {\n
obj.$metadata$ = getPropertyRefMetadata(typeof setter === \"function\" ? cache.mutable : cache.immutable);\n
obj.constructor = obj;\n  return obj;\n}\n\nvar propertyRefClassMetadataCache = [\n  {\n    mutable: { value:
null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KMutableProperty0 }\n    },\n
immutable: { value: null, implementedInterface: function () {\n      return Kotlin.kotlin.reflect.KProperty0 }\n
}\n  },\n  {\n    mutable: { value: null, implementedInterface: function () {\n      return
Kotlin.kotlin.reflect.KMutableProperty1 }\n    },\n    immutable: { value: null, implementedInterface: function
() {\n      return Kotlin.kotlin.reflect.KProperty1 }\n    }\n  }\n];\n\nfunction getPropertyRefMetadata(cache)
{\n  if (cache.value === null) {\n    cache.value = {\n      interfaces: [cache.implementedInterface()],\n
baseClass: null,\n      functions: {},\n      properties: {},\n      types: {},\n      staticMembers: {}\n
};\n  }\n  return cache.value;\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\nKotlin.toShort =
function (a) {\n  return (a & 0xFFFF) << 16 >> 16;\n};\n\nKotlin.toByte = function (a) {\n  return (a & 0xFF) <<
24 >> 24;\n};\n\nKotlin.toChar = function (a) {\n  return a & 0xFFFF;\n};\n\nKotlin.numberToLong = function (a)
{\n  return a instanceof Kotlin.Long ? a : Kotlin.Long.fromNumber(a);\n};\n\nKotlin.numberToInt = function (a)
{\n  return a instanceof Kotlin.Long ? a.toInt() : Kotlin.doubleToInt(a);\n};\n\nKotlin.numberToShort = function
(a) {\n  return Kotlin.toShort(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToByte = function (a) {\n  return
Kotlin.toByte(Kotlin.numberToInt(a));\n};\n\nKotlin.numberToDouble = function (a) {\n  return
+a;\n};\n\nKotlin.numberToChar = function (a) {\n  return
Kotlin.toChar(Kotlin.numberToInt(a));\n};\n\nKotlin.doubleToInt = function(a) {\n  if (a > 2147483647) return
2147483647;\n  if (a < -2147483648) return -2147483648;\n  return a | 0;\n};\n\nKotlin.toBoxedChar = function
(a) {\n  if (a == null) return a;\n  if (a instanceof Kotlin.BoxedChar) return a;\n  return new
Kotlin.BoxedChar(a);\n};\n\nKotlin.unboxChar = function(a) {\n  if (a == null) return a;\n  return
Kotlin.toChar(a);\n};\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the

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Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n *\n\nKotlin.equals = function (obj1,
obj2) {\n  if (obj1 == null) {\n    return obj2 == null;\n  }\n  if (obj2 == null) {\n    return false;\n  }\n  if (obj1 !== obj2) {\n    return obj2 !== obj2;\n  }\n  if (typeof obj1 === \"object\" && typeof obj1.equals
=== \"function\") {\n    return obj1.equals(obj2);\n  }\n  if (typeof obj1 === \"number\" && typeof obj2 ===
\"number\") {\n    return obj1 === obj2 && (obj1 !== 0 || 1 / obj1 === 1 / obj2);\n  }\n  return obj1 ===
obj2;\n};\n\nKotlin.hashCode = function (obj) {\n  if (obj == null) {\n    return 0;\n  }\n  var objType = typeof
obj;\n  if (\"object\" === objType) {\n    return \"function\" === typeof obj.hashCode ? obj.hashCode() :
getObjectHashCode(obj);\n  }\n  if (\"function\" === objType) {\n    return getObjectHashCode(obj);\n  }\n  if (\"number\" === objType) {\n    return Kotlin.numberHashCode(obj);\n  }\n  if (\"boolean\" === objType)
{\n    return Number(obj);\n  }\n  var str = String(obj);\n  return
getStringHashCode(str);\n};\n\n\nKotlin.toString = function (o) {\n  if (o == null) {\n    return \"null\";\n  }\n  else if (Kotlin.isArrayish(o)) {\n    return \"[...]\";\n  }\n  else {\n    return o.toString();\n  }\n};\n\n\n**
@const *\nvar POW_2_32 = 4294967296;\n// TODO: consider switching to Symbol type once we are on ES6.\n\n**
@const *\nvar OBJECT_HASH_CODE_PROPERTY_NAME = \"kotlinHashCodeValue$\";\n\nfunction
getObjectHashCode(obj) {\n  if (!(OBJECT_HASH_CODE_PROPERTY_NAME in obj)) {\n    var hash =
(Math.random() * POW_2_32) | 0; // Make 32-bit signed integer.\n    Object.defineProperty(obj,
OBJECT_HASH_CODE_PROPERTY_NAME, { value: hash, enumerable: false });\n  }\n  return
obj[OBJECT_HASH_CODE_PROPERTY_NAME];\n}\n\nfunction getStringHashCode(str) {\n  var hash = 0;\n  for (var i = 0; i < str.length; i++) {\n    var code = str.charCodeAt(i);\n    hash = (hash * 31 + code) | 0; // Keep
it 32-bit.\n  }\n  return hash;\n}\n\n\nKotlin.identityHashCode = getObjectHashCode;\n\n\", /*\n * Copyright 2010-
2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n *\n\n// Copyright 2009 The Closure Library Authors. All Rights Reserved.\n\n\n//
Licensed under the Apache License, Version 2.0 (the \"License\");\n\n// you may not use this file except in compliance
with the License.\n\n// You may obtain a copy of the License at\n\n\n// http://www.apache.org/licenses/LICENSE-
2.0\n\n\n// Unless required by applicable law or agreed to in writing, software\n\n// distributed under the License is
distributed on an \"AS-IS\" BASIS,\n\n// WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either
express or implied.\n\n\n**\n * Constructs a 64-bit two's-complement integer, given its low and high 32-bit\n *
values as *signed* integers. See the from* functions below for more\n * convenient ways of constructing Longs.\n
*\n * The internal representation of a long is the two given signed, 32-bit values.\n * We use 32-bit pieces because
these are the size of integers on which\n * Javascript performs bit-operations. For operations like addition and\n *
multiplication, we split each number into 16-bit pieces, which can easily be\n * multiplied within Javascript's
floating-point representation without overflow\n * or change in sign.\n * In the algorithms below, we frequently
reduce the negative case to the\n * positive case by negating the input(s) and then post-processing the result.\n *
Note that we must ALWAYS check specially whether those values are MIN_VALUE\n * (-2^63) because -
MIN_VALUE == MIN_VALUE (since 2^63 cannot be represented as\n * a positive number, it overflows back into
a negative). Not handling this\n * case would often result in infinite recursion.\n * \n * @param {number} low The
low (signed) 32 bits of the long.\n * @param {number} high The high (signed) 32 bits of the long.\n *
*\n * @constructor\n * @final\n *\n\nKotlin.Long = function(low, high) {\n  /**\n * @type {number}\n * @private\n
*\n this.low_ = low | 0; // force into 32 signed bits.\n\n\n**\n * @type {number}\n * @private\n *\n
this.high_ = high | 0; // force into 32 signed bits.\n};\n\n\nKotlin.Long.$metadata$ = {\n  kind: \"class\", \n
simpleName: \"Long\", \n  interfaces: []\n};\n\n\n// NOTE: Common constant values ZERO, ONE, NEG_ONE, etc.
are defined below the\n\n// from* methods on which they depend.\n\n\n**\n * A cache of the Long representations of
small integer values.\n * @type {!Object}\n * @private\n *\n\nKotlin.Long.IntCache_ = {};\n\n\n**\n * Returns a
Long representing the given (32-bit) integer value.\n * @param {number} value The 32-bit integer in question.\n *
@return {!Kotlin.Long} The corresponding Long value.\n *\n\nKotlin.Long.fromInt = function(value) {\n  if (-128
<= value && value < 128) {\n    var cachedObj = Kotlin.Long.IntCache_[value];\n    if (cachedObj) {\n    return
cachedObj;\n  }\n  }\n  var obj = new Kotlin.Long(value | 0, value < 0 ? -1 : 0);\n  if (-128 <= value && value <
128) {\n    Kotlin.Long.IntCache_[value] = obj;\n  }\n  return obj;\n};\n\n\n**\n * Returns a Long representing the

```

given value, provided that it is a finite number. Otherwise, zero is returned.

`@param {number} value` The number in question.

`@return {!Kotlin.Long}` The corresponding Long value.

```

*^/Kotlin.Long.fromNumber = function(value) {
  \n if (isNaN(value) || !isFinite(value)) {
  \n   return Kotlin.Long.ZERO;
  \n } else if (value <= -Kotlin.Long.TWO_PWR_63_DBL_) {
  \n   return Kotlin.Long.MIN_VALUE;
  \n } else if (value + 1 >= Kotlin.Long.TWO_PWR_63_DBL_) {
  \n   return Kotlin.Long.MAX_VALUE;
  \n } else if (value < 0) {
  \n   return Kotlin.Long.fromNumber(-value).negate();
  \n } else {
  \n   return new Kotlin.Long(
  \n     (value % Kotlin.Long.TWO_PWR_32_DBL_) | 0,
  \n     (value / Kotlin.Long.TWO_PWR_32_DBL_) | 0);
  \n };
}

```

`@param {number} highBits` Returns a Long representing the 64-bit integer that comes by concatenating the given high and low bits. Each is assumed to use 32 bits.

`@param {number} lowBits` The low 32-bits.

`@param {number} highBits` The high 32-bits.

`@return {!Kotlin.Long}` The corresponding Long value.

```

*^/Kotlin.Long.fromBits = function(lowBits, highBits) {
  \n return new Kotlin.Long(lowBits, highBits);
  \n };
}

```

`@param {string} str` Returns a Long representation of the given string, written using the given radix.

`@param {string} str` The textual representation of the Long.

`@param {number=} opt_radix` The radix in which the text is written.

`@return {!Kotlin.Long}` The corresponding Long value.

```

*^/Kotlin.Long.fromString = function(str, opt_radix) {
  \n if (str.length == 0) {
  \n   throw Error('number format error: empty string');
  \n }
  \n var radix = opt_radix || 10;
  \n if (radix < 2 || 36 < radix) {
  \n   throw Error('radix out of range: ' + radix);
  \n }
  \n if (str.charAt(0) == '-') {
  \n   return Kotlin.Long.fromString(str.substring(1), radix).negate();
  \n } else if (str.indexOf('-') >= 0) {
  \n   throw Error('number format error: interior "-" character: ' + str);
  \n }
  \n // Do several (8) digits each time through the loop, so as to
  \n // minimize the calls to the very expensive emulated div.
  \n var radixToPower = Kotlin.Long.fromNumber(Math.pow(radix, 8));
  \n var result = Kotlin.Long.ZERO;
  \n for (var i = 0; i < str.length; i += 8) {
  \n   var size = Math.min(8, str.length - i);
  \n   var value = parseInt(str.substring(i, i + size), radix);
  \n   if (size < 8) {
  \n     var power = Kotlin.Long.fromNumber(Math.pow(radix, size));
  \n     result = result.multiply(power).add(Kotlin.Long.fromNumber(value));
  \n   } else {
  \n     result = result.multiply(radixToPower).add(Kotlin.Long.fromNumber(value));
  \n   }
  \n }
  \n return result;
  \n };
}

```

`// NOTE: the compiler should inline these constant values below and then remove these variables, so there should be no runtime penalty for these.`

`Number used repeated below in calculations.`

This must appear before the first call to any from* function below.

`@type {number}`

`@private`

```

*^/Kotlin.Long.TWO_PWR_16_DBL_ = 1 << 16;
*^/Kotlin.Long.TWO_PWR_24_DBL_ = 1 << 24;
*^/Kotlin.Long.TWO_PWR_32_DBL_ = Kotlin.Long.TWO_PWR_16_DBL_ *
  Kotlin.Long.TWO_PWR_16_DBL_;
*^/Kotlin.Long.TWO_PWR_31_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ / 2;
*^/Kotlin.Long.TWO_PWR_48_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ *
  Kotlin.Long.TWO_PWR_16_DBL_;
*^/Kotlin.Long.TWO_PWR_64_DBL_ = Kotlin.Long.TWO_PWR_32_DBL_ *
  Kotlin.Long.TWO_PWR_32_DBL_;
*^/Kotlin.Long.TWO_PWR_63_DBL_ = Kotlin.Long.TWO_PWR_64_DBL_ / 2;
*^/Kotlin.Long.ZERO = Kotlin.Long.fromInt(0);
*^/Kotlin.Long.ONE = Kotlin.Long.fromInt(1);
*^/Kotlin.Long.NEG_ONE = Kotlin.Long.fromInt(-1);
*^/Kotlin.Long.MAX_VALUE = Kotlin.Long.fromBits(0xFFFFFFFF | 0, 0x7FFFFFFF | 0);
*^/Kotlin.Long.MIN_VALUE = Kotlin.Long.fromBits(0, 0x80000000 | 0);
*^/Kotlin.Long.TWO_PWR_24_ = Kotlin.Long.fromInt(1 << 24);

```

`@return {number}` The value, assuming it is a 32-bit integer.

`@return {number}` The closest floating-point representation to this value.

```

*^/Kotlin.Long.prototype.toInt = function() {
  \n return this.low_;
  \n };
*^/Kotlin.Long.prototype.toNumber = function() {
  \n return this.high_ * Kotlin.Long.TWO_PWR_32_DBL_ +
  \n this.getLowBitsUnsigned();
  \n };
*^/Kotlin.Long.prototype.hashCode = function() {
  \n return this.high_ ^ this.low_;
  \n };

```

`@param`


```

function() {\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.MIN_VALUE;\n } else
{\n return this.not().add(Kotlin.Long.ONE);\n }};\n\n\n/**\n * Returns the sum of this and the given Long.\n *
@param {Kotlin.Long} other Long to add to this one.\n * @return {!Kotlin.Long} The sum of this and the given
Long.\n */\nKotlin.Long.prototype.add = function(other) {\n // Divide each number into 4 chunks of 16 bits, and
then sum the chunks.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 = this.low_
>>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ & 0xFFFF;\n
var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00 = 0;\n c00
+= a00 + b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 + b16;\n c32 += c16 >>> 16;\n c16 &=
0xFFFF;\n c32 += a32 + b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 + b48;\n c48 &=
0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns the
difference of this and the given Long.\n * @param {Kotlin.Long} other Long to subtract from this.\n * @return
{!Kotlin.Long} The difference of this and the given Long.\n */\nKotlin.Long.prototype.subtract = function(other)
{\n return this.add(other.negate());\n};\n\n\n/**\n * Returns the product of this and the given long.\n * @param
{Kotlin.Long} other Long to multiply with this.\n * @return {!Kotlin.Long} The product of this and the other.\n
*/\nKotlin.Long.prototype.multiply = function(other) {\n if (this.isZero()) {\n return Kotlin.Long.ZERO;\n } else
if (other.isZero()) {\n return Kotlin.Long.ZERO;\n }}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n
return other.isOdd() ? Kotlin.Long.MIN_VALUE : Kotlin.Long.ZERO;\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return this.isOdd() ? Kotlin.Long.MIN_VALUE :
Kotlin.Long.ZERO;\n }}\n\n if (this.isNegative()) {\n if (other.isNegative()) {\n return
this.negate().multiply(other.negate());\n } else {\n return this.negate().multiply(other).negate();\n }}\n } else if
(other.isNegative()) {\n return this.multiply(other.negate()).negate();\n }}\n\n // If both longs are small, use float
multiplication\n if (this.lessThan(Kotlin.Long.TWO_PWR_24_) &&\n
other.lessThan(Kotlin.Long.TWO_PWR_24_)) {\n return Kotlin.Long.fromNumber(this.toNumber() *
other.toNumber());\n }}\n\n // Divide each long into 4 chunks of 16 bits, and then add up 4x4 products.\n // We can
skip products that would overflow.\n\n var a48 = this.high_ >>> 16;\n var a32 = this.high_ & 0xFFFF;\n var a16 =
this.low_ >>> 16;\n var a00 = this.low_ & 0xFFFF;\n\n var b48 = other.high_ >>> 16;\n var b32 = other.high_ &
0xFFFF;\n var b16 = other.low_ >>> 16;\n var b00 = other.low_ & 0xFFFF;\n\n var c48 = 0, c32 = 0, c16 = 0, c00
= 0;\n c00 += a00 * b00;\n c16 += c00 >>> 16;\n c00 &= 0xFFFF;\n c16 += a16 * b00;\n c32 += c16 >>> 16;\n
c16 &= 0xFFFF;\n c16 += a00 * b16;\n c32 += c16 >>> 16;\n c16 &= 0xFFFF;\n c32 += a32 * b00;\n c48 +=
c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a16 * b16;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c32 += a00 *
b32;\n c48 += c32 >>> 16;\n c32 &= 0xFFFF;\n c48 += a48 * b00 + a32 * b16 + a16 * b32 + a00 * b48;\n c48
&= 0xFFFF;\n return Kotlin.Long.fromBits((c16 << 16) | c00, (c48 << 16) | c32);\n};\n\n\n/**\n * Returns this
Long divided by the given one.\n * @param {Kotlin.Long} other Long by which to divide.\n * @return
{!Kotlin.Long} This Long divided by the given one.\n */\nKotlin.Long.prototype.div = function(other) {\n if
(other.isZero()) {\n throw Error('division by zero');\n } else if (this.isZero()) {\n return Kotlin.Long.ZERO;\n
}}\n\n if (this.equalsLong(Kotlin.Long.MIN_VALUE)) {\n if (other.equalsLong(Kotlin.Long.ONE) ||\n
other.equalsLong(Kotlin.Long.NEG_ONE)) {\n return Kotlin.Long.MIN_VALUE; // recall that -MIN_VALUE
== MIN_VALUE\n } else if (other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ONE;\n
} else {\n // At this point, we have |other| >= 2, so |this/other| < |MIN_VALUE|. \n var halfThis =
this.shiftRight(1);\n var approx = halfThis.div(other).shiftLeft(1);\n if
(approx.equalsLong(Kotlin.Long.ZERO)) {\n return other.isNegative() ? Kotlin.Long.ONE :
Kotlin.Long.NEG_ONE;\n } else {\n var rem = this.subtract(other.multiply(approx));\n var result =
approx.add(rem.div(other));\n return result;\n }}\n }}\n } else if
(other.equalsLong(Kotlin.Long.MIN_VALUE)) {\n return Kotlin.Long.ZERO;\n }}\n\n if (this.isNegative()) {\n
if (other.isNegative()) {\n return this.negate().div(other.negate());\n } else {\n return
this.negate().div(other).negate();\n }}\n } else if (other.isNegative()) {\n return
this.div(other.negate()).negate();\n }}\n\n // Repeat the following until the remainder is less than other: find a\n //
floating-point that approximates remainder / other *from below*, add this\n // into the result, and subtract it from

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Kotlin.Long.prototype.compare;\n\nKotlin.Long.prototype.inc = function() {\n  return
this.add(Kotlin.Long.ONE);\n};\n\nKotlin.Long.prototype.dec = function() {\n  return
this.add(Kotlin.Long.NEG_ONE);\n};\n\nKotlin.Long.prototype.valueOf = function() {\n  return
this.toNumber();\n};\n\nKotlin.Long.prototype.unaryPlus = function() {\n  return
this;\n};\n\nKotlin.Long.prototype.unaryMinus = Kotlin.Long.prototype.negate;\n\nKotlin.Long.prototype.inv =
Kotlin.Long.prototype.not;\n\nKotlin.Long.prototype.rangeTo = function (other) {\n  return new
Kotlin.kotlin.ranges.LongRange(this, other);\n};\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n**\n *
@param {string} id\n * @param {Object} declaration\n */\n\nKotlin.defineModule = function (id, declaration)
{\n};\n\nKotlin.defineInlineFunction = function (tag, fun) {\n  return fun;\n};\n\nKotlin.wrapFunction =
function (fun) {\n  var f = function() {\n    f = fun();\n    return f.apply(this, arguments);\n  };
return
function() {\n    return f.apply(this, arguments);\n  };
};\n\nKotlin.isTypeOf = function (type) {\n  return
function (object) {\n    return typeof object === type;\n  };\n};\n\nKotlin.isInstanceOf = function (klass) {\n
return function (object) {\n    return Kotlin.isType(object, klass);\n  };\n};\n\nKotlin.orNull = function (fn) {\n
return function (object) {\n    return object == null || fn(object);\n  };\n};\n\nKotlin.andPredicate = function (a, b)
{\n  return function (object) {\n    return a(object) && b(object);\n  };\n};\n\nKotlin.kotlinModuleMetadata =
function (abiVersion, moduleName, data) {\n};\n\nKotlin.suspendCall = function (value) {\n  return
value;\n};\n\nKotlin.coroutineResult = function (qualifier) {\n
throwMarkerError();\n};\n\nKotlin.coroutineController = function (qualifier) {\n
throwMarkerError();\n};\n\nKotlin.coroutineReceiver = function (qualifier) {\n
throwMarkerError();\n};\n\nKotlin.setCoroutineResult = function (value, qualifier) {\n
throwMarkerError();\n};\n\nfunction throwMarkerError() {\n  throw new Error(\n    \"This marker function
should never be called. \" +\n    \"Looks like compiler did not eliminate it properly. \" +\n    \"Please, report
an issue if you caught this exception.\");\n};\n\nKotlin.getFunctionById = function (id, defaultValue) {\n  return
function() {\n    return defaultValue;\n  };\n};\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\nKotlin.compareTo = function (a, b) {\n  var typeA = typeof a;\n  if (typeA === \"number\") {\n    if
(typeof b === \"number\") {\n      return Kotlin.doubleCompareTo(a, b);\n    }\n    return
Kotlin.primitiveCompareTo(a, b);\n  }\n  if (typeA === \"string\" || typeA === \"boolean\") {\n    return
Kotlin.primitiveCompareTo(a, b);\n  }\n  return a.compareTo_11rb$(b);\n};\n\nKotlin.primitiveCompareTo =
function (a, b) {\n  return a < b ? -1 : a > b ? 1 : 0;\n};\n\nKotlin.doubleCompareTo = function (a, b) {\n  if (a < b)
return -1;\n  if (a > b) return 1;\n\n  if (a === b) {\n    if (a !== 0) return 0;\n\n    var ia = 1 / a;\n    return ia
=== 1 / b ? 0 : (ia < 0 ? -1 : 1);\n  }\n  return a !== a ? (b !== b ? 0 : 1) : -1;\n};\n\nKotlin.charInc = function
(value) {\n  return Kotlin.toChar(value+1);\n};\n\nKotlin.charDec = function (value) {\n  return
Kotlin.toChar(value-1);\n};\n\nKotlin.imul = Math.imul || imul;\n\nKotlin.imulEmulated = imul;\n\nfunction imul(a,
b) {\n  return ((a & 0xffff0000) * (b & 0xffff) + (a & 0xffff) * (b | 0)) | 0;\n};\n\n(function() {\n  var buf = new
ArrayBuffer(8);\n  var bufFloat64 = new Float64Array(buf);\n  var bufFloat32 = new Float32Array(buf);\n  var
bufInt32 = new Int32Array(buf);\n  var lowIndex = 0;\n  var highIndex = 1;\n\n  bufFloat64[0] = -1; //
bff00000_00000000\n  if (bufInt32[lowIndex] !== 0) {\n    lowIndex = 1;\n    highIndex = 0;\n  }\n\n  Kotlin.doubleToBits = function (value) {\n    return Kotlin.doubleToRawBits(isNaN(value) ? NaN : value);\n
};\n\n  Kotlin.doubleToRawBits = function (value) {\n    bufFloat64[0] = value;\n    return
Kotlin.Long.fromBits(bufInt32[lowIndex], bufInt32[highIndex]);\n  };
\n  Kotlin.doubleFromBits =
function (value) {\n    bufInt32[lowIndex] = value.low_;\n    bufInt32[highIndex] = value.high_;\n    return
bufFloat64[0];\n  };
\n  Kotlin.floatToBits = function (value) {\n    return Kotlin.floatToRawBits(isNaN(value)
? NaN : value);\n  };
\n  Kotlin.floatToRawBits = function (value) {\n    bufFloat32[0] = value;\n    return
bufInt32[0];\n  };
\n  Kotlin.floatFromBits = function (value) {\n    bufInt32[0] = value;\n    return
bufFloat32[0];\n  };
\n  // returns zero value for number with positive sign bit and non-zero value for number
with negative sign bit.\n  Kotlin.doubleSignBit = function (value) {\n    bufFloat64[0] = value;\n    return

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bufInt32[highIndex] & 0x80000000;\n  };\n\n Kotlin.numberHashCode = function(obj) {\n    if ((obj | 0) ===
obj) {\n      return obj | 0;\n    } else {\n      bufFloat64[0] = obj;\n      return (bufInt32[highIndex]
* 31 | 0) + bufInt32[lowIndex] | 0;\n    };\n  });\n\nKotlin.ensureNotNull = function(x) {\n  return x != null
? x : Kotlin.throwNPE();\n};\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by
the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\nif (typeof
String.prototype.startsWith === \"undefined\") {\n  String.prototype.startsWith = function(searchString, position)
{\n    position = position || 0;\n    return this.lastIndexOf(searchString, position) === position;\n  };\n}\n\nif
(typeof String.prototype.endsWith === \"undefined\") {\n  String.prototype.endsWith = function(searchString,
position) {\n    var subjectString = this.toString();\n    if (position === undefined || position >
subjectString.length) {\n      position = subjectString.length;\n    }\n    position -= searchString.length;\n
var lastIndex = subjectString.indexOf(searchString, position);\n    return lastIndex !== -1 && lastIndex ===
position;\n  };\n}\n\n// ES6 Math polyfills\n\nif (typeof Math.sign === \"undefined\") {\n  Math.sign = function(x) {\n
x = +x; // convert to a number\n    if (x === 0 || isNaN(x)) {\n      return Number(x);\n    }\n    return x
> 0 ? 1 : -1;\n  };\n}\n\nif (typeof Math.trunc === \"undefined\") {\n  Math.trunc = function(x) {\n    if (isNaN(x))
{\n      return NaN;\n    }\n    if (x > 0) {\n      return Math.floor(x);\n    }\n    return Math.ceil(x);\n
};\n}\n\n(function() {\n  var epsilon = 2.220446049250313E-16;\n  var taylor_2_bound = Math.sqrt(epsilon);\n
var taylor_n_bound = Math.sqrt(taylor_2_bound);\n  var upper_taylor_2_bound = 1/taylor_2_bound;\n  var
upper_taylor_n_bound = 1/taylor_n_bound;\n\n  if (typeof Math.sinh === \"undefined\") {\n    Math.sinh =
function(x) {\n      if (Math.abs(x) < taylor_n_bound) {\n        var result = x;\n        if (Math.abs(x) >
taylor_2_bound) {\n          result += (x * x * x) / 6;\n        }\n        return result;\n      } else {\n
var y = Math.exp(x);\n        var y1 = 1 / y;\n        if (!isFinite(y)) return Math.exp(x - Math.LN2);\n
        if (!isFinite(y1)) return -Math.exp(-x - Math.LN2);\n        return (y - y1) / 2;\n      }\n    };\n  }\n
}\n\nif (typeof Math.cosh === \"undefined\") {\n  Math.cosh = function(x) {\n    var y = Math.exp(x);\n
var y1 = 1 / y;\n    if (!isFinite(y) || !isFinite(y1)) return Math.exp(Math.abs(x) - Math.LN2);\n    return (y
+ y1) / 2;\n  };\n}\n\nif (typeof Math.tanh === \"undefined\") {\n  Math.tanh = function(x){\n    if
(Math.abs(x) < taylor_n_bound) {\n      var result = x;\n      if (Math.abs(x) > taylor_2_bound) {\n
result -= (x * x * x) / 3;\n      }\n      return result;\n    } else {\n      var a =
Math.exp(+x), b = Math.exp(-x);\n      return a === Infinity ? 1 : b === Infinity ? -1 : (a - b) / (a + b);\n
}\n  };\n}\n\n// Inverse hyperbolic function implementations derived from boost special math functions,\n
// Copyright Eric Ford & Hubert Holin 2001.\n\nif (typeof Math.asinh === \"undefined\") {\n  var asinh =
function(x) {\n    if (x >= +taylor_n_bound)\n      {\n        if (x > upper_taylor_n_bound)\n          {\n            if (x > upper_taylor_2_bound)\n              {\n                // approximation by laurent series in
1/x at 0+ order from -1 to 0\n                return Math.log(x) + Math.LN2;\n              }\n            else\n              {\n                // approximation by laurent series in 1/x at 0+ order from -1 to 1\n                return
Math.log(x * 2 + (1 / (x * 2)));\n              }\n            else\n              {\n                return
Math.log(x + Math.sqrt(x * x + 1));\n              }\n            else if (x <= -taylor_n_bound)\n              {\n
return -asinh(-x);\n            }\n            else\n              {\n                // approximation by taylor series in x at 0 up to
order 2\n                var result = x;\n                if (Math.abs(x) >= taylor_2_bound)\n                  {\n                    var x3 =
x * x * x;\n                    // approximation by taylor series in x at 0 up to order 4\n                    result -= x3 / 6;\n
}\n                return result;\n              }\n            };\n          }\n        Math.asinh = asinh;\n      }\n    }\n\nif (typeof Math.acosh ===
\"undefined\") {\n  Math.acosh = function(x) {\n    if (x < 1)\n      {\n        return NaN;\n      }\n    else if (x - 1 >= taylor_n_bound)\n      {\n        if (x > upper_taylor_2_bound)\n          {\n            // approximation by laurent series in 1/x at 0+ order from -1 to 0\n            return Math.log(x) + Math.LN2;\n
}\n          else\n            {\n              return Math.log(x + Math.sqrt(x * x - 1));\n            }\n        }\n      }\n    else\n      {\n        var y = Math.sqrt(x - 1);\n        // approximation by taylor series in y at 0
up to order 2\n        var result = y;\n        if (y >= taylor_2_bound)\n          {\n            var y3 = y *
y * y;\n            // approximation by taylor series in y at 0 up to order 4\n            result -= y3 / 12;\n
}\n        return Math.sqrt(2) * result;\n      }\n    };\n  }\n}\n\nif (typeof Math.atanh === \"undefined\")

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{\n    Math.atanh = function(x) {\n        if (Math.abs(x) < taylor_n_bound) {\n            var result = x;\n        }\n        if (Math.abs(x) > taylor_2_bound) {\n            result += (x * x * x) / 3;\n        }\n        return result;\n    }\n    return Math.log((1 + x) / (1 - x)) / 2;\n};\n\nif (typeof Math.log1p === \"undefined\") {\n    Math.log1p = function(x) {\n        if (Math.abs(x) < taylor_n_bound) {\n            var x2 = x * x;\n            var x3 = x2 * x;\n            var x4 = x3 * x;\n            // approximation by taylor series in x at 0 up to order 4\n            return (-x4 / 4 + x3 / 3 - x2 / 2 + x);\n        }\n        return Math.log(x + 1);\n    };}\n\nif (typeof\nMath.expm1 === \"undefined\") {\n    Math.expm1 = function(x) {\n        if (Math.abs(x) < taylor_n_bound)\n        {\n            var x2 = x * x;\n            var x3 = x2 * x;\n            var x4 = x3 * x;\n            // approximation by\n            taylor series in x at 0 up to order 4\n            return (x4 / 24 + x3 / 6 + x2 / 2 + x);\n        }\n        return\nMath.exp(x) - 1;\n    };}\n\nif (typeof Math.hypot === \"undefined\") {\n    Math.hypot = function() {\n        var y = 0;\n        var length = arguments.length;\n        for (var i = 0; i < length; i++) {\n            if (arguments[i]\n            === Infinity || arguments[i] === -Infinity) {\n                return Infinity;\n            }\n            y += arguments[i] * arguments[i];\n        }\n        return Math.sqrt(y);\n    };}\n\nif (typeof Math.log10 === \"undefined\") {\n    Math.log10 = function(x) {\n        return Math.log(x) * Math.LOG10E;\n    };}\n\nif (typeof Math.log2 ===\n\"undefined\") {\n    Math.log2 = function(x) {\n        return Math.log(x) * Math.LOG2E;\n    };}\n\n// For\nHtmlUnit and PhantomJs\nif (typeof ArrayBuffer.isView === \"undefined\") {\n    ArrayBuffer.isView =\nfunction(a) {\n        return a != null && a.__proto__ != null && a.__proto__.__proto__ ===\nInt8Array.prototype.__proto__;\n    };}\n\n(function() {\n    function normalizeOffset(offset, length) {\n        if\n(offset < 0) return Math.max(0, offset + length);\n        return Math.min(offset, length);\n    }\n    function\ntypedArraySlice(begin, end) {\n        if (typeof end === \"undefined\") {\n            end = this.length;\n        }\n        begin = normalizeOffset(begin || 0, this.length);\n        end = Math.max(begin, normalizeOffset(end, this.length));\n        return new this.constructor(this.subarray(begin, end));\n    }\n\n    var arrays = [Int8Array, Int16Array,\nUint16Array, Int32Array, Float32Array, Float64Array];\n    for (var i = 0; i < arrays.length; ++i) {\n        var\nTypedArray = arrays[i];\n        if (typeof TypedArray.prototype.slice === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'slice', {\n                value: typedArraySlice\n            });\n        }\n    }\n\n    // Patch apply to work with TypedArrays if needed.\n    try {\n        (function() {}).apply(null, new\nInt32Array(0))\n    } catch (e) {\n        var apply = Function.prototype.apply;\n        Object.defineProperty(Function.prototype, 'apply', {\n            value: function(self, array) {\n                return\n                apply.call(this, self, [].slice.call(array));\n            }\n        });\n    }\n\n    // Patch map to work with TypedArrays if\nneeded.\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof\nTypedArray.prototype.map === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'map', {\n                value: function(callback, self) {\n                    return [].slice.call(this).map(callback, self);\n                }\n            });\n        }\n    }\n\n    // Patch sort to work with TypedArrays if needed.\n    // TODO: consider to remove\nfollowing function and replace it with `Kotlin.doubleCompareTo` (see misc.js)\n    var totalOrderComparator =\nfunction (a, b) {\n        if (a < b) return -1;\n        if (a > b) return 1;\n\n        if (a === b) {\n            if (a !== 0) return\n0;\n\n            var ia = 1 / a;\n            return ia === 1 / b ? 0 : (ia < 0 ? -1 : 1);\n        }\n\n        return a !== a ? (b !==\nb ? 0 : 1) : -1;\n    };\n\n    for (var i = 0; i < arrays.length; ++i) {\n        var TypedArray = arrays[i];\n        if (typeof\nTypedArray.prototype.sort === \"undefined\") {\n            Object.defineProperty(TypedArray.prototype, 'sort', {\n                value: function(compareFunction) {\n                    return Array.prototype.sort.call(this, compareFunction ||\n                    totalOrderComparator);\n                }\n            });\n        }\n    }\n\n    // Copyright 2010-2018 JetBrains\ns.r.o. Use of this source code is governed by the Apache 2.0 license\n* that can be found in the\nlicense/LICENSE.txt file.\n\n*/\n\nKotlin.Kind = {\n    CLASS: \"class\",\n    INTERFACE: \"interface\",\n    OBJECT: \"object\"\n};\n\nKotlin.callGetter = function (thisObject, klass, propertyName) {\n    var\npropertyDescriptor = Object.getOwnPropertyDescriptor(klass, propertyName);\n    if (propertyDescriptor != null\n    && propertyDescriptor.get != null) {\n        return propertyDescriptor.get.call(thisObject);\n    }\n\n    propertyDescriptor = Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor !=\nnull && \"value\" in propertyDescriptor) {\n        return thisObject[propertyName];\n    }\n\n    return\nKotlin.callGetter(thisObject, Object.getPrototypeOf(klass), propertyName);\n}\n\nKotlin.callSetter = function

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(thisObject, klass, propertyName, value) {\n    var propertyDescriptor = Object.getOwnPropertyDescriptor(klass,
propertyName);\n    if (propertyDescriptor != null && propertyDescriptor.set != null) {\n
propertyDescriptor.set.call(thisObject, value);\n        return;\n    }\n    propertyDescriptor =
Object.getOwnPropertyDescriptor(thisObject, propertyName);\n    if (propertyDescriptor != null && \"value\" in
propertyDescriptor) {\n        thisObject[propertyName] = value;\n        return\n    }\n    Kotlin.callSetter(thisObject,
Object.getPrototypeOf(klass), propertyName, value);\n};\n\nfunction isInheritanceFromInterface(ctor, iface) {\n    if
(ctor === iface) return true;\n    var metadata = ctor.$metadata$;\n    if (metadata != null) {\n        var interfaces =
metadata.interfaces;\n        for (var i = 0; i < interfaces.length; i++) {\n            if
(isInheritanceFromInterface(interfaces[i], iface)) {\n                return true;\n            }\n        }\n    }\n    var
superPrototype = ctor.prototype != null ? Object.getPrototypeOf(ctor.prototype) : null;\n    var superConstructor =
superPrototype != null ? superPrototype.constructor : null;\n    return superConstructor != null &&
isInheritanceFromInterface(superConstructor, iface);\n}\n\n/**\n * @param {*} object\n * @param
{Function|Object} klass\n * @returns {Boolean}\n */\nKotlin.isType = function (object, klass) {\n    if (klass ===
Object) {\n        switch (typeof object) {\n            case \"string\":\n                case \"number\":\n                case
\"boolean\":\n                case \"function\":\n                return true;\n            default:\n                return object instanceof
Object;\n        }\n    }\n    if (object == null || klass == null || (typeof object !== 'object' && typeof object !==
'function')) {\n        return false;\n    }\n    if (typeof klass === \"function\" && object instanceof klass) {\n
return true;\n    }\n    var proto = Object.getPrototypeOf(klass);\n    var constructor = proto != null ?
proto.constructor : null;\n    if (constructor != null && \"$metadata$\" in constructor) {\n        var metadata =
constructor.$metadata$;\n        if (metadata.kind === Kotlin.Kind.OBJECT) {\n            return object === klass;\n
        }\n    }\n    var classMetadata = klass.$metadata$;\n    // In WebKit (JavaScriptCore) for some interfaces from
DOM typeof returns \"object\", nevertheless they can be used in RHS of instanceof\n    if (classMetadata == null)\n    {\n        return object instanceof klass;\n    }\n    if (classMetadata.kind === Kotlin.Kind.INTERFACE &&
object.constructor != null) {\n        return isInheritanceFromInterface(object.constructor, klass);\n    }\n    return
false;\n};\n\nKotlin.isNumber = function (a) {\n    return typeof a === \"number\" || a instanceof
Kotlin.Long;\n};\n\nKotlin.isChar = function (value) {\n    return value instanceof
Kotlin.BoxedChar;\n};\n\nKotlin.isComparable = function (value) {\n    var type = typeof value;\n    return type
=== \"string\" ||\n        type === \"boolean\" ||\n        Kotlin.isNumber(value) ||\n        Kotlin.isType(value,
Kotlin.kotlin.Comparable);\n};\n\nKotlin.isCharSequence = function (value) {\n    return typeof value === \"string\"
|| Kotlin.isType(value, Kotlin.kotlin.CharSequence);\n};\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n// a
package is omitted to get declarations directly under the module\n\n@PublishedApi\n\ninternal fun <T>
Array(size: Int): Array<T>\n\n@JsName(\"newArray\")\n\nfun <T> newArray(size: Int, initialValue: T) =
fillArrayVal(Array<T>(size), initialValue)\n\n@JsName(\"newArrayF\")\n\ninline fun <T> arrayWithFun(size: Int, init:
(Int) -> T) = fillArrayFun(Array<T>(size), init)\n\n@JsName(\"fillArray\")\n\ninline fun <T> fillArrayFun(array:
Array<T>, init: (Int) -> T): Array<T> {\n    for (i in 0..array.size - 1) {\n        array[i] = init(i)\n    }\n    return
array\n}\n\n@JsName(\"booleanArray\")\n\nfun booleanArray(size: Int, init: dynamic): Array<Boolean> {\n    val
result: dynamic = Array<Boolean>(size)\n    result.`$type$` = \"BooleanArray\"\n    return when (init) {\n        null,
true -> fillArrayVal(result, false)\n        false -> result\n        else -> fillArrayFun<Boolean>(result, init)\n
    }\n}\n\n@JsName(\"booleanArrayF\")\n\ninline fun booleanArrayWithFun(size: Int, init: (Int) -> Boolean):
Array<Boolean> = fillArrayFun(booleanArray(size, false),
init)\n\n@JsName(\"charArray\")\n\n@Suppress(\"UNUSED_PARAMETER\")\n\nfun charArray(size: Int, init:
dynamic): Array<Char> {\n    val result = js(\"new Uint16Array(size)\")\n    result.`$type$` = \"CharArray\"\n    return
when (init) {\n        null, true, false -> result // For consistency\n        else -> fillArrayFun<Char>(result,
init)\n    }\n}\n\n@JsName(\"charArrayF\")\n\ninline fun charArrayWithFun(size: Int, init: (Int) -> Char):
Array<Char> {\n    val array = charArray(size, null)\n    for (i in 0..array.size - 1) {\n
@Suppress(\"UNUSED_VARIABLE\") // used in js block\n        val value = init(i)\n        js(\"array[i] = value;\")\n
    }\n    return array\n}\n\n@JsName(\"untypedCharArrayF\")\n\ninline fun untypedCharArrayWithFun(size: Int, init:

```

```

(Int) -> Char): Array<Char> {
    val array = Array<Char>(size)
    for (i in 0..array.size - 1) {
        @Suppress("UNUSED_VARIABLE") // used in js block
        val value = init(i)
        js("array[i] = value;")
    }
    return array
}

@JsName("longArray")
fun longArray(size: Int, init: dynamic): Array<Long> {
    val result: dynamic = Array<Long>(size)
    result.$type$ = "LongArray"
    return when (init) {
        null, true ->
        fillArrayVal(result, 0L)
        false -> result
        else -> fillArrayFun<Long>(result, init)
    }
}

@JsName("longArrayF")
inline fun longArrayWithFun(size: Int, init: (Int) -> Long): Array<Long> =
    fillArrayFun(longArray(size, false), init)

private fun <T> fillArrayVal(array: Array<T>, initialValue: T): Array<T> {
    for (i in 0..array.size - 1) {
        array[i] = initialValue
    }
    return array
}

/*
 * Copyright 2010-2018
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 * that can be found in the
 license/LICENSE.txt file.
 */
package kotlin
public class Enum<T : Enum<T>> : Comparable<Enum<T>> {
    @JsName("name$") private var _name: String = ""
    @JsName("ordinal$") private var _ordinal: Int = 0
    val name: String
        get() = _name
    val ordinal: Int
        get() = _ordinal
    override fun
    compareTo(other: Enum<T>) = ordinal.compareTo(other.ordinal)
    override fun equals(other: Any?) = this ===
    other
    override fun hashCode(): Int = js("Kotlin.identityHashCode")(this)
    override fun toString() =
    name
    companion object {
        /*
        * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed
        by the Apache 2.0 license
        * that can be found in the license/LICENSE.txt file.
        */
        package kotlin.internal
        @JsName("DoubleCompanionObject")
        private object DoubleCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Double = js("Number.MIN_VALUE")
            @JsName("MAX_VALUE")
            val MAX_VALUE: Double = js("Number.MAX_VALUE")
            @JsName("POSITIVE_INFINITY")
            val POSITIVE_INFINITY: Double =
            js("Number.POSITIVE_INFINITY")
            @JsName("NEGATIVE_INFINITY")
            val
            NEGATIVE_INFINITY: Double = js("Number.NEGATIVE_INFINITY")
            @JsName("NaN")
            val NaN:
            Double = js("Number.NaN")
        }
        @JsName("FloatCompanionObject")
        private object FloatCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Float = js("Number.MIN_VALUE")
            @JsName("MAX_VALUE")
            val MAX_VALUE: Float = js("Number.MAX_VALUE")
            @JsName("POSITIVE_INFINITY")
            val POSITIVE_INFINITY: Float =
            js("Number.POSITIVE_INFINITY")
            @JsName("NEGATIVE_INFINITY")
            val
            NEGATIVE_INFINITY: Float = js("Number.NEGATIVE_INFINITY")
            @JsName("NaN")
            val NaN:
            Float = js("Number.NaN")
        }
        @JsName("IntCompanionObject")
        private object IntCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Int = -2147483647 - 1
            @JsName("MAX_VALUE")
            val MAX_VALUE: Int = 2147483647
            @JsName("SIZE_BYTES")
            const val SIZE_BYTES = 4
            @JsName("SIZE_BITS")
            const val SIZE_BITS = 32
        }
        @JsName("LongCompanionObject")
        private
        object LongCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Long =
            js("Kotlin.Long.MIN_VALUE")
            @JsName("MAX_VALUE")
            val MAX_VALUE: Long =
            js("Kotlin.Long.MAX_VALUE")
            @JsName("SIZE_BYTES")
            const val SIZE_BYTES = 8
            @JsName("SIZE_BITS")
            const val SIZE_BITS = 64
        }
        @JsName("ShortCompanionObject")
        private
        object ShortCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Short = -32768
            @JsName("MAX_VALUE")
            val MAX_VALUE: Short = 32767
            @JsName("SIZE_BYTES")
            const
            val SIZE_BYTES = 2
            @JsName("SIZE_BITS")
            const val SIZE_BITS =
            16
        }
        @JsName("ByteCompanionObject")
        private object ByteCompanionObject {
            @JsName("MIN_VALUE")
            val MIN_VALUE: Byte = -128
            @JsName("MAX_VALUE")
            val
            MAX_VALUE: Byte = 127
            @JsName("SIZE_BYTES")
            const val SIZE_BYTES = 1
            @JsName("SIZE_BITS")
            const val SIZE_BITS = 8
        }
        @JsName("CharCompanionObject")
        private
        object CharCompanionObject {
            @JsName("MIN_VALUE")
            public const val MIN_VALUE: Char =
            "\u0000"
            @JsName("MAX_VALUE")
            public const val MAX_VALUE: Char = "\uFFFF"
            @JsName("MIN_HIGH_SURROGATE")
            public const val MIN_HIGH_SURROGATE: Char = "\uD800"
            @JsName("MAX_HIGH_SURROGATE")
            public const val MAX_HIGH_SURROGATE: Char =
            "\uDBFF"
            @JsName("MIN_LOW_SURROGATE")
            public const val MIN_LOW_SURROGATE: Char =

```

```

@JsName("MAX_LOW_SURROGATE") public const val MAX_LOW_SURROGATE: Char =
@JsName("MIN_SURROGATE") public const val MIN_SURROGATE: Char =
MIN_HIGH_SURROGATE @JsName("MAX_SURROGATE") public const val MAX_SURROGATE:
Char = MAX_LOW_SURROGATE @JsName("SIZE_BYTES") const val SIZE_BYTES = 2 @JsName("SIZE_BITS")
const val SIZE_BITS = 16 private object StringCompanionObject
{} private object BooleanCompanionObject {}
"/ * Copyright 2010-2019 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license * that can be found in the license/LICENSE.txt file.
*/
@file:kotlin.jvm.JvmMultifileClass @file:kotlin.jvm.JvmName("ArraysKt")
package
kotlin.collections
// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt // See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib
import kotlin.random.*
Returns 1st
*element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun <T> Array<out
T>.component1(): T { return get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ByteArray.component1(): Byte { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ShortArray.component1(): Short { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun IntArray.component1(): Int { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun LongArray.component1(): Long { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun FloatArray.component1(): Float { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun DoubleArray.component1(): Double { return
get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun BooleanArray.component1():
Boolean { return get(0) }
Returns 1st *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun CharArray.component1(): Char { return
get(0) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun <T> Array<out T>.component2(): T { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ByteArray.component2(): Byte { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ShortArray.component2(): Short { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun IntArray.component2(): Int { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun LongArray.component2(): Long { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun FloatArray.component2(): Float { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun DoubleArray.component2(): Double { return
get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun BooleanArray.component2():
Boolean { return get(1) }
Returns 2nd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun CharArray.component2(): Char { return
get(1) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun <T> Array<out T>.component3(): T { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ByteArray.component3(): Byte { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun ShortArray.component3(): Short { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun IntArray.component3(): Int { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun LongArray.component3(): Long { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public inline operator fun FloatArray.component3(): Float { return
get(2) }
Returns 3rd *element* from the collection.
@kotlin.internal.InlineOnly public

```

```

inline operator fun DoubleArray.component3(): Double {\n  return get(2)\n}\n\n/**\n * Returns 3rd *element*
from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component3():
Boolean {\n  return get(2)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component3(): Char {\n  return
get(2)\n}\n\n/**\n * Returns 4th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun <T> Array<out T>.component4(): T {\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component4(): Byte {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun ShortArray.component4(): Short {\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component4(): Int {\n  return
get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun LongArray.component4(): Long {\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component4(): Float {\n
return get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic
inline operator fun DoubleArray.component4(): Double {\n  return get(3)\n}\n\n/**\n * Returns 4th *element*
from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component4():
Boolean {\n  return get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component4(): Char {\n  return
get(3)\n}\n\n/**\n * Returns 5th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun <T> Array<out T>.component5(): T {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun ByteArray.component5(): Byte {\n  return
get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun ShortArray.component5(): Short {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun IntArray.component5(): Int {\n  return
get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline
operator fun LongArray.component5(): Long {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the
collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun FloatArray.component5(): Float {\n
return get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n */\n@kotlin.internal.InlineOnly\npublic
inline operator fun DoubleArray.component5(): Double {\n  return get(4)\n}\n\n/**\n * Returns 5th *element*
from the collection.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun BooleanArray.component5():
Boolean {\n  return get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun CharArray.component5(): Char {\n  return
get(4)\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
<@kotlin.internal.OnlyInputTypes T> Array<out T>.contains(element: T): Boolean {\n  return indexOf(element)
>= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
ByteArray.contains(element: Byte): Boolean {\n  return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\npublic operator fun ShortArray.contains(element: Short): Boolean {\n  return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
IntArray.contains(element: Int): Boolean {\n  return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\npublic operator fun LongArray.contains(element: Long): Boolean {\n  return
indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator fun
FloatArray.contains(element: Float): Boolean {\n  return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if
[element] is found in the array.\n */\npublic operator fun DoubleArray.contains(element: Double): Boolean {\n
return indexOf(element) >= 0\n}\n\n/**\n * Returns `true` if [element] is found in the array.\n */\npublic operator
fun BooleanArray.contains(element: Boolean): Boolean {\n  return indexOf(element) >= 0\n}\n\n/**\n * Returns
`true` if [element] is found in the array.\n */\npublic operator fun CharArray.contains(element: Char): Boolean {\n
return indexOf(element) >= 0\n}\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n * \n * @sample

```

`samples.collections.Collections.Elements.elementAt`
`<T> Array<out T>.elementAt(index: Int): T`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`ByteArray.elementAt(index: Int): Byte`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`ShortArray.elementAt(index: Int): Short`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`IntArray.elementAt(index: Int): Int`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`LongArray.elementAt(index: Int): Long`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`FloatArray.elementAt(index: Int): Float`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`DoubleArray.elementAt(index: Int): Double`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`BooleanArray.elementAt(index: Int): Boolean`
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAt`
`CharArray.elementAt(index: Int): Char`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`<T> Array<out T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`ByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Byte): Byte`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`ShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Short): Short`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`IntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Int): Int`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`LongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Long): Long`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`FloatArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Float): Float`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

`@sample samples.collections.Collections.Elements.elementAtOrElse`
`DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double`
Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.

```

DoubleArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Double): Double {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
}
/**
 * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrElse

*
@kotlin.internal.InlineOnly
public inline fun
BooleanArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Boolean): Boolean {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
}
/**
 * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrElse

*
@kotlin.internal.InlineOnly
public inline fun
CharArray.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
<T> Array<out T>.elementAtOrNull(index: Int): T? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
ByteArray.elementAtOrNull(index: Int): Byte? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
ShortArray.elementAtOrNull(index: Int): Short? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
IntArray.elementAtOrNull(index: Int): Int? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
LongArray.elementAtOrNull(index: Int): Long? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
FloatArray.elementAtOrNull(index: Int): Float? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
DoubleArray.elementAtOrNull(index: Int): Double? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
BooleanArray.elementAtOrNull(index: Int): Boolean? {
    return this.getOrNull(index)
}
/**
 * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.
 */
@sample
samples.collections.Collections.Elements.elementAtOrNull

*
@kotlin.internal.InlineOnly
public inline fun
CharArray.elementAtOrNull(index: Int): Char? {
    return this.getOrNull(index)
}
/**
 * Returns the first element matching the given [predicate], or `null` if no such element was found.
 */
*
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.find(predicate: (T) -> Boolean): T? {
    return firstOrNull(predicate)
}
/**
 * Returns the first element matching the given [predicate], or `null` if no such element was found.
 */
*
@kotlin.internal.InlineOnly
public inline fun ByteArray.find(predicate: (Byte) -> Boolean): Byte? {
    return firstOrNull(predicate)
}
/**
 * Returns the first element matching the given [predicate], or `null` if no such element was found.
 */
*
@kotlin.internal.InlineOnly
public inline fun ShortArray.find(predicate: (Short) -> Boolean): Short? {
    return firstOrNull(predicate)
}
/**
 * Returns the first element matching the given [predicate], or `null` if no such element was found.
 */
*
@kotlin.internal.InlineOnly
public inline fun IntArray.find(predicate: (Int) -> Boolean): Int? {
    return firstOrNull(predicate)
}
/**
 * Returns the first element matching the given [predicate], or `null` if no such element was found.
 */
*
@kotlin.internal.InlineOnly
public inline fun LongArray.find(predicate: (Long) ->

```

```

Boolean): Long? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given
[predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun
FloatArray.find(predicate: (Float) -> Boolean): Float? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.find(predicate: (Double) -> Boolean): Double? {\n
return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if no
such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.find(predicate:
(Boolean) -> Boolean): Boolean? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.find(predicate: (Char) -> Boolean): Char? {\n    return
firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.findLast(predicate: (T) -> Boolean): T? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.findLast(predicate: (Byte) -
> Boolean): Byte? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.findLast(predicate: (Short) -> Boolean): Short? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.findLast(predicate: (Int) -> Boolean): Int? {\n    return
lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.findLast(predicate: (Long) ->
Boolean): Long? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.findLast(predicate: (Float) -> Boolean): Float? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no
such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.findLast(predicate: (Double) -> Boolean): Double?
{\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if
no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.findLast(predicate:
(Boolean) -> Boolean): Boolean? {\n    return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching
the given [predicate], or `null` if no such element was found.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.findLast(predicate: (Char) -> Boolean): Char? {\n
return lastOrNull(predicate)\n}\n\n/**\n * Returns first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun <T> Array<out
T>.first(): T {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return
this[0]\n}\n\n/**\n * Returns first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun ByteArray.first(): Byte {\n    if (isEmpty())\n        throw NoSuchElementException("Array is
empty.")\n    return this[0]\n}\n\n/**\n * Returns first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun ShortArray.first(): Short {\n    if (isEmpty())\n        throw
NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun IntArray.first(): Int {\n    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n
return this[0]\n}\n\n/**\n * Returns first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun LongArray.first(): Long {\n    if
(isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns first
element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun FloatArray.first(): Float {\n
    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns
first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun DoubleArray.first(): Double {\n
    if (isEmpty())\n        throw NoSuchElementException("Array is empty.")\n    return this[0]\n}\n\n/**\n * Returns
first element.\n
*/\n@throws [NoSuchElementException] if the array is empty.\n
*/\npublic fun BooleanArray.first(): Boolean {\n
    if (isEmpty())\n        throw NoSuchElementException("Array is

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empty.\n return this[0]\n\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException] if the
array is empty.\n */\npublic fun CharArray.first(): Char {\n if (isEmpty())\n throw
NoSuchElementException("Array is empty.")\n return this[0]\n}\n\n\n/**\n * Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\npublic inline fun
<T> Array<out T>.first(predicate: (T) -> Boolean): T {\n for (element in this) if (predicate(element)) return
element\n throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n */\npublic inline fun ByteArray.first(predicate: (Byte) -> Boolean): Byte {\n for (element in
this) if (predicate(element)) return element\n throw NoSuchElementException("Array contains no element
matching the predicate.")\n}\n\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun ShortArray.first(predicate: (Short) -
> Boolean): Short {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\n
public inline fun IntArray.first(predicate: (Int) -> Boolean): Int {\n for (element in this) if (predicate(element))
return element\n throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun LongArray.first(predicate: (Long) -
> Boolean): Long {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\n
public inline fun FloatArray.first(predicate: (Float) -> Boolean): Float {\n for (element in this) if
(predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun DoubleArray.first(predicate:
(Double) -> Boolean): Double {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n\n/**\n * Returns the first
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n */\n
public inline fun BooleanArray.first(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if
(predicate(element)) return element\n throw NoSuchElementException("Array contains no element matching the
predicate.")\n}\n\n\n/**\n * Returns the first element matching the given [predicate].\n * @throws
[NoSuchElementException] if no such element is found.\n */\npublic inline fun CharArray.first(predicate: (Char) ->
Boolean): Char {\n for (element in this) if (predicate(element)) return element\n throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n\n/**\n * Returns the first
element, or `null` if the array is empty.\n */\npublic fun <T> Array<out T>.firstOrNull(): T? {\n return if
(isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun
ByteArray.firstOrNull(): Byte? {\n return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or
`null` if the array is empty.\n */\npublic fun ShortArray.firstOrNull(): Short? {\n return if (isEmpty()) null else
this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun IntArray.firstOrNull():
Int? {\n return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is
empty.\n */\npublic fun LongArray.firstOrNull(): Long? {\n return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\npublic fun FloatArray.firstOrNull(): Float? {\n
return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n
public fun DoubleArray.firstOrNull(): Double? {\n return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns
the first element, or `null` if the array is empty.\n */\npublic fun BooleanArray.firstOrNull(): Boolean? {\n return
if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element, or `null` if the array is empty.\n */\n
public fun CharArray.firstOrNull(): Char? {\n return if (isEmpty()) null else this[0]\n}\n\n\n/**\n * Returns the first element
matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun <T> Array<out

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T>.firstOrNull(predicate: (T) -> Boolean): T? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun ByteArray.firstOrNull(predicate: (Byte) -> Boolean): Byte? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun ShortArray.firstOrNull(predicate: (Short) -> Boolean): Short? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun IntArray.firstOrNull(predicate: (Int) -> Boolean): Int? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun LongArray.firstOrNull(predicate: (Long) -> Boolean): Long? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun FloatArray.firstOrNull(predicate: (Float) -> Boolean): Float? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun DoubleArray.firstOrNull(predicate: (Double) -> Boolean): Double? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun BooleanArray.firstOrNull(predicate: (Boolean) -> Boolean): Boolean? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null` if element was not found.\n */\npublic inline fun CharArray.firstOrNull(predicate: (Char) -> Boolean): Char? {\n  for (element in this) if (predicate(element)) return element\n  return null\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.getOrNull(index: Int, defaultValue: (Int) -> Byte): Byte {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.getOrNull(index: Int, defaultValue: (Int) -> Short): Short {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.getOrNull(index: Int, defaultValue: (Int) -> Int): Int {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.getOrNull(index: Int, defaultValue: (Int) -> Long): Long {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.getOrNull(index: Int, defaultValue: (Int) -> Float): Float {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.getOrNull(index: Int, defaultValue: (Int) -> Double): Double {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.getOrNull(index: Int, defaultValue: (Int) -> Boolean): Boolean {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char): Char {\n  return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n

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function if the [index] is out of bounds of this array.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.getOrNull(index: Int, defaultValue: (Int) -> Char): Char {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this array.\n */\npublic fun <T> Array<out T>.getOrNull(index: Int): T? {\n    return if
(index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or
`null` if the [index] is out of bounds of this array.\n */\npublic fun ByteArray.getOrNull(index: Int): Byte? {\n
return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given
[index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun ShortArray.getOrNull(index: Int):
Short? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun IntArray.getOrNull(index:
Int): Int? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at
the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun LongArray.getOrNull(index:
Int): Long? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n */\npublic fun
FloatArray.getOrNull(index: Int): Float? {\n    return if (index >= 0 && index <= lastIndex) get(index) else
null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of this array.\n
*/\npublic fun DoubleArray.getOrNull(index: Int): Double? {\n    return if (index >= 0 && index <= lastIndex)
get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this array.\n */\npublic fun BooleanArray.getOrNull(index: Int): Boolean? {\n    return if (index >= 0 && index <=
lastIndex) get(index) else null\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of
bounds of this array.\n */\npublic fun CharArray.getOrNull(index: Int): Char? {\n    return if (index >= 0 && index
<= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain
element.\n */\npublic fun <@kotlin.internal.OnlyInputTypes T> Array<out T>.indexOf(element: T): Int {\n    if
(element == null) {\n        for (index in indices) {\n            if (this[index] == null) {\n                return index\n
            }\n        }\n    } else {\n        for (index in indices) {\n            if (element == this[index]) {\n
                return index\n            }\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain
element.\n */\npublic fun ByteArray.indexOf(element: Byte): Int {\n    for (index in indices) {\n        if (element ==
this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if
the array does not contain element.\n */\npublic fun ShortArray.indexOf(element: Short): Int {\n    for (index in
indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n */\npublic fun IntArray.indexOf(element: Int):
Int {\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n
return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
LongArray.indexOf(element: Long): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n
return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\npublic fun FloatArray.indexOf(element: Float): Int {\n    for (index in indices) {\n        if
(element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n */\npublic fun DoubleArray.indexOf(element: Double): Int
{\n    for (index in indices) {\n        if (element == this[index]) {\n            return index\n        }\n    }\n
return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not contain element.\n */\npublic fun
BooleanArray.indexOf(element: Boolean): Int {\n    for (index in indices) {\n        if (element == this[index]) {\n
return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns first index of [element], or -1 if the array does not
contain element.\n */\npublic fun CharArray.indexOf(element: Char): Int {\n    for (index in indices) {\n        if
(element == this[index]) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T>
Array<out T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n    for (index in indices) {\n        if
(predicate(this[index])) {\n            return index\n        }\n    }\n    return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun

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ByteArray.indexOfFirst(predicate: (Byte) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfFirst(predicate: (Short) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfFirst(predicate: (Int) -> Boolean): Int {\n  for (index in indices) {\n    if (predicate(this[index]))
{\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first element matching the
given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
LongArray.indexOfFirst(predicate: (Long) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfFirst(predicate: (Float) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfFirst(predicate: (Double) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
BooleanArray.indexOfFirst(predicate: (Boolean) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the first
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
CharArray.indexOfFirst(predicate: (Char) -> Boolean): Int {\n  for (index in indices) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun <T>
Array<out T>.indexOfLast(predicate: (T) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ByteArray.indexOfLast(predicate: (Byte) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
ShortArray.indexOfLast(predicate: (Short) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
IntArray.indexOfLast(predicate: (Int) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
LongArray.indexOfLast(predicate: (Long) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
FloatArray.indexOfLast(predicate: (Float) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
DoubleArray.indexOfLast(predicate: (Double) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun
BooleanArray.indexOfLast(predicate: (Boolean) -> Boolean): Int {\n  for (index in indices.reversed()) {\n    if
(predicate(this[index])) {\n      return index\n    }\n  }\n  return -1\n}\n\n/**\n * Returns index of the last
element matching the given [predicate], or -1 if the array does not contain such element.\n */\npublic inline fun

```

```

CharArray.indexOfLast(predicate: (Char) -> Boolean): Int {
    for (index in indices.reversed()) {
        if (predicate(this[index])) {
            return index
        }
    }
    return -1
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun <T> Array<out T>.last(): T {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun ByteArray.last(): Byte {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun ShortArray.last(): Short {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun IntArray.last(): Int {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun LongArray.last(): Long {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun FloatArray.last(): Float {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun DoubleArray.last(): Double {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element.
 * @throws [NoSuchElementException] if the array is empty.
 */
public fun BooleanArray.last(): Boolean {
    if (isEmpty()) {
        throw NoSuchElementException("Array is empty.")
    }
    return this[lastIndex]
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun <T> Array<out T>.last(predicate: (T) -> Boolean): T {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun ByteArray.last(predicate: (Byte) -> Boolean): Byte {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun ShortArray.last(predicate: (Short) -> Boolean): Short {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun IntArray.last(predicate: (Int) -> Boolean): Int {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun LongArray.last(predicate: (Long) -> Boolean): Long {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun FloatArray.last(predicate: (Float) -> Boolean): Float {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) {
            return element
        }
    }
    throw NoSuchElementException("Array contains no element matching the predicate.")
}
/**
 * Returns the last element matching the given [predicate].
 * @throws [NoSuchElementException] if no such element is found.
 */
public inline fun DoubleArray.last(predicate:

```



```

the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun <T>
Array<out T>.lastOrNull(predicate: (T) -> Boolean): T? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
ByteArray.lastOrNull(predicate: (Byte) -> Boolean): Byte? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
ShortArray.lastOrNull(predicate: (Short) -> Boolean): Short? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
IntArray.lastOrNull(predicate: (Int) -> Boolean): Int? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
LongArray.lastOrNull(predicate: (Long) -> Boolean): Long? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
FloatArray.lastOrNull(predicate: (Float) -> Boolean): Float? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
DoubleArray.lastOrNull(predicate: (Double) -> Boolean): Double? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
BooleanArray.lastOrNull(predicate: (Boolean) -> Boolean): Boolean? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns the last element matching the given [predicate], or `null` if no such element was found.
*/
public inline fun
CharArray.lastOrNull(predicate: (Char) -> Boolean): Char? {
    for (index in this.indices.reversed()) {
        val element = this[index]
        if (predicate(element)) return element
    }
    return null
}
/*
Returns a random element from this array.
*/
@throws NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Array<out T>.random(): T {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun ByteArray.random(): Byte {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun ShortArray.random(): Short {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun IntArray.random(): Int {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun LongArray.random(): Long {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun FloatArray.random(): Float {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun DoubleArray.random(): Double {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
*/
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun BooleanArray.random(): Boolean {
    return random(Random())
}
/*
Returns a random element from this array.
*/
@throws
NoSuchElementException if this array is empty.
}

```



```

found = true\n    }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element matching
the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Float\n}\n\n/**\n * Returns the
single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n */\npublic inline fun DoubleArray.single(predicate: (Double) -> Boolean): Double {\n    var single:
Double? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found)
throw IllegalArgumentException("Array contains more than one matching element.")\n            single = element\n
found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no element
matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Double\n}\n\n/**\n *
Returns the single element matching the given [predicate], or throws exception if there is no or more than one
matching element.\n */\npublic inline fun BooleanArray.single(predicate: (Boolean) -> Boolean): Boolean {\n    var
single: Boolean? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Boolean\n}\n\n/**\n *
Returns the single element matching the given [predicate], or throws exception if there is no
or more than one matching element.\n */\npublic inline fun CharArray.single(predicate: (Char) -> Boolean): Char
{\n    var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if
(found) throw IllegalArgumentException("Array contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Array contains no
element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as Char\n}\n\n/**\n *
Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic fun <T>
Array<out T>.singleOrNull(): T? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun ByteArray.singleOrNull(): Byte? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun ShortArray.singleOrNull(): Short? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun IntArray.singleOrNull(): Int? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or
`null` if the array is empty or has more than one element.\n */\npublic fun LongArray.singleOrNull(): Long? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n */\npublic fun FloatArray.singleOrNull(): Float? {\n    return if (size == 1) this[0] else
null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more than one element.\n */\npublic
fun DoubleArray.singleOrNull(): Double? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n */\npublic fun BooleanArray.singleOrNull():
Boolean? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is
empty or has more than one element.\n */\npublic fun CharArray.singleOrNull(): Char? {\n    return if (size == 1)
this[0] else null\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not
found or more than one element was found.\n */\npublic inline fun <T> Array<out T>.singleOrNull(predicate: (T) -
> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if
(predicate(element)) {\n            if (found) return null\n            single = element\n            found = true\n        }\n
    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element matching the given [predicate], or
`null` if element was not found or more than one element was found.\n */\npublic inline fun
ByteArray.singleOrNull(predicate: (Byte) -> Boolean): Byte? {\n    var single: Byte? = null\n    var found = false\n
for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n
found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the single element
matching the given [predicate], or `null` if element was not found or more than one element was found.\n */\npublic
inline fun ShortArray.singleOrNull(predicate: (Short) -> Boolean): Short? {\n    var single: Short? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single
= element\n            found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns the

```

single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun IntArray.singleOrNull(predicate: (Int) -> Boolean): Int? {
    var single: Int? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun LongArray.singleOrNull(predicate: (Long) -> Boolean): Long? {
    var single: Long? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun FloatArray.singleOrNull(predicate: (Float) -> Boolean): Float? {
    var single: Float? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun DoubleArray.singleOrNull(predicate: (Double) -> Boolean): Double? {
    var single: Double? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun BooleanArray.singleOrNull(predicate: (Boolean) -> Boolean): Boolean? {
    var single: Boolean? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.

```

public inline fun CharArray.singleOrNull(predicate: (Char) -> Boolean): Char? {
    var single: Char? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun <T> Array<out T>.drop(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun ByteArray.drop(n: Int): List<Byte> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun ShortArray.drop(n: Int): List<Short> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun IntArray.drop(n: Int): List<Int> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun LongArray.drop(n: Int): List<Long> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

Returns a list containing all elements except first [n] elements.

```

@throws IllegalArgumentException if [n] is negative.
@sample
samples.collections.Collections.Transformations.drop

```

```

public fun FloatArray.drop(n: Int): List<Float> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

```

```

require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return takeLast((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except first [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun DoubleArray.drop(n: Int): List<Double> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return takeLast((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except first [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun BooleanArray.drop(n: Int): List<Boolean>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return takeLast((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except first [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun CharArray.drop(n: Int): List<Char> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return takeLast((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun <T> Array<out T>.dropLast(n: Int): List<T>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun ByteArray.dropLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun ShortArray.dropLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun IntArray.dropLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun LongArray.dropLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun FloatArray.dropLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun DoubleArray.dropLast(n: Int): List<Double>
{\n  require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun BooleanArray.dropLast(n: Int):
List<Boolean> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" } }n  return take((size -
n).coerceAtLeast(0))n}n\n/**n * Returns a list containing all elements except last [n] elements.n * n * @throws
IllegalArgumentException if [n] is negative.n * n * @sample
samples.collections.Collections.Transformations.drop\n * \npublic fun CharArray.dropLast(n: Int): List<Char> {\n

```

```

require(n >= 0) { \"Requested element count $n is less than zero.\" } \n return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T>
Array<out T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {\n for (index in lastIndex downTo 0) {\n if
(!predicate(this[index])) {\n return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns
a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ByteArray.dropLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropLastWhile(predicate:
(Short) -> Boolean): List<Short> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun IntArray.dropLastWhile(predicate:
(Int) -> Boolean): List<Int> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun LongArray.dropLastWhile(predicate:
(Long) -> Boolean): List<Long> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun FloatArray.dropLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun DoubleArray.dropLastWhile(predicate:
(Double) -> Boolean): List<Double> {\n for (index in lastIndex downTo 0) {\n if (!predicate(this[index])) {\n
return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n * Returns a list containing all elements
except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun
BooleanArray.dropLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n for (index in lastIndex
downTo 0) {\n if (!predicate(this[index])) {\n return take(index + 1)\n } \n } \n return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic inline fun
CharArray.dropLastWhile(predicate: (Char) -> Boolean): List<Char> {\n for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n return take(index + 1)\n } \n } \n return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun <T> Array<out
T>.dropWhile(predicate: (T) -> Boolean): List<T> {\n var yielding = false\n val list = ArrayList<T>()\n for
(item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n list.add(item)\n
yielding = true\n } \n return list\n}\n\n/**\n * Returns a list containing all elements except first elements that
satisfy the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n *\npublic
inline fun ByteArray.dropWhile(predicate: (Byte) -> Boolean): List<Byte> {\n var yielding = false\n val list =
ArrayList<Byte>()\n for (item in this)\n if (yielding)\n list.add(item)\n else if (!predicate(item)) {\n
list.add(item)\n yielding = true\n } \n return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n *\npublic inline fun ShortArray.dropWhile(predicate:

```

```

(Short) -> Boolean): List<Short> {\n  var yielding = false\n  val list = ArrayList<Short>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun IntArray.dropWhile(predicate: (Int) -> Boolean): List<Int> {\n  var yielding = false\n  val list = ArrayList<Int>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun LongArray.dropWhile(predicate: (Long) -> Boolean): List<Long> {\n  var yielding = false\n  val list = ArrayList<Long>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun FloatArray.dropWhile(predicate: (Float) -> Boolean): List<Float> {\n  var yielding = false\n  val list = ArrayList<Float>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun DoubleArray.dropWhile(predicate: (Double) -> Boolean): List<Double> {\n  var yielding = false\n  val list = ArrayList<Double>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun BooleanArray.dropWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n  var yielding = false\n  val list = ArrayList<Boolean>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given [predicate].\n * @sample samples.collections.Collections.Transformations.drop\n */\npublic inline fun CharArray.dropWhile(predicate: (Char) -> Boolean): List<Char> {\n  var yielding = false\n  val list = ArrayList<Char>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun <T> Array<out T>.filter(predicate: (T) -> Boolean): List<T> {\n  return filterTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun ByteArray.filter(predicate: (Byte) -> Boolean): List<Byte> {\n  return filterTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun ShortArray.filter(predicate: (Short) -> Boolean): List<Short> {\n  return filterTo(ArrayList<Short>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun IntArray.filter(predicate: (Int) -> Boolean): List<Int> {\n  return filterTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun LongArray.filter(predicate: (Long) -> Boolean): List<Long> {\n  return filterTo(ArrayList<Long>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun FloatArray.filter(predicate: (Float) -> Boolean): List<Float> {\n  return filterTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun DoubleArray.filter(predicate: (Double) -> Boolean): List<Double> {\n  return filterTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun BooleanArray.filter(predicate: (Boolean) -> Boolean): List<Boolean> {\n  return filterTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */\npublic inline fun CharArray.filter(predicate: (Char) -> Boolean): List<Char> {\n  return filterTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @sample samples.collections.Collections.Transformations.filter\n */

```

```

[predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and returns
the result of predicate evaluation on the element.\n */\npublic inline fun <T> Array<out T>.filterIndexed(predicate:
(index: Int, T) -> Boolean): List<T> {\n    return filterIndexedTo(ArrayList<T>(), predicate)\n}\n\n/**\n * Returns a
list containing only elements matching the given [predicate].\n * @param [predicate] function that takes the index of
an element and the element itself\n * and returns the result of predicate evaluation on the element.\n */\npublic inline
fun ByteArray.filterIndexed(predicate: (index: Int, Byte) -> Boolean): List<Byte> {\n    return
filterIndexedTo(ArrayList<Byte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n */\npublic inline fun ShortArray.filterIndexed(predicate:
(index: Int, Short) -> Boolean): List<Short> {\n    return filterIndexedTo(ArrayList<Short>(), predicate)\n}\n\n/**\n
 * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes
the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n
*/\npublic inline fun IntArray.filterIndexed(predicate: (index: Int, Int) -> Boolean): List<Int> {\n    return
filterIndexedTo(ArrayList<Int>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n */\npublic inline fun LongArray.filterIndexed(predicate:
(index: Int, Long) -> Boolean): List<Long> {\n    return filterIndexedTo(ArrayList<Long>(), predicate)\n}\n\n/**\n
 * Returns a list containing only elements matching the given [predicate].\n * @param [predicate] function that takes
the index of an element and the element itself\n * and returns the result of predicate evaluation on the element.\n
*/\npublic inline fun FloatArray.filterIndexed(predicate: (index: Int, Float) -> Boolean): List<Float> {\n    return
filterIndexedTo(ArrayList<Float>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n */\npublic inline fun
DoubleArray.filterIndexed(predicate: (index: Int, Double) -> Boolean): List<Double> {\n    return
filterIndexedTo(ArrayList<Double>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n */\npublic inline fun
BooleanArray.filterIndexed(predicate: (index: Int, Boolean) -> Boolean): List<Boolean> {\n    return
filterIndexedTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching
the given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n *
and returns the result of predicate evaluation on the element.\n */\npublic inline fun
CharArray.filterIndexed(predicate: (index: Int, Char) -> Boolean): List<Char> {\n    return
filterIndexedTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate] to
the given [destination].\n * @param [predicate] function that takes the index of an element and the element itself\n
* and returns the result of predicate evaluation on the element.\n */\npublic inline fun <T, C : MutableCollection<in
T>> Array<out T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n    forEachIndexed {
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n */\npublic inline fun <C : MutableCollection<in Byte>>
ByteArray.filterIndexedTo(destination: C, predicate: (index: Int, Byte) -> Boolean): C {\n    forEachIndexed {
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n */\npublic inline fun <C : MutableCollection<in Short>>
ShortArray.filterIndexedTo(destination: C, predicate: (index: Int, Short) -> Boolean): C {\n    forEachIndexed {
index, element ->\n        if (predicate(index, element)) destination.add(element)\n    }\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *

```

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Int>>
IntArray.filterIndexedTo(destination: C, predicate: (index: Int, Int) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Long>>
LongArray.filterIndexedTo(destination: C, predicate: (index: Int, Long) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Float>>
FloatArray.filterIndexedTo(destination: C, predicate: (index: Int, Float) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Double>>
DoubleArray.filterIndexedTo(destination: C, predicate: (index: Int, Double) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Boolean>>
BooleanArray.filterIndexedTo(destination: C, predicate: (index: Int, Boolean) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Appends all elements matching the given [predicate] to the given [destination].

@param [predicate] function that takes the index of an element and the element itself and returns the result of predicate evaluation on the element.

```

public inline fun <C : MutableCollection<in Char>>
CharArray.filterIndexedTo(destination: C, predicate: (index: Int, Char) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

```

Returns a list containing all elements that are instances of specified type parameter R.

```

public inline fun <reified R> Array<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {
    return filterIsInstanceTo(ArrayList<R>(), predicate)
}

```

Appends all elements that are instances of specified type parameter R to the given [destination].

```

public inline fun <reified R, C : MutableCollection<in R>>
Array<*>.filterIsInstanceTo(destination: C): C {
    for (element in this) if (element is R)
        destination.add(element)
    return destination
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun <T> Array<out T>.filterNot(predicate: (T) -> Boolean): List<T> {
    return filterNotTo(ArrayList<T>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun ByteArray.filterNot(predicate: (Byte) -> Boolean): List<Byte> {
    return filterNotTo(ArrayList<Byte>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun ShortArray.filterNot(predicate: (Short) -> Boolean): List<Short> {
    return filterNotTo(ArrayList<Short>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun IntArray.filterNot(predicate: (Int) -> Boolean): List<Int> {
    return filterNotTo(ArrayList<Int>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun LongArray.filterNot(predicate: (Long) -> Boolean): List<Long> {
    return filterNotTo(ArrayList<Long>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun FloatArray.filterNot(predicate: (Float) -> Boolean): List<Float> {
    return filterNotTo(ArrayList<Float>(), predicate)
}

```

Returns a list containing all elements not matching the given [predicate].

```

public inline fun DoubleArray.filterNot(predicate: (Double) -> Boolean): List<Double> {
    return filterNotTo(ArrayList<Double>(), predicate)
}

```

Returns a list containing all elements not

```

matching the given [predicate].\n *\npublic inline fun BooleanArray.filterNot(predicate: (Boolean) -> Boolean):
List<Boolean> {\n    return filterNotTo(ArrayList<Boolean>(), predicate)\n}\n\n/**\n * Returns a list containing all
elements not matching the given [predicate].\n *\npublic inline fun CharArray.filterNot(predicate: (Char) ->
Boolean): List<Char> {\n    return filterNotTo(ArrayList<Char>(), predicate)\n}\n\n/**\n * Returns a list containing
all elements that are not `null`.\n *\npublic fun <T : Any> Array<out T?>.filterNotNull(): List<T> {\n    return
filterNotNullTo(ArrayList<T>())\n}\n\n/**\n * Appends all elements that are not `null` to the given [destination].\n
*\npublic fun <C : MutableCollection<in T>, T : Any> Array<out T?>.filterNotNullTo(destination: C): C {\n    for
(element in this) if (element != null) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n *\npublic inline fun <T, C :
MutableCollection<in T>> Array<out T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n *\npublic inline fun <C :
MutableCollection<in Byte>> ByteArray.filterNotTo(destination: C, predicate: (Byte) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n *\npublic inline fun <C :
MutableCollection<in Short>> ShortArray.filterNotTo(destination: C, predicate: (Short) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n *\npublic inline fun <C :
MutableCollection<in Int>> IntArray.filterNotTo(destination: C, predicate: (Int) -> Boolean): C {\n    for (element
in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements
not matching the given [predicate] to the given [destination].\n *\npublic inline fun <C : MutableCollection<in
Long>> LongArray.filterNotTo(destination: C, predicate: (Long) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n *\npublic inline fun <C : MutableCollection<in Float>>
FloatArray.filterNotTo(destination: C, predicate: (Float) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n *\npublic inline fun <C : MutableCollection<in
Double>> DoubleArray.filterNotTo(destination: C, predicate: (Double) -> Boolean): C {\n    for (element in this)
if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n *\npublic inline fun <C : MutableCollection<in
Boolean>> BooleanArray.filterNotTo(destination: C, predicate: (Boolean) -> Boolean): C {\n    for (element in this)
if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements not
matching the given [predicate] to the given [destination].\n *\npublic inline fun <C : MutableCollection<in Char>>
CharArray.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements matching
the given [predicate] to the given [destination].\n *\npublic inline fun <T, C : MutableCollection<in T>> Array<out
T>.filterTo(destination: C, predicate: (T) -> Boolean): C {\n    for (element in this) if (predicate(element))
destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to
the given [destination].\n *\npublic inline fun <C : MutableCollection<in Byte>> ByteArray.filterTo(destination: C,
predicate: (Byte) -> Boolean): C {\n    for (element in this) if (predicate(element)) destination.add(element)\n
return destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
*\npublic inline fun <C : MutableCollection<in Short>> ShortArray.filterTo(destination: C, predicate: (Short) ->
Boolean): C {\n    for (element in this) if (predicate(element)) destination.add(element)\n    return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n
*\npublic inline fun <C : MutableCollection<in Int>> IntArray.filterTo(destination: C, predicate: (Int) -> Boolean):
C {\n    for (element in this) if (predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n
* Appends all elements matching the given [predicate] to the given [destination].\n *\npublic inline fun <C :
MutableCollection<in Long>> LongArray.filterTo(destination: C, predicate: (Long) -> Boolean): C {\n    for

```

```

(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n */\npublic inline fun <C :
MutableCollection<in Float>> FloatArray.filterTo(destination: C, predicate: (Float) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n */\npublic inline fun <C :
MutableCollection<in Double>> DoubleArray.filterTo(destination: C, predicate: (Double) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n */\npublic inline fun <C :
MutableCollection<in Boolean>> BooleanArray.filterTo(destination: C, predicate: (Boolean) -> Boolean): C {\n
for (element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n */\npublic inline fun <C :
MutableCollection<in Char>> CharArray.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n  for
(element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n */\npublic fun <T> Array<out T>.slice(indices:
IntRange): List<T> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start,
indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified
[indices] range.\n */\npublic fun ByteArray.slice(indices: IntRange): List<Byte> {\n  if (indices.isEmpty()) return
listOf()\n  return copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n */\npublic fun ShortArray.slice(indices: IntRange):
List<Short> {\n  if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun IntArray.slice(indices: IntRange): List<Int> {\n  if (indices.isEmpty()) return listOf()\n  return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun LongArray.slice(indices: IntRange): List<Long> {\n  if
(indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun FloatArray.slice(indices: IntRange): List<Float> {\n  if (indices.isEmpty()) return listOf()\n  return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun DoubleArray.slice(indices: IntRange): List<Double> {\n
if (indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n */\npublic
fun BooleanArray.slice(indices: IntRange): List<Boolean> {\n  if (indices.isEmpty()) return listOf()\n  return
copyOfRange(indices.start, indices.endInclusive + 1).asList()\n}\n\n/**\n * Returns a list containing elements at
indices in the specified [indices] range.\n */\npublic fun CharArray.slice(indices: IntRange): List<Char> {\n  if
(indices.isEmpty()) return listOf()\n  return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun <T> Array<out
T>.slice(indices: Iterable<Int>): List<T> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size == 0)
return emptyList()\n  val list = ArrayList<T>(size)\n  for (index in indices) {\n    list.add(get(index))\n  }\n
return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun
ByteArray.slice(indices: Iterable<Int>): List<Byte> {\n  val size = indices.collectionSizeOrDefault(10)\n  if (size
== 0) return emptyList()\n  val list = ArrayList<Byte>(size)\n  for (index in indices) {\n    list.add(get(index))\n
}\n  return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n */\npublic fun
ShortArray.slice(indices: Iterable<Int>): List<Short> {\n  val size = indices.collectionSizeOrDefault(10)\n  if
(size == 0) return emptyList()\n  val list = ArrayList<Short>(size)\n  for (index in indices) {\n
list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
*/\npublic fun IntArray.slice(indices: Iterable<Int>): List<Int> {\n  val size =
indices.collectionSizeOrDefault(10)\n  if (size == 0) return emptyList()\n  val list = ArrayList<Int>(size)\n
for (index in indices) {\n    list.add(get(index))\n  }\n  return list\n}\n\n/**\n * Returns a list containing elements at

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specified [indices].\n */\npublic fun LongArray.slice(indices: Iterable<Int>): List<Long> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Long>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun FloatArray.slice(indices: Iterable<Int>): List<Float> {\n    val size =
indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list = ArrayList<Float>(size)\n
for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n * Returns a list containing
elements at specified [indices].\n */\npublic fun DoubleArray.slice(indices: Iterable<Int>): List<Double> {\n    val
size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list =
ArrayList<Double>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n */\npublic fun BooleanArray.slice(indices: Iterable<Int>):
List<Boolean> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list
= ArrayList<Boolean>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n *
Returns a list containing elements at specified [indices].\n */\npublic fun CharArray.slice(indices: Iterable<Int>):
List<Char> {\n    val size = indices.collectionSizeOrDefault(10)\n    if (size == 0) return emptyList()\n    val list =
ArrayList<Char>(size)\n    for (index in indices) {\n        list.add(get(index))\n    }\n    return list\n}\n\n/**\n *
Returns an array containing elements of this array at specified [indices].\n */\npublic fun <T>
Array<T>.sliceArray(indices: Collection<Int>): Array<T> {\n    val result = arrayOfNulls(this, indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
ByteArray.sliceArray(indices: Collection<Int>): ByteArray {\n    val result = ByteArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
ShortArray.sliceArray(indices: Collection<Int>): ShortArray {\n    val result = ShortArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
IntArray.sliceArray(indices: Collection<Int>): IntArray {\n    val result = IntArray(indices.size)\n    var targetIndex
= 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
LongArray.sliceArray(indices: Collection<Int>): LongArray {\n    val result = LongArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
FloatArray.sliceArray(indices: Collection<Int>): FloatArray {\n    val result = FloatArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
DoubleArray.sliceArray(indices: Collection<Int>): DoubleArray {\n    val result = DoubleArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
BooleanArray.sliceArray(indices: Collection<Int>): BooleanArray {\n    val result = BooleanArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements of this array at specified [indices].\n */\npublic fun
CharArray.sliceArray(indices: Collection<Int>): CharArray {\n    val result = CharArray(indices.size)\n    var
targetIndex = 0\n    for (sourceIndex in indices) {\n        result[targetIndex++] = this[sourceIndex]\n    }\n    return
result\n}\n\n/**\n * Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun
<T> Array<T>.sliceArray(indices: IntRange): Array<T> {\n    if (indices.isEmpty()) return copyOfRange(0, 0)\n    return
copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n */\npublic fun ByteArray.sliceArray(indices: IntRange): ByteArray {\n    if
(indices.isEmpty()) return ByteArray(0)\n    return copyOfRange(indices.start, indices.endInclusive + 1)\n}\n\n/**\n *
Returns an array containing elements at indices in the specified [indices] range.\n */\npublic fun

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ShortArray.sliceArray(indices: IntRange): ShortArray {
    if (indices.isEmpty()) return ShortArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

public fun IntArray.sliceArray(indices: IntRange): IntArray {
    if (indices.isEmpty()) return IntArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

LongArray.sliceArray(indices: IntRange): LongArray {
    if (indices.isEmpty()) return LongArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

FloatArray.sliceArray(indices: IntRange): FloatArray {
    if (indices.isEmpty()) return FloatArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

DoubleArray.sliceArray(indices: IntRange): DoubleArray {
    if (indices.isEmpty()) return DoubleArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

BooleanArray.sliceArray(indices: IntRange): BooleanArray {
    if (indices.isEmpty()) return BooleanArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

CharArray.sliceArray(indices: IntRange): CharArray {
    if (indices.isEmpty()) return CharArray(0)
    return copyOfRange(indices.start, indices.endInclusive + 1)
}

samples.collections.Collections.Transformations.take(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<T>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

samples.collections.Collections.Transformations.take(n: Int): List<Byte> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<Byte>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

samples.collections.Collections.Transformations.take(n: Int): List<Short> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<Short>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

samples.collections.Collections.Transformations.take(n: Int): List<Int> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<Int>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

samples.collections.Collections.Transformations.take(n: Int): List<Long> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<Long>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

samples.collections.Collections.Transformations.take(n: Int): List<Float> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (n >= size) return toList()
    if (n == 1) return listOf(this[0])
    var count = 0
    val list = ArrayList<Float>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list
}

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samples.collections.Collections.Transformations.take\n *^\npublic fun DoubleArray.take(n: Int): List<Double> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n if (n >=
size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list = ArrayList<Double>(n)\n
for (item in this) {\n if (count++ == n)\n break\n list.add(item)\n }\n return list\n}\n\n/**\n *
Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n *^\npublic fun BooleanArray.take(n: Int):
List<Boolean> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return
emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n val list =
ArrayList<Boolean>(n)\n for (item in this) {\n if (count++ == n)\n break\n list.add(item)\n }\n
return list\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if
[n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n *^\npublic fun
CharArray.take(n: Int): List<Char> {\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if
(n == 0) return emptyList()\n if (n >= size) return toList()\n if (n == 1) return listOf(this[0])\n var count = 0\n
val list = ArrayList<Char>(n)\n for (item in this) {\n if (count++ == n)\n break\n list.add(item)\n }\n
return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws
IllegalArgument\nException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun <T> Array<out T>.takeLast(n: Int): List<T>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val
size = size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list =
ArrayList<T>(n)\n for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ByteArray.takeLast(n: Int): List<Byte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Byte>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun ShortArray.takeLast(n: Int): List<Short> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Short>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun IntArray.takeLast(n: Int): List<Int> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Int>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun LongArray.takeLast(n: Int): List<Long> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Long>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun FloatArray.takeLast(n: Int): List<Float> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val size =
size\n if (n >= size) return toList()\n if (n == 1) return listOf(this[size - 1])\n val list = ArrayList<Float>(n)\n
for (index in size - n until size)\n list.add(this[index])\n return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n *^\npublic fun DoubleArray.takeLast(n: Int): List<Double>
{\n require(n >= 0) { \"Requested element count $n is less than zero.\" }\n if (n == 0) return emptyList()\n val

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size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<Double>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n */\npublic fun BooleanArray.takeLast(n: Int):
List<Boolean> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return
emptyList()\n  val size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list
= ArrayList<Boolean>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n */\npublic fun CharArray.takeLast(n: Int):
List<Char> {\n  require(n >= 0) { \"Requested element count $n is less than zero.\" }\n  if (n == 0) return
emptyList()\n  val size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list
= ArrayList<Char>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n *
Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun <T> Array<out
T>.takeLastWhile(predicate: (T) -> Boolean): List<T> {\n  for (index in lastIndex downTo 0) {\n    if
(!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun ByteArray.takeLastWhile(predicate:
(Byte) -> Boolean): List<Byte> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic
inline fun ShortArray.takeLastWhile(predicate: (Short) -> Boolean): List<Short> {\n  for (index in lastIndex
downTo 0) {\n    if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun IntArray.takeLastWhile(predicate: (Int)
-> Boolean): List<Int> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n      return
drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic inline fun
LongArray.takeLastWhile(predicate: (Long) -> Boolean): List<Long> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns
a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun FloatArray.takeLastWhile(predicate:
(Float) -> Boolean): List<Float> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic
inline fun DoubleArray.takeLastWhile(predicate: (Double) -> Boolean): List<Double> {\n  for (index in lastIndex
downTo 0) {\n    if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun
BooleanArray.takeLastWhile(predicate: (Boolean) -> Boolean): List<Boolean> {\n  for (index in lastIndex
downTo 0) {\n    if (!predicate(this[index])) {\n      return drop(index + 1)\n    }\n  }\n  return
toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n */\npublic inline fun CharArray.takeLastWhile(predicate:
(Char) -> Boolean): List<Char> {\n  for (index in lastIndex downTo 0) {\n    if (!predicate(this[index])) {\n
return drop(index + 1)\n    }\n  }\n  return toList()\n}\n\n/**\n * Returns a list containing first elements
satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n */\npublic
inline fun <T> Array<out T>.takeWhile(predicate: (T) -> Boolean): List<T> {\n  val list = ArrayList<T>()\n  for
(item in this) {\n    if (!predicate(item))\n      break\n    list.add(item)\n  }\n  return list\n}\n\n/**\n *

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Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun ByteArray.takeWhile(predicate: (Byte)
-> Boolean): List<Byte> {\n    val list = ArrayList<Byte>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun
ShortArray.takeWhile(predicate: (Short) -> Boolean): List<Short> {\n    val list = ArrayList<Short>()\n    for (item
in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a
list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun IntArray.takeWhile(predicate: (Int) ->
Boolean): List<Int> {\n    val list = ArrayList<Int>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the
given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n *\npublic inline fun
LongArray.takeWhile(predicate: (Long) -> Boolean): List<Long> {\n    val list = ArrayList<Long>()\n    for (item
in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a
list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun FloatArray.takeWhile(predicate:
(Float) -> Boolean): List<Float> {\n    val list = ArrayList<Float>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun DoubleArray.takeWhile(predicate: (Double) -> Boolean): List<Double> {\n    val list =
ArrayList<Double>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n *\npublic inline fun BooleanArray.takeWhile(predicate:
(Boolean) -> Boolean): List<Boolean> {\n    val list = ArrayList<Boolean>()\n    for (item in this) {\n        if
(!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first
elements satisfying the given [predicate].\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\npublic inline fun CharArray.takeWhile(predicate: (Char) -> Boolean): List<Char> {\n    val list =
ArrayList<Char>()\n    for (item in this) {\n        if (!predicate(item))\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun <T> Array<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun ByteArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun ShortArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun IntArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun LongArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun FloatArray.reverse():
Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in
0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    }\n}\n\n/**\n * Reverses elements in the array in-place.\n *\npublic fun
DoubleArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex =

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lastIndex\n for (index in 0..midPoint) {\n    val tmp = this[index]\n    this[index] = this[reverseIndex]\n    this[reverseIndex] = tmp\n    reverseIndex--\n } }\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun BooleanArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    } }\n\n/**\n * Reverses elements in the array in-place.\n */\npublic fun CharArray.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n    if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp = this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n    } }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun <T> Array<out T>.reversed(): List<T> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun ByteArray.reversed(): List<Byte> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun ShortArray.reversed(): List<Short> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun IntArray.reversed(): List<Int> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun LongArray.reversed(): List<Long> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun FloatArray.reversed(): List<Float> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun DoubleArray.reversed(): List<Double> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun BooleanArray.reversed(): List<Boolean> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns a list with elements in reversed order.\n */\npublic fun CharArray.reversed(): List<Char> {\n    if (isEmpty()) return emptyList()\n    val list = toMutableList()\n    list.reverse()\n    return list\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun <T> Array<T>.reversedArray(): Array<T> {\n    if (isEmpty()) return this\n    val result = arrayOfNulls(this, size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ByteArray.reversedArray(): ByteArray {\n    if (isEmpty()) return this\n    val result = ByteArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun ShortArray.reversedArray(): ShortArray {\n    if (isEmpty()) return this\n    val result = ShortArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun IntArray.reversedArray(): IntArray {\n    if (isEmpty()) return this\n    val result = IntArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun LongArray.reversedArray(): LongArray {\n    if (isEmpty()) return this\n    val result = LongArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun FloatArray.reversedArray(): FloatArray {\n    if (isEmpty()) return this\n    val result = FloatArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun DoubleArray.reversedArray(): DoubleArray {\n    if (isEmpty()) return this\n    val result = DoubleArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun BooleanArray.reversedArray(): BooleanArray {\n    if (isEmpty()) return this\n    val result = BooleanArray(size)\n    val lastIndex = lastIndex\n    for (i in 0..lastIndex)\n        result[lastIndex - i] = this[i]\n    return result\n }\n\n/**\n * Returns an array with elements of this array in reversed order.\n */\npublic fun

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CharArray.reversedArray(): CharArray {
    if (isEmpty()) return this
    val result = CharArray(size)
    val lastIndex = lastIndex
    for (i in 0..lastIndex)
        result[lastIndex - i] = this[i]
    return result
}

Sorts elements in the array in-place according to natural sort order of the value returned by specified [selector] function.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

public inline fun <T, R : Comparable<R>> Array<out T>.sortBy(crossinline selector: (T) -> R?): Unit {
    if (size > 1) sortBy(compareBy(selector))
}

Sorts elements in the array in-place descending according to natural sort order of the value returned by specified [selector] function.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

public inline fun <T, R : Comparable<R>> Array<out T>.sortByDescending(crossinline selector: (T) -> R?): Unit {
    if (size > 1) sortByDescending(compareByDescending(selector))
}

Sorts elements in the array in-place descending according to their natural sort order.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

public fun <T : Comparable<T>> Array<out T>.sortDescending(): Unit {
    sortByDescending(reverseOrder())
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun ByteArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun ShortArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun IntArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun LongArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun FloatArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun DoubleArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Sorts elements in the array in-place descending according to their natural sort order.

public fun CharArray.sortDescending(): Unit {
    if (size > 1) {
        sort()
        reverse()
    }
}

Returns a list of all elements sorted according to their natural sort order.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

public fun <T : Comparable<T>> Array<out T>.sorted(): List<T> {
    return sortedArray().asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun ByteArray.sorted(): List<Byte> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun ShortArray.sorted(): List<Short> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun IntArray.sorted(): List<Int> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun LongArray.sorted(): List<Long> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun FloatArray.sorted(): List<Float> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun DoubleArray.sorted(): List<Double> {
    return toTypedArray().apply { sort() }.asList()
}

Returns a list of all elements sorted according to their natural sort order.

public fun CharArray.sorted(): List<Char> {
    return toTypedArray().apply { sort() }.asList()
}

Returns an array with all elements of this array sorted according to their natural sort order.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.

public fun <T : Comparable<T>> Array<T>.sortedArray(): Array<T> {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

Returns an array with all elements of this array sorted according to their natural sort order.

public fun ByteArray.sortedArray(): ByteArray {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

Returns an array with all elements of this array sorted according to their natural sort order.

public fun ShortArray.sortedArray(): ShortArray {
    if (isEmpty()) return this
    return this.copyOf().apply { sort() }
}

Returns an array with all elements of this array sorted according to their natural sort order.

public fun IntArray.sortedArray(): IntArray {
    if

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(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun LongArray.sortedArray(): LongArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun FloatArray.sortedArray(): FloatArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted according to their natural sort order.\n */\npublic fun DoubleArray.sortedArray(): DoubleArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements
of this array sorted according to their natural sort order.\n */\npublic fun CharArray.sortedArray(): CharArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>>
Array<T>.sortedArrayDescending(): Array<T> {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortWith(reverseOrder()) }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending
according to their natural sort order.\n */\npublic fun ByteArray.sortedArrayDescending(): ByteArray {\n    if
(isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n */\npublic fun
ShortArray.sortedArrayDescending(): ShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun IntArray.sortedArrayDescending(): IntArray {\n    if (isEmpty()) return
this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this
array sorted descending according to their natural sort order.\n */\npublic fun LongArray.sortedArrayDescending():
LongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n */\npublic fun
FloatArray.sortedArrayDescending(): FloatArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted descending according to
their natural sort order.\n */\npublic fun DoubleArray.sortedArrayDescending(): DoubleArray {\n    if (isEmpty())
return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns an array with all elements of
this array sorted descending according to their natural sort order.\n */\npublic fun
CharArray.sortedArrayDescending(): CharArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply {
sortDescending() }\n}\n\n/**\n * Returns an array with all elements of this array sorted according the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Array<out T>.sortedArrayWith(comparator: Comparator<in T>): Array<out T>
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortWith(comparator) }\n}\n\n/**\n * Returns a list
of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n *
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\n
public inline fun <T, R : Comparable<R>> Array<out T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort
order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
ByteArray.sortedBy(crossinline selector: (Byte) -> R?): List<Byte> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort
order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
ShortArray.sortedBy(crossinline selector: (Short) -> R?): List<Short> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort
order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
IntArray.sortedBy(crossinline selector: (Int) -> R?): List<Int> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort
order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>>
LongArray.sortedBy(crossinline selector: (Long) -> R?): List<Long> {\n    return

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sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> FloatArray.sortedBy(crossinline selector: (Float) -> R?): List<Float> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> DoubleArray.sortedBy(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> BooleanArray.sortedBy(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> CharArray.sortedBy(crossinline selector: (Char) -> R?): List<Char> {\n return sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>> Array<out T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> ByteArray.sortedByDescending(crossinline selector: (Byte) -> R?): List<Byte> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> ShortArray.sortedByDescending(crossinline selector: (Short) -> R?): List<Short> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> IntArray.sortedByDescending(crossinline selector: (Int) -> R?): List<Int> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> LongArray.sortedByDescending(crossinline selector: (Long) -> R?): List<Long> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> FloatArray.sortedByDescending(crossinline selector: (Float) -> R?): List<Float> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> DoubleArray.sortedByDescending(crossinline selector: (Double) -> R?): List<Double> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural sort order of the value returned by specified [selector] function.\n */\npublic inline fun <R : Comparable<R>> BooleanArray.sortedByDescending(crossinline selector: (Boolean) -> R?): List<Boolean> {\n return sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Array<out T>.sortedDescending(): List<T> {\n return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun ByteArray.sortedDescending(): List<Byte> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\npublic fun ShortArray.sortedDescending(): List<Short> {\n return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending according to their natural sort order.\n */\n

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*^/npublic fun IntArray.sortedDescending(): List<Int> {\n  return copyOf().apply { sort() }.reversed()\n}\n/n/**\n
* Returns a list of all elements sorted descending according to their natural sort order.\n ^/npublic fun
LongArray.sortedDescending(): List<Long> {\n  return copyOf().apply { sort() }.reversed()\n}\n/n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n ^/npublic fun
FloatArray.sortedDescending(): List<Float> {\n  return copyOf().apply { sort() }.reversed()\n}\n/n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n ^/npublic fun
DoubleArray.sortedDescending(): List<Double> {\n  return copyOf().apply { sort() }.reversed()\n}\n/n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n ^/npublic fun
CharArray.sortedDescending(): List<Char> {\n  return copyOf().apply { sort() }.reversed()\n}\n/n/**\n * Returns a
list of all elements sorted according to the specified [comparator].\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n ^/npublic fun <T> Array<out
T>.sortedWith(comparator: Comparator<in T>): List<T> {\n  return
sortedArrayWith(comparator).asList()\n}\n/n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n ^/npublic fun ByteArray.sortedWith(comparator: Comparator<in Byte>): List<Byte> {\n  return
toTypedArray().apply { sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a list of all elements sorted according
to the specified [comparator].\n ^/npublic fun ShortArray.sortedWith(comparator: Comparator<in Short>):
List<Short> {\n  return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a list of all
elements sorted according to the specified [comparator].\n ^/npublic fun IntArray.sortedWith(comparator:
Comparator<in Int>): List<Int> {\n  return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n/n/**\n *
Returns a list of all elements sorted according to the specified [comparator].\n ^/npublic fun
LongArray.sortedWith(comparator: Comparator<in Long>): List<Long> {\n  return toTypedArray().apply {
sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n ^/npublic fun FloatArray.sortedWith(comparator: Comparator<in Float>): List<Float> {\n  return
toTypedArray().apply { sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a list of all elements sorted according
to the specified [comparator].\n ^/npublic fun DoubleArray.sortedWith(comparator: Comparator<in Double>):
List<Double> {\n  return toTypedArray().apply { sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a list of all
elements sorted according to the specified [comparator].\n ^/npublic fun BooleanArray.sortedWith(comparator:
Comparator<in Boolean>): List<Boolean> {\n  return toTypedArray().apply { sortWith(comparator)
}.asList()\n}\n/n/**\n * Returns a list of all elements sorted according to the specified [comparator].\n ^/npublic fun
CharArray.sortedWith(comparator: Comparator<in Char>): List<Char> {\n  return toTypedArray().apply {
sortWith(comparator) }.asList()\n}\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
<T> Array<out T>.asList(): List<T>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect
fun ByteArray.asList(): List<Byte>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
ShortArray.asList(): List<Short>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
IntArray.asList(): List<Int>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
LongArray.asList(): List<Long>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
FloatArray.asList(): List<Float>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect fun
DoubleArray.asList(): List<Double>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic expect
fun BooleanArray.asList(): List<Boolean>\n/n/**\n * Returns a [List] that wraps the original array.\n ^/npublic
expect fun CharArray.asList(): List<Char>\n/n/**\n * Returns `true` if the two specified arrays are *deeply* equal
to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * If two
corresponding elements are nested arrays, they are also compared deeply.\n * If any of arrays contains itself on any
nesting level the behavior is undefined.\n * \n * The elements of other types are compared for equality with the
[equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not
equal to `0.0`.\n ^/n@SinceKotlin("1.1")\npublic expect infix fun <T> Array<out T>.contentDeepEquals(other:
Array<out T>): Boolean\n/n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n *
Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level the behavior is
undefined.\n ^/n@SinceKotlin("1.1")\npublic expect fun <T> Array<out T>.contentDeepHashCode(): Int\n/n/**\n

```

* Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `\"[...]\"` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T> Array<out T>.contentDeepToString(): String\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun ByteArray.contentEquals(other: ByteArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun ShortArray.contentEquals(other: ShortArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun IntArray.contentEquals(other: IntArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun LongArray.contentEquals(other: LongArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun FloatArray.contentEquals(other: FloatArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin(\"1.1\")\npublic expect infix fun CharArray.contentEquals(other: CharArray): Boolean\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.1\")\npublic expect fun <T> Array<out T>.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.1\")\npublic expect fun ByteArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.1\")\npublic expect fun ShortArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.1\")\npublic expect fun IntArray.contentHashCode(): Int\n\n/**\n * Returns a hash code based on the contents of this array as if it is [List].\n */\n@SinceKotlin(\"1.1\")\npublic expect fun

`LongArray.contentHashCode(): Int` Returns a hash code based on the contents of this array as if it is [List].

`FloatArray.contentHashCode(): Int` Returns a hash code based on the contents of this array as if it is [List].

`DoubleArray.contentHashCode(): Int` Returns a hash code based on the contents of this array as if it is [List].

`BooleanArray.contentHashCode(): Int` Returns a hash code based on the contents of this array as if it is [List].

`CharArray.contentHashCode(): Int` Returns a string representation of the contents of the specified array as if it is [List].

`<T> Array<out T>.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`ByteArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`ShortArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`IntArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`LongArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`FloatArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`DoubleArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`BooleanArray.contentToString(): String` Returns a string representation of the contents of the specified array as if it is [List].

`CharArray.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T>` Copies this array or its subrange into the [destination] array and returns that array. It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.

@param destination the array to copy to.

@param destinationOffset the position in the [destination] array to copy to, 0 by default.

@param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.

@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.

@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.

@throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], or when that index is out of the [destination] array indices range.

@return the [destination] array.

[destination] array.\n * \n @SinceKotlin("1.3")\n public expect fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray\n\n **\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n\n * \n @SinceKotlin("1.3")\n public expect fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray\n\n **\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n\n * \n @SinceKotlin("1.3")\n public expect fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): IntArray\n\n **\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n\n * \n @SinceKotlin("1.3")\n public expect fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): LongArray\n\n **\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n\n * \n @SinceKotlin("1.3")\n public expect fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): FloatArray\n\n **\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive)


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* Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isEmpty():
Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.isEmpty(): Boolean {\n    return size ==
0\n}\n\n/**\n * Returns `true` if the array is empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun
CharArray.isEmpty(): Boolean {\n    return size == 0\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Array<out T>.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun IntArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun FloatArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns `true` if the array is not empty.\n */\n@kotlin.internal.InlineOnly\npublic inline
fun BooleanArray.isNotEmpty(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if the array is not
empty.\n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.isNotEmpty(): Boolean {\n    return
!isEmpty()\n}\n\n/**\n * Returns the last valid index for the array.\n */\npublic val <T> Array<out T>.lastIndex:
Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ByteArray.lastIndex:
Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val ShortArray.lastIndex:
Int\n    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val IntArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val LongArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val FloatArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val DoubleArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val BooleanArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns the last valid index for the array.\n */\npublic val CharArray.lastIndex: Int\n
    get() = size - 1\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T>
Array<T>.plus(element: T): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and
then the given [element].\n */\npublic expect operator fun ByteArray.plus(element: Byte): ByteArray\n\n/**\n *
Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect
operator fun ShortArray.plus(element: Short): ShortArray\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\npublic expect operator fun IntArray.plus(element: Int):
IntArray\n\n/**\n * Returns an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun LongArray.plus(element: Long): LongArray\n\n/**\n * Returns an array containing
all elements of the original array and then the given [element].\n */\npublic expect operator fun
FloatArray.plus(element: Float): FloatArray\n\n/**\n * Returns an array containing all elements of the original array
and then the given [element].\n */\npublic expect operator fun DoubleArray.plus(element: Double):
DoubleArray\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n */\npublic expect operator fun BooleanArray.plus(element: Boolean): BooleanArray\n\n/**\n * Returns
an array containing all elements of the original array and then the given [element].\n */\npublic expect operator fun
CharArray.plus(element: Char): CharArray\n\n/**\n * Returns an array containing all elements of the original array
and then all elements of the given [elements] collection.\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T> Array<T>.plus(elements:
Collection<T>): Array<T>\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] collection.\n */\npublic expect operator fun ByteArray.plus(elements:
Collection<Byte>): ByteArray\n\n/**\n * Returns an array containing all elements of the original array and then all

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elements of the given [elements] collection.\n */\npublic expect operator fun ShortArray.plus(elements: Collection<Short>): ShortArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun IntArray.plus(elements: Collection<Int>): IntArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun LongArray.plus(elements: Collection<Long>): LongArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun FloatArray.plus(elements: Collection<Float>): FloatArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun DoubleArray.plus(elements: Collection<Double>): DoubleArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun BooleanArray.plus(elements: Collection<Boolean>): BooleanArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] collection.\n */\npublic expect operator fun CharArray.plus(elements: Collection<Char>): CharArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect operator fun <T> Array<T>.plus(elements: Array<out T>): Array<T>\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun ByteArray.plus(elements: ByteArray): ByteArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun ShortArray.plus(elements: ShortArray): ShortArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun IntArray.plus(elements: IntArray): IntArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun LongArray.plus(elements: LongArray): LongArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun FloatArray.plus(elements: FloatArray): FloatArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun DoubleArray.plus(elements: DoubleArray): DoubleArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun BooleanArray.plus(elements: BooleanArray): BooleanArray\n\n**\n * Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n */\npublic expect operator fun CharArray.plus(elements: CharArray): CharArray\n\n**\n * Returns an array containing all elements of the original array and then the given [element].\n */\n@Suppress("NO_ACTUAL_FOR_EXPECT")\npublic expect fun <T> Array<T>.plusElement(element: T): Array<T>\n\n**\n * Sorts the array in-place.\n */\npublic expect fun IntArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun LongArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun ByteArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun ShortArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun DoubleArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun FloatArray.sort(): Unit\n\n**\n * Sorts the array in-place.\n */\npublic expect fun CharArray.sort(): Unit\n\n**\n * Sorts the array in-place according to the natural order of its elements.\n */\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic expect fun <T : Comparable<T>> Array<out T>.sort(): Unit\n\n**\n * Sorts the array in-place according to the order specified by the given [comparator].\n */\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic expect fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit\n\n**\n * Returns an array of Boolean containing all of the elements of this generic array.\n */\npublic fun Array<out Boolean>.toBooleanArray(): BooleanArray {\n return BooleanArray(size) { index -> this[index] }\n}\n\n**\n * Returns an array of Byte containing all of the elements of this generic array.\n */\npublic fun Array<out Byte>.toByteArray(): ByteArray {\n return ByteArray(size) { index -> this[index] }\n}\n\n**\n * Returns an array of Char containing all of the elements of this generic array.\n */\npublic fun Array<out Char>.toCharArray(): CharArray {\n return

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CharArray(size) { index -> this[index] } \n \n / ** \n * Returns an array of Double containing all of the elements of
this generic array. \n * \n public fun Array<out Double>.toDoubleArray(): DoubleArray { \n return
DoubleArray(size) { index -> this[index] } \n \n / ** \n * Returns an array of Float containing all of the elements of
this generic array. \n * \n public fun Array<out Float>.toFloatArray(): FloatArray { \n return FloatArray(size) {
index -> this[index] } \n \n / ** \n * Returns an array of Int containing all of the elements of this generic array. \n
* \n public fun Array<out Int>.toIntArray(): IntArray { \n return IntArray(size) { index -> this[index] } \n \n / ** \n
* Returns an array of Long containing all of the elements of this generic array. \n * \n public fun Array<out
Long>.toLongArray(): LongArray { \n return LongArray(size) { index -> this[index] } \n \n / ** \n * Returns an
array of Short containing all of the elements of this generic array. \n * \n public fun Array<out Short>.toShortArray():
ShortArray { \n return ShortArray(size) { index -> this[index] } \n \n / ** \n * Returns a *typed* object array
containing all of the elements of this primitive array. \n * \n public expect fun ByteArray.toTypedArray():
Array<Byte> \n \n / ** \n * Returns a *typed* object array containing all of the elements of this primitive array. \n
* \n public expect fun ShortArray.toTypedArray(): Array<Short> \n \n / ** \n * Returns a *typed* object array
containing all of the elements of this primitive array. \n * \n public expect fun IntArray.toTypedArray():
Array<Int> \n \n / ** \n * Returns a *typed* object array containing all of the elements of this primitive array. \n
* \n public expect fun LongArray.toTypedArray(): Array<Long> \n \n / ** \n * Returns a *typed* object array
containing all of the elements of this primitive array. \n * \n public expect fun FloatArray.toTypedArray():
Array<Float> \n \n / ** \n * Returns a *typed* object array containing all of the elements of this primitive array. \n
* \n public expect fun DoubleArray.toTypedArray(): Array<Double> \n \n / ** \n * Returns a *typed* object array
containing all of the elements of this primitive array. \n * \n public expect fun BooleanArray.toTypedArray():
Array<Boolean> \n \n / ** \n * Returns a *typed* object array containing all of the elements of this primitive array. \n
* \n public expect fun CharArray.toTypedArray(): Array<Char> \n \n / ** \n * Returns a [Map] containing key-value
pairs provided by [transform] function \n * applied to elements of the given array. \n * \n * If any of two pairs would
have the same key the last one gets added to the map. \n * \n * The returned map preserves the entry iteration order
of the original array. \n * \n public inline fun <T, K, V> Array<out T>.associate(transform: (T) -> Pair<K, V>):
Map<K, V> { \n val capacity = mapCapacity(size).coerceAtLeast(16) \n return associateTo(LinkedHashMap<K,
V>(capacity), transform) \n \n / ** \n * Returns a [Map] containing key-value pairs provided by [transform]
function \n * applied to elements of the given array. \n * \n * If any of two pairs would have the same key the last one
gets added to the map. \n * \n * The returned map preserves the entry iteration order of the original array. \n
* \n public inline fun <K, V> ByteArray.associate(transform: (Byte) -> Pair<K, V>): Map<K, V> { \n val capacity
= mapCapacity(size).coerceAtLeast(16) \n return associateTo(LinkedHashMap<K, V>(capacity),
transform) \n \n / ** \n * Returns a [Map] containing key-value pairs provided by [transform] function \n * applied to
elements of the given array. \n * \n * If any of two pairs would have the same key the last one gets added to the
map. \n * \n * The returned map preserves the entry iteration order of the original array. \n * \n public inline fun <K,
V> ShortArray.associate(transform: (Short) -> Pair<K, V>): Map<K, V> { \n val capacity =
mapCapacity(size).coerceAtLeast(16) \n return associateTo(LinkedHashMap<K, V>(capacity),
transform) \n \n / ** \n * Returns a [Map] containing key-value pairs provided by [transform] function \n * applied to
elements of the given array. \n * \n * If any of two pairs would have the same key the last one gets added to the
map. \n * \n * The returned map preserves the entry iteration order of the original array. \n * \n public inline fun <K,
V> IntArray.associate(transform: (Int) -> Pair<K, V>): Map<K, V> { \n val capacity =
mapCapacity(size).coerceAtLeast(16) \n return associateTo(LinkedHashMap<K, V>(capacity),
transform) \n \n / ** \n * Returns a [Map] containing key-value pairs provided by [transform] function \n * applied to
elements of the given array. \n * \n * If any of two pairs would have the same key the last one gets added to the
map. \n * \n * The returned map preserves the entry iteration order of the original array. \n * \n public inline fun <K,
V> LongArray.associate(transform: (Long) -> Pair<K, V>): Map<K, V> { \n val capacity =
mapCapacity(size).coerceAtLeast(16) \n return associateTo(LinkedHashMap<K, V>(capacity),
transform) \n \n / ** \n * Returns a [Map] containing key-value pairs provided by [transform] function \n * applied to
elements of the given array. \n * \n * If any of two pairs would have the same key the last one gets added to the

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map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun <K,
V> FloatArray.associate(transform: (Float) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun <K,
V> DoubleArray.associate(transform: (Double) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun <K,
V> BooleanArray.associate(transform: (Boolean) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing key-value pairs provided by [transform] function\n * applied to
elements of the given array.\n * \n * If any of two pairs would have the same key the last one gets added to the
map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun <K,
V> CharArray.associate(transform: (Char) -> Pair<K, V>): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateTo(LinkedHashMap<K, V>(capacity),
transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n */\npublic inline fun <T, K> Array<out T>.associateBy(keySelector: (T) -> K):
Map<K, T> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, T>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the
elements from the given array indexed by the key\n * returned from [keySelector] function applied to each
element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to
the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun
<K> ByteArray.associateBy(keySelector: (Byte) -> K): Map<K, Byte> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Byte>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n */\npublic inline fun <K> ShortArray.associateBy(keySelector: (Short) -> K): Map<K,
Short> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K,
Short>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed
by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n */\npublic inline fun <K> IntArray.associateBy(keySelector: (Int) ->
K): Map<K, Int> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, Int>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the
elements from the given array indexed by the key\n * returned from [keySelector] function applied to each
element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to
the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun
<K> LongArray.associateBy(keySelector: (Long) -> K): Map<K, Long> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Long>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration

```

```

order of the original array.\n */\npublic inline fun <K> FloatArray.associateBy(keySelector: (Float) -> K): Map<K,
Float> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K,
Float>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed
by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n */\npublic inline fun <K> DoubleArray.associateBy(keySelector:
(Double) -> K): Map<K, Double> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, Double>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the
elements from the given array indexed by the key\n * returned from [keySelector] function applied to each
element.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to
the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic inline fun
<K> BooleanArray.associateBy(keySelector: (Boolean) -> K): Map<K, Boolean> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, Boolean>(capacity),
keySelector)\n}\n\n/**\n * Returns a [Map] containing the elements from the given array indexed by the key\n *
returned from [keySelector] function applied to each element.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n */\npublic inline fun <K> CharArray.associateBy(keySelector: (Char) -> K): Map<K,
Char> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K,
Char>(capacity), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform]
and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two elements would
have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original array.\n */\npublic inline fun <T, K, V> Array<out
T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector,
valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n */\npublic inline fun <K, V> ByteArray.associateBy(keySelector: (Byte) -> K,
valueTransform: (Byte) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of
the given array.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets
added to the map.\n * \n * The returned map preserves the entry iteration order of the original array.\n */\npublic
inline fun <K, V> ShortArray.associateBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, V>
{\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K,
V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by
[valueTransform] and indexed by [keySelector] functions applied to elements of the given array.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original array.\n */\npublic inline fun <K, V>
IntArray.associateBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, V> {\n    val capacity =
mapCapacity(size).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K, V>(capacity), keySelector,
valueTransform)\n}\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by
[keySelector] functions applied to elements of the given array.\n * \n * If any two elements would have the same key
returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original array.\n */\npublic inline fun <K, V> LongArray.associateBy(keySelector: (Long) -> K,
valueTransform: (Long) -> V): Map<K, V> {\n    val capacity = mapCapacity(size).coerceAtLeast(16)\n    return
associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Returns a [Map]
containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of

```


[destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, M : MutableMap<in K, in Float>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K): M {
    for (element in this) {
        destination.put(keySelector(element), element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, M : MutableMap<in K, in Double>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K): M {
    for (element in this) {
        destination.put(keySelector(element), element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, M : MutableMap<in K, in Boolean>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K): M {
    for (element in this) {
        destination.put(keySelector(element), element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function applied to each element of the given array and value is the element itself. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, M : MutableMap<in K, in Char>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K): M {
    for (element in this) {
        destination.put(keySelector(element), element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <T, K, V, M : MutableMap<in K, in V>> Array<out T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {
    for (element in this) {
        destination.put(keySelector(element), valueTransform(element))
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateByTo(destination: M, keySelector: (Byte) -> K, valueTransform: (Byte) -> V): M {
    for (element in this) {
        destination.put(keySelector(element), valueTransform(element))
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>> ShortArray.associateByTo(destination: M, keySelector: (Short) -> K, valueTransform: (Short) -> V): M {
    for (element in this) {
        destination.put(keySelector(element), valueTransform(element))
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>> IntArray.associateByTo(destination: M, keySelector: (Int) -> K, valueTransform: (Int) -> V): M {
    for (element in this) {
        destination.put(keySelector(element), valueTransform(element))
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs, where key is provided by the [keySelector] function and value is provided by the [valueTransform] function applied to elements of the given array. If any two elements would have the same key returned by [keySelector] the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateByTo(destination: M, keySelector: (Long) -> K, valueTransform:

```

```

(Long) -> V): M {
    for (element in this) {
        destination.put(keySelector(element),
valueTransform(element))
    }
    return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
public inline fun <K, V, M :
MutableMap<in K, in V>> FloatArray.associateByTo(destination: M, keySelector: (Float) -> K, valueTransform:
(Float) -> V): M {
    for (element in this) {
        destination.put(keySelector(element),
valueTransform(element))
    }
    return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
public inline fun <K, V, M :
MutableMap<in K, in V>> DoubleArray.associateByTo(destination: M, keySelector: (Double) -> K,
valueTransform: (Double) -> V): M {
    for (element in this) {
        destination.put(keySelector(element),
valueTransform(element))
    }
    return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
public inline fun <K, V, M :
MutableMap<in K, in V>> BooleanArray.associateByTo(destination: M, keySelector: (Boolean) -> K,
valueTransform: (Boolean) -> V): M {
    for (element in this) {
        destination.put(keySelector(element),
valueTransform(element))
    }
    return destination
}
Populates and returns the [destination] mutable
map with key-value pairs,
where key is provided by the [keySelector] function and
value is provided by
the [valueTransform] function applied to elements of the given array.
If any two elements would have the
same key returned by [keySelector] the last one gets added to the map.
public inline fun <K, V, M :
MutableMap<in K, in V>> CharArray.associateByTo(destination: M, keySelector: (Char) -> K, valueTransform:
(Char) -> V): M {
    for (element in this) {
        destination.put(keySelector(element),
valueTransform(element))
    }
    return destination
}
Populates and returns the [destination] mutable
map with key-value pairs
provided by [transform] function applied to each element of the given array.
If any of two pairs would have the same key the last one gets added to the map.
public inline fun <T, K, V, M :
MutableMap<in K, in V>> Array<out T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {
    for
(element in this) {
        destination += transform(element)
    }
    return destination
}
Populates and
returns the [destination] mutable map with key-value pairs
provided by [transform] function applied to each
element of the given array.
If any of two pairs would have the same key the last one gets added to the
map.
public inline fun <K, V, M : MutableMap<in K, in V>> ByteArray.associateTo(destination: M,
transform: (Byte) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}
Populates and returns the [destination] mutable map with key-value pairs
provided by [transform] function applied to each element of the given array.
If any of two pairs would have
the same key the last one gets added to the map.
public inline fun <K, V, M : MutableMap<in K, in V>>
ShortArray.associateTo(destination: M, transform: (Short) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}
Populates and returns the [destination]
mutable map with key-value pairs
provided by [transform] function applied to each element of the given array.
If any of two pairs would have the same key the last one gets added to the map.
public inline fun <K, V,
M : MutableMap<in K, in V>> IntArray.associateTo(destination: M, transform: (Int) -> Pair<K, V>): M {
    for
(element in this) {
        destination += transform(element)
    }
    return destination
}
Populates and
returns the [destination] mutable map with key-value pairs
provided by [transform] function applied to each
element of the given array.
If any of two pairs would have the same key the last one gets added to the
map.
public inline fun <K, V, M : MutableMap<in K, in V>> LongArray.associateTo(destination: M,
transform: (Long) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}
Populates and returns the [destination] mutable map with key-value pairs

```

provided by [transform] function applied to each element of the given array.

If any of two pairs would have the same key the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>>
FloatArray.associateTo(destination: M, transform: (Float) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

If any of two pairs would have the same key the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>>
DoubleArray.associateTo(destination: M, transform: (Double) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

If any of two pairs would have the same key the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>>
BooleanArray.associateTo(destination: M, transform: (Boolean) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}

```

Populates and returns the [destination] mutable map with key-value pairs provided by [transform] function applied to each element of the given array.

If any of two pairs would have the same key the last one gets added to the map.

```

public inline fun <K, V, M : MutableMap<in K, in V>>
CharArray.associateTo(destination: M, transform: (Char) -> Pair<K, V>): M {
    for (element in this) {
        destination += transform(element)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <T, C : MutableCollection<in T>>
Array<out T>.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Byte>>
ByteArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Short>>
ShortArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Int>>
IntArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Long>>
LongArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Float>>
FloatArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Double>>
DoubleArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Boolean>>
BooleanArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Appends all elements to the given [destination] collection.

```

public fun <C : MutableCollection<in Char>>
CharArray.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

```

Returns a [HashSet] of all elements.

```

public fun <T>
Array<out T>.toHashSet(): HashSet<T> {
    return toCollection(HashSet<T>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

public fun
ByteArray.toHashSet(): HashSet<Byte> {
    return toCollection(HashSet<Byte>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

public fun
ShortArray.toHashSet(): HashSet<Short> {
    return toCollection(HashSet<Short>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

public fun
IntArray.toHashSet(): HashSet<Int> {
    return toCollection(HashSet<Int>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

public fun
LongArray.toHashSet(): HashSet<Long> {
    return toCollection(HashSet<Long>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

public fun
FloatArray.toHashSet(): HashSet<Float> {
    return toCollection(HashSet<Float>(mapCapacity(size)))
}

```

Returns a [HashSet] of all elements.

```

fun DoubleArray.toHashSet(): HashSet<Double> {\n  return
toCollection(HashSet<Double>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic
fun BooleanArray.toHashSet(): HashSet<Boolean> {\n  return
toCollection(HashSet<Boolean>(mapCapacity(size)))\n}\n\n/**\n * Returns a [HashSet] of all elements.\n
*/\npublic fun CharArray.toHashSet(): HashSet<Char> {\n  return
toCollection(HashSet<Char>(mapCapacity(size)))\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun <T> Array<out T>.toList(): List<T> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun ByteArray.toList(): List<Byte> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun ShortArray.toList(): List<Short> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun IntArray.toList(): List<Int> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun LongArray.toList(): List<Long> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun FloatArray.toList(): List<Float> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun DoubleArray.toList(): List<Double> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun BooleanArray.toList(): List<Boolean> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [List] containing all elements.\n
*/\npublic fun CharArray.toList(): List<Char> {\n  return when (size) {\n    0 -> emptyList()\n    1 ->
listOf(this[0])\n    else -> this.toMutableList()\n  }\n}\n\n/**\n * Returns a [MutableList] filled with all elements
of this array.\n */\npublic fun <T> Array<out T>.toMutableList(): MutableList<T> {\n  return
ArrayList(this.asCollection())\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun ByteArray.toMutableList(): MutableList<Byte> {\n  val list = ArrayList<Byte>(size)\n  for (item
in this) list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun ShortArray.toMutableList(): MutableList<Short> {\n  val list = ArrayList<Short>(size)\n  for (item
in this) list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun IntArray.toMutableList(): MutableList<Int> {\n  val list = ArrayList<Int>(size)\n  for (item in this)
list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun LongArray.toMutableList(): MutableList<Long> {\n  val list = ArrayList<Long>(size)\n  for (item in this)
list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun FloatArray.toMutableList(): MutableList<Float> {\n  val list = ArrayList<Float>(size)\n  for (item in this)
list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun DoubleArray.toMutableList(): MutableList<Double> {\n  val list = ArrayList<Double>(size)\n  for (item in
this) list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this array.\n
*/\npublic fun BooleanArray.toMutableList(): MutableList<Boolean> {\n  val list = ArrayList<Boolean>(size)\n  for
(item in this) list.add(item)\n  return list\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this
array.\n */\npublic fun CharArray.toMutableList(): MutableList<Char> {\n  val list = ArrayList<Char>(size)\n  for
(item in this) list.add(item)\n  return list\n}\n\n/**\n * Returns a [Set] of all elements.\n */\n\n * The returned set
preserves the element iteration order of the original array.\n */\npublic fun <T> Array<out T>.toSet(): Set<T> {\n  return
when (size) {\n    0 -> emptySet()\n    1 -> setOf(this[0])\n    else ->
toCollection(LinkedHashSet<T>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n */\n\n *
The returned set preserves the element iteration order of the original array.\n */\npublic fun ByteArray.toSet():
Set<Byte> {\n  return when (size) {\n    0 -> emptySet()\n    1 -> setOf(this[0])\n    else ->
toCollection(LinkedHashSet<Byte>(mapCapacity(size)))\n  }\n}\n\n/**\n * Returns a [Set] of all elements.\n */\n\n *

```

```

The returned set preserves the element iteration order of the original array.\n */\npublic fun ShortArray.toSet():
Set<Short> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Short>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun IntArray.toSet():
Set<Int> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Int>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun LongArray.toSet():
Set<Long> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Long>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun FloatArray.toSet():
Set<Float> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Float>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun DoubleArray.toSet():
Set<Double> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else ->
toCollection(LinkedHashSet<Double>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
BooleanArray.toSet(): Set<Boolean> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Boolean>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a [Set] of all
elements.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic fun
CharArray.toSet(): Set<Char> {\n    return when (size) {\n        0 -> emptySet()\n        1 -> setOf(this[0])\n        else -> toCollection(LinkedHashSet<Char>(mapCapacity(size)))\n    }\n}\n\n/**\n * Returns a single list of all elements
yielded from results of [transform] function being invoked on each element of original array.\n */\npublic inline fun
<T, R> Array<out T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\npublic inline fun <R> ByteArray.flatMap(transform: (Byte) ->
Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all
elements yielded from results of [transform] function being invoked on each element of original array.\n */\npublic
inline fun <R> ShortArray.flatMap(transform: (Short) -> Iterable<R>): List<R> {\n    return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each element of original array.\n */\npublic inline fun <R>
IntArray.flatMap(transform: (Int) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\npublic inline fun <R> LongArray.flatMap(transform: (Long) ->
Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all
elements yielded from results of [transform] function being invoked on each element of original array.\n */\npublic
inline fun <R> FloatArray.flatMap(transform: (Float) -> Iterable<R>): List<R> {\n    return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each element of original array.\n */\npublic inline fun <R>
DoubleArray.flatMap(transform: (Double) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being
invoked on each element of original array.\n */\npublic inline fun <R> BooleanArray.flatMap(transform: (Boolean)
-> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Returns a single list of
all elements yielded from results of [transform] function being invoked on each element of original array.\n\n
*/\npublic inline fun <R> CharArray.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n    return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform]
function being invoked on each element of original array, to the given [destination].\n */\npublic inline fun <T, R, C
: MutableCollection<in R>> Array<out T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return

```

```

destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
ByteArray.flatMapTo(destination: C, transform: (Byte) -> Iterable<R>): C {\n    for (element in this) {\n        val list
= transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements
yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> ShortArray.flatMapTo(destination: C,
transform: (Short) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> IntArray.flatMapTo(destination: C, transform: (Int) -> Iterable<R>): C {\n
for (element in this) {\n    val list = transform(element)\n    destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
LongArray.flatMapTo(destination: C, transform: (Long) -> Iterable<R>): C {\n    for (element in this) {\n        val
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all
elements yielded from results of [transform] function being invoked on each element of original array, to the given
[destination].\n */\npublic inline fun <R, C : MutableCollection<in R>> FloatArray.flatMapTo(destination: C,
transform: (Float) -> Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n
destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of
[transform] function being invoked on each element of original array, to the given [destination].\n */\npublic inline
fun <R, C : MutableCollection<in R>> DoubleArray.flatMapTo(destination: C, transform: (Double) ->
Iterable<R>): C {\n    for (element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n
}\n    return destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being
invoked on each element of original array, to the given [destination].\n */\npublic inline fun <R, C :
MutableCollection<in R>> BooleanArray.flatMapTo(destination: C, transform: (Boolean) -> Iterable<R>): C {\n
for (element in this) {\n    val list = transform(element)\n    destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original array, to the given [destination].\n */\npublic inline fun <R, C : MutableCollection<in R>>
CharArray.flatMapTo(destination: C, transform: (Char) -> Iterable<R>): C {\n    for (element in this) {\n        val list
= transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the
entry iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K> Array<out
T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic
inline fun <K> ByteArray.groupBy(keySelector: (Byte) -> K): Map<K, List<Byte>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Byte>>(), keySelector)\n}\n\n/**\n * Groups elements of the original
array by the key returned by the given [keySelector] function\n * applied to each element and returns a map where
each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the entry
iteration order of the keys produced from the original array.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <K>
ShortArray.groupBy(keySelector: (Short) -> K): Map<K, List<Short>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<Short>>(), keySelector)\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map

```

where each group key is associated with a list of corresponding elements.

```

    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
IntArray.groupBy(keySelector: (Int) -> K): Map<K, List<Int>> {
    return groupByTo(LinkedHashMap<K, MutableList<Int>>(), keySelector)
}
    * Groups elements of the original array by the key returned by the given [keySelector] function
    * applied to each element and returns a map where each group key is associated with a list of corresponding elements.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
LongArray.groupBy(keySelector: (Long) -> K): Map<K, List<Long>> {
    return groupByTo(LinkedHashMap<K, MutableList<Long>>(), keySelector)
}
    * Groups elements of the original array by the key returned by the given [keySelector] function
    * applied to each element and returns a map where each group key is associated with a list of corresponding elements.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
FloatArray.groupBy(keySelector: (Float) -> K): Map<K, List<Float>> {
    return groupByTo(LinkedHashMap<K, MutableList<Float>>(), keySelector)
}
    * Groups elements of the original array by the key returned by the given [keySelector] function
    * applied to each element and returns a map where each group key is associated with a list of corresponding elements.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
DoubleArray.groupBy(keySelector: (Double) -> K): Map<K, List<Double>> {
    return groupByTo(LinkedHashMap<K, MutableList<Double>>(), keySelector)
}
    * Groups elements of the original array by the key returned by the given [keySelector] function
    * applied to each element and returns a map where each group key is associated with a list of corresponding elements.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
BooleanArray.groupBy(keySelector: (Boolean) -> K): Map<K, List<Boolean>> {
    return groupByTo(LinkedHashMap<K, MutableList<Boolean>>(), keySelector)
}
    * Groups elements of the original array by the key returned by the given [keySelector] function
    * applied to each element and returns a map where each group key is associated with a list of corresponding elements.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupBy
    */
public inline fun <K>
CharArray.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {
    return groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)
}
    * Groups values returned by the [valueTransform] function applied to each element of the original array
    * by the key returned by the given [keySelector] function applied to the element
    * and returns a map where each group key is associated with a list of corresponding values.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupByKeysAndValues
    */
public inline fun <T, K, V>
Array<out T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {
    return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}
    * Groups values returned by the [valueTransform] function applied to each element of the original array
    * by the key returned by the given [keySelector] function applied to the element
    * and returns a map where each group key is associated with a list of corresponding values.
    * The returned map preserves the entry iteration order of the keys produced from the original array.
    * @sample
    samples.collections.Collections.Transformations.groupByKeysAndValues
    */
public inline fun <K, V>
ByteArray.groupBy(keySelector: (Byte) -> K, valueTransform: (Byte) -> V): Map<K, List<V>> {
    return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}
    * Groups values returned by the [valueTransform] function applied to each element of the original array
    * by the key returned by the given [keySelector] function applied to the element
    * and returns a map where each group key is associated

```

with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the original array.\n * \n * @sample

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
ShortArray.groupBy(keySelector: (Short) -> K, valueTransform: (Short) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
IntArray.groupBy(keySelector: (Int) -> K, valueTransform: (Int) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
LongArray.groupBy(keySelector: (Long) -> K, valueTransform: (Long) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
FloatArray.groupBy(keySelector: (Float) -> K, valueTransform: (Float) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys
produced from the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
DoubleArray.groupBy(keySelector: (Double) -> K, valueTransform: (Double) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample

```

```

samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
BooleanArray.groupBy(keySelector: (Boolean) -> K, valueTransform: (Boolean) -> V): Map<K, List<V>> {\n
return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
values returned by the [valueTransform] function applied to each element of the original array\n * by the key
returned by the given [keySelector] function applied to the element\n * and returns a map where each group key is
associated with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the
keys produced from the original array.\n * \n * @sample

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samples.collections.Collections.Transformations.groupByKeyAndValues\n * \npublic inline fun <K, V>
CharArray.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to

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the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <T, K, M : MutableMap<in K, MutableList<T>>> Array<out T>.groupByTo(destination: M, keySelector: (T) -
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<T>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <K, M : MutableMap<in K, MutableList<Byte>>> ByteArray.groupByTo(destination: M, keySelector: (Byte) -
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list = destination.getOrPut(key)
{ ArrayList<Byte>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n *^\npublic inline
fun <K, M : MutableMap<in K, MutableList<Short>>> ShortArray.groupByTo(destination: M, keySelector: (Short)
-> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Short>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <K, M : MutableMap<in K, MutableList<Int>>> IntArray.groupByTo(destination: M,
keySelector: (Int) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Int>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <K, M : MutableMap<in K, MutableList<Long>>> LongArray.groupByTo(destination: M,
keySelector: (Long) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Long>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <K, M : MutableMap<in K, MutableList<Float>>> FloatArray.groupByTo(destination: M,
keySelector: (Float) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Float>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <K, M : MutableMap<in K, MutableList<Double>>> DoubleArray.groupByTo(destination: M,
keySelector: (Double) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Double>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups elements of the original array by the key returned by the given [keySelector] function\n * applied to each
element and puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n *
@return The [destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*^\npublic inline fun <K, M : MutableMap<in K, MutableList<Boolean>>> BooleanArray.groupByTo(destination:
M, keySelector: (Boolean) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list
= destination.getOrPut(key) { ArrayList<Boolean>() }\n list.add(element)\n }\n return
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]

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destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> DoubleArray.groupByTo(destination: M, keySelector:
(Double) -> K, valueTransform: (Double) -> V): M {\n    for (element in this) {\n        val key =
keySelector(element)\n        val list = destination.getOrPut(key) { ArrayList<V>() }\n
list.add(valueTransform(element))\n    }\n    return destination\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <K, V, M :
MutableMap<in K, MutableList<V>>> BooleanArray.groupByTo(destination: M, keySelector: (Boolean) -> K,
valueTransform: (Boolean) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list
= destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic
inline fun <K, V, M : MutableMap<in K, MutableList<V>>> CharArray.groupByTo(destination: M, keySelector:
(Char) -> K, valueTransform: (Char) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n
        val list = destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return
destination\n}\n\n/**\n * Creates a [Grouping] source from an array to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin("1.1")\npublic inline fun <T, K>
Array<out T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n    return object : Grouping<T,
K> {\n        override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n        override fun
keyOf(element: T): K = keySelector(element)\n    }\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element in the original array.\n */\npublic inline fun <T, R> Array<out
T>.map(transform: (T) -> R): List<R> {\n    return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a
list containing the results of applying the given [transform] function\n * to each element in the original array.\n
*/\npublic inline fun <R> ByteArray.map(transform: (Byte) -> R): List<R> {\n    return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element in the original array.\n */\npublic inline fun <R> ShortArray.map(transform: (Short) -> R): List<R> {\n
return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element in the original array.\n */\npublic inline fun <R>
IntArray.map(transform: (Int) -> R): List<R> {\n    return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element in the original
array.\n */\npublic inline fun <R> LongArray.map(transform: (Long) -> R): List<R> {\n    return
mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given
[transform] function\n * to each element in the original array.\n */\npublic inline fun <R>
FloatArray.map(transform: (Float) -> R): List<R> {\n    return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n *
Returns a list containing the results of applying the given [transform] function\n * to each element in the original
array.\n */\npublic inline fun <R> DoubleArray.map(transform: (Double) -> R): List<R> {\n    return
mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given
[transform] function\n * to each element in the original array.\n */\npublic inline fun <R>
BooleanArray.map(transform: (Boolean) -> R): List<R> {\n    return mapTo(ArrayList<R>(size),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each

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element in the original array.\n *^public inline fun <R> CharArray.map(transform: (Char) -> R): List<R> {\n
return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *^public inline fun <T, R> Array<out T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n *^public inline fun <R> ByteArray.mapIndexed(transform: (index: Int, Byte) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying
the given [transform] function\n * to each element and its index in the original array.\n * @param [transform]
function that takes the index of an element and the element itself\n * and returns the result of the transform applied
to the element.\n *^public inline fun <R> ShortArray.mapIndexed(transform: (index: Int, Short) -> R): List<R>
{\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n *^public inline fun <R> IntArray.mapIndexed(transform: (index: Int, Int) ->
R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n * to each element and its index in the original array.\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n *^public inline fun <R> LongArray.mapIndexed(transform: (index: Int,
Long) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list
containing the results of applying the given [transform] function\n * to each element and its index in the original
array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the
result of the transform applied to the element.\n *^public inline fun <R> FloatArray.mapIndexed(transform:
(index: Int, Float) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns
a list containing the results of applying the given [transform] function\n * to each element and its index in the
original array.\n * @param [transform] function that takes the index of an element and the element itself\n * and
returns the result of the transform applied to the element.\n *^public inline fun <R>
DoubleArray.mapIndexed(transform: (index: Int, Double) -> R): List<R> {\n
return
mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the
given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function
that takes the index of an element and the element itself\n * and returns the result of the transform applied to the
element.\n *^public inline fun <R> BooleanArray.mapIndexed(transform: (index: Int, Boolean) -> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of
applying the given [transform] function\n * to each element and its index in the original array.\n * @param
[transform] function that takes the index of an element and the element itself\n * and returns the result of the
transform applied to the element.\n *^public inline fun <R> CharArray.mapIndexed(transform: (index: Int, Char) -
> R): List<R> {\n
return mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing
only the non-null results of applying the given [transform] function\n * to each element and its index in the original
array.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the
result of the transform applied to the element.\n *^public inline fun <T, R : Any> Array<out
T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {\n
return
mapIndexedNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each
element and its index in the original array\n * and appends only the non-null results to the given [destination].\n *
@param [transform] function that takes the index of an element and the element itself\n * and returns the result of
the transform applied to the element.\n *^public inline fun <T, R : Any, C : MutableCollection<in R>> Array<out
T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {\n
forEachIndexed { index,

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`mapNotNullTo(ArrayList<R>(), transform)` Applies the given [transform] function to each element in the original array and appends only the non-null results to the given [destination].

`Array.mapNotNullTo(destination: C, transform: (T) -> R?): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`Array.mapTo(destination: C, transform: (T) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`ByteArray.mapTo(destination: C, transform: (Byte) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`ShortArray.mapTo(destination: C, transform: (Short) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`IntArray.mapTo(destination: C, transform: (Int) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`LongArray.mapTo(destination: C, transform: (Long) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`FloatArray.mapTo(destination: C, transform: (Float) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`DoubleArray.mapTo(destination: C, transform: (Double) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`BooleanArray.mapTo(destination: C, transform: (Boolean) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`CharArray.mapTo(destination: C, transform: (Char) -> R): C` Applies the given [transform] function to each element of the original array and appends the results to the given [destination].

`Array.withIndex(): Iterable<IndexedValue<T>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`ByteArray.withIndex(): Iterable<IndexedValue<Byte>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`ShortArray.withIndex(): Iterable<IndexedValue<Short>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`IntArray.withIndex(): Iterable<IndexedValue<Int>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`LongArray.withIndex(): Iterable<IndexedValue<Long>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`FloatArray.withIndex(): Iterable<IndexedValue<Float>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`DoubleArray.withIndex(): Iterable<IndexedValue<Double>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

`BooleanArray.withIndex(): Iterable<IndexedValue<Boolean>>` Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.

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}\n}\n\n/**\n * Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.\n */\npublic fun
CharArray.withIndex(): Iterable<IndexedValue<Char>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n *
Returns a list containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in
the same order as they were in the source array.\n */\npublic fun <T> Array<out T>.distinct(): List<T> {\n    return
this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n *
\n * The elements in the resulting list are in the same order as they were in the source array.\n */\npublic fun
ByteArray.distinct(): List<Byte> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n */\npublic fun ShortArray.distinct(): List<Short> {\n    return
this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n *
\n * The elements in the resulting list are in the same order as they were in the source array.\n */\npublic fun
IntArray.distinct(): List<Int> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only
distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they were
in the source array.\n */\npublic fun LongArray.distinct(): List<Long> {\n    return
this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n *
\n * The elements in the resulting list are in the same order as they were in the source array.\n */\npublic fun
FloatArray.distinct(): List<Float> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing
only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n */\npublic fun DoubleArray.distinct(): List<Double> {\n    return
this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only distinct elements from the given array.\n *
\n * The elements in the resulting list are in the same order as they were in the source array.\n */\npublic fun
BooleanArray.distinct(): List<Boolean> {\n    return this.toMutableSet().toList()\n}\n\n/**\n * Returns a list
containing only distinct elements from the given array.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n */\npublic fun CharArray.distinct(): List<Char> {\n    return
this.toMutableSet().toList()\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having
distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same
order as they were in the source array.\n */\npublic inline fun <T, K> Array<out T>.distinctBy(selector: (T) -> K):
List<T> {\n    val set = HashSet<K>()\n    val list = ArrayList<T>()\n    for (e in this) {\n        val key = selector(e)\n
        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements
from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the
resulting list are in the same order as they were in the source array.\n */\npublic inline fun <K>
ByteArray.distinctBy(selector: (Byte) -> K): List<Byte> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Byte>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n */\npublic inline fun <K> ShortArray.distinctBy(selector: (Short) -> K): List<Short> {\n
val set = HashSet<K>()\n    val list = ArrayList<Short>()\n    for (e in this) {\n        val key = selector(e)\n
        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing only elements from the
given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting
list are in the same order as they were in the source array.\n */\npublic inline fun <K> IntArray.distinctBy(selector:
(Int) -> K): List<Int> {\n    val set = HashSet<K>()\n    val list = ArrayList<Int>()\n    for (e in this) {\n        val key
= selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n    return list\n}\n\n/**\n * Returns a list containing
only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The
elements in the resulting list are in the same order as they were in the source array.\n */\npublic inline fun <K>
LongArray.distinctBy(selector: (Long) -> K): List<Long> {\n    val set = HashSet<K>()\n    val list =
ArrayList<Long>()\n    for (e in this) {\n        val key = selector(e)\n        if (set.add(key))\n            list.add(e)\n    }\n
return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they

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were in the source array.\n */\npublic inline fun <K> FloatArray.distinctBy(selector: (Float) -> K): List<Float> {\n
val set = HashSet<K>()\n val list = ArrayList<Float>()\n for (e in this) {\n val key = selector(e)\n if
(set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing only elements from the
given array\n * having distinct keys returned by the given [selector] function.\n * \n * The elements in the resulting
list are in the same order as they were in the source array.\n */\npublic inline fun <K>
DoubleArray.distinctBy(selector: (Double) -> K): List<Double> {\n val set = HashSet<K>()\n val list =
ArrayList<Double>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n
}\n return list\n}\n\n/**\n * Returns a list containing only elements from the given array\n * having distinct keys
returned by the given [selector] function.\n * \n * The elements in the resulting list are in the same order as they
were in the source array.\n */\npublic inline fun <K> BooleanArray.distinctBy(selector: (Boolean) -> K):
List<Boolean> {\n val set = HashSet<K>()\n val list = ArrayList<Boolean>()\n for (e in this) {\n val key
= selector(e)\n if (set.add(key))\n list.add(e)\n }\n return list\n}\n\n/**\n * Returns a list containing
only elements from the given array\n * having distinct keys returned by the given [selector] function.\n * \n * The
elements in the resulting list are in the same order as they were in the source array.\n */\npublic inline fun <K>
CharArray.distinctBy(selector: (Char) -> K): List<Char> {\n val set = HashSet<K>()\n val list =
ArrayList<Char>()\n for (e in this) {\n val key = selector(e)\n if (set.add(key))\n list.add(e)\n }\n
return list\n}\n\n/**\n * Returns a set containing all elements that are contained by both this set and the specified
collection.\n * \n * The returned set preserves the element iteration order of the original array.\n */\npublic infix fun
<T> Array<out T>.intersect(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun ByteArray.intersect(other: Iterable<Byte>): Set<Byte> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun ShortArray.intersect(other: Iterable<Short>): Set<Short> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun IntArray.intersect(other: Iterable<Int>): Set<Int> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun LongArray.intersect(other: Iterable<Long>): Set<Long> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun FloatArray.intersect(other: Iterable<Float>): Set<Float> {\n val set = this.toMutableSet()\n
set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are contained by both this
set and the specified collection.\n * \n * The returned set preserves the element iteration order of the original array.\n
*/\npublic infix fun DoubleArray.intersect(other: Iterable<Double>): Set<Double> {\n val set =
this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all elements that are
contained by both this set and the specified collection.\n * \n * The returned set preserves the element iteration order
of the original array.\n */\npublic infix fun BooleanArray.intersect(other: Iterable<Boolean>): Set<Boolean> {\n
val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set containing all
elements that are contained by both this set and the specified collection.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic infix fun CharArray.intersect(other: Iterable<Char>):
Set<Char> {\n val set = this.toMutableSet()\n set.retainAll(other)\n return set\n}\n\n/**\n * Returns a set
containing all elements that are contained by this array and not contained by the specified collection.\n * \n * The
returned set preserves the element iteration order of the original array.\n */\npublic infix fun <T> Array<out
T>.subtract(other: Iterable<T>): Set<T> {\n val set = this.toMutableSet()\n set.removeAll(other)\n return
set\n}\n\n/**\n * Returns a set containing all elements that are contained by this array and not contained by the

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specified collection.

```

    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun ByteArray.subtract(other: Iterable<Byte>): Set<Byte> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun ShortArray.subtract(other: Iterable<Short>): Set<Short> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun IntArray.subtract(other: Iterable<Int>): Set<Int> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun LongArray.subtract(other: Iterable<Long>): Set<Long> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun FloatArray.subtract(other: Iterable<Float>): Set<Float> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun DoubleArray.subtract(other: Iterable<Double>): Set<Double> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun BooleanArray.subtract(other: Iterable<Boolean>): Set<Boolean> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a set containing all elements that are contained by this array and not contained by the specified collection.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public infix fun CharArray.subtract(other: Iterable<Char>): Set<Char> {
    *     val set = this.toMutableSet()
    *     set.removeAll(other)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun <T> Array<out T>.toMutableSet(): MutableSet<T> {
    *     val set = LinkedHashSet<T>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun ByteArray.toMutableSet(): MutableSet<Byte> {
    *     val set = LinkedHashSet<Byte>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun ShortArray.toMutableSet(): MutableSet<Short> {
    *     val set = LinkedHashSet<Short>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun IntArray.toMutableSet(): MutableSet<Int> {
    *     val set = LinkedHashSet<Int>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun LongArray.toMutableSet(): MutableSet<Long> {
    *     val set = LinkedHashSet<Long>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun FloatArray.toMutableSet(): MutableSet<Float> {
    *     val set = LinkedHashSet<Float>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    *
    * public fun DoubleArray.toMutableSet(): MutableSet<Double> {
    *     val set = LinkedHashSet<Double>(mapCapacity(size))
    *     for (item in this) set.add(item)
    *     return set
    * }
    * Returns a mutable set containing all distinct elements from the given array.
    *
    * The returned set preserves the element iteration order of the original array.
    
```

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*\npublic fun BooleanArray.toMutableSet(): MutableSet<Boolean> {\n    val set =
LinkedHashSet<Boolean>(mapCapacity(size))\n    for (item in this) set.add(item)\n    return set\n}\n\n/**\n *
Returns a mutable set containing all distinct elements from the given array.\n * \n * The returned set preserves the
element iteration order of the original array.\n */\npublic fun CharArray.toMutableSet(): MutableSet<Char> {\n
val set = LinkedHashSet<Char>(mapCapacity(size))\n    for (item in this) set.add(item)\n    return set\n}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n */\npublic infix fun <T> Array<out T>.union(other: Iterable<T>):
Set<T> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing
all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order of the
original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order
of the [other] collection.\n */\npublic infix fun ByteArray.union(other: Iterable<Byte>): Set<Byte> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n
*/\npublic infix fun ShortArray.union(other: Iterable<Short>): Set<Short> {\n    val set = this.toMutableSet()\n
set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n
*\n * The returned set preserves the element iteration order of the original array.\n * Those elements of the [other]
collection that are unique are iterated in the end\n * in the order of the [other] collection.\n */\npublic infix fun
IntArray.union(other: Iterable<Int>): Set<Int> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return
set\n}\n\n/**\n * Returns a set containing all distinct elements from both collections.\n * \n * The returned set
preserves the element iteration order of the original array.\n * Those elements of the [other] collection that are
unique are iterated in the end\n * in the order of the [other] collection.\n */\npublic infix fun LongArray.union(other:
Iterable<Long>): Set<Long> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n *
Returns a set containing all distinct elements from both collections.\n * \n * The returned set preserves the element
iteration order of the original array.\n * Those elements of the [other] collection that are unique are iterated in the
end\n * in the order of the [other] collection.\n */\npublic infix fun FloatArray.union(other: Iterable<Float>):
Set<Float> {\n    val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set
containing all distinct elements from both collections.\n * \n * The returned set preserves the element iteration order
of the original array.\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the
order of the [other] collection.\n */\npublic infix fun DoubleArray.union(other: Iterable<Double>): Set<Double> {\n
val set = this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct
elements from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n
*\n * Those elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other]
collection.\n */\npublic infix fun BooleanArray.union(other: Iterable<Boolean>): Set<Boolean> {\n    val set =
this.toMutableSet()\n    set.addAll(other)\n    return set\n}\n\n/**\n * Returns a set containing all distinct elements
from both collections.\n * \n * The returned set preserves the element iteration order of the original array.\n * Those
elements of the [other] collection that are unique are iterated in the end\n * in the order of the [other] collection.\n
*/\npublic infix fun CharArray.union(other: Iterable<Char>): Set<Char> {\n    val set = this.toMutableSet()\n
set.addAll(other)\n    return set\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.all\n */\npublic inline fun <T> Array<out T>.all(predicate: (T)
-> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n */\npublic inline fun ByteArray.all(predicate: (Byte) -> Boolean):
Boolean {\n    for (element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true`
if all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n */\n
public inline fun ShortArray.all(predicate: (Short) -> Boolean): Boolean {\n    for (element in this) if
(!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given

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[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun
IntArray.all(predicate: (Int) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n
return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun LongArray.all(predicate: (Long) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if
all elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n
*^\npublic inline fun FloatArray.all(predicate: (Float) -> Boolean): Boolean {\n for (element in this) if
(!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *^\npublic inline fun
DoubleArray.all(predicate: (Double) -> Boolean): Boolean {\n for (element in this) if (!predicate(element)) return
false\n return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun BooleanArray.all(predicate: (Boolean) ->
Boolean): Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n *
Returns `true` if all elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.all\n *^\npublic inline fun CharArray.all(predicate: (Char) -> Boolean):
Boolean {\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if
array has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *^\npublic fun
<T> Array<out T>.any(): Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one
element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *^\npublic fun ByteArray.any():
Boolean {\n return !isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun ShortArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun IntArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun LongArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun FloatArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun DoubleArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun BooleanArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample
samples.collections.Collections.Aggregates.any\n *^\npublic fun CharArray.any(): Boolean {\n return
!isEmpty()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun <T> Array<out
T>.any(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ByteArray.any(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun ShortArray.any(predicate:
(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun IntArray.any(predicate: (Int) -
> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n *
Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n *^\npublic inline fun LongArray.any(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return true\n return

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false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun FloatArray.any(predicate:
(Float) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun DoubleArray.any(predicate:
(Double) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun BooleanArray.any(predicate:
(Boolean) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun CharArray.any(predicate:
(Char) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return
false\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Array<out T>.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic
inline fun IntArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the
number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic
inline fun DoubleArray.count(): Int {\n    return size\n}\n\n/**\n * Returns the number of elements in this array.\n
*\n */\n@kotlin.internal.InlineOnly\npublic inline fun BooleanArray.count(): Int {\n    return size\n}\n\n/**\n * Returns
the number of elements in this array.\n * \n */\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
<T> Array<out T>.count(predicate: (T) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n */\npublic inline fun ByteArray.count(predicate: (Byte) -> Boolean): Int {\n    var count = 0\n
for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n * \n */\npublic inline fun ShortArray.count(predicate: (Short) -> Boolean): Int {\n
var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n * \n */\npublic inline fun IntArray.count(predicate: (Int) ->
Boolean): Int {\n    var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
LongArray.count(predicate: (Long) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n * \n */\npublic inline fun FloatArray.count(predicate: (Float) -> Boolean): Int {\n    var count = 0\n
for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the number of elements
matching the given [predicate].\n * \n */\npublic inline fun DoubleArray.count(predicate: (Double) -> Boolean): Int {\n
var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return count\n}\n\n/**\n * Returns the
number of elements matching the given [predicate].\n * \n */\npublic inline fun BooleanArray.count(predicate: (Boolean)
-> Boolean): Int {\n    var count = 0\n    for (element in this) if (predicate(element)) ++count\n    return
count\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n * \n */\npublic inline fun
CharArray.count(predicate: (Char) -> Boolean): Int {\n    var count = 0\n    for (element in this) if
(predicate(element)) ++count\n    return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right to current accumulator value and each element.\n * \n */\npublic inline fun <T, R>
Array<out T>.fold(initial: R, operation: (acc: R, T) -> R): R {\n    var accumulator = initial\n    for (element in this)
accumulator = operation(accumulator, element)\n    return accumulator\n}\n\n/**\n * Accumulates value starting

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with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> ByteArray.fold(initial: R, operation: (acc: R, Byte) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> ShortArray.fold(initial: R, operation: (acc: R, Short) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> IntArray.fold(initial: R, operation: (acc: R, Int) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> LongArray.fold(initial: R, operation: (acc: R, Long) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> FloatArray.fold(initial: R, operation: (acc: R, Float) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> DoubleArray.fold(initial: R, operation: (acc: R, Double) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> BooleanArray.fold(initial: R, operation: (acc: R, Boolean) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element.

```

*public inline fun <R> CharArray.fold(initial: R, operation: (acc: R, Char) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original array.

```

@param [operation] function that takes the index of an element, current accumulator value
and the element itself, and calculates the next accumulator value.
*public inline fun <T, R> Array<out T>.foldIndexed(initial: R, operation: (index: Int, acc: R, T) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original array.

```

@param [operation] function that takes the index of an element, current accumulator value
and the element itself, and calculates the next accumulator value.
*public inline fun <R> ByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Byte) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original array.

```

*public inline fun <R> ShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Short) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each element with its index in the original array.

```

@param [operation] function that takes the index of an element, current accumulator value
and the element itself, and calculates the next accumulator value.
*public inline fun <R> IntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Int) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

Accumulates value starting with

[initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R>
LongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Long) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> FloatArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Float) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> DoubleArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Double) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> BooleanArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Boolean) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n */\npublic inline fun <R> CharArray.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldRight(initial: R, operation: (T, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R> ByteArray.foldRight(initial: R, operation: (Byte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R> ShortArray.foldRight(initial: R, operation: (Short, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R> IntArray.foldRight(initial: R, operation: (Int, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R> LongArray.foldRight(initial: R, operation: (Long, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R> FloatArray.foldRight(initial: R, operation: (Float, acc: R) -> R): R {\n var index = lastIndex\n var accumulator =

```

initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left
to each element and current accumulator value.\n */\npublic inline fun <R> DoubleArray.foldRight(initial: R,
operation: (Double, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0)
{\n    accumulator = operation(get(index--), accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left to each element and current accumulator
value.\n */\npublic inline fun <R> BooleanArray.foldRight(initial: R, operation: (Boolean, acc: R) -> R): R {\n  var
index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(get(index--),
accumulator)\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left to each element and current accumulator value.\n */\npublic inline fun <R>
CharArray.foldRight(initial: R, operation: (Char, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator =
initial\n  while (index >= 0) {\n    accumulator = operation(get(index--), accumulator)\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation]
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <T, R> Array<out T>.foldRightIndexed(initial: R, operation: (index:
Int, T, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of
an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\n
public inline fun <R> ByteArray.foldRightIndexed(initial: R, operation: (index: Int, Byte, acc: R) -> R): R {\n
var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index,
get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n *
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>
ShortArray.foldRightIndexed(initial: R, operation: (index: Int, Short, acc: R) -> R): R {\n  var index = lastIndex\n
var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index, get(index), accumulator)\n
    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying
[operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n
* @param [operation] function that takes the index of an element, the element itself\n * and current accumulator
value, and calculates the next accumulator value.\n */\npublic inline fun <R> IntArray.foldRightIndexed(initial: R,
operation: (index: Int, Int, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index
>= 0) {\n    accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation]
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <R> LongArray.foldRightIndexed(initial: R, operation: (index: Int,
Long, acc: R) -> R): R {\n  var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n
accumulator = operation(index, get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with
its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of
an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\n
public inline fun <R> FloatArray.foldRightIndexed(initial: R, operation: (index: Int, Float, acc: R) -> R): R {\n
var index = lastIndex\n  var accumulator = initial\n  while (index >= 0) {\n    accumulator = operation(index,
get(index), accumulator)\n    --index\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with
[initial] value and applying [operation] from right to left\n * to each element with its index in the original array and

```

current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>

DoubleArray.foldRightIndexed(initial: R, operation: (index: Int, Double, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>

BooleanArray.foldRightIndexed(initial: R, operation: (index: Int, Boolean, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <R>

CharArray.foldRightIndexed(initial: R, operation: (index: Int, Char, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun <T> Array<out T>.forEach(action: (T) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun

ByteArray.forEach(action: (Byte) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun ShortArray.forEach(action: (Short) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun IntArray.forEach(action: (Int) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun LongArray.forEach(action: (Long) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun FloatArray.forEach(action: (Float) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun DoubleArray.forEach(action: (Double) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun BooleanArray.forEach(action: (Boolean) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element.\n */\npublic inline fun

CharArray.forEach(action: (Char) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun <T> Array<out T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n var index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun ByteArray.forEachIndexed(action: (index: Int, Byte) -> Unit): Unit {\n var index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun ShortArray.forEachIndexed(action: (index: Int, Short) -> Unit): Unit {\n var index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun IntArray.forEachIndexed(action: (index: Int, Int) -> Unit): Unit {\n var index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun

LongArray.forEachIndexed(action: (index: Int, Long) -> Unit): Unit {\n var index = 0\n for (item in this)

```

action(index++, item)\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the desired action on the element.\n */\npublic inline fun FloatArray.forEachIndexed(action: (index: Int, Float) ->
Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the given [action]
on each element, providing sequential index with the element.\n * @param [action] function that takes the index of
an element and the element itself\n * and performs the desired action on the element.\n */\npublic inline fun
DoubleArray.forEachIndexed(action: (index: Int, Double) -> Unit): Unit {\n    var index = 0\n    for (item in this)
action(index++, item)\n}\n\n/**\n * Performs the given [action] on each element, providing sequential index with
the element.\n * @param [action] function that takes the index of an element and the element itself\n * and performs
the desired action on the element.\n */\npublic inline fun BooleanArray.forEachIndexed(action: (index: Int,
Boolean) -> Unit): Unit {\n    var index = 0\n    for (item in this) action(index++, item)\n}\n\n/**\n * Performs the
given [action] on each element, providing sequential index with the element.\n * @param [action] function that
takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic
inline fun CharArray.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {\n    var index = 0\n    for (item in
this) action(index++, item)\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If
any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun Array<out Double>.max():
Double? {\n    if (isEmpty()) return null\n    var max = this[0]\n    if (max.isNaN()) return max\n    for (i in
1..lastIndex) {\n        val e = this[i]\n        if (e.isNaN()) return e\n        if (max < e) max = e\n    }\n    return
max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n * \n * If any of elements is `NaN`
returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun Array<out Float>.max(): Float? {\n    if (isEmpty()) return
null\n    var max = this[0]\n    if (max.isNaN()) return max\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
        if (e.isNaN()) return e\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or
`null` if there are no elements.\n */\npublic fun <T : Comparable<T>> Array<out T>.max(): T? {\n    if (isEmpty())
return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n
    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\npublic fun
ByteArray.max(): Byte? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e
= this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there
are no elements.\n */\npublic fun ShortArray.max(): Short? {\n    if (isEmpty()) return null\n    var max = this[0]\n
for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns
the largest element or `null` if there are no elements.\n */\npublic fun IntArray.max(): Int? {\n    if (isEmpty()) return
null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n
    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\npublic fun
LongArray.max(): Long? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n
* \n * If any of elements is `NaN` returns `NaN`.\n */\npublic fun FloatArray.max(): Float? {\n    if (isEmpty())
return null\n    var max = this[0]\n    if (max.isNaN()) return max\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
        if (e.isNaN()) return e\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or
`null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\npublic fun
DoubleArray.max(): Double? {\n    if (isEmpty()) return null\n    var max = this[0]\n    if (max.isNaN()) return
max\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (e.isNaN()) return e\n        if (max < e) max = e\n
    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\npublic fun
CharArray.max(): Char? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e
= this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element yielding the largest
value of the given function or `null` if there are no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <T, R : Comparable<R>> Array<out
T>.maxBy(selector: (T) -> R): T? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    var maxValue =
selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v)
{\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first

```

element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
ByteArray.maxBy(selector: (Byte) -> R): Byte? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
ShortArray.maxBy(selector: (Short) -> R): Short? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
IntArray.maxBy(selector: (Int) -> R): Int? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
LongArray.maxBy(selector: (Long) -> R): Long? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
FloatArray.maxBy(selector: (Float) -> R): Float? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
DoubleArray.maxBy(selector: (Double) -> R): Double? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
BooleanArray.maxBy(selector: (Boolean) -> R): Boolean? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element yielding the largest value of the given function or `null` if there are no elements.

```
@sample samples.collections.Collections.Aggregates.maxBy
public inline fun <R : Comparable<R>>
CharArray.maxBy(selector: (Char) -> R): Char? {
    if (isEmpty()) return null
    var maxElem = this[0]
    var maxV = selector(maxElem)
    for (i in 1..lastIndex) {
        val e = this[i]
        val v = selector(e)
        if (maxV < v) {
            maxElem = e
            maxV = v
        }
    }
    return maxElem
}
```

Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```
public fun <T> Array<out T>.maxWith(comparator: Comparator<in T>): T? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}
```

Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.

```
public fun
ByteArray.maxWith(comparator: Comparator<in Byte>): Byte? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (comparator.compare(max, e) < 0) max = e
    }
    return max
}
```

Returns the first element having the largest value according to the provided [comparator]

```

or `null` if there are no elements.\n */\npublic fun ShortArray.maxWith(comparator: Comparator<in Short>): Short?
{\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
IntArray.maxWith(comparator: Comparator<in Int>): Int? {\n if (isEmpty()) return null\n var max = this[0]\n
for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n return
max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null`
if there are no elements.\n */\npublic fun LongArray.maxWith(comparator: Comparator<in Long>): Long? {\n if
(isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
FloatArray.maxWith(comparator: Comparator<in Float>): Float? {\n if (isEmpty()) return null\n var max =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n }\n
return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun DoubleArray.maxWith(comparator: Comparator<in Double>):
Double? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the first element having the
largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
BooleanArray.maxWith(comparator: Comparator<in Boolean>): Boolean? {\n if (isEmpty()) return null\n var
max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max, e) < 0) max = e\n
}\n return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided
[comparator] or `null` if there are no elements.\n */\npublic fun CharArray.maxWith(comparator: Comparator<in
Char>): Char? {\n if (isEmpty()) return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n
if (comparator.compare(max, e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest element or
`null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.1")\npublic fun Array<out Double>.min(): Double? {\n if (isEmpty()) return null\n var
min = this[0]\n if (min.isNaN()) return min\n for (i in 1..lastIndex) {\n val e = this[i]\n if (e.isNaN())
return e\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there
are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n\n@SinceKotlin("1.1")\npublic fun
Array<out Float>.min(): Float? {\n if (isEmpty()) return null\n var min = this[0]\n if (min.isNaN()) return
min\n for (i in 1..lastIndex) {\n val e = this[i]\n if (e.isNaN()) return e\n if (min > e) min = e\n }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun <T :
Comparable<T>> Array<out T>.min(): T? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in
1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n */\npublic fun ByteArray.min(): Byte? {\n if (isEmpty()) return null\n
var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun ShortArray.min():
Short? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if
(min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n */\npublic fun IntArray.min(): Int? {\n if (isEmpty()) return null\n var min = this[0]\n for (i in
1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest
element or `null` if there are no elements.\n */\npublic fun LongArray.min(): Long? {\n if (isEmpty()) return null\n
var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return
min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is
`NaN` returns `NaN`.\n */\n\npublic fun FloatArray.min(): Float? {\n if (isEmpty()) return null\n var min =
this[0]\n if (min.isNaN()) return min\n for (i in 1..lastIndex) {\n val e = this[i]\n if (e.isNaN()) return e\n
if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no
elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n\npublic fun DoubleArray.min(): Double? {\n if

```

```

(isEmpty()) return null\n  var min = this[0]\n  if (min.isNaN()) return min\n  for (i in 1..lastIndex) {\n    val e =
this[i]\n    if (e.isNaN()) return e\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the
smallest element or `null` if there are no elements.\n */\npublic fun CharArray.min(): Char? {\n  if (isEmpty())
return null\n  var min = this[0]\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    if (min > e) min = e\n  }\n
return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <T, R :
Comparable<R>> Array<out T>.minBy(selector: (T) -> R): T? {\n  if (isEmpty()) return null\n  var minElem =
this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> ByteArray.minBy(selector: (Byte) -> R): Byte? {\n  if (isEmpty()) return null\n  var minElem =
this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> ShortArray.minBy(selector: (Short) -> R): Short? {\n  if (isEmpty()) return null\n  var minElem
= this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> IntArray.minBy(selector: (Int) -> R): Int? {\n  if (isEmpty()) return null\n  var minElem =
this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> LongArray.minBy(selector: (Long) -> R): Long? {\n  if (isEmpty()) return null\n  var minElem
= this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> FloatArray.minBy(selector: (Float) -> R): Float? {\n  if (isEmpty()) return null\n  var minElem
= this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =
selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> DoubleArray.minBy(selector: (Double) -> R): Double? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val
v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> BooleanArray.minBy(selector: (Boolean) -> R): Boolean? {\n  if (isEmpty()) return null\n  var
minElem = this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val
v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n */\n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R :
Comparable<R>> CharArray.minBy(selector: (Char) -> R): Char? {\n  if (isEmpty()) return null\n  var minElem
= this[0]\n  var minValue = selector(minElem)\n  for (i in 1..lastIndex) {\n    val e = this[i]\n    val v =

```

```

selector(e)\n    if (minValue > v) {\n        minElem = e\n        minValue = v\n    }\n    return
minElem\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun <T> Array<out T>.minWith(comparator: Comparator<in T>): T?
{\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
ByteArray.minWith(comparator: Comparator<in Byte>): Byte? {\n    if (isEmpty()) return null\n    var min =
this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun ShortArray.minWith(comparator: Comparator<in Short>): Short?
{\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
IntArray.minWith(comparator: Comparator<in Int>): Int? {\n    if (isEmpty()) return null\n    var min = this[0]\n
for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator] or
`null` if there are no elements.\n */\npublic fun LongArray.minWith(comparator: Comparator<in Long>): Long? {\n
    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
FloatArray.minWith(comparator: Comparator<in Float>): Float? {\n    if (isEmpty()) return null\n    var min =
this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n    }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n */\npublic fun DoubleArray.minWith(comparator: Comparator<in Double>):
Double? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if
(comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns the first element having the
smallest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun
BooleanArray.minWith(comparator: Comparator<in Boolean>): Boolean? {\n    if (isEmpty()) return null\n    var
min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(min, e) > 0) min = e\n
    }\n    return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided
[comparator] or `null` if there are no elements.\n */\npublic fun CharArray.minWith(comparator: Comparator<in
Char>): Char? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n
        if (comparator.compare(min, e) > 0) min = e\n    }\n    return min\n}\n\n/**\n * Returns `true` if the array has no
elements.\n */\n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T> Array<out
T>.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun ByteArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun ShortArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun IntArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun LongArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun FloatArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun DoubleArray.none(): Boolean {\n    return
isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n */\n * @sample
samples.collections.Collections.Aggregates.none\n */\npublic fun BooleanArray.none(): Boolean {\n    return

```

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isEmpty()\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n *^/npublic fun CharArray.none(): Boolean {\n return
isEmpty()\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun <T> Array<out
T>.none(predicate: (T) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun ByteArray.none(predicate:
(Byte) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun ShortArray.none(predicate:
(Short) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun IntArray.none(predicate: (Int)
-> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return true\n}\n\n/**\n *
Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun LongArray.none(predicate:
(Long) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun FloatArray.none(predicate:
(Float) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun DoubleArray.none(predicate:
(Double) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun
BooleanArray.none(predicate: (Boolean) -> Boolean): Boolean {\n for (element in this) if (predicate(element))
return false\n return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n *^/npublic inline fun CharArray.reduce(predicate:
(Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return false\n return
true\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to
current accumulator value and each element.\n *^/npublic inline fun <S, T : S> Array<out T>.reduce(operation:
(acc: S, T) -> S): S {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be
reduced.")\n var accumulator: S = this[0]\n for (index in 1..lastIndex) {\n accumulator =
operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the
first element and applying [operation] from left to right to current accumulator value and each element.\n *^/npublic
inline fun ByteArray.reduce(operation: (acc: Byte, Byte) -> Byte): Byte {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n *^/npublic inline fun ShortArray.reduce(operation: (acc: Short, Short) -> Short): Short {\n
if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be reduced.")\n var
accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n
}\n return accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right to current accumulator value and each element.\n *^/npublic inline fun IntArray.reduce(operation:
(acc: Int, Int) -> Int): Int {\n if (isEmpty())\n throw UnsupportedOperationException("Empty array can't be
reduced.")\n var accumulator = this[0]\n for (index in 1..lastIndex) {\n accumulator =
operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n * Accumulates value starting with the
first element and applying [operation] from left to right to current accumulator value and each element.\n *^/npublic

```

```

inline fun LongArray.reduce(operation: (acc: Long, Long) -> Long): Long {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.
 */
public inline fun FloatArray.reduce(operation: (acc: Float, Float) -> Float): Float {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.
 */
public inline fun DoubleArray.reduce(operation: (acc: Double, Double) -> Double): Double {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.
 */
public inline fun BooleanArray.reduce(operation: (acc: Boolean, Boolean) -> Boolean): Boolean {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element.
 */
public inline fun CharArray.reduce(operation: (acc: Char, Char) -> Char): Char {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.
 */
public inline fun <S, T : S> Array<out T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator: S = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.
 */
public inline fun ByteArray.reduceIndexed(operation: (index: Int, acc: Byte, Byte) -> Byte): Byte {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.
 */
public inline fun ShortArray.reduceIndexed(operation: (index: Int, acc: Short, Short) -> Short): Short {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the original array.
 * @param [operation] function that takes the index of an element, current accumulator value and the element itself and calculates the next accumulator value.
 */
public inline fun IntArray.reduceIndexed(operation: (index: Int, acc: Int, Int) -> Int): Int {
    if (isEmpty()) throw UnsupportedOperationException("Empty array can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator = operation(index, accumulator, this[index])
    }
    return accumulator
}
/**
 * Accumulates value starting with the first element and applying [operation] from left to right to current accumulator value and each element with its index in the
 */

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original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n *
and the element itself and calculates the next accumulator value.\n */\npublic inline fun
LongArray.reduceIndexed(operation: (index: Int, acc: Long, Long) -> Long): Long {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself and calculates the
next accumulator value.\n */\npublic inline fun FloatArray.reduceIndexed(operation: (index: Int, acc: Float, Float) -
> Float): Float {\n    if (isEmpty())\n        throw UnsupportedOperationException("Empty array can't be
reduced.")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator = operation(index,
accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with the first
element and applying [operation] from left to right\n * to current accumulator value and each element with its index
in the original array.\n * @param [operation] function that takes the index of an element, current accumulator
value\n * and the element itself and calculates the next accumulator value.\n */\npublic inline fun
DoubleArray.reduceIndexed(operation: (index: Int, acc: Double, Double) -> Double): Double {\n    if (isEmpty())\n
        throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for
(index in 1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself and calculates the
next accumulator value.\n */\npublic inline fun BooleanArray.reduceIndexed(operation: (index: Int, acc: Boolean,
Boolean) -> Boolean): Boolean {\n    if (isEmpty())\n        throw UnsupportedOperationException("Empty array
can't be reduced.")\n    var accumulator = this[0]\n    for (index in 1..lastIndex) {\n        accumulator =
operation(index, accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with the first element and applying [operation] from left to right\n * to current accumulator value and each element
with its index in the original array.\n * @param [operation] function that takes the index of an element, current
accumulator value\n * and the element itself and calculates the next accumulator value.\n */\npublic inline fun
CharArray.reduceIndexed(operation: (index: Int, acc: Char, Char) -> Char): Char {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(index, accumulator, this[index])\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n */\npublic inline fun <S, T : S> Array<out
T>.reduceRight(operation: (T, acc: S) -> S): S {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator: S = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with last element and applying [operation] from right to left to each element and current
accumulator value.\n */\npublic inline fun ByteArray.reduceRight(operation: (Byte, acc: Byte) -> Byte): Byte {\n
    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n
    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n
    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from
right to left to each element and current accumulator value.\n */\npublic inline fun
ShortArray.reduceRight(operation: (Short, acc: Short) -> Short): Short {\n    var index = lastIndex\n    if (index <
0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n */\npublic inline fun IntArray.reduceRight(operation: (Int, acc:
Int) -> Int): Int {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array

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can't be reduced.}")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator =
operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last
element and applying [operation] from right to left to each element and current accumulator value.\n */\npublic
inline fun LongArray.reduceRight(operation: (Long, acc: Long) -> Long): Long {\n    var index = lastIndex\n    if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n */\npublic inline fun FloatArray.reduceRight(operation: (Float,
acc: Float) -> Float): Float {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun DoubleArray.reduceRight(operation: (Double, acc: Double) -> Double): Double {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun BooleanArray.reduceRight(operation: (Boolean, acc: Boolean) -> Boolean): Boolean {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun CharArray.reduceRight(operation: (Char, acc: Char) -> Char): Char {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <S, T : S> Array<out T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator: S = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun ByteArray.reduceRightIndexed(operation: (index: Int, Byte, acc: Byte) -> Byte): Byte {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun ShortArray.reduceRightIndexed(operation: (index: Int, Short, acc: Short) -> Short): Short {\n    var index = lastIndex\n    if (index < 0) throw
UnsupportedOperationException("Empty array can't be reduced.}")\n    var accumulator = get(index--)\n    while
(index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the

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next accumulator value.\n */\npublic inline fun IntArray.reduceRightIndexed(operation: (index: Int, Int, acc: Int) ->
Int): Int {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index,
get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with
last element and applying [operation] from right to left\n * to each element with its index in the original array and
current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n *
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
LongArray.reduceRightIndexed(operation: (index: Int, Long, acc: Long) -> Long): Long {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
FloatArray.reduceRightIndexed(operation: (index: Int, Float, acc: Float) -> Float): Float {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
DoubleArray.reduceRightIndexed(operation: (index: Int, Double, acc: Double) -> Double): Double {\n    var index =
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
BooleanArray.reduceRightIndexed(operation: (index: Int, Boolean, acc: Boolean) -> Boolean): Boolean {\n    var
index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left\n * to each element with its index in the original array and current
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and
current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun
CharArray.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {\n    var index = lastIndex\n
if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =
get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n
    }\n    return accumulator\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to
each element in the array.\n */\npublic inline fun <T> Array<out T>.sumBy(selector: (T) -> Int): Int {\n    var sum:
Int = 0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the
sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun
ByteArray.sumBy(selector: (Byte) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun ShortArray.sumBy(selector: (Short) -> Int): Int {\n   
var sum: Int = 0\n    for (element in this) {\n        sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun
IntArray.sumBy(selector: (Int) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=

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selector(element)\n } return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun LongArray.sumBy(selector: (Long) -> Int): Int {\n    var
sum: Int = 0\n    for (element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns
the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic inline fun
FloatArray.sumBy(selector: (Float) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum +=
selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun DoubleArray.sumBy(selector: (Double) -> Int): Int {\n
var sum: Int = 0\n    for (element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun BooleanArray.sumBy(selector: (Boolean) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n
sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the array.\n */\npublic inline fun CharArray.sumBy(selector: (Char) -> Int): Int
{\n    var sum: Int = 0\n    for (element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n
* Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun <T> Array<out T>.sumByDouble(selector: (T) -> Double): Double {\n    var sum: Double = 0.0\n    for
(element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n */\npublic inline fun
ByteArray.sumByDouble(selector: (Byte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\npublic inline fun ShortArray.sumByDouble(selector:
(Short) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n
    } return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each
element in the array.\n */\npublic inline fun IntArray.sumByDouble(selector: (Int) -> Double): Double {\n    var
sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the array.\n */\npublic
inline fun LongArray.sumByDouble(selector: (Long) -> Double): Double {\n    var sum: Double = 0.0\n    for
(element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values
produced by [selector] function applied to each element in the array.\n */\npublic inline fun
FloatArray.sumByDouble(selector: (Float) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this)
{\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values produced by
[selector] function applied to each element in the array.\n */\npublic inline fun DoubleArray.sumByDouble(selector:
(Double) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum +=
selector(element)\n    } return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function
applied to each element in the array.\n */\npublic inline fun BooleanArray.sumByDouble(selector: (Boolean) ->
Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    }
return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in
the array.\n */\npublic inline fun CharArray.sumByDouble(selector: (Char) -> Double): Double {\n    var sum:
Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n    } return sum\n}\n\n/**\n * Returns
an original collection containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are
any `null` elements.\n */\npublic fun <T : Any> Array<T?>.requireNonNulls(): Array<T> {\n    for (element in this)
{\n        if (element == null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n
    }\n    @Suppress("UNCHECKED_CAST")\n    return this as Array<T>\n}\n\n/**\n * Splits the original array into
pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list
contains elements for which [predicate] yielded `false`.\n */\npublic inline fun <T> Array<out
T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n    val first = ArrayList<T>()\n    val second =
ArrayList<T>()\n    for (element in this) {\n        if (predicate(element)) {\n            first.add(element)\n        } else {\n
second.add(element)\n        }\n    } return Pair(first, second)\n}\n\n/**\n * Splits the original array into pair
of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * while *second* list contains

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elements for which [predicate] yielded `false`.
public inline fun ByteArray.partition(predicate: (Byte) ->
Boolean): Pair<List<Byte>, List<Byte>> {
    val first = ArrayList<Byte>()
    val second = ArrayList<Byte>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        } else {
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array into pair of
lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun ShortArray.partition(predicate: (Short) ->
Boolean): Pair<List<Short>, List<Short>> {
    val first = ArrayList<Short>()
    val second =
ArrayList<Short>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        }
        else {
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array
into pair of lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun IntArray.partition(predicate: (Int) ->
Boolean): Pair<List<Int>, List<Int>> {
    val first = ArrayList<Int>()
    val second = ArrayList<Int>()
    for
(element in this) {
        if (predicate(element)) {
            first.add(element)
        } else {
           
second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array into pair of
lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun LongArray.partition(predicate: (Long) ->
Boolean): Pair<List<Long>, List<Long>> {
    val first = ArrayList<Long>()
    val second =
ArrayList<Long>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        } else
{
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array into
pair of lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun FloatArray.partition(predicate: (Float)
-> Boolean): Pair<List<Float>, List<Float>> {
    val first = ArrayList<Float>()
    val second =
ArrayList<Float>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        } else
{
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array into
pair of lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun DoubleArray.partition(predicate:
(Double) -> Boolean): Pair<List<Double>, List<Double>> {
    val first = ArrayList<Double>()
    val second =
ArrayList<Double>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        }
        else {
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original array
into pair of lists, where *first* list contains elements for which [predicate] yielded `true`,
while *second* list contains elements for which [predicate] yielded `false`.
public inline fun BooleanArray.partition(predicate:
(Boolean) -> Boolean): Pair<List<Boolean>, List<Boolean>> {
    val first = ArrayList<Boolean>()
    val second
= ArrayList<Boolean>()
    for (element in this) {
        if (predicate(element)) {
            first.add(element)
        }
        else {
            second.add(element)
        }
    }
    return Pair(first, second)
}
Splits the original
array into pair of lists, where *first* list contains elements for which [predicate] yielded `true`,
while
*second* list contains elements for which [predicate] yielded `false`.
public inline fun
CharArray.partition(predicate: (Char) -> Boolean): Pair<List<Char>, List<Char>> {
    val first =
ArrayList<Char>()
    val second = ArrayList<Char>()
    for (element in this) {
        if (predicate(element)) {
           
first.add(element)
        } else {
            second.add(element)
        }
    }
    return Pair(first,
second)
}
Returns a list of pairs built from the elements of `this` array and the [other] array with the
same index.
The returned list has length of the shortest collection.
@sample
samples.collections.Iterables.Operations.zipIterable
public infix fun <T, R> Array<out T>.zip(other:
Array<out R>): List<Pair<T, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}
Returns a list of pairs
built from the elements of `this` array and the [other] array with the same index.
The returned list has length of
the shortest collection.
@sample
samples.collections.Iterables.Operations.zipIterable
public infix fun
<R> ByteArray.zip(other: Array<out R>): List<Pair<Byte, R>> {
    return zip(other) { t1, t2 -> t1 to t2
}
}
Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.
The returned list has length of the shortest collection.
@sample

```

```

samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> ShortArray.zip(other: Array<out
R>): List<Pair<Short, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R>
IntArray.zip(other: Array<out R>): List<Pair<Int, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
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R>): List<Pair<Long, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from
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FloatArray.zip(other: Array<out R>): List<Pair<Float, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n *
Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The
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R>): List<Pair<Double, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R>
BooleanArray.zip(other: Array<out R>): List<Pair<Boolean, R>> {\n  return zip(other) { t1, t2 -> t1 to t2
}\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same
index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n * \npublic infix fun <R> CharArray.zip(other: Array<out R>):
List<Pair<Char, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the
elements of `this` array and the [other] array with the same index\n * using the provided [transform] function
applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <T, R, V> Array<out
T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n  val size = minOf(size, other.size)\n  val
list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n *
\npublic inline fun <R, V> ByteArray.zip(other: Array<out R>, transform: (a: Byte, b: R) -> V): List<V> {\n  val
size = minOf(size, other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n
list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements
of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each
pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <R, V>
ShortArray.zip(other: Array<out R>, transform: (a: Short, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n
}\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
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samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <R, V>
IntArray.zip(other: Array<out R>, transform: (a: Int, b: R) -> V): List<V> {\n  val size = minOf(size, other.size)\n
val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length
of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

```

```

*public inline fun <R, V> LongArray.zip(other: Array<out R>, transform: (a: Long, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

```

Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterableWithTransform

```

*public inline fun <R, V>
FloatArray.zip(other: Array<out R>, transform: (a: Float, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

```

Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterableWithTransform

```

*public inline fun <R, V>
DoubleArray.zip(other: Array<out R>, transform: (a: Double, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

```

Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterableWithTransform

```

*public inline fun <R, V>
BooleanArray.zip(other: Array<out R>, transform: (a: Boolean, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

```

Returns a list of values built from the elements of `this` array and the [other] array with the same index using the provided [transform] function applied to each pair of elements.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterableWithTransform

```

*public inline fun <R, V>
CharArray.zip(other: Array<out R>, transform: (a: Char, b: R) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <T, R> Array<out T>.zip(other:
Iterable<R>): List<Pair<T, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <R>
ByteArray.zip(other: Iterable<R>): List<Pair<Byte, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <R>
ShortArray.zip(other: Iterable<R>): List<Pair<Short, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <R>
IntArray.zip(other: Iterable<R>): List<Pair<Int, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <R>
LongArray.zip(other: Iterable<R>): List<Pair<Long, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

*public infix fun <R>
FloatArray.zip(other: Iterable<R>): List<Pair<Float, R>> {
    return zip(other) { t1, t2 -> t1 to t2 }
}

```

Returns a list of pairs built from the elements of `this` collection and [other] array with the same index.
 The returned list has length of the shortest collection.
 @sample
 samples.collections.Iterables.Operations.zipIterable

```

returned list has length of the shortest collection.\n * \n * @sample
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<R> BooleanArray.zip(other: Iterable<R>): List<Pair<Boolean, R>> {\n    return zip(other) { t1, t2 -> t1 to t2
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T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
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collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \n public inline
fun <R, V> ByteArray.zip(other: Iterable<R>, transform: (a: Byte, b: R) -> V): List<V> {\n    val arraySize = size\n
val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in
other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n
* Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n *
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shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
* \n public inline fun <R, V> ShortArray.zip(other: Iterable<R>, transform: (a: Short, b: R) -> V): List<V> {\n    val
arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n
for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n
return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with
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IntArray.zip(other: Iterable<R>, transform: (a: Int, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
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fun <R, V> LongArray.zip(other: Iterable<R>, transform: (a: Long, b: R) -> V): List<V> {\n    val arraySize =
size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element
in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return
list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the
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FloatArray.zip(other: Iterable<R>, transform: (a: Float, b: R) -> V): List<V> {\n    val arraySize = size\n    val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n
if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the
provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest
collection.\n * \n * @sample

```

list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> DoubleArray.zip(other: Iterable<R>, transform: (a: Double, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> BooleanArray.zip(other: Iterable<R>, transform: (a: Boolean, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in other) {\n if (i >= arraySize) break\n list.add(transform(this[i++], element))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <R, V> CharArray.zip(other: Iterable<R>, transform: (a: Char, b: R) -> V): List<V> {\n val arraySize = size\n val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n var i = 0\n for (element in 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length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun IntArray.zip(other: IntArray): List<Pair<Int, Int>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun LongArray.zip(other: LongArray): List<Pair<Long, Long>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun FloatArray.zip(other: FloatArray): List<Pair<Float, Float>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun DoubleArray.zip(other: DoubleArray): List<Pair<Double, Double>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun BooleanArray.zip(other: BooleanArray): List<Pair<Boolean, Boolean>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun CharArray.zip(other: CharArray): List<Pair<Char, Char>> {\n return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the

provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> ByteArray.zip(other: ByteArray, transform: (a: Byte, b: Byte) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> ShortArray.zip(other: ShortArray, transform: (a: Short, b: Short) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> IntArray.zip(other: IntArray, transform: (a: Int, b: Int) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> LongArray.zip(other: LongArray, transform: (a: Long, b: Long) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> FloatArray.zip(other: FloatArray, transform: (a: Float, b: Float) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> DoubleArray.zip(other: DoubleArray, transform: (a: Double, b: Double) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> BooleanArray.zip(other: BooleanArray, transform: (a: Boolean, b: Boolean) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n * \npublic inline fun <V> CharArray.zip(other: CharArray, transform: (a: Char, b: Char) -> V): List<V> {\n val size = minOf(size, other.size)\n val list = ArrayList<V>(size)\n for (i in 0 until size) {\n list.add(transform(this[i], other[i]))\n }\n return list\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string

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(which defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun
<T, A : Appendable> Array<out T>.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\"",
postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((T) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      buffer.appendElement(element, transform)\n
    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n
return buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> ByteArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Byte) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\n        buffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> ShortArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Short) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\n        buffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> IntArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Int) -> CharSequence)? = null):
A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\n        buffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * \npublic fun <A :
Appendable> LongArray.joinTo(buffer: A, separator: CharSequence = "\", "\", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...", transform: ((Long) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\n        buffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n
}\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of

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[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * /\npublic fun <A :
Appendable> FloatArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Float) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * /\npublic fun <A :
Appendable> DoubleArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Double) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * /\npublic fun <A :
Appendable> BooleanArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"",
postfix: CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Boolean) ->
CharSequence)? = null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count
> 1) buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element.toString())\n    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return
buffer}\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * @sample samples.collections.Collections.Transformations.joinTo\n * /\npublic fun <A :
Appendable> CharArray.joinTo(buffer: A, separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix:
CharSequence = "\"", limit: Int = -1, truncated: CharSequence = "...\", transform: ((Char) -> CharSequence)? =
null): A {\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      if (transform != null)\nbuffer.append(transform(element))\n      else\n        buffer.append(element)\n    } else break\n  }\n  if
(limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer}\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n * /\npublic fun <T> Array<out
T>.joinToString(separator: CharSequence = "\", \", prefix: CharSequence = "\"", postfix: CharSequence = "\"", limit:
Int = -1, truncated: CharSequence = "...\", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n}\n\n/**\n * Creates a
string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first
[limit]\n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample

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samples.collections.Collections.Transformations.joinToString\n *^npublic fun ByteArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Byte) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun ShortArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Short) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun IntArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Int) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun LongArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Long) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun FloatArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Float) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun DoubleArray.joinToString(separator:
CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence = \"\", limit: Int = -1, truncated:
CharSequence = \"...\", transform: ((Double) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates a string from all the elements
separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be
huge, you can specify a non-negative value of [limit], in which case only the first [limit]\n * elements will be
appended, followed by the [truncated] string (which defaults to \"...\").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n *^npublic fun
BooleanArray.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((Boolean) -> CharSequence)? = null): String {\n
return joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates
a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if supplied.\n * \n
* If the collection could be huge, you can specify a non-negative value of [limit], in which case only the first

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[limit])n * elements will be appended, followed by the [truncated] string (which defaults to "...").\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \n\npublic fun CharArray.joinToString(separator:
CharSequence = ", ", prefix: CharSequence = "\n", postfix: CharSequence = "\n", limit: Int = -1, truncated:
CharSequence = "...", transform: ((Char) -> CharSequence)? = null): String {\n    return joinTo(StringBuilder(),
separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n * \n\npublic fun <T> Array<out T>.asIterable():
Iterable<T> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n\npublic fun
ByteArray.asIterable(): Iterable<Byte> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator()
}\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when being
iterated.\n * \n\npublic fun ShortArray.asIterable(): Iterable<Short> {\n    if (isEmpty()) return emptyList()\n    return
Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its
elements when being iterated.\n * \n\npublic fun IntArray.asIterable(): Iterable<Int> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n * \n\npublic fun LongArray.asIterable(): Iterable<Long> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that
wraps the original array returning its elements when being iterated.\n * \n\npublic fun FloatArray.asIterable():
Iterable<Float> {\n    if (isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original array returning its elements when being iterated.\n * \n\npublic fun
DoubleArray.asIterable(): Iterable<Double> {\n    if (isEmpty()) return emptyList()\n    return Iterable {
this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original array returning its elements when
being iterated.\n * \n\npublic fun BooleanArray.asIterable(): Iterable<Boolean> {\n    if (isEmpty()) return
emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates an [Iterable] instance that wraps the original
array returning its elements when being iterated.\n * \n\npublic fun CharArray.asIterable(): Iterable<Char> {\n    if
(isEmpty()) return emptyList()\n    return Iterable { this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that
wraps the original array returning its elements when being iterated.\n * \n * \n * @sample
samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun <T> Array<out T>.asSequence():
Sequence<T> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun ByteArray.asSequence():
Sequence<Byte> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun ShortArray.asSequence():
Sequence<Short> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun IntArray.asSequence():
Sequence<Int> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun LongArray.asSequence():
Sequence<Long> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun FloatArray.asSequence():
Sequence<Float> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun DoubleArray.asSequence():
Sequence<Double> {\n    if (isEmpty()) return emptySequence()\n    return Sequence { this.iterator() }\n}\n\n/**\n *
Creates a [Sequence] instance that wraps the original array returning its elements when being iterated.\n * \n * \n *
@sample samples.collections.Sequences.Building.sequenceFromArray\n * \n\npublic fun

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BooleanArray.asSequence(): Sequence<Boolean> {\n  if (isEmpty()) return emptySequence()\n  return Sequence
{ this.iterator() }\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original array returning its elements
when being iterated.\n * \n * @sample samples.collections.Sequences.Building.sequenceFromArray\n */\npublic
fun CharArray.asSequence(): Sequence<Char> {\n  if (isEmpty()) return emptySequence()\n  return Sequence {
this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfByte")\n */\npublic fun Array<out Byte>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfShort")\n */\npublic fun Array<out Short>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfInt")\n */\npublic fun Array<out Int>.average(): Double {\n  var sum: Double
= 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count
== 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfLong")\n */\npublic fun Array<out Long>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfFloat")\n */\npublic fun Array<out Float>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n * @kotlin.jvm.JvmName("averageOfDouble")\n */\npublic fun Array<out Double>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return
if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n
*\n */\npublic fun ByteArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in
this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun ShortArray.average():
Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\npublic fun IntArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int =
0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else
sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun LongArray.average():
Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of
elements in the array.\n */\npublic fun FloatArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int
= 0\n  for (element in this) {\n    sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN
else sum / count\n}\n\n/**\n * Returns an average value of elements in the array.\n */\npublic fun
DoubleArray.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n    ++count\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
the sum of all elements in the array.\n */\n * @kotlin.jvm.JvmName("sumOfByte")\n */\npublic fun Array<out
Byte>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n * @kotlin.jvm.JvmName("sumOfShort")\n */\npublic fun Array<out Short>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the
array.\n */\n * @kotlin.jvm.JvmName("sumOfInt")\n */\npublic fun Array<out Int>.sum(): Int {\n  var sum: Int = 0\n
for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in
the array.\n */\n * @kotlin.jvm.JvmName("sumOfLong")\n */\npublic fun Array<out Long>.sum(): Long {\n  var sum:
Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of
all elements in the array.\n */\n * @kotlin.jvm.JvmName("sumOfFloat")\n */\npublic fun Array<out Float>.sum(): Float

```

```

{\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Array<out Double>.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ByteArray.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun ShortArray.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun IntArray.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun LongArray.sum(): Long {\n  var sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun FloatArray.sum(): Float {\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the array.\n */\npublic fun DoubleArray.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n"/>\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage kotlin.ranges\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a random element from this range.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun IntRange.random(): Int {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this range.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun LongRange.random(): Long {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharRange.random(): Char {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\npublic fun IntRange.random(random: Random): Int {\n  try {\n    return random.nextInt(this)\n  } catch (e: IllegalArgumentException) {\n    throw NoSuchElementException(e.message)\n  }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\npublic fun LongRange.random(random: Random): Long {\n  try {\n    return random.nextLong(this)\n  } catch (e: IllegalArgumentException) {\n    throw NoSuchElementException(e.message)\n  }\n}\n\n/**\n * Returns a random element from this range using the specified source of randomness.\n */\n@throws IllegalArgumentException if this range is empty.\n\n@SinceKotlin("1.3")\npublic fun CharRange.random(random: Random): Char {\n  try {\n    return random.nextInt(first.toInt(), last.toInt() + 1).toChar()\n  } catch (e: IllegalArgumentException) {\n    throw NoSuchElementException(e.message)\n  }\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n */\nAlways returns `false` if the [element] is `null`.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun IntRange.contains(element: Int?): Boolean {\n  return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n */\nAlways returns `false` if the [element] is `null`.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun LongRange.contains(element: Long?): Boolean {\n  return element != null && contains(element)\n}\n\n/**\n * Returns `true` if this range contains the specified [element].\n */\nAlways returns `false` if the [element] is `null`.\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline operator fun CharRange.contains(element: Char?): Boolean {\n  return element != null && contains(element)\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName("intRangeContains")\npublic operator fun

```

ClosedRange<Int>.contains(value: Byte): Boolean {\n return contains(value.toInt())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName("longRangeContains")\n\npublic operator fun
 ClosedRange<Long>.contains(value: Byte): Boolean {\n return contains(value.toLong())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName("shortRangeContains")\n\npublic operator fun
 ClosedRange<Short>.contains(value: Byte): Boolean {\n return contains(value.toShort())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("doubleRangeContains")\n\npublic operator fun
 ClosedRange<Double>.contains(value: Byte): Boolean {\n return contains(value.toDouble())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("floatRangeContains")\n\npublic operator fun
 ClosedRange<Float>.contains(value: Byte): Boolean {\n return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("intRangeContains")\n\npublic operator fun
 ClosedRange<Int>.contains(value: Double): Boolean {\n return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("longRangeContains")\n\npublic operator fun
 ClosedRange<Long>.contains(value: Double): Boolean {\n return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("byteRangeContains")\n\npublic operator fun
 ClosedRange<Byte>.contains(value: Double): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("shortRangeContains")\n\npublic operator fun
 ClosedRange<Short>.contains(value: Double): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@kotlin.jvm.JvmName("floatRangeContains")\n\npublic operator fun
 ClosedRange<Float>.contains(value: Double): Boolean {\n return contains(value.toFloat())\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("intRangeContains")\n\npublic operator fun
 ClosedRange<Int>.contains(value: Float): Boolean {\n return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("longRangeContains")\n\npublic operator fun
 ClosedRange<Long>.contains(value: Float): Boolean {\n return value.toLongExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("byteRangeContains")\n\npublic operator fun
 ClosedRange<Byte>.contains(value: Float): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */\n@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")\n@kotlin.jvm.JvmName("shortRangeContains")\n\npublic operator fun
 ClosedRange<Short>.contains(value: Float): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n\n/**\n * Checks if the specified [value] belongs to this range.\n */

```

*@kotlin.jvm.JvmName("doubleRangeContains")public operator fun ClosedRange<Double>.contains(value: Float): Boolean {\n return contains(value.toDouble())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("longRangeContains")public operator fun ClosedRange<Long>.contains(value: Int): Boolean {\n return contains(value.toLong())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("byteRangeContains")public operator fun ClosedRange<Byte>.contains(value: Int): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("shortRangeContains")public operator fun ClosedRange<Short>.contains(value: Int): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("doubleRangeContains")public operator fun ClosedRange<Double>.contains(value: Int): Boolean {\n return contains(value.toDouble())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("floatRangeContains")public operator fun ClosedRange<Float>.contains(value: Int): Boolean {\n return contains(value.toFloat())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("intRangeContains")public operator fun ClosedRange<Int>.contains(value: Long): Boolean {\n return value.toIntExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("byteRangeContains")public operator fun ClosedRange<Byte>.contains(value: Long): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("shortRangeContains")public operator fun ClosedRange<Short>.contains(value: Long): Boolean {\n return value.toShortExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("doubleRangeContains")public operator fun ClosedRange<Double>.contains(value: Long): Boolean {\n return contains(value.toDouble())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("floatRangeContains")public operator fun ClosedRange<Float>.contains(value: Long): Boolean {\n return contains(value.toFloat())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("intRangeContains")public operator fun ClosedRange<Int>.contains(value: Short): Boolean {\n return contains(value.toInt())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("longRangeContains")public operator fun ClosedRange<Long>.contains(value: Short): Boolean {\n return contains(value.toLong())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@kotlin.jvm.JvmName("byteRangeContains")public operator fun ClosedRange<Byte>.contains(value: Short): Boolean {\n return value.toByteExactOrNull().let { if (it != null) contains(it) else false }\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("doubleRangeContains")public operator fun ClosedRange<Double>.contains(value: Short): Boolean {\n return contains(value.toDouble())\n}\n/**\n * Checks if the specified [value] belongs to this range.\n
*@Deprecated("This `contains` operation mixing integer and floating point arguments has ambiguous semantics and is going to be removed.")@kotlin.jvm.JvmName("floatRangeContains")public operator fun ClosedRange<Float>.contains(value: Short): Boolean {\n return contains(value.toFloat())\n}\n/**\n * Returns a progression from this value down to the specified [to] value with the step -1.\n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n

```



```

LongProgression {
    return LongProgression.fromClosedRange(this, to.toLong(), -1L)
}

* Returns a progression from this value down to the specified [to] value with the step -1.
* The [to] value should be less than or equal to `this` value.
* If the [to] value is greater than `this` value the returned progression is empty.

public infix fun Byte.downTo(to: Short): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)
}

* Returns a progression from this value down to the specified [to] value with the step -1.
* The [to] value should be less than or equal to `this` value.
* If the [to] value is greater than `this` value the returned progression is empty.

public infix fun Short.downTo(to: Short): IntProgression {
    return IntProgression.fromClosedRange(this.toInt(), to.toInt(), -1)
}

* Returns a progression that goes over the same range in the opposite direction with the same step.

public fun IntProgression.reversed(): IntProgression {
    return IntProgression.fromClosedRange(last, first, -step)
}

* Returns a progression that goes over the same range in the opposite direction with the same step.

public fun LongProgression.reversed(): LongProgression {
    return LongProgression.fromClosedRange(last, first, -step)
}

* Returns a progression that goes over the same range in the opposite direction with the same step.

public fun CharProgression.reversed(): CharProgression {
    return CharProgression.fromClosedRange(last, first, -step)
}

* Returns a progression that goes over the same range with the given step.

public infix fun IntProgression.step(step: Int): IntProgression {
    checkStepIsPositive(step > 0, step)
    return IntProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)
}

* Returns a progression that goes over the same range with the given step.

public infix fun LongProgression.step(step: Long): LongProgression {
    checkStepIsPositive(step > 0, step)
    return LongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)
}

* Returns a progression that goes over the same range with the given step.

public infix fun CharProgression.step(step: Int): CharProgression {
    checkStepIsPositive(step > 0, step)
    return CharProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)
}

internal fun Int.toByteExactOrNull(): Byte? {
    return if (this in Byte.MIN_VALUE.toInt()..Byte.MAX_VALUE.toInt()) this.toByte() else null
}

internal fun Long.toByteExactOrNull(): Byte? {
    return if (this in Byte.MIN_VALUE.toLong()..Byte.MAX_VALUE.toLong()) this.toByte() else null
}

internal fun Short.toByteExactOrNull(): Byte? {
    return if (this in Byte.MIN_VALUE.toShort()..Byte.MAX_VALUE.toShort()) this.toByte() else null
}

internal fun Double.toByteExactOrNull(): Byte? {
    return if (this in Byte.MIN_VALUE.toDouble()..Byte.MAX_VALUE.toDouble()) this.toByte() else null
}

internal fun Float.toByteExactOrNull(): Byte? {
    return if (this in Byte.MIN_VALUE.toFloat()..Byte.MAX_VALUE.toFloat()) this.toByte() else null
}

internal fun Long.toIntExactOrNull(): Int? {
    return if (this in Int.MIN_VALUE.toLong()..Int.MAX_VALUE.toLong()) this.toInt() else null
}

internal fun Double.toIntExactOrNull(): Int? {
    return if (this in Int.MIN_VALUE.toDouble()..Int.MAX_VALUE.toDouble()) this.toInt() else null
}

internal fun Float.toIntExactOrNull(): Int? {
    return if (this in Int.MIN_VALUE.toFloat()..Int.MAX_VALUE.toFloat()) this.toInt() else null
}

internal fun Double.toLongExactOrNull(): Long? {
    return if (this in Long.MIN_VALUE.toDouble()..Long.MAX_VALUE.toDouble()) this.toLong() else null
}

internal fun Float.toLongExactOrNull(): Long? {
    return if (this in Long.MIN_VALUE.toFloat()..Long.MAX_VALUE.toFloat()) this.toLong() else null
}

internal fun Int.toShortExactOrNull(): Short? {
    return if (this in Short.MIN_VALUE.toInt()..Short.MAX_VALUE.toInt()) this.toShort() else null
}

internal fun Long.toShortExactOrNull(): Short? {
    return if (this in Short.MIN_VALUE.toLong()..Short.MAX_VALUE.toLong()) this.toShort() else null
}

internal fun Double.toShortExactOrNull(): Short? {
    return if (this in Short.MIN_VALUE.toDouble()..Short.MAX_VALUE.toDouble()) this.toShort() else null
}

internal fun Float.toShortExactOrNull(): Short? {
    return if (this in Short.MIN_VALUE.toFloat()..Short.MAX_VALUE.toFloat()) this.toShort() else null
}

* Returns a range from this value up to but excluding the specified [to] value.
* If the [to] value is less than or equal to `this`

```

value, then the returned range is empty.

```

public infix fun Int.until(to: Byte): IntRange {
    return this .. (to.toInt() - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Long.until(to: Byte): LongRange {
    return this .. (to.toLong() - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Byte.until(to: Byte): IntRange {
    return this.toInt() .. (to.toInt() - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Short.until(to: Byte): IntRange {
    return this.toInt() .. (to.toInt() - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Char.until(to: Char): CharRange {
    if (to <= '\u0000') return CharRange.EMPTY
    return this .. (to - 1).toChar()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Int.until(to: Int): IntRange {
    if (to <= Int.MIN_VALUE) return IntRange.EMPTY
    return this .. (to - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Long.until(to: Int): LongRange {
    return this .. (to.toLong() - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Byte.until(to: Int): IntRange {
    if (to <= Int.MIN_VALUE) return IntRange.EMPTY
    return this.toInt() .. (to - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Short.until(to: Int): IntRange {
    if (to <= Int.MIN_VALUE) return IntRange.EMPTY
    return this.toInt() .. (to - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Int.until(to: Long): LongRange {
    if (to <= Long.MIN_VALUE) return LongRange.EMPTY
    return this.toLong() .. (to - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Long.until(to: Long): LongRange {
    if (to <= Long.MIN_VALUE) return LongRange.EMPTY
    return this .. (to - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Byte.until(to: Long): LongRange {
    if (to <= Long.MIN_VALUE) return LongRange.EMPTY
    return this.toLong() .. (to - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Short.until(to: Long): LongRange {
    if (to <= Long.MIN_VALUE) return LongRange.EMPTY
    return this.toLong() .. (to - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Int.until(to: Short): IntRange {
    return this .. (to.toInt() - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Long.until(to: Short): LongRange {
    return this .. (to.toLong() - 1).toLong()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Byte.until(to: Short): IntRange {
    return this.toInt() .. (to.toInt() - 1).toInt()
}

```

Returns a range from this value up to but excluding the specified [to] value. If the [to] value is less than or equal to this value, then the returned range is empty.

```

public infix fun Short.until(to: Short): IntRange {
    return this.toInt() .. (to.toInt() - 1).toInt()
}

```

Ensures that this value is not less than the specified [minimumValue]. @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.

```

@sample
samples.comparisons.ComparableOps.coerceAtLeastComparable

```

public fun <T : Comparable<T>>

```

T.coerceAtLeast(minimumValue: T): T {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Byte.coerceAtLeast(minimumValue: Byte): Byte {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Short.coerceAtLeast(minimumValue: Short): Short {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Int.coerceAtLeast(minimumValue: Int): Int {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Long.coerceAtLeast(minimumValue: Long): Long {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Float.coerceAtLeast(minimumValue: Float): Float {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtLeast\n */\npublic fun Double.coerceAtLeast(minimumValue: Double): Double {\n  return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMostComparable\n */\npublic fun <T : Comparable<T>> T.coerceAtMost(maximumValue: T): T {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Byte.coerceAtMost(maximumValue: Byte): Byte {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Short.coerceAtMost(maximumValue: Short): Short {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Int.coerceAtMost(maximumValue: Int): Int {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Long.coerceAtMost(maximumValue: Long): Long {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample samples.comparisons.ComparableOps.coerceAtMost\n */\npublic fun Float.coerceAtMost(maximumValue: Float): Float {\n  return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the [maximumValue] or the [maximumValue] otherwise.\n * \n * @sample

```

```

samples.comparisons.ComparableOps.coerceAtMost\n *\npublic fun Double.coerceAtMost(maximumValue:
Double): Double {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInComparable\n *\npublic fun
<T : Comparable<T>> T.coerceIn(minimumValue: T?, maximumValue: T?): T {\n    if (minimumValue !== null
&& maximumValue !== null) {\n        if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n        if (this < minimumValue) return minimumValue\n        if (this >
maximumValue) return maximumValue\n    }\n    else {\n        if (minimumValue !== null && this <
minimumValue) return minimumValue\n        if (maximumValue !== null && this > maximumValue) return
maximumValue\n    }\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Byte.coerceIn(minimumValue: Byte,
maximumValue: Byte): Byte {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Short.coerceIn(minimumValue: Short,
maximumValue: Short): Short {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Int.coerceIn(minimumValue: Int, maximumValue:
Int): Int {\n    if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot coerce value to an
empty range: maximum $maximumValue is less than minimum $minimumValue.")\n    if (this < minimumValue)
return minimumValue\n    if (this > maximumValue) return maximumValue\n    return this\n}\n\n/**\n * Ensures
that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in
the range, or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater
than [maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceIn\n *\npublic fun
Long.coerceIn(minimumValue: Long, maximumValue: Long): Long {\n    if (minimumValue > maximumValue)
throw IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *\npublic fun Float.coerceIn(minimumValue: Float,
maximumValue: Float): Float {\n    if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n    if (this < minimumValue) return minimumValue\n    if (this > maximumValue)
return maximumValue\n    return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample

```

```

samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Double.coerceIn(minimumValue: Double,
maximumValue: Double): Double {\n  if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n  if (this < minimumValue) return minimumValue\n  if (this > maximumValue)
return maximumValue\n  return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInFloatingPointRange\n *^\n@SinceKotlin("1.1")\npublic fun <T :
Comparable<T>> T.coerceIn(range: ClosedFloatingPointRange<T>): T {\n  if (range.isEmpty()) throw
IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n  return when {\n    // this <
start equiv to this <= start && !(this >= start)\n    range.lessThanOrEqualTo(this, range.start) &&
!range.lessThanOrEqualTo(range.start, this) -> range.start\n    // this > end equiv to this >= end && !(this <= end)\n
range.lessThanOrEqualTo(range.endInclusive, this) && !range.lessThanOrEqualTo(this, range.endInclusive) ->
range.endInclusive\n    else -> this\n  }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInComparable\n *^\npublic fun <T : Comparable<T>>
T.coerceIn(range: ClosedRange<T>): T {\n  if (range is ClosedFloatingPointRange) {\n    return
this.coerceIn<T>(range)\n  }\n  if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an
empty range: $range.")\n  return when {\n    this < range.start -> range.start\n    this > range.endInclusive ->
range.endInclusive\n    else -> this\n  }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Int.coerceIn(range: ClosedRange<Int>): Int {\n  if (range is ClosedFloatingPointRange) {\n
return this.coerceIn<Int>(range)\n  }\n  if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce
value to an empty range: $range.")\n  return when {\n    this < range.start -> range.start\n    this >
range.endInclusive -> range.endInclusive\n    else -> this\n  }\n}\n\n/**\n * Ensures that this value lies in the
specified [range].\n * \n * @return this value if it's in the [range], or `range.start` if this value is less than
`range.start`, or `range.endInclusive` if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceIn\n *^\npublic fun Long.coerceIn(range: ClosedRange<Long>): Long
{\n  if (range is ClosedFloatingPointRange) {\n    return this.coerceIn<Long>(range)\n  }\n  if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n  return
when {\n    this < range.start -> range.start\n    this > range.endInclusive -> range.endInclusive\n    else ->
this\n  }\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache
2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin\n\nimport
kotlin.experimental.*\n\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@
SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class UByte @PublishedApi internal
constructor(@PublishedApi internal val data: Byte) : Comparable<UByte> {\n\n  companion object {\n\n    /**\n
     * A constant holding the minimum value an instance of UByte can have.\n
     */\n    public const val
MIN_VALUE: UByte = UByte(0)\n\n    /**\n
     * A constant holding the maximum value an instance of
UByte can have.\n
     */\n    public const val
MAX_VALUE: UByte = UByte(-1)\n\n    /**\n
     * The
number of bytes used to represent an instance of UByte in a binary form.\n
     */\n    public const val
SIZE_BYTES: Int = 1\n\n    /**\n
     * The number of bits used to represent an instance of UByte in a binary
form.\n
     */\n    public const val
SIZE_BITS: Int = 8\n  }\n\n  /**\n
   * Compares this value with the
specified value for order.\n
   * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n
   * or a positive number if it's greater than other.\n
   */\n  @kotlin.internal.InlineOnly\n  @Suppress("OVERRIDE_BY_INLINE")\n  public override inline operator fun compareTo(other: UByte): Int =

```

```

this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n public inline operator fun
compareTo(other: UShort): Int = this.toInt().compareTo(other.toInt())\n\n /**\n * Compares this value with the
specified value for order.\n * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,\n * or a positive number if it's greater than other.\n */\n @kotlin.internal.InlineOnly\n
public inline operator fun compareTo(other: UInt): Int = this.toUInt().compareTo(other)\n\n /**\n * Compares
this value with the specified value for order.\n * Returns zero if this value is equal to the specified other value, a
negative number if it's less than other,\n * or a positive number if it's greater than other.\n */\n
@kotlin.internal.InlineOnly\n public inline operator fun compareTo(other: ULong): Int =
this.toULong().compareTo(other)\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UByte): UInt = this.toUInt().plus(other.toUInt())\n\n /** Adds the other value
to this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: UShort): UInt =
this.toUInt().plus(other.toUInt())\n\n /** Adds the other value to this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun plus(other: UInt): UInt = this.toUInt().plus(other)\n\n /** Adds the other value to this
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun plus(other: ULong): ULong =
this.toULong().plus(other)\n\n /** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun minus(other: UByte): UInt = this.toUInt().minus(other.toUInt())\n\n /** Subtracts the
other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun minus(other: UShort):
UInt = this.toUInt().minus(other.toUInt())\n\n /** Subtracts the other value from this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun minus(other: UInt): UInt = this.toUInt().minus(other)\n\n
/** Subtracts the other value from this value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
minus(other: ULong): ULong = this.toULong().minus(other)\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UByte): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UShort): UInt =
this.toUInt().times(other.toUInt())\n\n /** Multiplies this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun times(other: UInt): UInt = this.toUInt().times(other)\n\n
/** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun
times(other: ULong): ULong = this.toULong().times(other)\n\n /** Divides this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: UByte): UInt =
this.toUInt().div(other.toUInt())\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UShort): UInt = this.toUInt().div(other.toUInt())\n\n /** Divides this value by
the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UInt): UInt =
this.toUInt().div(other)\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: ULong): ULong = this.toULong().div(other)\n\n /** Calculates the remainder of
dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other:
UByte): UInt = this.toUInt().rem(other.toUInt())\n\n /** Calculates the remainder of dividing this value by the other
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UShort): UInt =
this.toUInt().rem(other.toUInt())\n\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n\n /**
Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n\n /** Increments this value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): UByte = UByte(data.inc())\n\n /** Decrements this
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UByte = UByte(data.dec())\n\n /**
Creates a range from this value to the specified [other] value. */\n @kotlin.internal.InlineOnly\n public inline
operator fun rangeTo(other: UByte): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n\n /** Performs a
bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun

```

```

and(other: UByte): UByte = UByte(this.data and other.data)\n /** Performs a bitwise OR operation between the
two values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UByte): UByte = UByte(this.data
or other.data)\n /** Performs a bitwise XOR operation between the two values. */\n
@kotlin.internal.InlineOnly\n public inline infix fun xor(other: UByte): UByte = UByte(this.data xor other.data)\n
/** Inverts the bits in this value. */\n @kotlin.internal.InlineOnly\n public inline fun inv(): UByte =
UByte(data.inv())\n /**\n * Converts this [UByte] value to [Byte].\n * If this value is less than or
equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this
`UByte`. Otherwise the result is negative.\n * The resulting `Byte` value has the same binary representation
as this `UByte` value.\n */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data\n /**\n
* Converts this [UByte] value to [Short].\n * The resulting `Short` value represents the same numerical
value as this `UByte`.\n * The least significant 8 bits of the resulting `Short` value are the same as the bits
of this `UByte` value,\n * whereas the most significant 8 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort() and 0xFF\n /**\n * Converts
this [UByte] value to [Int].\n * The resulting `Int` value represents the same numerical value as this
`UByte`.\n * The least significant 8 bits of the resulting `Int` value are the same as the bits of this `UByte`
value,\n * whereas the most significant 24 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n
public inline fun toInt(): Int = data.toInt() and 0xFF\n /**\n * Converts this [UByte] value to [Long].\n
* The resulting `Long` value represents the same numerical value as this `UByte`.\n * The least significant
8 bits of the resulting `Long` value are the same as the bits of this `UByte` value,\n * whereas the most significant
56 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong(): Long =
data.toLong() and 0xFF\n /** Returns this value. */\n @kotlin.internal.InlineOnly\n public inline fun
toUByte(): UByte = this\n /**\n * Converts this [UByte] value to [UShort].\n * The resulting `UShort`
value represents the same numerical value as this `UByte`.\n * The least significant 8 bits of the resulting
`UShort` value are the same as the bits of this `UByte` value,\n * whereas the most significant 8 bits are filled
with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = UShort(data.toShort()
and 0xFF)\n /**\n * Converts this [UByte] value to [UInt].\n * The resulting `UInt` value represents
the same numerical value as this `UByte`.\n * The least significant 8 bits of the resulting `UInt` value are
the same as the bits of this `UByte` value,\n * whereas the most significant 24 bits are filled with zeros.\n
*/\n @kotlin.internal.InlineOnly\n public inline fun toUInt(): UInt = UInt(data.toInt() and 0xFF)\n /**\n
* Converts this [UByte] value to [ULong].\n * The resulting `ULong` value represents the same numerical
value as this `UByte`.\n * The least significant 8 bits of the resulting `ULong` value are the same as the bits
of this `UByte` value,\n * whereas the most significant 56 bits are filled with zeros.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toULong(): ULong = ULong(data.toLong() and 0xFF)\n /**\n
* Converts this [UByte] value to [Float].\n * The resulting `Float` value represents the same numerical
value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline fun toFloat(): Float =
this.toInt().toFloat()\n /**\n * Converts this [UByte] value to [Double].\n * The resulting `Double`
value represents the same numerical value as this `UByte`.\n */\n @kotlin.internal.InlineOnly\n public inline
fun toDouble(): Double = this.toInt().toDouble()\n public override fun toString(): String =
toInt().toString()\n}\n\n/**\n * Converts this [Byte] value to [UByte].\n * If this value is positive, the resulting
`UByte` value represents the same numerical value as this `Byte`.\n * The resulting `UByte` value has the same
binary representation as this `Byte` value.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
Byte.toUByte(): UByte = UByte(this)\n /**\n * Converts this [Short] value to [UByte].\n * If this value is
positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `Short`.\n * The resulting `UByte` value is represented by the least significant 8 bits of
this `Short` value.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
Short.toUByte(): UByte = UByte(this.toByte())\n /**\n * Converts this [Int] value to [UByte].\n * If this value is

```

positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents the same numerical value as this `Int`. The resulting `UByte` value is represented by the least significant 8 bits of this `Int` value.

Since Kotlin(1.3) ExperimentalUnsignedTypes kotlin.internal.InlineOnly public inline fun Int.toUByte(): UByte = UByte(this.toByte())

Converts this [Long] value to [UByte]. If this value is positive and less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents the same numerical value as this `Long`. The resulting `UByte` value is represented by the least significant 8 bits of this `Long` value.

```
Since Kotlin(1.3) ExperimentalUnsignedTypes kotlin.internal.InlineOnly public inline fun
Long.toUByte(): UByte = UByte(this.toByte())
/* Copyright 2010-2019 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
Auto-generated file. DO NOT EDIT!
package kotlin
import
kotlin.experimental. Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")
Since Kotlin(1.3) ExperimentalUnsignedTypes public inline class UInt @PublishedApi internal
constructor(@PublishedApi internal val data: Int) : Comparable<UInt> {
    companion object {
        /* A constant holding the minimum value an instance of UInt can have.
        public const val
        MIN_VALUE: UInt = UInt(0)
        /* A constant holding the maximum value an instance of UInt can
        have.
        public const val MAX_VALUE: UInt = UInt(-1)
        /* The number of bytes
        used to represent an instance of UInt in a binary form.
        public const val SIZE_BYTES: Int = 4
        /* The number of bits used to represent an instance of UInt in a binary form.
        public const
        val SIZE_BITS: Int = 32
    }
    /* Compares this value with the specified value for order.
    Returns
    zero if this value is equal to the specified other value, a negative number if it's less than other,
    or a positive
    number if it's greater than other.
    @kotlin.internal.InlineOnly public inline operator fun
    compareTo(other: UByte): Int = this.compareTo(other.toUInt())
    /* Compares this value with the
    specified value for order.
    Returns zero if this value is equal to the specified other value, a negative number if
    it's less than other,
    or a positive number if it's greater than other.
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UShort): Int = this.compareTo(other.toUInt())
    /*
    Compares this value with the specified value for order.
    Returns zero if this value is equal to the specified other
    value, a negative number if it's less than other,
    or a positive number if it's greater than other.
    @kotlin.internal.InlineOnly
    @Suppress("OVERRIDE_BY_INLINE") public override inline operator fun
    compareTo(other: UInt): Int = uintCompare(this.data, other.data)
    /* Compares this value with the
    specified value for order.
    Returns zero if this value is equal to the specified other value, a negative number if
    it's less than other,
    or a positive number if it's greater than other.
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: ULong): Int = this.toULong().compareTo(other)
    /* Adds the
    other value to this value.
    @kotlin.internal.InlineOnly public inline operator fun plus(other: UByte): UInt =
    this.plus(other.toUInt())
    /* Adds the other value to this value.
    @kotlin.internal.InlineOnly public
    inline operator fun plus(other: UShort): UInt = this.plus(other.toUInt())
    /* Adds the other value to this value.
    @kotlin.internal.InlineOnly public inline operator fun plus(other: UInt): UInt =
    UInt(this.data.plus(other.data))
    /* Adds the other value to this value.
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: ULong): ULong = this.toULong().plus(other)
    /* Subtracts the other
    value from this value.
    @kotlin.internal.InlineOnly public inline operator fun minus(other: UByte): UInt =
    this.minus(other.toUInt())
    /* Subtracts the other value from this value.
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UShort): UInt = this.minus(other.toUInt())
    /* Subtracts the other value
    from this value.
    @kotlin.internal.InlineOnly public inline operator fun minus(other: UInt): UInt =
    UInt(this.data.minus(other.data))
    /* Subtracts the other value from this value.
    @kotlin.internal.InlineOnly public inline operator fun minus(other: ULong): ULong =
    this.toULong().minus(other)
    /* Multiplies this value by the other value.
    @kotlin.internal.InlineOnly
    public inline operator fun times(other: UByte): UInt = this.times(other.toUInt())
    /* Multiplies this value by the
    other value.
    @kotlin.internal.InlineOnly public inline operator fun times(other: UShort): UInt =
```

```

this.times(other.toUInt())\n /** Multiplies this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun times(other: UInt): UInt = UInt(this.data.times(other.data))\n /** Multiplies this value
by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun times(other: ULong): ULong =
this.toULong().times(other)\n\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun div(other: UByte): UInt = this.div(other.toUInt())\n /** Divides this value by the other
value. */\n @kotlin.internal.InlineOnly\n public inline operator fun div(other: UShort): UInt =
this.div(other.toUInt())\n /** Divides this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun div(other: UInt): UInt = uintDivide(this, other)\n /** Divides this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun div(other: ULong): ULong =
this.toULong().div(other)\n\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UByte): UInt = this.rem(other.toUInt())\n /**
Calculates the remainder of dividing this value by the other value. */\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: UShort): UInt = this.rem(other.toUInt())\n /** Calculates the remainder of dividing
this value by the other value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt
= uintRemainder(this, other)\n /** Calculates the remainder of dividing this value by the other value. */\n
@kotlin.internal.InlineOnly\n public inline operator fun rem(other: ULong): ULong =
this.toULong().rem(other)\n\n /** Increments this value. */\n @kotlin.internal.InlineOnly\n public inline
operator fun inc(): UInt = UInt(data.inc())\n /** Decrements this value. */\n @kotlin.internal.InlineOnly\n
public inline operator fun dec(): UInt = UInt(data.dec())\n\n /** Creates a range from this value to the specified
[other] value. */\n @kotlin.internal.InlineOnly\n public inline operator fun rangeTo(other: UInt): UIntRange =
UIntRange(this, other)\n\n /** Shifts this value left by the [bitCount] number of bits. */\n
@kotlin.internal.InlineOnly\n public inline infix fun shl(bitCount: Int): UInt = UInt(data shl bitCount)\n /**
Shifts this value right by the [bitCount] number of bits, filling the leftmost bits with zeros. */\n
@kotlin.internal.InlineOnly\n public inline infix fun shr(bitCount: Int): UInt = UInt(data ushr bitCount)\n /**
Performs a bitwise AND operation between the two values. */\n @kotlin.internal.InlineOnly\n public inline infix
fun and(other: UInt): UInt = UInt(this.data and other.data)\n /** Performs a bitwise OR operation between the two
values. */\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UInt): UInt = UInt(this.data or
other.data)\n /** Performs a bitwise XOR operation between the two values. */\n @kotlin.internal.InlineOnly\n
public inline infix fun xor(other: UInt): UInt = UInt(this.data xor other.data)\n /** Inverts the bits in this value.
*/\n @kotlin.internal.InlineOnly\n public inline fun inv(): UInt = UInt(data.inv())\n\n /**\n * Converts this
[UInt] value to [Byte].\n * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte`
value represents\n * the same numerical value as this `UInt`.\n * The resulting `Byte` value is
represented by the least significant 8 bits of this `UInt` value.\n * Note that the resulting `Byte` value may be
negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun toByte(): Byte = data.toByte()\n /**\n *
Converts this [UInt] value to [Short].\n * If this value is less than or equals to [Short.MAX_VALUE], the
resulting `Short` value represents\n * the same numerical value as this `UInt`.\n * The resulting `Short`
value is represented by the least significant 16 bits of this `UInt` value.\n * Note that the resulting `Short`
value may be negative.\n */\n @kotlin.internal.InlineOnly\n public inline fun toShort(): Short = data.toShort()\n
/**\n * Converts this [UInt] value to [Int].\n * If this value is less than or equals to [Int.MAX_VALUE],
the resulting `Int` value represents\n * the same numerical value as this `UInt`. Otherwise the result is negative.\n
*/\n * The resulting `Int` value has the same binary representation as this `UInt` value.\n */\n
@kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data\n /**\n * Converts this [UInt] value to
[Long].\n * The resulting `Long` value represents the same numerical value as this `UInt`.\n * The
least significant 32 bits of the resulting `Long` value are the same as the bits of this `UInt` value,\n * whereas the
most significant 32 bits are filled with zeros.\n */\n @kotlin.internal.InlineOnly\n public inline fun toLong():
Long = data.toLong() and 0xFFFF_FFFF\n\n /**\n * Converts this [UInt] value to [UByte].\n * If this
value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte` value represents\n * the same
numerical value as this `UInt`.\n * The resulting `UByte` value is represented by the least significant 8 bits

```

```

of this `UInt` value.\n    *^\n    @kotlin.internal.InlineOnly\n    public inline fun toUByte(): UByte =
data.toUByte()\n    /**\n    * Converts this [UInt] value to [UShort].\n    *^\n    * If this value is less than or equals
to [UShort.MAX_VALUE], the resulting `UShort` value represents\n    * the same numerical value as this `UInt`.\n    *^\n    * The resulting `UShort` value is represented by the least significant 16 bits of this `UInt` value.\n    *^\n
@kotlin.internal.InlineOnly\n    public inline fun toUShort(): UShort = data.toUShort()\n    /** Returns this value.
*^\n    @kotlin.internal.InlineOnly\n    public inline fun toUInt(): UInt = this\n    /**\n    * Converts this [UInt] value
to [ULong].\n    *^\n    * The resulting `ULong` value represents the same numerical value as this `UInt`.\n    *^\n
* The least significant 32 bits of the resulting `ULong` value are the same as the bits of this `UInt` value,\n    *
whereas the most significant 32 bits are filled with zeros.\n    *^\n    @kotlin.internal.InlineOnly\n    public inline
fun toULong(): ULong = ULong(data.toLong() and 0xFFFF_FFFF)\n    /**\n    * Converts this [UInt] value to
[Float].\n    *^\n    * The resulting value is the closest `Float` to this `UInt` value.\n    *^\n    * In case when this `UInt`
value is exactly between two `Float`s,\n    * the one with zero at least significant bit of mantissa is selected.\n    *^\n
@kotlin.internal.InlineOnly\n    public inline fun toFloat(): Float = this.toDouble().toFloat()\n    /**\n    * Converts
this [UInt] value to [Double].\n    *^\n    * The resulting `Double` value represents the same numerical value as this
`UInt`.\n    *^\n    @kotlin.internal.InlineOnly\n    public inline fun toDouble(): Double = UIntToDouble(data)\n    \n
public override fun toString(): String = toLong().toString()\n    \n    /**\n    * Converts this [Byte] value to [UInt].\n
*^\n    * If this value is positive, the resulting `UInt` value represents the same numerical value as this `Byte`.\n    *^\n
* The least significant 8 bits of the resulting `UInt` value are the same as the bits of this `Byte` value,\n    * whereas the
most significant 24 bits are filled with the sign bit of this value.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Byte.toUInt(): UInt = UInt(this.toInt())\n    /**\n    * Converts this [Short] value to [UInt].\n    *^\n    * If this value is
positive, the resulting `UInt` value represents the same numerical value as this `Short`.\n    *^\n    * The least significant
16 bits of the resulting `UInt` value are the same as the bits of this `Short` value,\n    * whereas the most significant 16
bits are filled with the sign bit of this value.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Short.toUInt(): UInt = UInt(this.toInt())\n    /**\n    * Converts this [Int] value to [UInt].\n    *^\n    * If this value is
positive, the resulting `UInt` value represents the same numerical value as this `Int`.\n    *^\n    * The resulting `UInt`
value has the same binary representation as this `Int` value.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Int.toUInt(): UInt = UInt(this)\n    /**\n    * Converts this [Long] value to [UInt].\n    *^\n    * If this value is
positive and less than or equals to [UInt.MAX_VALUE], the resulting `UInt` value represents\n    * the same numerical value as this
`Long`.\n    *^\n    * The resulting `UInt` value is represented by the least significant 32 bits of this `Long` value.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Long.toUInt(): UInt = UInt(this.toInt())\n    /**\n    * Converts this [Float] value to [UInt].\n    *^\n    * The fractional
part, if any, is rounded down.\n    *^\n    * Returns zero if this `Float` value is negative or `NaN`, [UInt.MAX_VALUE] if it's
bigger than `UInt.MAX_VALUE`.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Float.toUInt(): UInt = doubleToUInt(this.toDouble())\n    /**\n    * Converts this [Double] value to [UInt].\n    *^\n    * The
fractional part, if any, is rounded down.\n    *^\n    * Returns zero if this `Double` value is negative or `NaN`,
[UInt.MAX_VALUE] if it's bigger than `UInt.MAX_VALUE`.\n
*^\n    @SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    @kotlin.internal.InlineOnly\n    public inline fun
Double.toUInt(): UInt = doubleToUInt(this)\n    \n    /**\n    * Copyright 2010-2019 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n    * that can be found in the license/LICENSE.txt file.\n    *^\n    \n    //
Auto-generated file. DO NOT EDIT!\n    \n    package kotlin\n    \n    import
kotlin.experimental.*\n    \n    @Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n    @
SinceKotlin("1.3")\n    @ExperimentalUnsignedTypes\n    public inline class UShort @PublishedApi internal
constructor(@PublishedApi internal val data: Short) : Comparable<UShort> {\n    \n    companion object {\n    \n    /**\n
* A constant holding the minimum value an instance of UShort can have.\n    *^\n    \n    public const val

```



```

@kotlin.internal.InlineOnly\n public inline operator fun rem(other: UInt): UInt = this.toUInt().rem(other)\n /**
Calculates the remainder of dividing this value by the other value. *\n @kotlin.internal.InlineOnly\n public
inline operator fun rem(other: ULong): ULong = this.toULong().rem(other)\n /** Increments this value. *\n
@kotlin.internal.InlineOnly\n public inline operator fun inc(): UShort = UShort(data.inc())\n /** Decrements
this value. *\n @kotlin.internal.InlineOnly\n public inline operator fun dec(): UShort = UShort(data.dec())\n
/** Creates a range from this value to the specified [other] value. *\n @kotlin.internal.InlineOnly\n public inline
operator fun rangeTo(other: UShort): UIntRange = UIntRange(this.toUInt(), other.toUInt())\n /** Performs a
bitwise AND operation between the two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun
and(other: UShort): UShort = UShort(this.data and other.data)\n /** Performs a bitwise OR operation between the
two values. *\n @kotlin.internal.InlineOnly\n public inline infix fun or(other: UShort): UShort =
UShort(this.data or other.data)\n /** Performs a bitwise XOR operation between the two values. *\n
@kotlin.internal.InlineOnly\n public inline infix fun xor(other: UShort): UShort = UShort(this.data xor
other.data)\n /** Inverts the bits in this value. *\n @kotlin.internal.InlineOnly\n public inline fun inv():
UShort = UShort(data.inv())\n /**\n * Converts this [UShort] value to [Byte].\n * \n * If this value is less
than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents\n * the same numerical value as this
`UShort`.\n * \n * The resulting `Byte` value is represented by the least significant 8 bits of this `UShort`
value.\n * Note that the resulting `Byte` value may be negative.\n *\n @kotlin.internal.InlineOnly\n public
inline fun toByte(): Byte = data.toByte()\n /**\n * Converts this [UShort] value to [Short].\n * \n * If this
value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value represents\n * the same
numerical value as this `UShort`. Otherwise the result is negative.\n * \n * The resulting `Short` value has the
same binary representation as this `UShort` value.\n *\n @kotlin.internal.InlineOnly\n public inline fun
toShort(): Short = data\n /**\n * Converts this [UShort] value to [Int].\n * \n * The resulting `Int` value
represents the same numerical value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `Int`
value are the same as the bits of this `UShort` value,\n * whereas the most significant 16 bits are filled with
zeros.\n *\n @kotlin.internal.InlineOnly\n public inline fun toInt(): Int = data.toInt() and 0xFFFF\n /**\n
* Converts this [UShort] value to [Long].\n * \n * The resulting `Long` value represents the same numerical
value as this `UShort`.\n * \n * The least significant 16 bits of the resulting `Long` value are the same as the bits
of this `UShort` value,\n * whereas the most significant 48 bits are filled with zeros.\n *\n
@kotlin.internal.InlineOnly\n public inline fun toLong(): Long = data.toLong() and 0xFFFF\n\n /**\n *
Converts this [UShort] value to [UByte].\n * \n * If this value is less than or equals to [UByte.MAX_VALUE],
the resulting `UByte` value represents\n * the same numerical value as this `UShort`.\n * \n * The resulting
`UByte` value is represented by the least significant 8 bits of this `UShort` value.\n *\n
@kotlin.internal.InlineOnly\n public inline fun toUByte(): UByte = data.toUByte()\n /** Returns this value. *\n
@kotlin.internal.InlineOnly\n public inline fun toUShort(): UShort = this\n /**\n * Converts this [UShort]
value to [UInt].\n * \n * The resulting `UInt` value represents the same numerical value as this `UShort`.\n
*\n * The least significant 16 bits of the resulting `UInt` value are the same as the bits of this `UShort` value,\n
*\n * whereas the most significant 16 bits are filled with zeros.\n *\n @kotlin.internal.InlineOnly\n public inline
fun toUInt(): UInt = UInt(data.toInt() and 0xFFFF)\n /**\n * Converts this [UShort] value to [ULong].\n * \n
* The resulting `ULong` value represents the same numerical value as this `UShort`.\n * \n * The least
significant 16 bits of the resulting `ULong` value are the same as the bits of this `UShort` value,\n * whereas the
most significant 48 bits are filled with zeros.\n *\n @kotlin.internal.InlineOnly\n public inline fun toULong():
ULong = ULong(data.toLong() and 0xFFFF)\n /**\n * Converts this [UShort] value to [Float].\n * \n *
The resulting `Float` value represents the same numerical value as this `UShort`.\n *\n
@kotlin.internal.InlineOnly\n public inline fun toFloat(): Float = this.toInt().toFloat()\n /**\n * Converts this
[UShort] value to [Double].\n * \n * The resulting `Double` value represents the same numerical value as this
`UShort`.\n *\n @kotlin.internal.InlineOnly\n public inline fun toDouble(): Double =
this.toInt().toDouble()\n\n public override fun toString(): String = toInt().toString()\n\n /**\n * Converts this
[Byte] value to [UShort].\n * \n * If this value is positive, the resulting `UShort` value represents the same numerical

```

value as this `Byte`.
 * The least significant 8 bits of the resulting `UShort` value are the same as the bits of this `Byte` value,
 * whereas the most significant 8 bits are filled with the sign bit of this value.

```

*@\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Byte.toUShort(): UShort = UShort(this.toShort())\n/**\n * Converts this [Short] value to [UShort].\n * If this
value is positive, the resulting `UShort` value represents the same numerical value as this `Short`.\n * The
resulting `UShort` value has the same binary representation as this `Short` value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Short.toUShort(): UShort = UShort(this)\n/**\n * Converts this [Int] value to [UShort].\n * If this value is
positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n * the same
numerical value as this `Int`.\n * The resulting `UShort` value is represented by the least significant 16 bits of
this `Int` value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun Int.toUShort(): UShort = UShort(this.toShort())\n/**\n * Converts this [Long] value to [UShort].\n * If
this value is positive and less than or equals to [UShort.MAX_VALUE], the resulting `UShort` value represents\n *
the same numerical value as this `Long`.\n * The resulting `UShort` value is represented by the least significant
16 bits of this `Long` value.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
Long.toUShort(): UShort = UShort(this.toShort())\n", "\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n *\n@n// Auto-
generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n/**\n * A range of values of type `Char`.\n *\npublic
class CharRange(start: Char, endInclusive: Char) : CharProgression(start, endInclusive, 1), ClosedRange<Char> {\n
override val start: Char get() = first\n override val endInclusive: Char get() = last\n\n override fun
contains(value: Char): Boolean = first <= value && value <= last\n\n override fun isEmpty(): Boolean = first >
last\n\n override fun equals(other: Any?): Boolean =\n other is CharRange && (isEmpty() &&
other.isEmpty() ||\n first == other.first && last == other.last)\n\n override fun hashCode(): Int =\n if
(isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n override fun toString(): String = "$first..$last"\n\n
companion object {\n /** An empty range of values of type Char. *\n public val EMPTY: CharRange =
CharRange(1.toChar(), 0.toChar())\n }\n}\n\n/**\n * A range of values of type `Int`.\n *\npublic class
IntRange(start: Int, endInclusive: Int) : IntProgression(start, endInclusive, 1), ClosedRange<Int> {\n override val
start: Int get() = first\n override val endInclusive: Int get() = last\n\n override fun contains(value: Int): Boolean =
first <= value && value <= last\n\n override fun isEmpty(): Boolean = first > last\n\n override fun equals(other:
Any?): Boolean =\n other is IntRange && (isEmpty() && other.isEmpty() ||\n first == other.first && last
== other.last)\n\n override fun hashCode(): Int =\n if (isEmpty()) -1 else (31 * first + last)\n\n override fun
toString(): String = "$first..$last"\n\n companion object {\n /** An empty range of values of type Int. *\n
public val EMPTY: IntRange = IntRange(1, 0)\n }\n}\n\n/**\n * A range of values of type `Long`.\n *\npublic
class LongRange(start: Long, endInclusive: Long) : LongProgression(start, endInclusive, 1), ClosedRange<Long>
{\n override val start: Long get() = first\n override val endInclusive: Long get() = last\n\n override fun
contains(value: Long): Boolean = first <= value && value <= last\n\n override fun isEmpty(): Boolean = first >
last\n\n override fun equals(other: Any?): Boolean =\n other is LongRange && (isEmpty() &&
other.isEmpty() ||\n first == other.first && last == other.last)\n\n override fun hashCode(): Int =\n if
(isEmpty()) -1 else (31 * (first xor (first ushr 32)) + (last xor (last ushr 32))).toInt()\n\n override fun
toString(): String = "$first..$last"\n\n companion object {\n /** An empty range of values of type Long. *\n
public val EMPTY: LongRange = LongRange(1, 0)\n }\n}\n\n", "\n * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n@n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\ninternal object EmptyIterator : ListIterator<Nothing> {\n
override fun hasNext(): Boolean = false\n override fun hasPrevious(): Boolean = false\n override fun
nextIndex(): Int = 0\n override fun previousIndex(): Int = -1\n override fun next(): Nothing = throw
NoSuchElementException()\n override fun previous(): Nothing = throw

```

```

NoSuchElementException()\n}\n\ninternal object EmptyList : List<Nothing>, Serializable, RandomAccess {\n
private const val serialVersionUID: Long = -7390468764508069838L\n\n override fun equals(other: Any?):
Boolean = other is List<*> && other.isEmpty()\n override fun hashCode(): Int = 1\n override fun toString():
String = \"[]\"\n\n override val size: Int get() = 0\n override fun isEmpty(): Boolean = true\n override fun
contains(element: Nothing): Boolean = false\n override fun containsAll(elements: Collection<Nothing>): Boolean
= elements.isEmpty()\n\n override fun get(index: Int): Nothing = throw IndexOutOfBoundsException(\"Empty list
doesn't contain element at index $index.\")\n\n override fun indexOf(element: Nothing): Int = -1\n override fun
lastIndexOf(element: Nothing): Int = -1\n\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n
override fun listIterator(): ListIterator<Nothing> = EmptyIterator\n\n override fun listIterator(index: Int):
ListIterator<Nothing> {\n    if (index != 0) throw IndexOutOfBoundsException(\"Index: $index\")\n    return
EmptyIterator\n }\n\n override fun subList(fromIndex: Int, toIndex: Int): List<Nothing> {\n    if (fromIndex
== 0 && toIndex == 0) return this\n    throw IndexOutOfBoundsException(\"fromIndex: $fromIndex, toIndex:
$toIndex\")\n }\n\n private fun readResolve(): Any = EmptyList\n}\n\ninternal fun <T> Array<out
T>.asCollection(): Collection<T> = ArrayAsCollection(this, isVarargs = false)\n\nprivate class
ArrayAsCollection<T>(val values: Array<out T>, val isVarargs: Boolean) : Collection<T> {\n override val size:
Int get() = values.size\n override fun isEmpty(): Boolean = values.isEmpty()\n override fun contains(element:
T): Boolean = values.contains(element)\n override fun containsAll(elements: Collection<T>): Boolean =
elements.all { contains(it) }\n override fun iterator(): Iterator<T> = values.iterator()\n // override hidden toArray
implementation to prevent copying of values array\n public fun toArray(): Array<out Any?> =
values.copyToArrayOfAny(isVarargs)\n}\n\n/**\n * Returns an empty read-only list. The returned list is
serializable (JVM).\n * @sample samples.collections.Collections.Lists.emptyReadOnlyList\n */\npublic fun <T>
emptyList(): List<T> = EmptyList\n\n/**\n * Returns a new read-only list of given elements. The returned list is
serializable (JVM).\n * @sample samples.collections.Collections.Lists.readOnlyList\n */\npublic fun <T>
listOf(vararg elements: T): List<T> = if (elements.size > 0) elements.asList() else emptyList()\n\n/**\n * Returns an
empty read-only list. The returned list is serializable (JVM).\n * @sample
samples.collections.Collections.Lists.emptyReadOnlyList\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
listOf(): List<T> = emptyList()\n\n/**\n * Returns an empty new [MutableList].\n * @sample
samples.collections.Collections.Lists.emptyMutableList\n
*/\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> mutableListOf(): MutableList<T> =
ArrayList()\n\n/**\n * Returns an empty new [ArrayList].\n * @sample
samples.collections.Collections.Lists.emptyArrayList\n
*/\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> arrayListOf(): ArrayList<T> =
ArrayList()\n\n/**\n * Returns a new [MutableList] with the given elements.\n * @sample
samples.collections.Collections.Lists.mutableList\n */\npublic fun <T> mutableListOf(vararg elements: T):
MutableList<T> =\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs =
true))\n\n/**\n * Returns a new [ArrayList] with the given elements.\n * @sample
samples.collections.Collections.Lists.arrayList\n */\npublic fun <T> arrayListOf(vararg elements: T): ArrayList<T>
=\n    if (elements.size == 0) ArrayList() else ArrayList(ArrayAsCollection(elements, isVarargs = true))\n\n/**\n * Returns a new read-only list either of single given element, if it is not null, or empty list if the element is null. The
returned list is serializable (JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n */\npublic fun
<T : Any> listOfNotNull(element: T?): List<T> = if (element != null) listOf(element) else emptyList()\n\n/**\n * Returns a new read-only list only of those given elements, that are not null. The returned list is serializable
(JVM).\n * @sample samples.collections.Collections.Lists.listOfNotNull\n */\npublic fun <T : Any>
listOfNotNull(vararg elements: T?): List<T> = elements.filterNotNull()\n\n/**\n * Creates a new read-only list with
the specified [size], where each element is calculated by calling the specified\n * [init] function. The [init] function
returns a list element given its index.\n * @sample
samples.collections.Collections.Lists.readOnlyListFromInitializer\n
*/\n@SinceKotlin(\"1.1\")\n@kotlin.internal.InlineOnly\npublic inline fun <T> List(size: Int, init: (index: Int) -> T):

```

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List<T> = MutableList(size, init)\n\n/**\n * Creates a new mutable list with the specified [size], where each element
is calculated by calling the specified\n * [init] function. The [init] function returns a list element given its index.\n *
@sample samples.collections.Collections.Lists.mutableListFromInitializer\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> MutableList(size: Int, init: (index:
Int) -> T): MutableList<T> {\n    val list = ArrayList<T>(size)\n    repeat(size) { index -> list.add(init(index)) }\n
return list}\n\n/**\n * Returns an [IntRange] of the valid indices for this collection.\n * @sample
samples.collections.Collections.Collections.indicesOfCollection\n */\npublic val Collection<*>.indices: IntRange\n
get() = 0..size - 1\n\n/**\n * Returns the index of the last item in the list or -1 if the list is empty.\n * *\n * @sample
samples.collections.Collections.Lists.lastIndexOfList\n */\npublic val <T> List<T>.lastIndex: Int\n
get() =
this.size - 1\n\n/**\n * Returns `true` if the collection is not empty.\n * @sample
samples.collections.Collections.Collections.collectionIsNotEmpty\n */\n@kotlin.internal.InlineOnly\npublic inline
fun <T> Collection<T>.isNotEmpty(): Boolean = !isEmpty()\n\n/**\n * Returns `true` if this nullable collection is
either null or empty.\n * @sample samples.collections.Collections.Collections.collectionIsNullOrEmpty\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>?.isNullOrEmpty():
Boolean {\n    contract {\n        returns(false) implies (this@isNullOrEmpty != null)\n    }\n    return this == null ||
this.isEmpty()\n}\n\n/**\n * Returns this Collection if it's not `null` and the empty list otherwise.\n * @sample
samples.collections.Collections.Collections.collectionOrElse\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>?.orElse(): Collection<T> = this ?: emptyList()\n\n/**\n * Returns this List if it's not `null` and
the empty list otherwise.\n * @sample samples.collections.Collections.Lists.listOrElse\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>?.orElse(): List<T> = this ?: emptyList()\n\n/**
 * Returns this collection if it's not empty\n * or the result of calling [defaultValue] function if the collection is
empty.\n * *\n * @sample samples.collections.Collections.Collections.collectionIfEmpty\n
*/\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : Collection<*>, C : R =\n    if (isEmpty()) defaultValue() else this\n\n\n/**\n * Checks if all
elements in the specified collection are contained in this collection.\n * *\n * Allows to overcome type-safety
restriction of `containsAll` that requires to pass a collection of type `Collection<E>`.\n * @sample
samples.collections.Collections.Collections.collectionContainsAll\n
*/\n@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases\n@kotlin.internal.InlineOnly\npublic inline fun <@kotlin.internal.OnlyInputTypes T>
Collection<T>.containsAll(elements: Collection<T>): Boolean = this.containsAll(elements)\n\ninternal fun <T>
List<T>.optimizeReadOnlyList() = when (size) {\n    0 -> emptyList()\n    1 -> listOf(this[0])\n    else ->
this}\n\n\n/**\n * Searches this list or its range for the provided [element] using the binary search algorithm.\n * The
list is expected to be sorted into ascending order according to the Comparable natural ordering of its elements,\n *
otherwise the result is undefined.\n * *\n * If the list contains multiple elements equal to the specified [element], there
is no guarantee which one will be found.\n * *\n * `null` value is considered to be less than any non-null value.\n * *\n
@return the index of the element, if it is contained in the list within the specified range;\n * otherwise, the inverted
insertion point `(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be
inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchOnComparable\n * @sample
samples.collections.Collections.Lists.binarySearchWithBoundaries\n */\npublic fun <T : Comparable<T>>
List<T?>.binarySearch(element: T?, fromIndex: Int = 0, toIndex: Int = size): Int {\n    rangeCheck(size, fromIndex,
toIndex)\n    var low = fromIndex\n    var high = toIndex - 1\n    while (low <= high) {\n        val mid = (low +
high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = compareValues(midVal,
element)\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n
return mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n\n/**\n * Searches this list or its range
for the provided [element] using the binary search algorithm.\n * The list is expected to be sorted into ascending
order according to the specified [comparator],\n * otherwise the result is undefined.\n * *\n * If the list contains
multiple elements equal to the specified [element], there is no guarantee which one will be found.\n * *\n * `null`

```

```

value is considered to be less than any non-null value.\n * \n * @return the index of the element, if it is contained in
the list within the specified range;\n * otherwise, the inverted insertion point `(-insertion point - 1)`.\n * The
insertion point is defined as the index at which the element should be inserted,\n * so that the list (or the specified
subrange of list) still remains sorted according to the specified [comparator].\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparator\n * \n public fun <T>
List<T>.binarySearch(element: T, comparator: Comparator<in T>, fromIndex: Int = 0, toIndex: Int = size): Int {\n
rangeCheck(size, fromIndex, toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <=
high) {\n        val mid = (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp =
comparator.compare(midVal, element)\n\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n            return mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n/**\n * Searches this list or its range for an element having the key returned by the specified [selector] function\n * equal to
the provided [key] value using the binary search algorithm.\n * The list is expected to be sorted into ascending order
according to the Comparable natural ordering of keys of its elements.\n * otherwise the result is undefined.\n * \n * If
the list contains multiple elements with the specified [key], there is no guarantee which one will be found.\n * \n *
`null` value is considered to be less than any non-null value.\n * \n * @return the index of the element with the
specified [key], if it is contained in the list within the specified range;\n * otherwise, the inverted insertion point `(-
insertion point - 1)`.\n * The insertion point is defined as the index at which the element should be inserted,\n * so
that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchByKey\n * \n public inline fun <T, K : Comparable<K>>
List<T>.binarySearchBy(\n    key: K?,\n    fromIndex: Int = 0,\n    toIndex: Int = size,\n    crossinline selector: (T) ->
K?)\n): Int =\n    binarySearch(fromIndex, toIndex) { compareValues(selector(it), key) }\n\n// do not introduce this
overload --- too rare\n// public fun <T, K> List<T>.binarySearchBy(key: K, comparator: Comparator<K>,\n    fromIndex:
Int = 0, toIndex: Int = size(), selector: (T) -> K): Int =\n//    binarySearch(fromIndex, toIndex) {\n        comparator.compare(selector(it), key) }\n\n\n/**\n * Searches this list or its range for an element for which
[comparison] function returns zero using the binary search algorithm.\n * The list is expected to be sorted into
ascending order according to the provided [comparison],\n * otherwise the result is undefined.\n * \n * If the list
contains multiple elements for which [comparison] returns zero, there is no guarantee which one will be found.\n * \n *
@param comparison function that compares an element of the list with the element being searched.\n * \n *
@return the index of the found element, if it is contained in the list within the specified range;\n * otherwise, the
inverted insertion point `(-insertion point - 1)`.\n * The insertion point is defined as the index at which the element
should be inserted,\n * so that the list (or the specified subrange of list) still remains sorted.\n * @sample
samples.collections.Collections.Lists.binarySearchWithComparisonFunction\n * \n public fun <T>
List<T>.binarySearch(fromIndex: Int = 0, toIndex: Int = size, comparison: (T) -> Int): Int {\n    rangeCheck(size,
fromIndex, toIndex)\n\n    var low = fromIndex\n    var high = toIndex - 1\n\n    while (low <= high) {\n        val mid
= (low + high).ushr(1) // safe from overflows\n        val midVal = get(mid)\n        val cmp = comparison(midVal)\n\n        if (cmp < 0)\n            low = mid + 1\n        else if (cmp > 0)\n            high = mid - 1\n        else\n            return
mid // key found\n    }\n    return -(low + 1) // key not found\n}\n\n\n/**\n * Checks that `from` and `to` are in\n * the
range of [0..size] and throws an appropriate exception, if they aren't.\n * \n private fun rangeCheck(size: Int,
fromIndex: Int, toIndex: Int) {\n    when {\n        fromIndex > toIndex -> throw
IllegalArgumentException("fromIndex ($fromIndex) is greater than toIndex ($toIndex).")\n        fromIndex < 0 ->
throw IndexOutOfBoundsException("fromIndex ($fromIndex) is less than zero.")\n        toIndex > size -> throw
IndexOutOfBoundsException("toIndex ($toIndex) is greater than size ($size).")\n    }\n}\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkIndexOverflow(index: Int):
Int\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal expect fun checkCountOverflow(count: Int):
Int\n\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun throwIndexOverflow() { throw
ArithmeticException("Index overflow has happened.") }\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun
throwCountOverflow() { throw ArithmeticException("Count overflow has happened.") }\n\n\n/**\n * Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the

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license/LICENSE.txt file.\n

```
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage  
kotlin.collections\n\nimport kotlin.contracts.*\n\nprivate object EmptyMap : Map<Any?, Nothing>, Serializable {\n    private const val serialVersionUID: Long = 8246714829545688274\n    override fun equals(other: Any?):  
Boolean = other is Map<*, *> && other.isEmpty()\n    override fun hashCode(): Int = 0\n    override fun toString():  
String = "{}"\n    override val size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n    override fun  
containsKey(key: Any?): Boolean = false\n    override fun containsValue(value: Nothing): Boolean = false\n    override fun get(key: Any?): Nothing? = null\n    override val entries: Set<Map.Entry<Any?, Nothing>> get() =  
EmptySet\n    override val keys: Set<Any?> get() = EmptySet\n    override val values: Collection<Nothing> get() =  
EmptyList\n    private fun readResolve(): Any = EmptyMap\n}\n\n/**\n * Returns an empty read-only map of  
specified type.\n *\n * The returned map is serializable (JVM).\n *\n * @sample  
samples.collections.Maps.Instantiation.emptyReadOnlyMap\n\n*/\n\npublic fun <K, V> emptyMap(): Map<K, V> =  
@Suppress("UNCHECKED_CAST") (EmptyMap as Map<K, V>)\n\n/**\n * Returns a new read-only map with  
the specified contents, given as a list of pairs\n *\n * where the first value is the key and the second is the value.\n *\n * If multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * The returned map is serializable (JVM).\n *\n * @sample samples.collections.Maps.Instantiation.mapFromPairs\n\n*/\n\npublic fun <K, V> mapOf(vararg pairs:  
Pair<K, V>): Map<K, V> =\n    if (pairs.size > 0) pairs.toMap(LinkedHashMap(mapCapacity(pairs.size))) else  
emptyMap()\n\n/**\n * Returns an empty read-only map.\n *\n * The returned map is serializable (JVM).\n *\n * @sample samples.collections.Maps.Instantiation.emptyReadOnlyMap\n\n*/\n\n@kotlin.internal.InlineOnly\npublic  
inline fun <K, V> mapOf(): Map<K, V> = emptyMap()\n\n/**\n * Returns an empty new [MutableMap].\n *\n * The returned map preserves the entry iteration order.\n *\n * @sample  
samples.collections.Maps.Instantiation.emptyMutableMap\n\n*/\n\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> mutableMapOf():  
MutableMap<K, V> = LinkedHashMap()\n\n/**\n * Returns a new [MutableMap] with the specified contents, given  
as a list of pairs\n *\n * where the first component is the key and the second is the value.\n *\n * If multiple pairs have  
the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are  
iterated in the order they were specified.\n *\n * @sample  
samples.collections.Maps.Instantiation.mutableMapFromPairs\n\n*/\n\n@sample  
samples.collections.Maps.Instantiation.emptyMutableMap\n\n*/\n\npublic fun <K, V> mutableMapOf(vararg pairs:  
Pair<K, V>): MutableMap<K, V> =\n    LinkedHashMap<K, V>(mapCapacity(pairs.size)).apply { putAll(pairs)  
}\n\n/**\n * Returns an empty new [HashMap].\n *\n * @SinceKotlin("1.1")\n\n*/\n\n@kotlin.internal.InlineOnly\npublic  
inline fun <K, V> hashMapOf(): HashMap<K, V> = HashMap<K, V>()\n\n/**\n * Returns a new [HashMap] with  
the specified contents, given as a list of pairs\n *\n * where the first component is the key and the second is the value.\n *\n * @sample samples.collections.Maps.Instantiation.hashMapFromPairs\n\n*/\n\npublic fun <K, V>  
hashMapOf(vararg pairs: Pair<K, V>): HashMap<K, V> = HashMap<K, V>(mapCapacity(pairs.size)).apply {  
putAll(pairs) }\n\n/**\n * Returns an empty new [LinkedHashMap].\n *\n * @SinceKotlin("1.1")\n\n*/\n\n@kotlin.internal.InlineOnly\npublic inline fun <K, V> linkedMapOf():  
LinkedHashMap<K, V> = LinkedHashMap<K, V>()\n\n/**\n * Returns a new [LinkedHashMap] with the specified  
contents, given as a list of pairs\n *\n * where the first component is the key and the second is the value.\n *\n * If  
multiple pairs have the same key, the resulting map will contain the value from the last of those pairs.\n *\n * Entries of the map are iterated in the order they were specified.\n *\n * @sample  
samples.collections.Maps.Instantiation.linkedMapFromPairs\n\n*/\n\npublic fun <K, V> linkedMapOf(vararg pairs:  
Pair<K, V>): LinkedHashMap<K, V> = pairs.toMap(LinkedHashMap(mapCapacity(pairs.size)))\n\n/**\n * Calculate the initial capacity of a map, based on Guava's com.google.common.collect.Maps approach. This is  
equivalent\n *\n * to the Collection constructor for HashSet, (c.size()/0.75f) + 1, but provides further optimisations for  
very small or\n *\n * very large sizes, allows support non-collection classes, and provides consistency for all map based  
class construction.\n *\n * @PublishedApi\n\n*/\n\ninternal fun mapCapacity(expectedSize: Int): Int {\n    if (expectedSize <
```

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3) {
    return expectedSize + 1
} if (expectedSize < INT_MAX_POWER_OF_TWO) {
    return
expectedSize + expectedSize / 3
} return Int.MAX_VALUE // any large value
private const val
INT_MAX_POWER_OF_TWO: Int = Int.MAX_VALUE / 2 + 1
Returns true if this map is not empty.
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K, V>.isEmpty(): Boolean =
!isEmpty()
Returns true if this nullable map is either null or empty.
@sample
samples.collections.Maps.Usage.mapIsNullOrEmpty
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<out K,
V>?.isNullOrEmpty(): Boolean {
    contract {
        returns(false) implies (this@isNullOrEmpty != null)
    }
    return this == null || isEmpty()
}
Returns the [Map] if its not null, or the empty [Map] otherwise.
@sample
samples.collections.Maps.Usage.mapOrElse
@kotlin.internal.InlineOnly
public inline fun
<K, V> Map<K, V>?.orElse(): Map<K, V> = this ?: emptyMap()
Returns this map if it's not empty or
the result of calling [defaultValue] function if the map is empty.
@sample
samples.collections.Maps.Usage.mapIfEmpty
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public
inline fun <M, R> M.ifEmpty(defaultValue: () -> R): R where M : Map<*, *>, M : R =
if (isEmpty())
defaultValue() else this
Checks if the map contains the given key.
This method allows to use the
`x in map` syntax for checking whether an object is contained in the map.
@kotlin.internal.InlineOnly
public
inline operator fun <@kotlin.internal.OnlyInputTypes K, V> Map<out K, V>.contains(key: K): Boolean =
containsKey(key)
Returns the value corresponding to the given [key], or null if such a key is not present
in the map.
@kotlin.internal.InlineOnly
public inline operator fun <@kotlin.internal.OnlyInputTypes K, V>
Map<out K, V>.get(key: K): V? =
@Suppress("UNCHECKED_CAST") (this as Map<K,
V>).get(key)
Allows to use the index operator for storing values in a mutable map.
@kotlin.internal.InlineOnly
public inline operator fun <K, V> MutableMap<K, V>.set(key: K, value: V): Unit
{
    put(key, value)
}
Returns true if the map contains the specified [key].
Allows to
overcome type-safety restriction of `containsKey` that requires to pass a key of type `K`.
@kotlin.internal.InlineOnly
public inline fun <@kotlin.internal.OnlyInputTypes K> Map<out K,
*>.containsKey(key: K): Boolean =
@Suppress("UNCHECKED_CAST") (this as Map<K,
*>).containsKey(key)
Returns true if the map maps one or more keys to the specified [value].
Allows to overcome type-safety restriction of `containsValue` that requires to pass a value of type `V`.
@sample
samples.collections.Maps.Usage.containsValue
@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in
some cases
@kotlin.internal.InlineOnly
public inline fun <K, @kotlin.internal.OnlyInputTypes V> Map<K,
V>.containsValue(value: V): Boolean = this.containsValue(value)
Removes the specified key and its
corresponding value from this map.
@return the previous value associated with the key, or null if the key
was not present in the map.
Allows to overcome type-safety restriction of `remove` that requires to pass a key
of type `K`.
@kotlin.internal.InlineOnly
public inline fun <@kotlin.internal.OnlyInputTypes K, V>
MutableMap<out K, V>.remove(key: K): V? =
@Suppress("UNCHECKED_CAST") (this as MutableMap<K,
V>).remove(key)
Returns the key component of the map entry.
This method allows to use
destructuring declarations when working with maps, for example:
for ((key, value) in map) {
    // do
something with the key and the value
}
@kotlin.internal.InlineOnly
public inline operator fun <K,
V> Map.Entry<K, V>.component1(): K = key
Returns the value component of the map entry.
This method allows to use destructuring declarations when working with maps, for example:
for ((key,
value) in map) {
    // do something with the key and the value
}
@kotlin.internal.InlineOnly
public inline operator fun <K, V> Map.Entry<K, V>.component2(): V =
value
Converts entry to [Pair] with key being first component and value being second.
@kotlin.internal.InlineOnly
public inline fun <K, V> Map.Entry<K, V>.toPair(): Pair<K, V> = Pair(key,
value)
Returns the value for the given key, or the result of the [defaultValue] function if there was no
entry for the given key.
@sample
samples.collections.Maps.Usage.getOrElse
@kotlin.internal.InlineOnly
public inline fun <K, V> Map<K, V>.getOrElse(key: K, defaultValue: () -> V): V

```

```

= get(key) ?: defaultValue()\n\ninternal inline fun <K, V> Map<K, V>.getOrNull(key: K, defaultValue: ()
-> V): V {\n    val value = get(key)\n    if (value == null && !containsKey(key)) {\n        return defaultValue()\n    }
else {\n        @Suppress("UNCHECKED_CAST")\n        return value as V\n    }\n}\n\n/**\n * Returns the value
for the given [key] or throws an exception if there is no such key in the map.\n *\n * If the map was created by
[withDefault], resorts to its `defaultValue` provider function\n * instead of throwing an exception.\n *\n * @throws
NoSuchElementException when the map doesn't contain a value for the specified key and\n * no implicit default
value was provided for that map.\n */\n\n@SinceKotlin("1.1")\npublic fun <K, V> Map<K, V>.getValue(key: K): V
= getOrElse(key, defaultValue)\n\n/**\n * Returns the value for the given key. If the key is not found in the map, calls
the [defaultValue] function,\n * puts its result into the map under the given key and returns it.\n *\n * Note that the
operation is not guaranteed to be atomic if the map is being modified concurrently.\n *\n * @sample
samples.collections.Maps.Usage.getOrPut\n */\n\npublic inline fun <K, V> MutableMap<K, V>.getOrPut(key: K,
defaultValue: () -> V): V {\n    val value = get(key)\n    return if (value == null) {\n        val answer =
defaultValue()\n        put(key, answer)\n        answer\n    } else {\n        value\n    }\n}\n\n/**\n * Returns an
[Iterator] over the entries in the [Map].\n *\n * @sample samples.collections.Maps.Usage.forOverEntries\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> Map<out K, V>.iterator():
Iterator<Map.Entry<K, V>> = entries.iterator()\n\n/**\n * Returns a [MutableIterator] over the mutable entries in
the [MutableMap].\n *\n * @kotlin.jvm.JvmName("mutableIterator")\n */\n\n@kotlin.internal.InlineOnly\npublic
inline operator fun <K, V> MutableMap<K, V>.iterator(): MutableIterator<MutableMap.MutableEntry<K, V>> =
entries.iterator()\n\n/**\n * Populates the given [destination] map with entries having the keys of this map and the
values obtained\n * by applying the [transform] function to each entry in this [Map].\n */\n\npublic inline fun <K, V,
R, M : MutableMap<in K, in R>> Map<out K, V>.mapValuesTo(destination: M, transform: (Map.Entry<K, V>) ->
R): M {\n    return entries.associateByTo(destination, { it.key }, transform)\n}\n\n/**\n * Populates the given
[destination] map with entries having the keys obtained\n * by applying the [transform] function to each entry in this
[Map] and the values of this map.\n *\n * In case if any two entries are mapped to the equal keys, the value of the
latter one will overwrite\n * the value associated with the former one.\n */\n\npublic inline fun <K, V, R, M :
MutableMap<in R, in V>> Map<out K, V>.mapKeysTo(destination: M, transform: (Map.Entry<K, V>) -> R): M
{\n    return entries.associateByTo(destination, transform, { it.value })\n}\n\n/**\n * Puts all the given [pairs] into
this [MutableMap] with the first component in the pair being the key and the second the value.\n */\n\npublic fun <K,
V> MutableMap<in K, in V>.putAll(pairs: Array<out Pair<K, V>>): Unit {\n    for ((key, value) in pairs) {\n
put(key, value)\n    }\n}\n\n/**\n * Puts all the elements of the given collection into this [MutableMap] with the first
component in the pair being the key and the second the value.\n */\n\npublic fun <K, V> MutableMap<in K, in
V>.putAll(pairs: Iterable<Pair<K, V>>): Unit {\n    for ((key, value) in pairs) {\n        put(key, value)\n
}\n}\n\n/**\n * Puts all the elements of the given sequence into this [MutableMap] with the first component in the
pair being the key and the second the value.\n */\n\npublic fun <K, V> MutableMap<in K, in V>.putAll(pairs:
Sequence<Pair<K, V>>): Unit {\n    for ((key, value) in pairs) {\n        put(key, value)\n    }\n}\n\n/**\n * Returns a
new map with entries having the keys of this map and the values obtained by applying the [transform]\n * function
to each entry in this [Map].\n *\n * The returned map preserves the entry iteration order of the original map.\n *\n *
@sample samples.collections.Maps.Transformations.mapValues\n */\n\npublic inline fun <K, V, R> Map<out K,
V>.mapValues(transform: (Map.Entry<K, V>) -> R): Map<K, R> {\n    return mapValuesTo(LinkedHashMap<K,
R>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/**\n * Returns a new Map with entries
having the keys obtained by applying the [transform] function to each entry in this\n * [Map] and the values of this
map.\n *\n * In case if any two entries are mapped to the equal keys, the value of the latter one will overwrite\n *
the value associated with the former one.\n *\n * The returned map preserves the entry iteration order of the original
map.\n *\n * @sample samples.collections.Maps.Transformations.mapKeys\n */\n\npublic inline fun <K, V, R>
Map<out K, V>.mapKeys(transform: (Map.Entry<K, V>) -> R): Map<R, V> {\n    return
mapKeysTo(LinkedHashMap<R, V>(mapCapacity(size)), transform) // .optimizeReadOnlyMap()\n}\n\n/**\n * Returns a map
containing all key-value pairs with keys matching the given [predicate].\n *\n * The returned map
preserves the entry iteration order of the original map.\n *\n * @sample samples.collections.Maps.Filtering.filterKeys\n

```

```

*public inline fun <K, V> Map<out K, V>.filterKeys(predicate: (K) -> Boolean): Map<K, V> {
    val result = LinkedHashMap<K, V>()
    for (entry in this) {
        if (predicate(entry.key)) {
            result.put(entry.key, entry.value)
        }
    }
    return result
}
* Returns a map containing all key-value pairs with values matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.Maps.Filtering.filterValues
*public inline fun <K, V> Map<out K, V>.filterValues(predicate: (V) -> Boolean): Map<K, V> {
    val result = LinkedHashMap<K, V>()
    for (entry in this) {
        if (predicate(entry.value)) {
            result.put(entry.key, entry.value)
        }
    }
    return result
}
* Appends all entries matching the given [predicate] into the mutable map given as [destination] parameter.
* @return the destination map.
@sample samples.collections.Maps.Filtering.filterTo
*public inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {
    for (element in this) {
        if (predicate(element)) {
            destination.put(element.key, element.value)
        }
    }
    return destination
}
* Returns a new map containing all key-value pairs matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.Maps.Filtering.filter
*public inline fun <K, V> Map<out K, V>.filter(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {
    return filterTo(LinkedHashMap<K, V>(), predicate)
}
* Appends all entries not matching the given [predicate] into the given [destination].
* @return the destination map.
@sample samples.collections.Maps.Filtering.filterNotTo
*public inline fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.filterNotTo(destination: M, predicate: (Map.Entry<K, V>) -> Boolean): M {
    for (element in this) {
        if (!predicate(element)) {
            destination.put(element.key, element.value)
        }
    }
    return destination
}
* Returns a new map containing all key-value pairs not matching the given [predicate].
* The returned map preserves the entry iteration order of the original map.
@sample samples.collections.Maps.Filtering.filterNot
*public inline fun <K, V> Map<out K, V>.filterNot(predicate: (Map.Entry<K, V>) -> Boolean): Map<K, V> {
    return filterNotTo(LinkedHashMap<K, V>(), predicate)
}
* Returns a new map containing all key-value pairs from the given collection of pairs.
* The returned map preserves the entry iteration order of the original collection.
* If any of two pairs would have the same key the last one gets added to the map.
*public fun <K, V> Iterable<Pair<K, V>>.toMap(): Map<K, V> {
    if (this is Collection) {
        return when (size) {
            0 -> emptyMap()
            1 -> mapOf(if (this is List) this[0] else iterator().next())
            else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))
        }
    }
    return toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()
}
* Populates and returns the [destination] mutable map with key-value pairs from the given collection of pairs.
*public fun <K, V, M : MutableMap<in K, in V>> Iterable<Pair<K, V>>.toMap(destination: M): M =
    destination.apply { putAll(this@toMap) }
}
* Returns a new map containing all key-value pairs from the given array of pairs.
* The returned map preserves the entry iteration order of the original array.
* If any of two pairs would have the same key the last one gets added to the map.
*public fun <K, V> Array<out Pair<K, V>>.toMap(): Map<K, V> =
    when (size) {
        0 -> emptyMap()
        1 -> mapOf(this[0])
        else -> toMap(LinkedHashMap<K, V>(mapCapacity(size)))
    }
}
* Populates and returns the [destination] mutable map with key-value pairs from the given array of pairs.
*public fun <K, V, M : MutableMap<in K, in V>> Array<out Pair<K, V>>.toMap(destination: M): M =
    destination.apply { putAll(this@toMap) }
}
* Returns a new map containing all key-value pairs from the given sequence of pairs.
* The returned map preserves the entry iteration order of the original sequence.
* If any of two pairs would have the same key the last one gets added to the map.
*public fun <K, V> Sequence<Pair<K, V>>.toMap(): Map<K, V> =
    toMap(LinkedHashMap<K, V>()).optimizeReadOnlyMap()
}
* Populates and returns the [destination] mutable map with key-value pairs from the given sequence of pairs.
*public fun <K, V, M : MutableMap<in K, in V>> Sequence<Pair<K, V>>.toMap(destination: M): M =
    destination.apply { putAll(this@toMap) }
}
* Returns a new read-only map containing all key-value pairs from the original map.
* The returned map preserves the entry iteration order of the original map.
*public fun <K, V> Map<out K, V>.toMap(): Map<K, V> =
    when (size) {
        0 -> emptyMap()
        1 -> toSingletonMap()
        else -> toMutableMap()
    }
}
* Returns a

```

new mutable map containing all key-value pairs from the original map.

`* The returned map preserves the entry iteration order of the original map.`

```

public fun <K, V> Map<out K, V>.toMutableMap(): MutableMap<K, V> = LinkedHashMap(this)

```

Populates and returns the [destination] mutable map with key-value pairs from the given map.

```

public fun <K, V, M : MutableMap<in K, in V>> Map<out K, V>.toMap(destination: M): M = destination.apply { putAll(this@toMap) }

```

Creates a new read-only map by replacing or adding an entry to this map from a given key-value [pair].

`* The returned map preserves the entry iteration order of the original map.`

`* The [pair] is iterated in the end if it has a unique key.`

```

public operator fun <K, V> Map<out K, V>.plus(pair: Pair<K, V>): Map<K, V> = if (this.isEmpty()) mapOf(pair) else LinkedHashMap(this).apply { put(pair.first, pair.second) }

```

Creates a new read-only map by replacing or adding entries to this map from a given collection of key-value [pairs].

`* The returned map preserves the entry iteration order of the original map.`

`* Those [pairs] with unique keys are iterated in the end in the order of [pairs] collection.`

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Iterable<Pair<K, V>>): Map<K, V> = if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }

```

Creates a new read-only map by replacing or adding entries to this map from a given array of key-value [pairs].

`* The returned map preserves the entry iteration order of the original map.`

`* Those [pairs] with unique keys are iterated in the end in the order of [pairs] array.`

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Array<out Pair<K, V>>): Map<K, V> = if (this.isEmpty()) pairs.toMap() else LinkedHashMap(this).apply { putAll(pairs) }

```

Creates a new read-only map by replacing or adding entries to this map from a given sequence of key-value [pairs].

`* The returned map preserves the entry iteration order of the original map.`

`* Those [pairs] with unique keys are iterated in the end in the order of [pairs] sequence.`

```

public operator fun <K, V> Map<out K, V>.plus(pairs: Sequence<Pair<K, V>>): Map<K, V> = LinkedHashMap(this).apply { putAll(pairs) }.optimizeReadOnlyMap()

```

Creates a new read-only map by replacing or adding entries to this map from another [map].

`* The returned map preserves the entry iteration order of the original map.`

`* Those entries of another [map] that are missing in this map are iterated in the end in the order of that [map].`

```

public operator fun <K, V> Map<out K, V>.plus(map: Map<out K, V>): Map<K, V> = LinkedHashMap(this).apply { putAll(map) }

```

Appends or replaces the given [pair] in this mutable map.

```

@kotlin.internal.InlineOnly public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pair: Pair<K, V>) { put(pair.first, pair.second) }

```

Appends or replaces all pairs from the given collection of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Iterable<Pair<K, V>>) { putAll(pairs) }

```

Appends or replaces all pairs from the given array of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Array<out Pair<K, V>>) { putAll(pairs) }

```

Appends or replaces all pairs from the given sequence of [pairs] in this mutable map.

```

@kotlin.internal.InlineOnly public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(pairs: Sequence<Pair<K, V>>) { putAll(pairs) }

```

Appends or replaces all entries from the given [map] in this mutable map.

```

@kotlin.internal.InlineOnly public inline operator fun <K, V> MutableMap<in K, in V>.plusAssign(map: Map<K, V>) { putAll(map) }

```

Returns a map containing all entries of the original map except the entry with the given [key].

`* The returned map preserves the entry iteration order of the original map.`

```

@SinceKotlin("1.1") public operator fun <K, V> Map<out K, V>.minus(key: K): Map<K, V> = this.toMutableMap().apply { minusAssign(key) }.optimizeReadOnlyMap()

```

Returns a map containing all entries of the original map except those entries

`* the keys of which are contained in the given [keys] collection.`

`* The returned map preserves the entry iteration order of the original map.`

```

@SinceKotlin("1.1") public operator fun <K, V> Map<out K, V>.minus(keys: Iterable<K>): Map<K, V> = this.toMutableMap().apply { minusAssign(keys) }.optimizeReadOnlyMap()

```

Returns a map containing all entries of the original map except those entries

`* the keys of which are contained in the given [keys] array.`

`* The returned map preserves the entry iteration order of the original map.`

```

@SinceKotlin("1.1") public operator fun <K, V> Map<out K, V>.minus(keys: Array<out K>): Map<K, V> = this.toMutableMap().apply { minusAssign(keys) }

```

```

}.optimizeReadOnlyMap()\n\n/**\n * Returns a map containing all entries of the original map except those entries\n * the keys of which are contained in the given [keys] sequence.\n * The returned map preserves the entry iteration order of the original map.\n */\n@SinceKotlin("1.1")\npublic operator fun <K, V> Map<out K, V>.minus(keys: Sequence<K>): Map<K, V> =\n    this.toMutableMap().apply { minusAssign(keys) }\n}.optimizeReadOnlyMap()\n\n/**\n * Removes the entry with the given [key] from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(key: K) {\n    remove(key)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] collection from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Iterable<K>) {\n    this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries the keys of which are contained in the given [keys] array from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Array<out K>) {\n    this.keys.removeAll(keys)\n}\n\n/**\n * Removes all entries from the keys of which are contained in the given [keys] sequence from this mutable map.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline operator fun <K, V> MutableMap<K, V>.minusAssign(keys: Sequence<K>) {\n    this.keys.removeAll(keys)\n}\n\n// do not expose for now\n@PublishedApi\ninternal fun <K, V> Map<K, V>.optimizeReadOnlyMap() = when (size) {\n    0 -> emptyMap()\n    1 -> toSingletonMapOrSelf()\n    else -> this\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKit")\n\npackage kotlin.collections\n\ninternal object EmptySet : Set<Nothing>, Serializable {\n    private const val serialVersionUID: Long = 3406603774387020532\n    override fun equals(other: Any?): Boolean = other is Set<*> && other.isEmpty()\n    override fun hashCode(): Int = 0\n    override fun toString(): String = "[]"\n    override val size: Int get() = 0\n    override fun isEmpty(): Boolean = true\n    override fun contains(element: Nothing): Boolean = false\n    override fun containsAll(elements: Collection<Nothing>): Boolean = elements.isEmpty()\n    override fun iterator(): Iterator<Nothing> = EmptyIterator\n    private fun readResolve(): Any = EmptySet\n}\n\n/**\n * Returns an empty read-only set. The returned set is serializable (JVM).\n */\n@sample samples.collections.Collections.Sets.emptyReadOnlySet\n\n/**\n * Returns a new read-only set with the given elements.\n * Elements of the set are iterated in the order they were specified.\n * The returned set is serializable (JVM).\n */\n@sample samples.collections.Collections.Sets.readOnlySet\n\n/**\n * Returns an empty read-only set. The returned set is serializable (JVM).\n */\n@sample samples.collections.Collections.Sets.emptyReadOnlySet\n\n/**\n * Returns an empty new [MutableSet].\n * The returned set preserves the element iteration order.\n */\n@sample samples.collections.Collections.Sets.emptyMutableSet\n\n/**\n * Returns a new [MutableSet] with the given elements.\n * Elements of the set are iterated in the order they were specified.\n */\n@sample samples.collections.Collections.Sets.mutableSet\n\n/**\n * Returns an empty new [HashSet].\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> hashSetOf(): HashSet<T> = HashSet()\n\n/**\n * Returns a new [HashSet] with the given elements.\n */\n@public fun <T> hashSetOf(vararg elements: T): HashSet<T> = elements.toCollection(HashSet(mapCapacity(elements.size)))\n\n/**\n * Returns an empty new [LinkedHashSet].\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun <T> linkedSetOf(): LinkedHashSet<T> = LinkedHashSet()\n\n/**\n * Returns a new [LinkedHashSet] with the given elements.\n * Elements of the set are iterated in the order they were specified.\n */\n@public fun <T> linkedSetOf(vararg elements: T): LinkedHashSet<T> = elements.toCollection(LinkedHashSet(mapCapacity(elements.size)))\n\n/**\n * Returns this

```

```

Set if it's not `null` and the empty set otherwise.
*/@kotlin.internal.InlineOnly
public inline fun <T>
Set<T>?.orEmpty(): Set<T> = this ?: emptySet()
internal fun <T> Set<T>.optimizeReadOnlySet() = when (size)
{ 0 -> emptySet()
  1 -> setOf(iterator().next())
  else -> this }
"/
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* that can be found in the
license/LICENSE.txt file.

*/@file:kotlin.jvm.JvmMultifileClass
@file:kotlin.jvm.JvmName("StringsKt")
@file:Suppress("PLATFORM_CLASS_MAPPED_TO_KOTLIN")
package kotlin.text
/**
 * Parses the string as a signed [Byte]
number and returns the result
 * or `null` if the string is not a valid representation of a number.
*/
@SinceKotlin("1.1")
public fun String.toByteArrayOrNull(): Byte? = toByteOrNull(radix = 10)
/**
 * Parses
the string as a signed [Byte] number and returns the result
 * or `null` if the string is not a valid representation of a
number.
 * @throws IllegalArgumentException when [radix] is not a valid radix for string to number
conversion.
*/
@SinceKotlin("1.1")
public fun String.toByteArrayOrNull(radix: Int): Byte? {
    val int =
this.toIntOrNull(radix) ?: return null
    if (int < Byte.MIN_VALUE || int > Byte.MAX_VALUE) return null
    return int.toByteArray()
}
/**
 * Parses the string as a [Short] number and returns the result
 * or `null` if the string
is not a valid representation of a number.
*/
@SinceKotlin("1.1")
public fun String.toShortOrNull(): Short? =
toShortOrNull(radix = 10)
/**
 * Parses the string as a [Short] number and returns the result
 * or `null` if the
string is not a valid representation of a number.
 * @throws IllegalArgumentException when [radix] is not a
valid radix for string to number conversion.
*/
@SinceKotlin("1.1")
public fun String.toShortOrNull(radix:
Int): Short? {
    val int = this.toIntOrNull(radix) ?: return null
    if (int < Short.MIN_VALUE || int >
Short.MAX_VALUE) return null
    return int.toShort()
}
/**
 * Parses the string as an [Int] number and
returns the result
 * or `null` if the string is not a valid representation of a number.
*/
@SinceKotlin("1.1")
public fun String.toIntOrNull(): Int? = toIntOrNull(radix = 10)
/**
 * Parses the
string as an [Int] number and returns the result
 * or `null` if the string is not a valid representation of a number.
 * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.
*/
@SinceKotlin("1.1")
public fun String.toIntOrNull(radix: Int): Int? {
    checkRadix(radix)
    val length
= this.length
    if (length == 0) return null
    val start: Int
    val isNegative: Boolean
    val limit: Int
    val firstChar = this[0]
    if (firstChar < '0') { // Possible leading sign
        if (length == 1) return null // non-digit
(possible sign) only, no digits after
        start = 1
        if (firstChar == '-') {
            isNegative = true
            limit = Int.MIN_VALUE
        } else if (firstChar == '+') {
            isNegative = false
            limit =
Int.MAX_VALUE
        } else
            return null
    } else {
        start = 0
        isNegative = false
        limit
= -Int.MAX_VALUE
    }
    val limitBeforeMul = limit / radix
    var result = 0
    for (i in start..(length -
1)) {
        val digit = digitOf(this[i], radix)
        if (digit < 0) return null
        if (result < limitBeforeMul)
return null
        result *= radix
        if (result < limit + digit) return null
        result -= digit
    }
    return if (isNegative) result else -result
}
/**
 * Parses the string as a [Long] number and returns the result
 * or `null` if the string is not a valid representation of a number.
*/
@SinceKotlin("1.1")
public fun
String.toLongOrNull(): Long? = toLongOrNull(radix = 10)
/**
 * Parses the string as a [Long] number and
returns the result
 * or `null` if the string is not a valid representation of a number.
 * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.
*/
@SinceKotlin("1.1")
public fun String.toLongOrNull(radix: Int): Long? {
    checkRadix(radix)
    val
length = this.length
    if (length == 0) return null
    val start: Int
    val isNegative: Boolean
    val limit:
Long
    val firstChar = this[0]
    if (firstChar < '0') { // Possible leading sign
        if (length == 1) return null
// non-digit (possible sign) only, no digits after
        start = 1
        if (firstChar == '-') {
            isNegative =
true
            limit = Long.MIN_VALUE
        } else if (firstChar == '+') {
            isNegative = false
            limit =
-Long.MAX_VALUE
        } else
            return null
    } else {
        start = 0
        isNegative = false
        limit
= -Long.MAX_VALUE
    }
    val limitBeforeMul = limit / radix
    var result = 0L
    for (i in
start..(length - 1)) {
        val digit = digitOf(this[i], radix)
        if (digit < 0) return null
        if (result <
limitBeforeMul) return null
        result *= radix
        if (result < limit + digit) return null
        result -=
digit
    }
    return if (isNegative) result else -result
}
internal fun numberFormatError(input: String):

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Nothing = throw NumberFormatException("Invalid number format: '\$input')\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n

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*/\n@file:kotlin.jvm.JvmName("UnsignedKt")\n@file:UseExperimental(ExperimentalUnsignedTypes::class)\npackage kotlin\n\n@PublishedApi\ninternal fun uintCompare(v1: Int, v2: Int): Int = (v1 xor Int.MIN_VALUE).compareTo(v2 xor Int.MIN_VALUE)\n\n@PublishedApi\ninternal fun ulongCompare(v1: Long, v2: Long): Int = (v1 xor Long.MIN_VALUE).compareTo(v2 xor Long.MIN_VALUE)\n\n@PublishedApi\ninternal fun uintDivide(v1: UInt, v2: UInt): UInt = (v1.toLong() / v2.toLong()).toUInt()\n\n@PublishedApi\ninternal fun uintRemainder(v1: UInt, v2: UInt): UInt = (v1.toLong() % v2.toLong()).toUInt()\n\n// Division and remainder are based on Guava's UnsignedLongs implementation\n// Copyright 2011 The Guava
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Authors\n\n@PublishedApi\ninternal fun ulongDivide(v1: ULong, v2: ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63\n        return if (v1 < v2) ULong(0) else ULong(1)\n    }\n    // Optimization - use signed division if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend / divisor)\n    }\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(quotient + if (ULong(rem) >= ULong(divisor)) 1 else 0)\n}\n\n@PublishedApi\ninternal fun ulongRemainder(v1: ULong, v2: ULong): ULong {\n    val dividend = v1.toLong()\n    val divisor = v2.toLong()\n    if (divisor < 0) { // i.e., divisor >= 2^63\n        return if (v1 < v2) {\n            v1 // dividend < divisor\n        } else {\n            v1 - v2 // dividend >= divisor\n        }\n    }\n    // Optimization - use signed modulus if both dividend and divisor < 2^63\n    if (dividend >= 0) {\n        return ULong(dividend % divisor)\n    }\n    // Otherwise, approximate the quotient, check, and correct if necessary.\n    val quotient = ((dividend ushr 1) / divisor) shl 1\n    val rem = dividend - quotient * divisor\n    return ULong(rem - if (ULong(rem) >= ULong(divisor)) divisor else 0)\n}\n\n@PublishedApi\ninternal fun doubleToUInt(v: Double): UInt = when {\n    v.isNaN() -> 0u\n    v <= UInt.MIN_VALUE.toDouble() -> UInt.MIN_VALUE\n    v >= UInt.MAX_VALUE.toDouble() -> UInt.MAX_VALUE\n    v <= Int.MAX_VALUE -> v.toInt().toUInt()\n    else -> (v - Int.MAX_VALUE).toInt().toUInt() + Int.MAX_VALUE.toUInt()\n    // Int.MAX_VALUE < v < UInt.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun doubleToULong(v: Double): ULong = when {\n    v.isNaN() -> 0u\n    v <= ULong.MIN_VALUE.toDouble() -> ULong.MIN_VALUE\n    v >= ULong.MAX_VALUE.toDouble() -> ULong.MAX_VALUE\n    v < Long.MAX_VALUE -> v.toLong().toULong()\n    // Real values from Long.MAX_VALUE to (Long.MAX_VALUE + 1) are not representable in Double, so don't handle them.\n    else -> (v - 9223372036854775808.0).toLong().toULong() + 9223372036854775808uL\n    // Long.MAX_VALUE + 1 < v < ULong.MAX_VALUE\n}\n\n@PublishedApi\ninternal fun uintToDouble(v: Int): Double = (v and Int.MAX_VALUE).toDouble() + (v ushr 31 shl 30).toDouble() * 2\n\n@PublishedApi\ninternal fun ulongToDouble(v: Long): Double = (v ushr 11).toDouble() * 2048 + (v and 2047)\n\n@PublishedApi\ninternal fun ulongToString(v: Long): String = ulongToString(v, 10)\n\n@PublishedApi\ninternal fun ulongToString(v: Long, base: Int): String {\n    if (v >= 0) return v.toString(base)\n    var quotient = ((v ushr 1) / base) shl 1\n    var rem = v - quotient * base\n    if (rem >= base) {\n        rem -= base\n        quotient += 1\n    }\n    return quotient.toString(base) + rem.toString(base)\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
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*/\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage kotlin.collections\n\n/**\n * Given an [iterator] function constructs an [Iterable] instance that returns values through the [Iterator]\n * provided by that function.\n * @sample samples.collections.Iterables.Building.iterable\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable(crossinline iterator: () -> Iterator<T>): Iterable<T> = object : Iterable<T> {\n    override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * A wrapper over another [Iterable] (or any other object that can produce an [Iterator]) that returns\n * an indexing iterator.\n */\n@kotlin.internal class IndexingIterable<out T>(private val iteratorFactory: () -> Iterator<T>) : Iterable<IndexedValue<T>> {\n    override fun iterator(): Iterator<IndexedValue<T>> = IndexingIterator(iteratorFactory())\n}\n\n/**\n * Returns the size of
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this iterable if it is known, or `null` otherwise.\n *\n@PublishedApi\ninternal fun <T>
Iterable<T>.collectionSizeOrNull(): Int? = if (this is Collection<*>) this.size else null\n\n/**\n * Returns the size of
this iterable if it is known, or the specified [default] value otherwise.\n *\n@PublishedApi\ninternal fun <T>
Iterable<T>.collectionSizeOrDefault(default: Int): Int = if (this is Collection<*>) this.size else default\n\n/**
Returns true when it's safe to convert this collection to a set without changing contains method behavior. *\nprivate
fun <T> Collection<T>.safeToConvertToSet() = size > 2 && this is ArrayList\n\n/** Converts this collection to a
set, when it's worth so and it doesn't change contains method behavior. *\ninternal fun <T>
Iterable<T>.convertToSetForSetOperationWith(source: Iterable<T>): Collection<T> =\n when (this) {\n is
Set -> this\n is Collection ->\n when {\n source is Collection && source.size < 2 -> this\n
else -> if (this.safeToConvertToSet()) toHashSet() else this\n } \n else -> toHashSet()\n }\n\n/**
Converts this collection to a set, when it's worth so and it doesn't change contains method behavior. *\ninternal fun
<T> Iterable<T>.convertToSetForSetOperation(): Collection<T> =\n when (this) {\n is Set -> this\n is
Collection -> if (this.safeToConvertToSet()) toHashSet() else this\n else -> toHashSet()\n }\n\n\n/**\n *
Returns a single list of all elements from all collections in the given collection.\n * @sample
samples.collections.Iterables.Operations.flattenIterable\n *\npublic fun <T> Iterable<Iterable<T>>.flatten():
List<T> {\n val result = ArrayList<T>()\n for (element in this) {\n result.addAll(element)\n }\n return
result\n}\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from the first values of each pair from this
collection,\n * *second* list is built from the second values of each pair from this collection.\n * @sample
samples.collections.Iterables.Operations.unzipIterable\n *\npublic fun <T, R> Iterable<Pair<T, R>>.unzip():
Pair<List<T>, List<R>> {\n val expectedSize = collectionSizeOrDefault(10)\n val listT =
ArrayList<T>(expectedSize)\n val listR = ArrayList<R>(expectedSize)\n for (pair in this) {\n
listT.add(pair.first)\n listR.add(pair.second)\n }\n return listT to listR\n}\n\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SequencesKt")\n\npackage
kotlin.sequences\n\n/**\n * Given an [iterator] function constructs a [Sequence] that returns values through the
[Iterator]\n * provided by that function.\n * The values are evaluated lazily, and the sequence is potentially
infinite.\n * *\n * @sample samples.collections.Sequences.Building.sequenceFromIterator\n
*\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence(crossinline iterator: () -> Iterator<T>):
Sequence<T> = object : Sequence<T> {\n override fun iterator(): Iterator<T> = iterator()\n}\n\n/**\n * Creates a
sequence that returns all elements from this iterator. The sequence is constrained to be iterated only once.\n * *\n
* @sample samples.collections.Sequences.Building.sequenceFromIterator\n *\npublic fun <T>
Iterable<T>.asSequence(): Sequence<T> = Sequence { this }.constrainOnce()\n\n/**\n * Creates a sequence that
returns the specified values.\n * *\n * @sample samples.collections.Sequences.Building.sequenceOfValues\n
*\npublic fun <T> sequenceOf(vararg elements: T): Sequence<T> = if (elements.isEmpty()) emptySequence() else
elements.asSequence()\n\n/**\n * Returns an empty sequence.\n *\npublic fun <T> emptySequence():
Sequence<T> = EmptySequence\n\nprivate object EmptySequence : Sequence<Nothing>,
DropTakeSequence<Nothing> {\n override fun iterator(): Iterator<Nothing> = EmptyIterator\n override fun
drop(n: Int) = EmptySequence\n override fun take(n: Int) = EmptySequence\n}\n\n\n/**\n * Returns this sequence if
it's not `null` and the empty sequence otherwise.\n * @sample
samples.collections.Sequences.Usage.sequenceOrEmpty\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>?.orEmpty():
Sequence<T> = this ?: emptySequence()\n\n\n/**\n * Returns a sequence that iterates through the elements either of
this sequence\n * or, if this sequence turns out to be empty, of the sequence returned by [defaultValue] function.\n
*\n * @sample samples.collections.Sequences.Usage.sequenceIfEmpty\n *\n@SinceKotlin("1.3")\npublic fun
<T> Sequence<T>.ifEmpty(defaultValue: () -> Sequence<T>): Sequence<T> = sequence {\n val iterator =
this@ifEmpty.iterator()\n if (iterator.hasNext()) {\n yieldAll(iterator)\n } else {\n
yieldAll(defaultValue())\n }\n}\n\n\n/**\n * Returns a sequence of all elements from all sequences in this

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sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n *\npublic fun <T>
Sequence<Sequence<T>>.flatten(): Sequence<T> = flatten { it.iterator() }\n\n/**\n * Returns a sequence of all
elements from all iterables in this sequence.\n *\n * The operation is _intermediate_ and _stateless_.\n
*\n@kotlin.jvm.JvmName("flattenSequenceOfIterable")\npublic fun <T> Sequence<Iterable<T>>.flatten():
Sequence<T> = flatten { it.iterator() }\n\nprivate fun <T, R> Sequence<T>.flatten(iterator: (T) -> Iterator<R>):
Sequence<R> {\n    if (this is TransformingSequence<*, *>) {\n        return (this as TransformingSequence<*,
T>).flatten(iterator)\n    }\n    return FlatteningSequence(this, { it }, iterator)\n}\n\n/**\n * Returns a pair of lists,
where\n * first list is built from the first values of each pair from this sequence,\n * second list is built from the
second values of each pair from this sequence.\n *\n * The operation is _terminal_.\n *\npublic fun <T, R>
Sequence<Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n    val listT = ArrayList<T>()\n    val listR =
ArrayList<R>()\n    for (pair in this) {\n        listT.add(pair.first)\n        listR.add(pair.second)\n    }\n    return listT to
listR\n}\n\n/**\n * A sequence that returns the values from the underlying [sequence] that either match or do not
match\n * the specified [predicate].\n *\n * @param sendWhen If true, values for which the predicate returns true
are returned. Otherwise,\n * values for which the predicate returns false are returned\n *\ninternal class
FilteringSequence<T>(\n    private val sequence: Sequence<T>,\n    private val sendWhen: Boolean = true,\n    private val predicate: (T) -> Boolean\n) : Sequence<T> {\n    override fun iterator(): Iterator<T> = object :
Iterator<T> {\n        val iterator = sequence.iterator()\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1
for continue\n        var nextItem: T? = null\n        private fun calcNext() {\n            while (iterator.hasNext()) {\n
                val item = iterator.next()\n                if (predicate(item) == sendWhen) {\n                    nextItem = item\n
                    nextState = 1\n                    return\n                }\n                nextState = 0\n            }\n            override fun
next(): T {\n                if (nextState == -1)\n                    calcNext()\n                if (nextState == 0)\n                    throw
NoSuchElementException()\n                val result = nextItem\n                nextItem = null\n                nextState = -1\n
                @Suppress("UNCHECKED_CAST")\n                return result as T\n            }\n            override fun hasNext(): Boolean
{\n                if (nextState == -1)\n                    calcNext()\n                return nextState == 1\n            }\n        }\n\n/**\n * A
sequence which returns the results of applying the given [transformer] function to the values\n * in the underlying
[sequence].\n *\ninternal class TransformingSequence<T, R>(\n    constructor(private val sequence: Sequence<T>,\n    private val transformer: (T) -> R) : Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R> {\n
        val iterator = sequence.iterator()\n        override fun next(): R {\n            return transformer(iterator.next())\n        }\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n    internal fun <E>
flatten(iterator: (R) -> Iterator<E>): Sequence<E> {\n        return FlatteningSequence<T, R, E>(sequence,\n        transformer, iterator)\n    }\n}\n\n/**\n * A sequence which returns the results of applying the given [transformer]
function to the values\n * in the underlying [sequence], where the transformer function takes the index of the value
in the underlying\n * sequence along with the value itself.\n *\ninternal class TransformingIndexedSequence<T,\nR>(\n    constructor(private val sequence: Sequence<T>,\n    private val transformer: (Int, T) -> R) : Sequence<R> {\n    override fun iterator(): Iterator<R> = object : Iterator<R> {\n
        val iterator = sequence.iterator()\n        var index = 0\n        override fun next(): R {\n            return transformer(checkIndexOverflow(index++), iterator.next())\n        }\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A
sequence which combines values from the underlying [sequence] with their indices and returns them as\n *
[IndexValue] objects.\n *\ninternal class IndexingSequence<T>(\n    constructor(private val sequence:
Sequence<T>) : Sequence<IndexedValue<T>> {\n    override fun iterator(): Iterator<IndexedValue<T>> = object :
Iterator<IndexedValue<T>> {\n        val iterator = sequence.iterator()\n        var index = 0\n        override fun next():
IndexedValue<T> {\n            return IndexedValue(checkIndexOverflow(index++), iterator.next())\n        }\n        override fun hasNext(): Boolean {\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence which
takes the values from two parallel underlying sequences, passes them to the given\n * [transform] function and
returns the values returned by that function. The sequence stops returning\n * values as soon as one of the
underlying sequences stops returning values.\n *\ninternal class MergingSequence<T1, T2, V>(\n    constructor(\n    private val sequence1: Sequence<T1>,\n    private val sequence2: Sequence<T2>,\n    private val transform: (T1,\n    T2) -> V\n) : Sequence<V> {\n    override fun iterator(): Iterator<V> = object : Iterator<V> {\n        val iterator1 =

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sequence1.iterator()\n    val iterator2 = sequence2.iterator()\n    override fun next(): V {\n        return
transform(iterator1.next(), iterator2.next())\n    }\n    override fun hasNext(): Boolean {\n        return
iterator1.hasNext() && iterator2.hasNext()\n    }\n}\n\ninternal class FlatteningSequence<T, R,
E>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val transformer: (T) -> R,\n    private val
iterator: (R) -> Iterator<E>)\n: Sequence<E> {\n    override fun iterator(): Iterator<E> = object : Iterator<E> {\n
val iterator = sequence.iterator()\n        var itemIterator: Iterator<E>? = null\n        override fun next(): E {\n
if (!ensureItemIterator())\n            throw NoSuchElementException()\n            return itemIterator!!.next()\n
}\n        override fun hasNext(): Boolean {\n            return ensureItemIterator()\n        }\n        private fun
ensureItemIterator(): Boolean {\n            if (itemIterator?.hasNext() == false)\n                itemIterator = null\n            while (itemIterator == null) {\n
if (!iterator.hasNext()) {\n                return false\n            } else {\n
val element = iterator.next()\n                val nextItemIterator = iterator(transformer(element))\n
if (nextItemIterator.hasNext()) {\n                    itemIterator = nextItemIterator\n                    return true\n
}\n                }\n            }\n            return true\n        }\n    }\n}\n\n/**\n * A sequence that supports drop(n) and
take(n) operations\n */\ninternal interface DropTakeSequence<T> : Sequence<T> {\n    fun drop(n: Int):
Sequence<T>\n    fun take(n: Int): Sequence<T>\n}\n\n/**\n * A sequence that skips [startIndex] values from the
underlying [sequence]\n * and stops returning values right before [endIndex], i.e. stops at `endIndex - 1`\n
*/\ninternal class SubSequence<T>(\n    private val sequence: Sequence<T>,\n    private val startIndex: Int,\n    private val
endIndex: Int)\n: Sequence<T>, DropTakeSequence<T> {\n    init {\n        require(startIndex >= 0) {\n
"startIndex should be non-negative, but is $startIndex"\n        }\n        require(endIndex >= 0) {\n
"endIndex should be
non-negative, but is $endIndex"\n        }\n        require(endIndex >= startIndex) {\n
"endIndex should be not less than
startIndex, but was $endIndex < $startIndex"\n        }\n    }\n    private val count: Int get() = endIndex - startIndex\n
override fun drop(n: Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, startIndex
+ n, endIndex)\n    override fun take(n: Int): Sequence<T> = if (n >= count) this else SubSequence(sequence,
startIndex, startIndex + n)\n    override fun iterator() = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var position = 0\n        // Shouldn't be called from constructor to avoid premature
iteration\n        private fun drop() {\n            while (position < startIndex && iterator.hasNext()) {\n
iterator.next()\n                position++\n            }\n        }\n        override fun hasNext(): Boolean {\n
drop()\n            return (position < endIndex) && iterator.hasNext()\n        }\n        override fun next(): T {\n
drop()\n            if (position >= endIndex)\n                throw NoSuchElementException()\n                position++\n            return
iterator.next()\n        }\n    }\n}\n\n/**\n * A sequence that returns at most [count] values from the underlying
[sequence], and stops returning values\n * as soon as that count is reached.\n */\ninternal class TakeSequence<T>(\n
private val sequence: Sequence<T>,\n    private val count: Int)\n: Sequence<T>, DropTakeSequence<T> {\n    init {\n
require(count >= 0) {\n        "count must be non-negative, but was $count."\n    }\n}\n    override fun drop(n:
Int): Sequence<T> = if (n >= count) emptySequence() else SubSequence(sequence, n, count)\n    override fun
take(n: Int): Sequence<T> = if (n >= count) this else TakeSequence(sequence, n)\n    override fun iterator():
Iterator<T> = object : Iterator<T> {\n        var left = count\n        val iterator = sequence.iterator()\n        override
fun next(): T {\n            if (left == 0)\n                throw NoSuchElementException()\n                left--\n            return
iterator.next()\n        }\n        override fun hasNext(): Boolean {\n            return left > 0 && iterator.hasNext()\n
}\n    }\n}\n\n/**\n * A sequence that returns values from the underlying [sequence] while the [predicate] function
returns\n * `true`, and stops returning values once the function returns `false` for the next element.\n */\ninternal
class TakeWhileSequence<T>\nconstructor(\n    private val sequence: Sequence<T>,\n    private val predicate: (T) -
> Boolean)\n: Sequence<T> {\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator =
sequence.iterator()\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for continue\n        var nextItem: T?
= null\n        private fun calcNext() {\n            if (iterator.hasNext()) {\n                val item = iterator.next()\n
if (predicate(item)) {\n                    nextState = 1\n                    nextItem = item\n                    return\n                }\n
nextState = 0\n            }\n        }\n        override fun next(): T {\n            if (nextState == -1)\n                calcNext() // will change nextState\n                if (nextState == 0)\n                    throw NoSuchElementException()\n                @Suppress("UNCHECKED_CAST")\n                val result = nextItem as T\n                // Clean next to avoid keeping

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reference on yielded instance\n        nextItem = null\n        nextState = -1\n        return result\n    }\n\n    override fun hasNext(): Boolean {\n        if (nextState == -1)\n            calcNext() // will change nextState\n        return nextState == 1\n    }\n}\n\n/**\n * A sequence that skips the specified number of values from the\n underlying [sequence] and returns\n * all values after that.\n */\ninternal class DropSequence<T>(\n    private val\n sequence: Sequence<T>,\n    private val count: Int\n) : Sequence<T>, DropTakeSequence<T> {\n    init {\n        require(count >= 0) { \"count must be non-negative, but was $count.\" }\n    }\n\n    override fun drop(n: Int):\n Sequence<T> = (count + n).let { n1 -> if (n1 < 0) DropSequence(this, n) else DropSequence(sequence, n1) }\n\n    override fun take(n: Int): Sequence<T> = (count + n).let { n1 -> if (n1 < 0) TakeSequence(this, n) else\n SubSequence(sequence, count, n1) }\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val\n iterator = sequence.iterator()\n        var left = count\n        // Shouldn't be called from constructor to avoid\n premature iteration\n        private fun drop() {\n            while (left > 0 && iterator.hasNext()) {\n                iterator.next()\n                left--\n            }\n        }\n\n        override fun next(): T {\n            drop()\n            return\n iterator.next()\n        }\n\n        override fun hasNext(): Boolean {\n            drop()\n            return iterator.hasNext()\n        }\n    }\n}\n\n/**\n * A sequence that skips the values from the underlying [sequence] while the given\n [predicate] returns `true` and returns\n * all values after that.\n */\ninternal class\n DropWhileSequence<T>(\n    constructor(\n        private val sequence: Sequence<T>,\n        private val predicate: (T) ->\n Boolean\n) : Sequence<T> {\n\n    override fun iterator(): Iterator<T> = object : Iterator<T> {\n        val iterator =\n sequence.iterator()\n        var dropState: Int = -1 // -1 for not dropping, 1 for nextItem, 0 for normal iteration\n        var nextItem: T? = null\n        private fun drop() {\n            while (iterator.hasNext()) {\n                val item =\n iterator.next()\n                if (!predicate(item)) {\n                    nextItem = item\n                    dropState = 1\n                }\n            }\n            dropState = 0\n        }\n\n        override fun next(): T {\n            if\n (dropState == -1)\n                drop()\n            if (dropState == 1) {\n                @Suppress(\"UNCHECKED_CAST\")\n                val result = nextItem as T\n                nextItem = null\n                dropState = 0\n                return result\n            }\n            return iterator.next()\n        }\n\n        override fun\n hasNext(): Boolean {\n            if (dropState == -1)\n                drop()\n            return dropState == 1 ||\n iterator.hasNext()\n        }\n    }\n}\n\ninternal class DistinctSequence<T, K>(\n    private val source: Sequence<T>,\n    private val keySelector: (T) -> K\n) : Sequence<T> {\n    override fun iterator(): Iterator<T> =\n DistinctIterator(source.iterator(), keySelector)\n}\n\nprivate class DistinctIterator<T, K>(\n    private val source:\n Iterator<T>,\n    private val keySelector: (T) -> K\n) : AbstractIterator<T>() {\n    private val observed =\n HashSet<K>()\n    override fun computeNext() {\n        while (source.hasNext()) {\n            val next =\n source.next()\n            val key = keySelector(next)\n            if (observed.add(key)) {\n                setNext(next)\n            }\n        }\n        done()\n    }\n}\n\nprivate class GeneratorSequence<T : Any>(\n    private val\n getInitialValue: () -> T?,\n    private val getNextValue: (T) -> T?\n) : Sequence<T> {\n    override fun iterator():\n Iterator<T> = object : Iterator<T> {\n        var nextItem: T? = null\n        var nextState: Int = -2 // -2 for initial\n unknown, -1 for next unknown, 0 for done, 1 for continue\n        private fun calcNext() {\n            nextItem = if\n (nextState == -2) getInitialValue() else getNextValue(nextItem!)\n            nextState = if (nextItem == null) 0 else\n 1\n        }\n\n        override fun next(): T {\n            if (nextState < 0)\n                calcNext()\n            if (nextState\n == 0)\n                throw NoSuchElementException()\n            val result = nextItem as T\n            // Do not clean\n nextItem\n            // (to avoid keeping reference on yielded instance) -- need to keep state for getNextValue\n            nextState\n = -1\n            return result\n        }\n\n        override fun\n hasNext(): Boolean {\n            if (nextState < 0)\n                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a wrapper sequence that provides\n values of this sequence, but ensures it can be iterated only one time.\n * The operation is _intermediate_ and\n _stateless_.  
 * [IllegalStateException] is thrown on iterating the returned sequence from the second time.\n */\npublic fun <T> Sequence<T>.constrainOnce(): Sequence<T> {\n    // as? does not work in js\n    //return this as?\n ConstrainedOnceSequence<T>? : ConstrainedOnceSequence(this)\n    return if (this is\n ConstrainedOnceSequence<T>) this else ConstrainedOnceSequence(this)\n}\n\n/**\n * Returns a sequence which\n invokes the function to calculate the next value on each iteration until the function returns `null`.\n * The\n returned sequence is constrained to be iterated only once.\n * @see constrainOnce\n * @see

```

```

kotlin.sequences.sequence\n *\n * @sample samples.collections.Sequences.Building.generateSequence\n */\npublic
fun <T : Any> generateSequence(nextFunction: () -> T?): Sequence<T> {\n    return
GeneratorSequence(nextFunction, { nextFunction() }).constrainOnce()\n}\n\n/**\n * Returns a sequence defined by
the starting value [seed] and the function [nextFunction],\n * which is invoked to calculate the next value based on
the previous one on each iteration.\n *\n * The sequence produces values until it encounters first `null` value.\n * If
[seed] is `null`, an empty sequence is produced.\n *\n * The sequence can be iterated multiple times, each time
starting with [seed].\n *\n * @see kotlin.sequences.sequence\n *\n * @sample
samples.collections.Sequences.Building.generateSequenceWithSeed\n
*/\n@kotlin.internal.LowPriorityInOverloadResolution\npublic fun <T : Any> generateSequence(seed: T?,
nextFunction: (T) -> T?): Sequence<T> =\n    if (seed == null)\n        EmptySequence\n    else\n
GeneratorSequence({ seed }, nextFunction)\n}\n\n/**\n * Returns a sequence defined by the function [seedFunction],
which is invoked to produce the starting value,\n * and the [nextFunction], which is invoked to calculate the next
value based on the previous one on each iteration.\n *\n * The sequence produces values until it encounters first
`null` value.\n * If [seedFunction] returns `null`, an empty sequence is produced.\n *\n * The sequence can be
iterated multiple times.\n *\n * @see kotlin.sequences.sequence\n *\n * @sample
samples.collections.Sequences.Building.generateSequenceWithLazySeed\n */\npublic fun <T : Any>
generateSequence(seedFunction: () -> T?, nextFunction: (T) -> T?): Sequence<T> =\n
GeneratorSequence(seedFunction, nextFunction)\n}\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n//
Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
UByteArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@Published
Api\ninternal constructor(@PublishedApi internal val storage: ByteArray) : Collection<UByte> {\n\n    /** Creates
a new array of the specified [size], with all elements initialized to zero. */\n    public constructor(size: Int) :
this(ByteArray(size))\n\n    /**\n     * Returns the array element at the given [index]. This method can be called
using the index operator.\n     *\n     * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is unspecified.\n     *\n     * public
operator fun get(index: Int): UByte = storage[index].toUByte()\n\n     */\n     * Sets the element at the given [index]
to the given [value]. This method can be called using the index operator.\n     *\n     * If the [index] is out of bounds
of this array, throws an [IndexOutOfBoundsException] except in Kotlin/JS\n     * where the behavior is
unspecified.\n     *\n     * public operator fun set(index: Int, value: UByte) {\n         storage[index] = value.toByte()\n
}\n\n     /** Returns the number of elements in the array. */\n     public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. */\n     public override operator fun iterator(): UByteIterator =
Iterator(storage)\n\n     private class Iterator(private val array: ByteArray) : UByteIterator() {\n         private var index
= 0\n         override fun hasNext() = index < array.size\n         override fun nextUByte() = if (index < array.size)
array[index++].toUByte() else throw NoSuchElementException(index.toString())\n     }\n\n     override fun
contains(element: UByte): Boolean {\n         // TODO: Eliminate this check after KT-30016 gets fixed.\n         //
Currently JS BE does not generate special bridge method for this method.\n         if ((element as Any?) !is UByte)
return false\n         return storage.contains(element.toByte())\n     }\n\n     override fun containsAll(elements:
Collection<UByte>): Boolean {\n         return (elements as Collection<*>).all { it is UByte &&
storage.contains(it.toByte()) }\n     }\n\n     override fun isEmpty(): Boolean = this.storage.size ==
0\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray(size: Int, init: (Int) -> UByte): UByteArray {\n    return UByteArray(ByteArray(size) { index ->
init(index).toByte()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ubyteArrayOf(vararg elements: UByte): UByteArray = elements\n\n"/*\n * Copyright 2010-2019 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage

```

```

kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
UIntArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@PublishedAp
i\ninternal constructor(@PublishedApi internal val storage: IntArray) : Collection<UInt> {\n\n /** Creates a new
array of the specified [size], with all elements initialized to zero. */\n public constructor(size: Int) :
this(IntArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called using
the index operator.\n * \n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n public
operator fun get(index: Int): UInt = storage[index].toUInt()\n\n /**\n * Sets the element at the given [index] to
the given [value]. This method can be called using the index operator.\n * \n * If the [index] is out of bounds of
this array, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n
*\n public operator fun set(index: Int, value: UInt) {\n storage[index] = value.toInt()\n }\n\n /** Returns
the number of elements in the array. */\n public override val size: Int get() = storage.size\n\n /** Creates an
iterator over the elements of the array. */\n public override operator fun iterator(): UIntIterator =
Iterator(storage)\n\n private class Iterator(private val array: IntArray) : UIntIterator() {\n private var index =
0\n override fun hasNext() = index < array.size\n override fun nextUInt() = if (index < array.size)
array[index++].toUInt() else throw NoSuchElementException(index.toString())\n }\n\n override fun
contains(element: UInt): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is UInt)
return false\n\n return storage.contains(element.toInt())\n }\n\n override fun containsAll(elements:
Collection<UInt>): Boolean {\n return (elements as Collection<*>).all { it is UInt &&
storage.contains(it.toInt()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size ==
0\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray(size: Int, init: (Int) -> UInt): UIntArray {\n return UIntArray(IntArray(size) { index ->
init(index).toInt()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
uintArrayOf(vararg elements: UInt): UIntArray = elements\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt file.\n
*\n\n// Auto-generated file. DO NOT EDIT!\n\npackage
kotlin\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline class
ULongArray\n@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n@Published
Api\ninternal constructor(@PublishedApi internal val storage: LongArray) : Collection<ULong> {\n\n /** Creates
a new array of the specified [size], with all elements initialized to zero. */\n public constructor(size: Int) :
this(LongArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called
using the index operator.\n * \n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is unspecified.\n * \n public
operator fun get(index: Int): ULong = storage[index].toULong()\n\n /**\n * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n * \n * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcep] except in Kotlin/JS\n * where the behavior is
unspecified.\n * \n public operator fun set(index: Int, value: ULong) {\n storage[index] = value.toLong()\n
}\n\n /** Returns the number of elements in the array. */\n public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. */\n public override operator fun iterator(): ULongIterator =
Iterator(storage)\n\n private class Iterator(private val array: LongArray) : ULongIterator() {\n private var
index = 0\n override fun hasNext() = index < array.size\n override fun nextULong() = if (index < array.size)
array[index++].toULong() else throw NoSuchElementException(index.toString())\n }\n\n override fun
contains(element: ULong): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is ULong)
return false\n\n return storage.contains(element.toLong())\n }\n\n override fun containsAll(elements:
Collection<ULong>): Boolean {\n return (elements as Collection<*>).all { it is ULong &&

```

```

storage.contains(it.toLong()) }
}

override fun isEmpty(): Boolean = this.storage.size ==
0

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ULongArray(size: Int, init: (Int) -> ULong): ULongArray {
    return ULongArray(LongArray(size) { index ->
init(index).toLong()
})
}

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun
ulongArrayOf(vararg elements: ULong): ULongArray = elements

/*
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 * that can be found in the license/LICENSE.txt
file.
 *
// Auto-generated file. DO NOT EDIT!
package kotlin
import
kotlin.experimental.
@Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")
@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public inline class ULong @PublishedApi internal
constructor(@PublishedApi internal val data: Long) : Comparable<ULong> {
    companion object {
        /*
         * A constant holding the minimum value an instance of ULong can have.
         */
        public const val
MIN_VALUE: ULong = ULong(0)
        /*
         * A constant holding the maximum value an instance of
ULong can have.
         */
        public const val MAX_VALUE: ULong = ULong(-1)
        /*
         * The
number of bytes used to represent an instance of ULong in a binary form.
         */
        public const val
SIZE_BYTES: Int = 8
        /*
         * The number of bits used to represent an instance of ULong in a binary
form.
         */
        public const val SIZE_BITS: Int = 64
    }
    /*
     * Compares this value with the
specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UByte): Int = this.compareTo(other.toULong())
    /*
     *
Compares this value with the specified value for order.
     * Returns zero if this value is equal to the specified other
value, a negative number if it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun compareTo(other: UShort): Int =
this.compareTo(other.toULong())
    /*
     * Compares this value with the specified value for order.
     *
Returns zero if this value is equal to the specified other value, a negative number if it's less than other,
     * or a
positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun
compareTo(other: UInt): Int = this.compareTo(other.toULong())
    /*
     * Compares this value with the
specified value for order.
     * Returns zero if this value is equal to the specified other value, a negative number if
it's less than other,
     * or a positive number if it's greater than other.
     */
    @kotlin.internal.InlineOnly
    @Suppress("OVERRIDE_BY_INLINE")
    public override inline operator fun compareTo(other: ULong): Int =
ulongCompare(this.data, other.data)
    /*
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: UByte): ULong = this.plus(other.toULong())
    /*
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other:
UShort): ULong = this.plus(other.toULong())
    /*
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other: UInt): ULong = this.plus(other.toULong())
    /*
     * Adds the other value to this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun plus(other:
ULong): ULong = ULong(this.data.plus(other.data))
    /*
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UByte): ULong =
this.minus(other.toULong())
    /*
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UShort): ULong = this.minus(other.toULong())
    /*
     * Subtracts the other
value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: UInt): ULong =
this.minus(other.toULong())
    /*
     * Subtracts the other value from this value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun minus(other: ULong): ULong = ULong(this.data.minus(other.data))
    /*
     * Multiplies
this value by the other value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun times(other: UByte):
ULong = this.times(other.toULong())
    /*
     * Multiplies this value by the other value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun times(other: UShort): ULong =
this.times(other.toULong())
    /*
     * Multiplies this value by the other value.
     */
    @kotlin.internal.InlineOnly
    public inline operator fun times(other: UInt): ULong = this.times(other.toULong())
    /*
     * Multiplies this value by

```

```

the other value. */
@kotlin.internal.InlineOnly
public inline operator fun times(other: ULong): ULong =
    ULong(this.data.times(other.data))
/** Divides this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun div(other: UByte): ULong = this.div(other.toULong())
/** Divides this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun div(other: UShort): ULong = this.div(other.toULong())
/** Divides this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun div(other: UInt): ULong = this.div(other.toULong())
/** Divides this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun div(other: ULong): ULong = ulongDivide(this, other)
/** Calculates the remainder of dividing this value by the other
value. */
@kotlin.internal.InlineOnly
public inline operator fun rem(other: UByte): ULong =
    this.rem(other.toULong())
/** Calculates the remainder of dividing this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun rem(other: UShort): ULong = this.rem(other.toULong())
/** Calculates the remainder of dividing this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun rem(other: UInt): ULong = this.rem(other.toULong())
/** Calculates the remainder of
dividing this value by the other value. */
@kotlin.internal.InlineOnly
public inline operator fun rem(other:
    ULong): ULong = ulongRemainder(this, other)
/** Increments this value. */
@kotlin.internal.InlineOnly
public inline operator fun inc(): ULong = ULong(data.inc())
/** Decrements this value. */
@kotlin.internal.InlineOnly
public inline operator fun dec(): ULong = ULong(data.dec())
/** Creates a
range from this value to the specified [other] value. */
@kotlin.internal.InlineOnly
public inline operator fun
    rangeTo(other: ULong): ULongRange = ULongRange(this, other)
/** Shifts this value left by the [bitCount]
number of bits. */
@kotlin.internal.InlineOnly
public inline infix fun shl(bitCount: Int): ULong =
    ULong(data shl bitCount)
/** Shifts this value right by the [bitCount] number of bits, filling the leftmost bits
with zeros. */
@kotlin.internal.InlineOnly
public inline infix fun shr(bitCount: Int): ULong = ULong(data
    ushr bitCount)
/** Performs a bitwise AND operation between the two values. */
@kotlin.internal.InlineOnly
public inline infix fun and(other: ULong): ULong = ULong(this.data and
    other.data)
/** Performs a bitwise OR operation between the two values. */
@kotlin.internal.InlineOnly
public inline infix fun or(other: ULong): ULong = ULong(this.data or other.data)
/** Performs a bitwise XOR
operation between the two values. */
@kotlin.internal.InlineOnly
public inline infix fun xor(other: ULong):
    ULong = ULong(this.data xor other.data)
/** Inverts the bits in this value. */
@kotlin.internal.InlineOnly
public inline fun inv(): ULong = ULong(data.inv())
/**
 * Converts this [ULong] value to [Byte].
 *
 * If this value is less than or equals to [Byte.MAX_VALUE], the resulting `Byte` value represents
 * the same numerical value as this `ULong`.
 *
 * The resulting `Byte` value is represented by the least significant 8 bits
of this `ULong` value.
 *
 * Note that the resulting `Byte` value may be negative.
 */
@kotlin.internal.InlineOnly
public inline fun toByte(): Byte = data.toByte()
/**
 * Converts this [ULong]
value to [Short].
 *
 * If this value is less than or equals to [Short.MAX_VALUE], the resulting `Short` value
represents
 * the same numerical value as this `ULong`.
 *
 * The resulting `Short` value is represented
by the least significant 16 bits of this `ULong` value.
 *
 * Note that the resulting `Short` value may be negative.
 */
@kotlin.internal.InlineOnly
public inline fun toShort(): Short = data.toShort()
/**
 * Converts this
[ULong] value to [Int].
 *
 * If this value is less than or equals to [Int.MAX_VALUE], the resulting `Int`
value represents
 * the same numerical value as this `ULong`.
 *
 * The resulting `Int` value is
represented by the least significant 32 bits of this `ULong` value.
 *
 * Note that the resulting `Int` value may be
negative.
 */
@kotlin.internal.InlineOnly
public inline fun toInt(): Int = data.toInt()
/**
 *
Converts this [ULong] value to [Long].
 *
 * If this value is less than or equals to [Long.MAX_VALUE], the
resulting `Long` value represents
 * the same numerical value as this `ULong`. Otherwise the result is
negative.
 *
 * The resulting `Long` value has the same binary representation as this `ULong` value.
 */
@kotlin.internal.InlineOnly
public inline fun toLong(): Long = data
/**
 * Converts this [ULong]
value to [UByte].
 *
 * If this value is less than or equals to [UByte.MAX_VALUE], the resulting `UByte`
value represents
 * the same numerical value as this `ULong`.
 *
 * The resulting `UByte` value is
represented by the least significant 8 bits of this `ULong` value.
 */
@kotlin.internal.InlineOnly
public

```



```

Creates a new array of the specified [size], with all elements initialized to zero. */n public constructor(size: Int) :
this(ShortArray(size))\n\n /**\n * Returns the array element at the given [index]. This method can be called
using the index operator.\n *\n * If the [index] is out of bounds of this array, throws an
[IndexOutOfBoundsExcepTion] except in Kotlin/JS\n * where the behavior is unspecified.\n */n public
operator fun get(index: Int): UShort = storage[index].toUShort()\n\n /**\n * Sets the element at the given
[index] to the given [value]. This method can be called using the index operator.\n *\n * If the [index] is out of
bounds of this array, throws an [IndexOutOfBoundsExcepTion] except in Kotlin/JS\n * where the behavior is
unspecified.\n */n public operator fun set(index: Int, value: UShort) {\n storage[index] = value.toShort()\n
}\n\n /** Returns the number of elements in the array. */n public override val size: Int get() = storage.size\n\n
/** Creates an iterator over the elements of the array. */n public override operator fun iterator(): UShortIterator =
Iterator(storage)\n\n private class Iterator(private val array: ShortArray) : UShortIterator() {\n private var
index = 0\n override fun hasNext() = index < array.size\n override fun nextUShort() = if (index <
array.size) array[index++].toUShort() else throw NoSuchElementException(index.toString())\n }\n\n override
fun contains(element: UShort): Boolean {\n // TODO: Eliminate this check after KT-30016 gets fixed.\n //
Currently JS BE does not generate special bridge method for this method.\n if ((element as Any?) !is UShort)
return false\n\n return storage.contains(element.toShort())\n }\n\n override fun containsAll(elements:
Collection<UShort>): Boolean {\n return (elements as Collection<*>).all { it is UShort &&
storage.contains(it.toShort()) }\n }\n\n override fun isEmpty(): Boolean = this.storage.size ==
0\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray(size: Int, init: (Int) -> UShort): UShortArray {\n return UShortArray(ShortArray(size) { index ->
init(index).toShort()
})\n}\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ushortArrayOf(vararg elements: UShort): UShortArray = elements\n", /*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n */n\npackage kotlin\n\n\npublic actual interface Comparator<T> {\n @JsName("compare")\n actual fun
compare(a: T, b: T): Int\n}\n\n\npublic actual inline fun <T> Comparator(crossinline comparison: (a: T, b: T) -> Int):
Comparator<T> = object : Comparator<T> {\n override fun compare(a: T, b: T): Int = comparison(a,
b)\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n */n\npackage kotlin.coroutines\n\n\nimport
kotlin.coroutines.intrinsics.*\n\nimport kotlin.internal.InlineOnly\n\n/**\n * Interface representing a continuation after
a suspension point that returns value of type `T`. */n\n@SinceKotlin("1.3")\n\npublic interface Continuation<in T>
{\n /**\n * Context of the coroutine that corresponds to this continuation.\n */n public val context:
CoroutineContext\n\n /**\n * Resumes the execution of the corresponding coroutine passing successful or failed
[result] as the\n * return value of the last suspension point.\n */n public fun resumeWith(result:
Result<T>)\n}\n\n\n/**\n * Classes and interfaces marked with this annotation are restricted when used as receivers
for extension\n * `suspend` functions. These `suspend` extensions can only invoke other member or extension
`suspend` functions on this particular\n * receiver only and are restricted from calling arbitrary suspension
functions.\n\n */n\n@SinceKotlin("1.3")\n\n@Target(AnnotationTarget.CLASS)\n@Retention(AnnotationRetention.BINARY)\n\npublic annotation class RestrictsSuspension\n\n\n/**\n * Resumes the execution of the corresponding coroutine passing
[value] as the return value of the last suspension point. */n\n@SinceKotlin("1.3")\n\n@InlineOnly\n\npublic inline
fun <T> Continuation<T>.resume(value: T): Unit =\n resumeWith(Result.success(value))\n\n\n/**\n * Resumes the
execution of the corresponding coroutine so that the [exception] is re-thrown right after the\n * last suspension
point. */n\n@SinceKotlin("1.3")\n\n@InlineOnly\n\npublic inline fun <T>
Continuation<T>.resumeWithException(exception: Throwable): Unit =\n
resumeWith(Result.failure(exception))\n\n\n\n/**\n * Creates [Continuation] instance with a given [context] and a
given implementation of [resumeWith] method. */n\n@SinceKotlin("1.3")\n\n@InlineOnly\n\npublic inline fun <T>
Continuation(\n context: CoroutineContext,\n crossinline resumeWith: (Result<T>) -> Unit)\n): Continuation<T>

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= \n object : Continuation<T> { \n     override val context: CoroutineContext \n         get() = context \n \n     override fun resumeWith(result: Result<T>) = \n         resumeWith(result) \n     } \n \n /** \n * Creates a coroutine without receiver and with result type [T]. \n * This function creates a new, fresh instance of suspendable computation every time it is invoked. \n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. \n * The [completion] continuation is invoked when coroutine completes with result or exception. \n * Repeated invocation of any resume function on the resulting continuation produces [IllegalStateException]. \n */ \n @SinceKotlin("1.3") \n @Suppress("UNCHECKED_CAST") \n public fun <T> (suspend () -> T).createCoroutine(\n     completion: Continuation<T> \n ): Continuation<Unit> = \n     SafeContinuation(createCoroutineUnintercepted(completion).intercepted(), COROUTINE_SUSPENDED) \n \n /** \n * Creates a coroutine with receiver type [R] and result type [T]. \n * This function creates a new, fresh instance of suspendable computation every time it is invoked. \n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation] instance. \n * The [completion] continuation is invoked when coroutine completes with result or exception. \n * Repeated invocation of any resume function on the resulting continuation produces [IllegalStateException]. \n */ \n @SinceKotlin("1.3") \n @Suppress("UNCHECKED_CAST") \n public fun <R, T> (suspend R.() -> T).createCoroutine(\n     receiver: R, \n     completion: Continuation<T> \n ): Continuation<Unit> = \n     SafeContinuation(createCoroutineUnintercepted(receiver, completion).intercepted(), COROUTINE_SUSPENDED) \n \n /** \n * Starts coroutine without receiver and with result type [T]. \n * This function creates and start a new, fresh instance of suspendable computation every time it is invoked. \n * The [completion] continuation is invoked when coroutine completes with result or exception. \n */ \n @SinceKotlin("1.3") \n @Suppress("UNCHECKED_CAST") \n public fun <T> (suspend () -> T).startCoroutine(\n     completion: Continuation<T> \n ) { \n     createCoroutineUnintercepted(completion).intercepted().resume(Unit) \n } \n \n /** \n * Starts coroutine with receiver type [R] and result type [T]. \n * This function creates and start a new, fresh instance of suspendable computation every time it is invoked. \n * The [completion] continuation is invoked when coroutine completes with result or exception. \n */ \n @SinceKotlin("1.3") \n @Suppress("UNCHECKED_CAST") \n public fun <R, T> (suspend R.() -> T).startCoroutine(\n     receiver: R, \n     completion: Continuation<T> \n ) { \n     createCoroutineUnintercepted(receiver, completion).intercepted().resume(Unit) \n } \n \n /** \n * Obtains the current continuation instance inside suspend functions and suspends \n * currently running coroutine. \n * In this function both [Continuation.resume] and [Continuation.resumeWithException] can be used either synchronously in \n * the same stack-frame where suspension function is run or asynchronously later in the same thread or \n * from a different thread of execution. Repeated invocation of any resume function produces [IllegalStateException]. \n */ \n @SinceKotlin("1.3") \n @InlineOnly \n public suspend inline fun <T> suspendCoroutine(crossinline block: (Continuation<T>) -> Unit): T = \n     suspendCoroutineUninterceptedOrReturn { c: Continuation<T> -> \n         val safe = SafeContinuation(c.intercepted()) \n         block(safe) \n         safe.getOrThrow() \n     } \n \n /** \n * Returns context of the current coroutine. \n */ \n @SinceKotlin("1.3") \n @Suppress("WRONG_MODIFIER_TARGET") \n @InlineOnly \n public suspend inline val coroutineContext: CoroutineContext \n     get() { \n         throw NotImplementedError("Implemented as intrinsic") \n     } \n } \n \n /** \n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt file. \n */ \n \n @file:kotlin.jvm.JvmMultifileClass \n @file:kotlin.jvm.JvmName("PreconditionsKt") \n \n package kotlin \n \n import kotlin.contracts.contract \n \n /** \n * Throws an [IllegalArgumentException] if the [value] is false. \n * \n * @sample samples.misc.Preconditions.failRequireWithLazyMessage \n */ \n @kotlin.internal.InlineOnly \n public inline fun require(value: Boolean): Unit { \n     contract { \n         returns() implies value \n     } \n     require(value) { \n         "Failed requirement." \n     } \n } \n \n /** \n * Throws an [IllegalArgumentException] with the result of calling [lazyMessage] if the [value] is false. \n * \n * @sample samples.misc.Preconditions.failRequireWithLazyMessage \n */ \n @kotlin.internal.InlineOnly \n public inline fun require(value: Boolean, lazyMessage: () -> Any): Unit { \n     contract { \n         returns() implies value \n     } \n     if (!value) { \n         val message = lazyMessage() \n         throw

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IllegalArgumentException(message.toString())\n } }\n\n/**\n * Throws an [IllegalArgumentException] if the
[value] is null. Otherwise returns the not null value.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T : Any>
requireNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n return
requireNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalArgumentException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n */\n * @sample
samples.misc.Preconditions.failRequireWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> requireNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value !=
null)\n }\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalArgument\nException(message.toString())\n } else {\n return value\n }\n}\n\n/**\n * Throws an
[IllegalStateException] if the [value] is false.\n */\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun
check(value: Boolean): Unit {\n contract {\n returns() implies value\n }\n check(value) { \"Check failed.\"\n
}\n}\n\n/**\n * Throws an [IllegalStateException] with the result of calling [lazyMessage] if the [value] is false.\n
*/\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun check(value: Boolean, lazyMessage: () -> Any): Unit {\n contract {\n returns() implies value\n }\n
if (!value) {\n val message = lazyMessage()\n throw IllegalStateException(message.toString())\n
}\n}\n\n/**\n * Throws an [IllegalStateException] if the [value] is null. Otherwise\n * returns the not null value.\n
*/\n * @sample samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic
inline fun <T : Any> checkNotNull(value: T?): T {\n contract {\n returns() implies (value != null)\n }\n
return checkNotNull(value) { \"Required value was null.\" }\n}\n\n/**\n * Throws an [IllegalStateException] with
the result of calling [lazyMessage] if the [value] is null. Otherwise\n * returns the not null value.\n */\n * @sample
samples.misc.Preconditions.failCheckWithLazyMessage\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T :
Any> checkNotNull(value: T?, lazyMessage: () -> Any): T {\n contract {\n returns() implies (value != null)\n
}\n\n if (value == null) {\n val message = lazyMessage()\n throw
IllegalState\nException(message.toString())\n } else {\n return value\n }\n}\n\n/**\n * Throws an
[IllegalStateException] with the given [message].\n */\n * @sample samples.misc.Preconditions.failWithError\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun error(message: Any): Nothing = throw
IllegalState\nException(message.toString())\n\n\"/>\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.js.*\nimport
primitiveArrayConcat\nimport withType\n\n/**\n * Returns an element at the given [index] or throws an
[IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic actual fun <T> Array<out T>.elementAt(index:
Int): T {\n return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\")\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic
actual fun ByteArray.elementAt(index: Int): Byte {\n return elementAtOrElse(index) { throw
IndexOut\nOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic actual fun ShortArray.elementAt(index: Int): Short
{\n return elementAtOrElse(index) { throw IndexOut\nOfBoundsException(\"index: $index, size: $size\")\n
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n */\n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic
actual fun IntArray.elementAt(index: Int): Int {\n return elementAtOrElse(index) { throw
IndexOut\nOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n */\n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic actual fun LongArray.elementAt(index: Int): Long

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{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size}")
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic
actual fun FloatArray.elementAt(index: Int): Float {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic actual fun DoubleArray.elementAt(index: Int):
Double {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }
}\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic
actual fun BooleanArray.elementAt(index: Int): Boolean {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException("index: $index, size: $size") } }\n}\n\n/**\n * Returns an element at the given
[index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n */\npublic actual fun CharArray.elementAt(index: Int): Char
{\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException("index: $index, size: $size") }
}\n}\n\n/**\n * Returns a [List] that wraps the original array.\n */\npublic actual fun <T> Array<out T>.asList():
List<T> {\n    return ArrayList<T>(this.unsafeCast<Array<Any?>>()) }\n}\n\n/**\n * Returns a [List] that wraps the
original array.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun ByteArray.asList(): List<Byte> {\n
return this.unsafeCast<Array<Byte>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun ShortArray.asList(): List<Short> {\n    return
this.unsafeCast<Array<Short>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun IntArray.asList(): List<Int> {\n    return
this.unsafeCast<Array<Int>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun LongArray.asList(): List<Long> {\n    return
this.unsafeCast<Array<Long>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun FloatArray.asList(): List<Float> {\n    return
this.unsafeCast<Array<Float>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun DoubleArray.asList(): List<Double> {\n    return
this.unsafeCast<Array<Double>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@kotlin.internal.InlineOnly\npublic actual inline fun BooleanArray.asList(): List<Boolean> {\n    return
this.unsafeCast<Array<Boolean>>().asList() }\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n\npublic actual fun CharArray.asList(): List<Char> {\n    return object : ArrayList<Char>(), RandomAccess {\n
        override val size: Int get() = this@asList.size\n        override fun isEmpty(): Boolean = this@asList.isEmpty()\n
        override fun contains(element: Char): Boolean = this@asList.contains(element)\n        override fun get(index: Int):
Char {\n            ArrayList.checkElementIndex(index, size)\n            return this@asList[index]\n        } }\n
        override fun indexOf(element: Char): Int {\n            if ((element as Any?) !is Char) return -1\n            return
this@asList.indexOf(element)\n        } }\n        override fun lastIndexOf(element: Char): Int {\n            if ((element as
Any?) !is Char) return -1\n            return this@asList.lastIndexOf(element)\n        } }\n    } }\n}\n\n/**\n * Returns
`true` if the two specified arrays are *deeply* equal to one another,\n * i.e. contain the same number of the same
elements in the same order.\n * \n * If two corresponding elements are nested arrays, they are also compared
deeply.\n * \n * If any of arrays contains itself on any nesting level the behavior is undefined.\n * \n * The elements of
other types are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it
means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n
*/\n@SinceKotlin("1.1")\n@library("arrayDeepEquals")\npublic actual infix fun <T> Array<out
T>.contentDeepEquals(other: Array<out T>): Boolean {\n    definedExternally }\n}\n\n/**\n * Returns a hash code
based on the contents of this array as if it is [List].\n * \n * Nested arrays are treated as lists too.\n * \n * If any of arrays
contains itself on any nesting level the behavior is undefined.\n
*/\n@SinceKotlin("1.1")\n@library("arrayDeepHashCode")\npublic actual fun <T> Array<out

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T>.contentDeepHashCode(): Int {\n definedExternally\n}\n\n/**\n * Returns a string representation of the contents of this array as if it is a [List].\n * Nested arrays are treated as lists too.\n * \n * If any of arrays contains itself on any nesting level that reference\n * is rendered as `[...]` to prevent recursion.\n * \n * @sample samples.collections.Arrays.ContentOperations.contentDeepToString\n */\n@SinceKotlin("1.1")\n@library("arrayDeepToString")\npublic actual fun <T> Array<out T>.contentDeepToString(): String {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun <T> Array<out T>.contentEquals(other: Array<out T>): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun ByteArray.contentEquals(other: ByteArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun ShortArray.contentEquals(other: ShortArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun IntArray.contentEquals(other: IntArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun LongArray.contentEquals(other: LongArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun FloatArray.contentEquals(other: FloatArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun DoubleArray.contentEquals(other: DoubleArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it means that `NaN` is equal to itself and `-0.0` is not equal to `0.0`.\n */\n@SinceKotlin("1.1")\n@library("arrayEquals")\npublic actual infix fun BooleanArray.contentEquals(other: BooleanArray): Boolean {\n definedExternally\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the same order.\n * \n * The elements are compared for equality with the [equals][Any.equals] function.\n * For floating point numbers it

definedExternally}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun <T> Array<out T>.copyInto(destination: Array<T>, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): Array<T> {\n    arrayCopy(this, destination, destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ByteArray.copyInto(destination: ByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ByteArray {\n    arrayCopy(this.unsafeCast<Array<Byte>>(), destination.unsafeCast<Array<Byte>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n
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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun ShortArray.copyInto(destination: ShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): ShortArray {\n    arrayCopy(this.unsafeCast<Array<Short>>(), destination.unsafeCast<Array<Short>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
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[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun IntArray.copyInto(destination: IntArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): IntArray {\n    arrayCopy(this.unsafeCast<Array<Int>>(),
destination.unsafeCast<Array<Int>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n *
Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun LongArray.copyInto(destination: LongArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): LongArray {\n    arrayCopy(this.unsafeCast<Array<Long>>(),
destination.unsafeCast<Array<Long>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n *
Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun FloatArray.copyInto(destination: FloatArray, destinationOffset: Int = 0,
startIndex: Int = 0, endIndex: Int = size): FloatArray {\n    arrayCopy(this.unsafeCast<Array<Float>>(),
destination.unsafeCast<Array<Float>>(), destinationOffset, startIndex, endIndex)\n    return destination\n}\n\n/**\n *
Copies this array or its subrange into the [destination] array and returns that array.\n * \n * It's allowed to pass the
same array in the [destination] and even specify the subrange so that it overlaps with the destination range.\n * \n *
@param destination the array to copy to.\n * @param destinationOffset the position in the [destination] array to
copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default.\n *
@param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws
IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this
array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange
doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the
[destination] array indices range.\n * \n * @return the [destination] array.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT
_ARGUMENTS")\npublic actual inline fun DoubleArray.copyInto(destination: DoubleArray, destinationOffset: Int
= 0, startIndex: Int = 0, endIndex: Int = size): DoubleArray {\n    arrayCopy(this.unsafeCast<Array<Double>>(),
destination.unsafeCast<Array<Double>>(), destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,

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0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n

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*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun BooleanArray.copyInto(destination: BooleanArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): BooleanArray {\n
arrayCopy(this.unsafeCast<Array<Boolean>>(), destination.unsafeCast<Array<Boolean>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array. \n * \n * It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the destination range. \n * \n * @param destination the array to copy to. \n * @param destinationOffset the position in the [destination] array to copy to, 0 by default. \n * @param startIndex the beginning (inclusive) of the subrange to copy, 0 by default. \n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default. \n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`. \n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset], \n * or when that index is out of the [destination] array indices range. \n * \n * @return the [destination] array. \n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\npublic actual inline fun CharArray.copyInto(destination: CharArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size): CharArray {\n arrayCopy(this.unsafeCast<Array<Char>>(), destination.unsafeCast<Array<Char>>(), destinationOffset, startIndex, endIndex)\n return destination\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("ACTUAL_WITHOUT_EXPECT", "NOTHING_TO_INLINE")\npublic actual inline fun <T> Array<out T>.copyOf(): Array<T> {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ByteArray.copyOfOf(): ByteArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun ShortArray.copyOfOf(): ShortArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun IntArray.copyOfOf(): IntArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual fun LongArray.copyOfOf(): LongArray {\n return withType("LongArray", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun FloatArray.copyOfOf(): FloatArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun DoubleArray.copyOfOf(): DoubleArray {\n return this.asDynamic().slice()\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual fun BooleanArray.copyOfOf(): BooleanArray {\n return withType("BooleanArray", this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array. \n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n *\n@Suppress("NOTHING_TO_INLINE")\npublic actual fun CharArray.copyOfOf(): CharArray {\n return withType("CharArray",

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`this.asDynamic().slice())\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun ByteArray.copyOf(newSize: Int): ByteArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return fillFrom(this, ByteArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun ShortArray.copyOf(newSize: Int): ShortArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return fillFrom(this, ShortArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun IntArray.copyOf(newSize: Int): IntArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return fillFrom(this, IntArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun LongArray.copyOf(newSize: Int): LongArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return withType(\"LongArray\", arrayCopyResize(this, newSize, 0L))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun FloatArray.copyOf(newSize: Int): FloatArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return fillFrom(this, FloatArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun DoubleArray.copyOf(newSize: Int): DoubleArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return fillFrom(this, DoubleArray(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `false` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `false` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n */\n\npublic actual fun BooleanArray.copyOf(newSize: Int): BooleanArray {\n require(newSize >= 0) { \"Invalid new array size: $newSize.\" }\n return withType(\"BooleanArray\", arrayCopyResize(this, newSize, false))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with null char (`\\u0000`) values if necessary.\n * \n * - If [newSize] is less than the size of the`

original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with null char ('\u0000') values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizedPrimitiveCopyOf\n * \n public actual fun CharArray.copyOf(newSize: Int): CharArray {\n * require(newSize >= 0) { "Invalid new array size: \$newSize." }\n * return withType("CharArray", fillFrom(this, CharArray(newSize)))\n * \n * \n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with `null` values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with `null` values.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.resizingCopyOf\n * \n @Suppress("ACTUAL_WITHOUT_EXPECT")\n * \n public actual fun <T> Array<out T>.copyOf(newSize: Int): Array<T?> {\n * require(newSize >= 0) { "Invalid new array size: \$newSize." }\n * return arrayCopyResize(this, newSize, null)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n @Suppress("ACTUAL_WITHOUT_EXPECT")\n * \n public actual fun <T> Array<out T>.copyOfRange(fromIndex: Int, toIndex: Int): Array<T> {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun ByteArray.copyOfRange(fromIndex: Int, toIndex: Int): ByteArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun ShortArray.copyOfRange(fromIndex: Int, toIndex: Int): ShortArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun IntArray.copyOfRange(fromIndex: Int, toIndex: Int): IntArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun LongArray.copyOfRange(fromIndex: Int, toIndex: Int): LongArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return withType("LongArray", this.asDynamic().slice(fromIndex, toIndex))\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun FloatArray.copyOfRange(fromIndex: Int, toIndex: Int): FloatArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun DoubleArray.copyOfRange(fromIndex: Int, toIndex: Int): DoubleArray {\n * AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n * return this.asDynamic().slice(fromIndex, toIndex)\n * \n * \n * Returns a new array which is a copy of the specified range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n * \n public actual fun BooleanArray.copyOfRange(fromIndex: Int, toIndex: Int): BooleanArray {\n

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AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return withType(\\"BooleanArray\\",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified
range of the original array.\n * \n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n
* @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n */\n\npublic actual fun
CharArray.copyOfRange(fromIndex: Int, toIndex: Int): CharArray {\n
AbstractList.checkRangeIndexes(fromIndex, toIndex, size)\n  return withType(\\"CharArray\\",
this.asDynamic().slice(fromIndex, toIndex))\n}\n\n/**\n * Returns an array containing all elements of the original
array and then the given [element].\n */\n\n@Suppress(\\"ACTUAL_WITHOUT_EXPECT\\",
\\"NOTHING_TO_INLINE\\")\n\npublic actual inline operator fun <T> Array<out T>.plus(element: T): Array<T> {\n
return this.asDynamic().concat(arrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline
operator fun ByteArray.plus(element: Byte): ByteArray {\n  return plus(byteArrayOf(element))\n}\n\n/**\n *
Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline operator fun ShortArray.plus(element: Short):
ShortArray {\n  return plus(shortArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline
operator fun IntArray.plus(element: Int): IntArray {\n  return plus(intArrayOf(element))\n}\n\n/**\n * Returns an
array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline operator fun LongArray.plus(element: Long):
LongArray {\n  return plus(longArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the
original array and then the given [element].\n */\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline
operator fun FloatArray.plus(element: Float): FloatArray {\n  return plus(floatArrayOf(element))\n}\n\n/**\n *
Returns an array containing all elements of the original array and then the given [element].\n
*/\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline operator fun DoubleArray.plus(element:
Double): DoubleArray {\n  return plus(doubleArrayOf(element))\n}\n\n/**\n * Returns an array containing all
elements of the original array and then the given [element].\n */\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic
actual inline operator fun BooleanArray.plus(element: Boolean): BooleanArray {\n  return
plus(booleanArrayOf(element))\n}\n\n/**\n * Returns an array containing all elements of the original array and then
the given [element].\n */\n\n@Suppress(\\"NOTHING_TO_INLINE\\")\n\npublic actual inline operator fun
CharArray.plus(element: Char): CharArray {\n  return plus(charArrayOf(element))\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\n@Suppress(\\"ACTUAL_WITHOUT_EXPECT\\")\n\npublic actual operator fun <T> Array<out T>.plus(elements:
Collection<T>): Array<T> {\n  return arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array
containing all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun ByteArray.plus(elements: Collection<Byte>): ByteArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun ShortArray.plus(elements: Collection<Short>): ShortArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun IntArray.plus(elements: Collection<Int>): IntArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun LongArray.plus(elements: Collection<Long>): LongArray {\n  return
arrayPlusCollection(this, elements)\n}\n\n/**\n * Returns an array containing all elements of the original array and
then all elements of the given [elements] collection.\n
*/\n\npublic actual operator fun FloatArray.plus(elements: Collection<Float>): FloatArray {\n  return
fillFromCollection(this.copyOf(size + elements.size), this.size, elements)\n}\n\n/**\n * Returns an array containing
all elements of the original array and then all elements of the given [elements] collection.\n
*/\n\npublic actual

```


* Sorts the array in-place according to the natural order of its elements.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n\npublic actual fun <T : Comparable<T>> Array<out T>.sort(): Unit {\n if (size > 1) sortArray(this)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n\npublic fun <T> Array<out T>.sort(comparison: (a: T, b: T) -> Int): Unit {\n if (size > 1) sortArrayWith(this, comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.sort(noinline comparison: (a: Byte, b: Byte) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun ShortArray.sort(noinline comparison: (a: Short, b: Short) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.sort(noinline comparison: (a: Int, b: Int) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.sort(noinline comparison: (a: Long, b: Long) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun FloatArray.sort(noinline comparison: (a: Float, b: Float) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun DoubleArray.sort(noinline comparison: (a: Double, b: Double) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparison] function.\n * \n\n@kotlin.internal.InlineOnly\npublic inline fun CharArray.sort(noinline comparison: (a: Char, b: Char) -> Int): Unit {\n asDynamic().sort(comparison)\n}\n\n/**\n * Sorts the array in-place according to the order specified by the given [comparator].\n * \n * The sort is `_stable_`. It means that equal elements preserve their order relative to each other after sorting.\n * \n\npublic actual fun <T> Array<out T>.sortWith(comparator: Comparator<in T>): Unit {\n if (size > 1) sortArrayWith(this, comparator)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun ByteArray.toTypedArray(): Array<Byte> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun ShortArray.toTypedArray(): Array<Short> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun IntArray.toTypedArray(): Array<Int> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun LongArray.toTypedArray(): Array<Long> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun FloatArray.toTypedArray(): Array<Float> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun DoubleArray.toTypedArray(): Array<Double> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun BooleanArray.toTypedArray(): Array<Boolean> {\n return js("[]").slice.call(this)\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n * \n\npublic actual fun CharArray.toTypedArray(): Array<Char> {\n return Array(size) { index -> this[index] }\n}\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n\n\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage kotlin.comparisons\n\n/**\n * Compares two values using the specified functions [selectors] to calculate the result of the comparison.\n * \n * The functions are called sequentially, receive the given values [a] and [b] and return [Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for [a] and [b] values do not\n * compare as equal, the result of that comparison is returned.\n * \n * @sample

```

samples.comparisons.Comparisons.compareValuesByWithSelectors\n *\npublic fun <T> compareValuesBy(a: T,
b: T, vararg selectors: (T) -> Comparable<*>?): Int {\n    require(selectors.size > 0)\n    return
compareValuesByImpl(a, b, selectors)\n}\n\nprivate fun <T> compareValuesByImpl(a: T, b: T, selectors:
Array<out (T) -> Comparable<*>?>): Int {\n    for (fn in selectors) {\n        val v1 = fn(a)\n        val v2 = fn(b)\n
val diff = compareValues(v1, v2)\n        if (diff != 0) return diff\n    }\n    return 0\n}\n\n/**\n * Compares two
values using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to
the given values [a] and [b] and return [Comparable] objects.\n * The result of comparison of these [Comparable]
instances is returned.\n *\n * @sample samples.comparisons.Comparisons.compareValuesByWithSingleSelector\n
*\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareValuesBy(a: T, b: T, selector: (T) ->
Comparable<*>?): Int {\n    return compareValues(selector(a), selector(b))\n}\n\n/**\n * Compares two values
using the specified [selector] function to calculate the result of the comparison.\n * The function is applied to the
given values [a] and [b] and return objects of type K which are then being\n * compared with the given
[comparator].\n *\n * @sample samples.comparisons.Comparisons.compareValuesByWithComparator\n
*\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareValuesBy(a: T, b: T, comparator: Comparator<in
K>, selector: (T) -> K): Int {\n    return comparator.compare(selector(a), selector(b))\n}\n\n//// Not so useful without
type inference for receiver of expression\n//// compareValuesWith(v1, v2, compareBy { it.prop1 }
thenByDescending { it.prop2 })\n\n/**\n * Compares two values using the specified [comparator].\n\n
*\n*\n@Suppress("NOTHING_TO_INLINE")\npublic inline fun <T> compareValuesWith(a: T, b: T, comparator:
Comparator<T>): Int = comparator.compare(a, b)\n\n/**\n * Compares two nullable [Comparable] values. Null
is considered less than any value.\n *\n * @sample samples.comparisons.Comparisons.compareValues\n *\n\npublic
fun <T : Comparable<*>> compareValues(a: T?, b: T?): Int {\n    if (a === b) return 0\n    if (a == null) return -1\n
if (b == null) return 1\n    @Suppress("UNCHECKED_CAST")\n    return (a as
Comparable<Any>).compareTo(b)\n}\n\n/**\n * Creates a comparator using the sequence of functions to calculate a
result of comparison.\n * The functions are called sequentially, receive the given values `a` and `b` and return
[Comparable]\n * objects. As soon as the [Comparable] instances returned by a function for `a` and `b` values do
not\n * compare as equal, the result of that comparison is returned from the [Comparator].\n *\n * @sample
samples.comparisons.Comparisons.compareByWithSelectors\n *\n\npublic fun <T> compareBy(vararg selectors: (T)
-> Comparable<*>?): Comparator<T> {\n    require(selectors.size > 0)\n    return Comparator { a, b ->
compareValuesByImpl(a, b, selectors) }\n}\n\n/**\n * Creates a comparator using the function to transform value
to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.compareByWithSingleSelector\n *\n\n@kotlin.internal.InlineOnly\npublic inline
fun <T> compareBy(crossinline selector: (T) -> Comparable<*>?): Comparator<T> =\n    Comparator { a, b ->
compareValuesBy(a, b, selector) }\n\n/**\n * Creates a comparator using the [selector] function to transform values
being compared and then applying\n * the specified [comparator] to compare transformed values.\n *\n * @sample
samples.comparisons.Comparisons.compareByWithComparator\n *\n\n@kotlin.internal.InlineOnly\npublic inline
fun <T, K> compareBy(comparator: Comparator<in K>, crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(a, b, comparator, selector) }\n\n/**\n * Creates a descending comparator
using the function to transform value to a [Comparable] instance for comparison.\n *\n * @sample
samples.comparisons.Comparisons.compareByDescendingWithSingleSelector\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <T> compareByDescending(crossinline selector: (T) ->
Comparable<*>?): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, selector) }\n\n/**\n *
Creates a descending comparator using the [selector] function to transform values being compared and then
applying\n * the specified [comparator] to compare transformed values.\n *\n * Note that an order of [comparator] is
reversed by this wrapper.\n *\n * @sample
samples.comparisons.Comparisons.compareByDescendingWithComparator\n
*\n\n@kotlin.internal.InlineOnly\npublic inline fun <T, K> compareByDescending(comparator: Comparator<in K>,
crossinline selector: (T) -> K): Comparator<T> =\n    Comparator { a, b -> compareValuesBy(b, a, comparator,
selector) }\n\n/**\n * Creates a comparator comparing values after the primary comparator defined them equal. It

```

```

uses the function to transform value to a [Comparable] instance for comparison.
@sample
samples.comparisons.Comparisons.thenBy { a, b ->
    val previousCompare = this@thenBy.compare(a, b)
    if (previousCompare != 0) previousCompare else
    compareValuesBy(a, b, selector)
}
** Creates a comparator comparing values after the primary
comparator defined them equal. It uses the [selector] function to transform values and then compares them with
the given [comparator].
@sample
samples.comparisons.Comparisons.thenByWithComparator { a, b ->
    val previousCompare =
    this@thenBy.compare(a, b)
    if (previousCompare != 0) previousCompare else
    compareValuesBy(a, b,
    comparator, selector)
}
** Creates a descending comparator using the primary comparator and
the function to transform value to a [Comparable] instance for comparison.
@sample
samples.comparisons.Comparisons.thenByDescending { a, b ->
    val previousCompare = this@thenByDescending.compare(a, b)
    if
    (previousCompare != 0) previousCompare else
    compareValuesBy(b, a, selector)
}
** Creates a
descending comparator comparing values after the primary comparator defined them equal. It uses the [selector]
function to transform values and then compares them with the given [comparator].
@sample
samples.comparisons.Comparisons.thenByDescendingWithComparator { a, b ->
    val previousCompare = this@thenByDescending.compare(a,
    b)
    if (previousCompare != 0) previousCompare else
    compareValuesBy(b, a, comparator, selector)
}
** Creates a comparator using the primary comparator and function to calculate a result of comparison.
@sample
samples.comparisons.Comparisons.thenComparator { a, b ->
    val previousCompare = this@thenComparator.compare(a, b)
    if (previousCompare
    != 0) previousCompare else
    comparison(a, b)
}
** Combines this comparator and the given [comparator]
such that the latter is applied only when the former considered values equal.
@sample
samples.comparisons.Comparisons.then { a, b ->
    val previousCompare =
    this@then.compare(a, b)
    if (previousCompare != 0) previousCompare else
    comparator.compare(a, b)
}
** Combines this comparator and the given [comparator] such that the latter is applied only
when the former considered values equal.
@sample
samples.comparisons.Comparisons.thenDescending { a, b ->
    val previousCompare = this@thenDescending.compare(a, b)
    if
    (previousCompare != 0) previousCompare else
    comparator.compare(b, a)
}
// Not so useful without type
inference for receiver of expression
** Extends the given [comparator] of non-nullable values to a comparator
of nullable values considering `null` value less than any other value.
@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator { a, b ->
    when {
        a
        == b -> 0
        a == null -> -1
        b == null -> 1
        else -> comparator.compare(a, b)
    }
}
** Provides a comparator of nullable [Comparable] values considering `null` value less than any other
value.
@sample
samples.comparisons.Comparisons.nullsFirstLastComparator { a, b ->
    when {
        a
        == b -> 0
        a == null -> 1
        b == null -> -1
        else -> comparator.compare(a, b)
    }
}
** Extends the given [comparator] of non-nullable values to a comparator of
nullable values considering `null` value greater than any other value.
@sample
samples.comparisons.Comparisons.nullsFirstLastWithComparator { a, b ->
    when {
        a

```

```

=== b -> 0\n      a == null -> 1\n      b == null -> -1\n      else -> comparator.compare(a, b)\n    }\n}\n\n/**\n * Provides a comparator of nullable [Comparable] values\n * considering `null` value greater than any\n * other value.\n */\n * @sample samples.comparisons.Comparisons.nullsFirstLastComparator\n\n*\n@kotlin.internal.InlineOnly\npublic inline fun <T : Comparable<T>> nullsLast(): Comparator<T?> =\nnullsLast(naturalOrder())\n\n/**\n * Returns a comparator that compares [Comparable] objects in natural order.\n */\n * @sample samples.comparisons.Comparisons.naturalOrderComparator\n\n*\npublic fun <T : Comparable<T>>\nnaturalOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST") (NaturalOrderComparator as\nComparator<T>)\n\n/**\n * Returns a comparator that compares [Comparable] objects in reversed natural order.\n */\n * @sample samples.comparisons.Comparisons.nullsFirstLastWithComparator\n\n*\npublic fun <T :\nComparable<T>> reverseOrder(): Comparator<T> = @Suppress("UNCHECKED_CAST")\n(ReverseOrderComparator as Comparator<T>)\n\n/**\n * Returns a comparator that imposes the reverse ordering\n * of this comparator.\n */\n * @sample samples.comparisons.Comparisons.reversed\n\n*\npublic fun <T>\nComparator<T>.reversed(): Comparator<T> = when (this) {\n    is ReversedComparator -> this.comparator\n    NaturalOrderComparator -> @Suppress("UNCHECKED_CAST") (ReverseOrderComparator as\nComparator<T>)\n    ReverseOrderComparator -> @Suppress("UNCHECKED_CAST")\n(NaturalOrderComparator as Comparator<T>)\n    else -> ReversedComparator(this)\n}\n\nprivate class\nReversedComparator<T>(public val comparator: Comparator<T>) : Comparator<T> {\n    override fun compare(a:\nT, b: T): Int = comparator.compare(b, a)\n    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed():\nComparator<T> = comparator\n}\n\nprivate object NaturalOrderComparator : Comparator<Comparable<Any>> {\n    override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = a.compareTo(b)\n    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =\nReverseOrderComparator\n}\n\nprivate object ReverseOrderComparator : Comparator<Comparable<Any>> {\n    override fun compare(a: Comparable<Any>, b: Comparable<Any>): Int = b.compareTo(a)\n    @Suppress("VIRTUAL_MEMBER_HIDDEN")\n    fun reversed(): Comparator<Comparable<Any>> =\nNaturalOrderComparator\n}\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by\n * the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StandardKt")\npackage kotlin\n\nimport\nkotlin.contracts.*\n\n/**\n * An exception is thrown to indicate that a method body remains to be implemented.\n */\n\npublic class NotImplementedError(message: String = "An operation is not implemented.") :\nError(message)\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun TODO(): Nothing = throw NotImplementedError()\n\n/**\n * Always throws [NotImplementedError] stating that operation is not implemented.\n */\n * @param reason a string\n * explaining why the implementation is missing.\n */\n@kotlin.internal.InlineOnly\npublic inline fun TODO(reason:\nString): Nothing = throw NotImplementedError("An operation is not implemented: $reason")\n\n/**\n * Calls\n * the specified function [block] and returns its result.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nrun(block: () -> R): R {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n/**\n * Calls the specified function [block] with `this` value as its receiver and returns its\n * result.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> T.run(block: T.() -> R): R {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return block()\n}\n\n/**\n * Calls the specified\n * function [block] with the given [receiver] as its receiver and returns its result.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T, R> with(receiver: T, block: T.() -> R): R {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    return receiver.block()\n}\n\n/**\n * Calls the\n * specified function [block] with `this` value as its receiver and returns `this` value.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> T.apply(block: T.() -> Unit): T {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    block()\n    return this\n}\n\n/**\n * Calls the\n * specified function [block] with `this` value as its argument and returns `this` value.\n */\n@kotlin.internal.InlineOnly\n@SinceKotlin("1.1")\npublic inline fun <T> T.also(block: (T) -> Unit): T {\n    contract {\n        callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n    }\n    block(this)\n    return

```



```

*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun maxOf(a: Float, b: Float, c: Float): Float {^n    return Math.max(a, b, c)^n}^n/^n/^n * Returns the greater
of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun maxOf(a: Double, b: Double, c: Double): Double {^n    return Math.max(a, b, c)^n}^n/^n/^n * Returns the
smaller of two values.^n * If values are equal, returns the first one.^n *^@SinceKotlin("1.1")^npublic actual fun
<T : Comparable<T>> minOf(a: T, b: T): T {^n    return if (a <= b) a else b^}^n}^n/^n/^n * Returns the smaller of two
values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Byte, b: Byte): Byte {^n    return Math.min(a.toInt(), b.toInt()).unsafeCast<Byte>()^}^n}^n/^n/^n
* Returns the smaller of two values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Short, b: Short): Short {^n    return Math.min(a.toInt(),
b.toInt()).unsafeCast<Short>()^}^n}^n/^n/^n * Returns the smaller of two values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Int, b: Int): Int {^n    return Math.min(a, b)^}^n}^n/^n/^n * Returns the smaller of two values.^n
*^@SinceKotlin("1.1")^@Suppress("DEPRECATION_ERROR", "NOTHING_TO_INLINE")^npublic actual
inline fun minOf(a: Long, b: Long): Long {^n    return if (a <= b) a else b^}^n}^n/^n/^n * Returns the smaller of two
values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Float, b: Float): Float {^n    return Math.min(a, b)^}^n}^n/^n/^n * Returns the smaller of two
values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Double, b: Double): Double {^n    return Math.min(a, b)^}^n}^n/^n/^n * Returns the smaller of
three values.^n *^@SinceKotlin("1.1")^npublic actual fun <T : Comparable<T>> minOf(a: T, b: T, c: T): T {^n
return minOf(a, minOf(b, c))^}^n}^n/^n/^n * Returns the smaller of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Byte, b: Byte, c: Byte): Byte {^n    return Math.min(a.toInt(), b.toInt(),
c.toInt()).unsafeCast<Byte>()^}^n}^n/^n/^n * Returns the smaller of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Short, b: Short, c: Short): Short {^n    return Math.min(a.toInt(), b.toInt(),
c.toInt()).unsafeCast<Short>()^}^n}^n/^n/^n * Returns the smaller of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Int, b: Int, c: Int): Int {^n    return Math.min(a, b, c)^}^n}^n/^n/^n * Returns the smaller of three
values.^n *^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^npublic actual inline fun minOf(a: Long, b: Long,
c: Long): Long {^n    return minOf(a, minOf(b, c))^}^n}^n/^n/^n * Returns the smaller of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Float, b: Float, c: Float): Float {^n    return Math.min(a, b, c)^}^n}^n/^n/^n * Returns the smaller
of three values.^n
*^@SinceKotlin("1.1")^@kotlin.internal.InlineOnly^@Suppress("DEPRECATION_ERROR")^npublic actual
inline fun minOf(a: Double, b: Double, c: Double): Double {^n    return Math.min(a, b, c)^}^n}^n/^n/^n * Copyright
2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license ^n * that can be found in
the license/LICENSE.txt file.^n
*^@n^@file:kotlin.jvm.JvmMultifileClass^@file:kotlin.jvm.JvmName("CollectionsKt")^n^npackage
kotlin.collections^n/^n/^n NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt^// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib^//^n^nimport kotlin.random.*^n/^n/^n * Returns 1st
*element* from the collection.^n *^@kotlin.internal.InlineOnly^npublic inline operator fun <T>
List<T>.component1(): T {^n    return get(0)^}^n}^n/^n/^n * Returns 2nd *element* from the collection.^n

```

```

*^@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component2(): T {\n  return
get(1)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n *^@kotlin.internal.InlineOnly\npublic inline
operator fun <T> List<T>.component3(): T {\n  return get(2)\n}\n\n/**\n * Returns 4th *element* from the
collection.\n *^@kotlin.internal.InlineOnly\npublic inline operator fun <T> List<T>.component4(): T {\n  return
get(3)\n}\n\n/**\n * Returns 5th *element* from the collection.\n *^@kotlin.internal.InlineOnly\npublic inline
operator fun <T> List<T>.component5(): T {\n  return get(4)\n}\n\n/**\n * Returns `true` if [element] is found in
the collection.\n *^npublic operator fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.contains(element: T):
Boolean {\n  if (this is Collection)\n    return contains(element)\n  return indexOf(element) >= 0\n}\n\n/**\n *
Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds
of this collection.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n *^npublic fun <T>
Iterable<T>.elementAt(index: Int): T {\n  if (this is List)\n    return get(index)\n  return
elementAtOrElse(index) { throw IndexOutOfBoundsException("Collection doesn't contain element at index
$index.") }\n}\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if
the [index] is out of bounds of this list.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*^@kotlin.internal.InlineOnly\npublic inline fun <T> List<T>.elementAt(index: Int): T {\n  return
get(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function
if the [index] is out of bounds of this collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *^npublic fun <T>
Iterable<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n  if (this is List)\n    return
this.getOrElse(index, defaultValue)\n  if (index < 0)\n    return defaultValue(index)\n  val iterator = iterator()\n
var count = 0\n  while (iterator.hasNext()) {\n    val element = iterator.next()\n    if (index == count++)\n      return element\n  }\n  return defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this list.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n *^@kotlin.internal.InlineOnly\npublic inline fun
<T> List<T>.elementAtOrElse(index: Int, defaultValue: (Int) -> T): T {\n  return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or `null` if the
[index] is out of bounds of this collection.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^npublic fun <T>
Iterable<T>.elementAtOrNull(index: Int): T? {\n  if (this is List)\n    return this.elementAtOrNull(index)\n  if (index <
0)\n    return null\n  val iterator = iterator()\n  var count = 0\n  while (iterator.hasNext()) {\n    val element =
iterator.next()\n    if (index == count++)\n      return element\n  }\n  return null\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this list.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n *^@kotlin.internal.InlineOnly\npublic inline fun
<T> List<T>.elementAtOrNull(index: Int): T? {\n  return this.elementAtOrNull(index)\n}\n\n/**\n * Returns the first
element matching the given [predicate], or `null` if no such element was found.\n
*^@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.find(predicate: (T) -> Boolean): T? {\n  return
firstOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if no such
element was found.\n *^@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.findLast(predicate: (T) ->
Boolean): T? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns the last element matching the given
[predicate], or `null` if no such element was found.\n *^@kotlin.internal.InlineOnly\npublic inline fun <T>
List<T>.findLast(predicate: (T) -> Boolean): T? {\n  return lastOrNull(predicate)\n}\n\n/**\n * Returns first
element.\n * @throws [NoSuchElementException] if the collection is empty.\n *^npublic fun <T>
Iterable<T>.first(): T {\n  when (this) {\n    is List -> return this.first()\n    else -> {\n      val iterator =
iterator()\n      if (!iterator.hasNext())\n        throw NoSuchElementException("Collection is empty.")\n      return
iterator.next()\n    }\n  }\n}\n\n/**\n * Returns first element.\n * @throws [NoSuchElementException]
if the list is empty.\n *^npublic fun <T> List<T>.first(): T {\n  if (isEmpty())\n    throw
NoSuchElementException("List is empty.")\n  return this[0]\n}\n\n/**\n * Returns the first element matching the
given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n *^npublic inline fun <T>

```

```

Iterable<T>.first(predicate: (T) -> Boolean): T {
    for (element in this) if (predicate(element)) return element
    throw NoSuchElementException("Collection contains no element matching the predicate.")
}
/** Returns the first element, or `null` if the collection is empty. */
public fun <T> Iterable<T>.firstOrNull(): T? {
    when (this) {
        is List -> {
            if (isEmpty()) return null
            else return this[0]
        }
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext()) return null
            return iterator.next()
        }
    }
}
/** Returns the first element, or `null` if the list is empty. */
public fun <T> List<T>.firstOrNull(): T? {
    return if (isEmpty()) null else this[0]
}
/** Returns the first element matching the given [predicate], or `null` if element was not found. */
public inline fun <T> Iterable<T>.firstOrNull(predicate: (T) -> Boolean): T? {
    for (element in this) if (predicate(element)) return element
    return null
}
/** Returns an element at the given [index] or the result of calling the [defaultValue] function if the [index] is out of bounds of this list. */
@kotlin.internal.InlineOnly
public inline fun <T> List<T>.getOrNull(index: Int, defaultValue: (Int) -> T): T {
    return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)
}
/** Returns an element at the given [index] or `null` if the [index] is out of bounds of this list. */
public fun <T> List<T>.getOrNull(index: Int): T? {
    return if (index >= 0 && index <= lastIndex) get(index) else null
}
/** Returns first index of [element], or -1 if the collection does not contain element. */
public fun <@kotlin.internal.OnlyInputTypes T> Iterable<T>.indexOf(element: T): Int {
    if (this is List) return this.indexOf(element)
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (element == item) return index
        index++
    }
    return -1
}
/** Returns first index of [element], or -1 if the list does not contain element. */
@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases
public fun <@kotlin.internal.OnlyInputTypes T> List<T>.indexOf(element: T): Int {
    return indexOf(element)
}
/** Returns index of the first element matching the given [predicate], or -1 if the collection does not contain such element. */
public inline fun <T> Iterable<T>.indexOfFirst(predicate: (T) -> Boolean): Int {
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (predicate(item)) return index
        index++
    }
    return -1
}
/** Returns index of the first element matching the given [predicate], or -1 if the list does not contain such element. */
public inline fun <T> List<T>.indexOfFirst(predicate: (T) -> Boolean): Int {
    var index = 0
    for (item in this) {
        if (predicate(item)) return index
        index++
    }
    return -1
}
/** Returns index of the last element matching the given [predicate], or -1 if the collection does not contain such element. */
public inline fun <T> Iterable<T>.indexOfLast(predicate: (T) -> Boolean): Int {
    var lastIndex = -1
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (predicate(item)) lastIndex = index
        index++
    }
    return lastIndex
}
/** Returns index of the last element matching the given [predicate], or -1 if the list does not contain such element. */
public inline fun <T> List<T>.indexOfLast(predicate: (T) -> Boolean): Int {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        if (predicate(iterator.previous())) {
            return iterator.nextIndex()
        }
    }
    return -1
}
/** Returns the last element. */
@throws [NoSuchElementException] if the collection is empty.
public fun <T> Iterable<T>.last(): T {
    when (this) {
        is List -> return this.last()
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext()) throw NoSuchElementException("Collection is empty.")
            var last = iterator.next()
            while (iterator.hasNext()) last = iterator.next()
            return last
        }
    }
}
/** Returns the last element. */
@throws [NoSuchElementException] if the list is empty.
public fun <T> List<T>.last(): T {
    if (isEmpty()) throw NoSuchElementException("List is empty.")
    return this[lastIndex]
}
/** Returns the last element matching the given [predicate]. */
@throws [NoSuchElementException] if no such element is found.
public inline fun <T> Iterable<T>.last(predicate: (T) -> Boolean): T {
    var last: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            last = element
            found = true
        }
    }
    if (!found) throw NoSuchElementException("Collection contains no element matching the predicate.")
    @Suppress("UNCHECKED_CAST") return last as T
}
/** Returns the last element matching the given [predicate]. */
@throws [NoSuchElementException] if no such element is found.
public inline fun <T> List<T>.last(predicate: (T) -> Boolean): T {
    val iterator = this.listIterator(size)

```

```

while (iterator.hasPrevious()) {
    val element = iterator.previous()
    if (predicate(element)) return element
}
throw NoSuchElementException("List contains no element matching the predicate.")
}

* Returns last index of [element], or -1 if the collection does not contain element.
public fun
<@kotlin.internal.OnlyInputTypes T> Iterable<T>.lastIndexOf(element: T): Int {
    if (this is List) return this.lastIndexOf(element)
    var lastIndex = -1
    var index = 0
    for (item in this) {
        checkIndexOverflow(index)
        if (element == item)
            lastIndex = index
        index++
    }
    return lastIndex
}

* Returns last index of [element], or -1 if the list does not contain element.
@Suppress("EXTENSION_SHADOWED_BY_MEMBER") // false warning, extension takes precedence in some cases
public fun <@kotlin.internal.OnlyInputTypes T> List<T>.lastIndexOf(element: T): Int {
    return lastIndexOf(element)
}

* Returns the last element, or `null` if the collection is empty.
public fun
<T> Iterable<T>.lastOrNull(): T? {
    when (this) {
        is List -> return if (isEmpty()) null else this[size - 1]
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext()) return null
            var last = iterator.next()
            while (iterator.hasNext())
                last = iterator.next()
            return last
        }
    }
}

* Returns the last element, or `null` if the list is empty.
public fun <T> List<T>.lastOrNull(): T? {
    return if (isEmpty()) null else this[size - 1]
}

* Returns the last element matching the given [predicate], or `null` if no such element was found.
public inline fun <T> Iterable<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    var last: T? = null
    for (element in this) {
        if (predicate(element))
            last = element
    }
    return last
}

* Returns the last element matching the given [predicate], or `null` if no such element was found.
public inline fun <T> List<T>.lastOrNull(predicate: (T) -> Boolean): T? {
    val iterator = this.listIterator(size)
    while (iterator.hasPrevious()) {
        val element = iterator.previous()
        if (predicate(element)) return element
    }
    return null
}

* Returns a random element from this collection.
@throws NoSuchElementException if this collection is empty.
@SinceKotlin("1.3")
@kotlin.internal.InlineOnly
public inline fun <T> Collection<T>.random(): T {
    return random(Random)
}

* Returns a random element from this collection using the specified source of randomness.
@throws NoSuchElementException if this collection is empty.
@SinceKotlin("1.3")
public fun <T> Collection<T>.random(random: Random): T {
    if (isEmpty())
        throw NoSuchElementException("Collection is empty.")
    return elementAt(random.nextInt(size))
}

Returns the single element, or throws an exception if the collection is empty or has more than one element.
public fun <T> Iterable<T>.single(): T {
    when (this) {
        is List -> return this.single()
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext())
                throw NoSuchElementException("Collection is empty.")
            val single = iterator.next()
            if (iterator.hasNext())
                throw IllegalArgumentException("Collection has more than one element.")
            return single
        }
    }
}

* Returns the single element, or throws an exception if the list is empty or has more than one element.
public fun <T> List<T>.single(): T {
    return when (size) {
        0 -> throw NoSuchElementException("List is empty.")
        1 -> this[0]
        else -> throw IllegalArgumentException("List has more than one element.")
    }
}

* Returns the single element matching the given [predicate], or throws exception if there is no or more than one matching element.
public inline fun <T> Iterable<T>.single(predicate: (T) -> Boolean): T {
    var single: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found)
                throw IllegalArgumentException("Collection contains more than one matching element.")
            single = element
            found = true
        }
    }
    if (!found)
        throw NoSuchElementException("Collection contains no element matching the predicate.")
    @Suppress("UNCHECKED_CAST")
    return single as T
}

* Returns single element, or `null` if the collection is empty or has more than one element.
public fun <T>
Iterable<T>.singleOrNull(): T? {
    when (this) {
        is List -> return if (size == 1) this[0] else null
        else -> {
            val iterator = iterator()
            if (!iterator.hasNext()) return null
            val single = iterator.next()
            if (iterator.hasNext()) return null
            return single
        }
    }
}

* Returns single element, or `null` if the list is empty or has more than one element.
public fun <T>
List<T>.singleOrNull(): T? {
    return if (size == 1) this[0] else null
}

* Returns the single element

```

```

matching the given [predicate], or `null` if element was not found or more than one element was found.
public inline fun <T> Iterable<T>.singleOrNull(predicate: (T) -> Boolean): T? {
    var single: T? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

Returns a list containing all elements except first [n] elements.
@throws IllegalArgumentException if [n] is negative.
@sample samples.collections.Collections.Transformations.drop

public fun <T> Iterable<T>.drop(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return toList()
    val list: ArrayList<T>
    if (this is Collection<*>) {
        val resultSize = size - n
        if (resultSize <= 0) return emptyList()
        if (resultSize == 1) return listOf(last())
        list = ArrayList<T>(resultSize)
    }
    if (this is List<T>) {
        if (this is RandomAccess) {
            for (index in n until size) list.add(this[index])
        } else {
            for (item in listIterator(n)) list.add(item)
        }
    }
    return list
}

Returns a list containing all elements except last [n] elements.
@throws IllegalArgumentException if [n] is negative.
@sample samples.collections.Collections.Transformations.drop

public fun <T> List<T>.dropLast(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return take((size - n).coerceAtLeast(0))
}

Returns a list containing all elements except last elements that satisfy the given [predicate].
@sample samples.collections.Collections.Transformations.drop

public inline fun <T> List<T>.dropLastWhile(predicate: (T) -> Boolean): List<T> {
    if (!isEmpty()) {
        val iterator = listIterator(size)
        while (iterator.hasPrevious()) {
            if (!predicate(iterator.previous())) return take(iterator.nextIndex() + 1)
        }
    }
    return emptyList()
}

Returns a list containing all elements except first elements that satisfy the given [predicate].
@sample samples.collections.Collections.Transformations.drop

public inline fun <T> Iterable<T>.dropWhile(predicate: (T) -> Boolean): List<T> {
    var yielding = false
    val list = ArrayList<T>()
    for (item in this) {
        if (yielding) list.add(item)
        else if (!predicate(item)) {
            list.add(item)
            yielding = true
        }
    }
    return list
}

Returns a list containing only elements matching the given [predicate].
public inline fun <T> Iterable<T>.filter(predicate: (T) -> Boolean): List<T> {
    return filterTo(ArrayList<T>(), predicate)
}

Returns a list containing only elements matching the given [predicate].
@param [predicate] function that takes the index of an element and the element itself
and returns the result of predicate evaluation on the element.
public inline fun <T> Iterable<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): List<T> {
    return filterIndexedTo(ArrayList<T>(), predicate)
}

Appends all elements matching the given [predicate] to the given [destination].
@param [predicate] function that takes the index of an element and the element itself
and returns the result of predicate evaluation on the element.
public inline fun <T, C : MutableCollection<in T>> Iterable<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {
    forEachIndexed { index, element ->
        if (predicate(index, element)) destination.add(element)
    }
    return destination
}

Returns a list containing all elements that are instances of specified type parameter R.
public inline fun <reified R> Iterable<*>.filterIsInstance(): List<@kotlin.internal.NoInfer R> {
    return filterIsInstanceTo(ArrayList<R>())
}

Appends all elements that are instances of specified type parameter R to the given [destination].
public inline fun <reified R, C : MutableCollection<in R>> Iterable<*>.filterIsInstanceTo(destination: C): C {
    for (element in this) if (element is R) destination.add(element)
    return destination
}

Returns a list containing all elements not matching the given [predicate].
public inline fun <T> Iterable<T>.filterNot(predicate: (T) -> Boolean): List<T> {
    return filterNotTo(ArrayList<T>(), predicate)
}

Returns a list containing all elements that are not `null`.
public fun <T : Any> Iterable<T?>.filterNotNull(): List<T> {
    return filterNotNullTo(ArrayList<T>())
}

Appends all elements that are not `null` to the given [destination].
public fun <C : MutableCollection<in T>, T : Any> Iterable<T?>.filterNotNullTo(destination: C): C {
    for (element in this) if (element != null) destination.add(element)
    return destination
}

Appends all elements not matching the given [predicate] to the given [destination].
public inline fun <T, C :

```

```

MutableCollection<in T>> Iterable<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {
    for (element in this) if (!predicate(element)) destination.add(element)
    return destination
}

AppendAll: public inline fun <T, C : MutableCollection<in T>>
Iterable<T>.filterTo(destination: C, predicate: (T) -> Boolean): C {
    for (element in this) if (predicate(element))
        destination.add(element)
    return destination
}

Returns a list containing elements at indices in the
specified [indices] range.
slice(indices: IntRange): List<T> {
    if (indices.isEmpty()) return listOf()
    return this.subList(indices.start, indices.endInclusive + 1).toList()
}

Returns a list containing elements at specified [indices].
slice(indices:
Iterable<Int>): List<T> {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return emptyList()
    val list = ArrayList<T>(size)
    for (index in indices) {
        list.add(get(index))
    }
    return list
}

Returns a list containing first [n] elements.
@throws IllegalArgumentException if [n] is negative.
@sample samples.collections.Collections.Transformations.take
take(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    if (this is Collection<T>) {
        if (n >= size) return toList()
        if (n == 1) return listOf(first())
    }
    var count = 0
    val list = ArrayList<T>(n)
    for (item in this) {
        if (count++ == n) break
        list.add(item)
    }
    return list.optimizeReadOnlyList()
}

Returns a list containing last [n] elements.
@throws IllegalArgumentException if [n] is negative.
@sample samples.collections.Collections.Transformations.take
takeLast(n: Int): List<T> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    if (n == 0) return emptyList()
    val size = size
    if (n >= size) return toList()
    if (n == 1) return listOf(last())
    val list = ArrayList<T>(n)
    if (this is RandomAccess) {
        for (index in size - n until size)
            list.add(this[index])
    } else {
        for (item in listIterator(size - n))
            list.add(item)
    }
    return list
}

Returns a list containing last elements satisfying the given [predicate].
@sample samples.collections.Collections.Transformations.take
takeLastWhile(predicate: (T) -> Boolean): List<T> {
    if (isEmpty()) return emptyList()
    val iterator = listIterator(size)
    while (iterator.hasPrevious()) {
        if (!predicate(iterator.previous())) {
            iterator.next()
            val expectedSize = size - iterator.nextIndex()
            if (expectedSize == 0) return emptyList()
            return ArrayList<T>(expectedSize).apply {
                while (iterator.hasNext())
                    add(iterator.next())
            }
        }
    }
    return toList()
}

Returns a list containing first elements satisfying the given [predicate].
@sample samples.collections.Collections.Transformations.take
takeWhile(predicate: (T) -> Boolean): List<T> {
    val list = ArrayList<T>()
    for (item in this) {
        if (!predicate(item)) break
        list.add(item)
    }
    return list
}

Reverses elements in the list in-place.
reverse(): Unit
reverse(): List<T> {
    if (this is Collection && size <= 1) return toList()
    val list = toMutableList()
    list.reverse()
    return list
}

Sorts elements in the list in-place according to natural sort order of the value returned by specified [selector] function.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.
sort(selector: (T) -> R?): Unit {
    if (size > 1)
        sortWith(compareBy(selector))
}

Sorts elements in the list in-place descending according to natural sort order of the value returned by specified [selector] function.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.
sortDescending(selector: (T) -> R?): Unit {
    if (size > 1)
        sortWith(compareByDescending(selector))
}

Sorts elements in the list in-place descending according to their natural sort order.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.
sortDescending(): Unit {
    sortWith(reverseOrder())
}

Returns a list of all elements sorted according to their natural sort order.
The sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.
sorted(): List<T> {
    if (this is Collection) {
        if (size <= 1)

```

```

return this.toList()\n    @Suppress("\UNCHECKED_CAST")\n    return (toTypedArray<Comparable<T>>())
as Array<T>).apply { sort() }.asList()\n } \n return toMutableList().apply { sort() }\n}\n\n/**\n * Returns a list of
all elements sorted according to natural sort order of the value returned by specified [selector] function.\n * \n * The
sort is _stable_. It means that equal elements preserve their order relative to each other after sorting.\n */\npublic
inline fun <T, R : Comparable<R>> Iterable<T>.sortedBy(crossinline selector: (T) -> R?): List<T> {\n    return
sortedWith(compareBy(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending according to natural
sort order of the value returned by specified [selector] function.\n * \n * The sort is _stable_. It means that equal
elements preserve their order relative to each other after sorting.\n */\npublic inline fun <T, R : Comparable<R>>
Iterable<T>.sortedByDescending(crossinline selector: (T) -> R?): List<T> {\n    return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\npublic fun <T : Comparable<T>> Iterable<T>.sortedDescending(): List<T>
{\n    return sortedWith(reverseOrder())\n}\n\n/**\n * Returns a list of all elements sorted according to the specified
[comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative to each other
after sorting.\n */\npublic fun <T> Iterable<T>.sortedWith(comparator: Comparator<in T>): List<T> {\n    if (this is
Collection) {\n        if (size <= 1) return this.toList()\n        @Suppress("\UNCHECKED_CAST")\n        return
(toTypedArray<Any?>() as Array<T>).apply { sortWith(comparator) }.asList()\n    }\n    return
toMutableList().apply { sortWith(comparator) }\n}\n\n/**\n * Returns an array of Boolean containing all of the
elements of this collection.\n */\npublic fun Collection<Boolean>.toBooleanArray(): BooleanArray {\n    val result =
BooleanArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Byte containing all of the elements of this collection.\n */\npublic fun
Collection<Byte>.toByteArray(): ByteArray {\n    val result = ByteArray(size)\n    var index = 0\n    for (element in
this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Char containing all of the
elements of this collection.\n */\npublic fun Collection<Char>.toCharArray(): CharArray {\n    val result =
CharArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Double containing all of the elements of this collection.\n */\npublic fun
Collection<Double>.toDoubleArray(): DoubleArray {\n    val result = DoubleArray(size)\n    var index = 0\n    for
(element in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Float
containing all of the elements of this collection.\n */\npublic fun Collection<Float>.toFloatArray(): FloatArray {\n
    val result = FloatArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n
    return result\n}\n\n/**\n * Returns an array of Int containing all of the elements of this collection.\n */\npublic
fun Collection<Int>.toIntArray(): IntArray {\n    val result = IntArray(size)\n    var index = 0\n    for (element in
this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns an array of Long containing all of
the elements of this collection.\n */\npublic fun Collection<Long>.toLongArray(): LongArray {\n    val result =
LongArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] = element\n    return
result\n}\n\n/**\n * Returns an array of Short containing all of the elements of this collection.\n */\npublic fun
Collection<Short>.toShortArray(): ShortArray {\n    val result = ShortArray(size)\n    var index = 0\n    for (element
in this)\n        result[index++] = element\n    return result\n}\n\n/**\n * Returns a [Map] containing key-value
pairs provided by [transform] function\n * applied to elements of the given collection.\n * \n * If any of two pairs
would have the same key the last one gets added to the map.\n * \n * The returned map preserves the entry iteration
order of the original collection.\n */\npublic inline fun <T, K, V> Iterable<T>.associate(transform: (T) -> Pair<K, V>):
Map<K, V> {\n    val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n    return
associateTo(LinkedHashMap<K, V>(capacity), transform)\n}\n\n/**\n * Returns a [Map] containing the elements
from the given collection indexed by the key\n * returned from [keySelector] function applied to each element.\n *
\n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n *
\n * The returned map preserves the entry iteration order of the original collection.\n */\npublic inline fun <T, K>
Iterable<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n    val capacity =
mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n    return associateByTo(LinkedHashMap<K,

```

T>(capacity), keySelector)\n\n/**\n * Returns a [Map] containing the values provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n */\npublic inline fun <T, K, V>

Iterable<T>.associateBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, V> {\n val capacity = mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16)\n return associateByTo(LinkedHashMap<K, V>(capacity), keySelector, valueTransform)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function applied to each element of the given collection\n * and value is the element itself.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n */\npublic inline fun <T, K, M : MutableMap<in K, in T>>

Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n for (element in this) {\n destination.put(keySelector(element), element)\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and value is provided by the [valueTransform] function applied to elements of the given collection.\n * \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n for (element in this) {\n destination.put(keySelector(element), valueTransform(element))\n }\n return destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by [transform] function applied to each element of the given collection.\n * \n * If any of two pairs would have the same key the last one gets added to the map.\n */\npublic inline fun <T, K, V, M : MutableMap<in K, in V>> Iterable<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n for (element in this) {\n destination += transform(element)\n }\n return destination\n}\n\n/**\n * Returns a [Map] where keys are elements from the given collection and values are\n * produced by the [valueSelector] function applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The returned map preserves the entry iteration order of the original collection.\n * \n * @sample samples.collections.Collections.Transformations.associateWith\n */\n@SinceKotlin("1.3")\npublic inline fun <K, V> Iterable<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {\n val result = LinkedHashMap<K, V>(mapCapacity(collectionSizeOrDefault(10)).coerceAtLeast(16))\n return associateWithTo(result, valueSelector)\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs for each element of the given collection,\n * where key is the element itself and value is provided by the [valueSelector] function applied to that key.\n * \n * If any two elements are equal, the last one overwrites the former value in the map.\n */\n@SinceKotlin("1.3")\npublic inline fun <K, V, M : MutableMap<in K, in V>>

Iterable<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {\n for (element in this) {\n destination.put(element, valueSelector(element))\n }\n return destination\n}\n\n/**\n * Appends all elements to the given [destination] collection.\n */\npublic fun <T, C : MutableCollection<in T>>

Iterable<T>.toCollection(destination: C): C {\n for (item in this) {\n destination.add(item)\n }\n return destination\n}\n\n/**\n * Returns a [HashSet] of all elements.\n */\npublic fun <T> Iterable<T>.toHashSet(): HashSet<T> {\n return toCollection(HashSet<T>(mapCapacity(collectionSizeOrDefault(12))))\n}\n\n/**\n * Returns a [List] containing all elements.\n */\npublic fun <T> Iterable<T>.toList(): List<T> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptyList()\n 1 -> listOf(if (this is List) get(0) else iterator().next())\n else -> this.toMutableList()\n }\n }\n return this.toMutableList().optimizeReadOnlyList()\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Iterable<T>.toMutableList(): MutableList<T> {\n if (this is Collection<T>)\n return this.toMutableList()\n return toCollection(ArrayList<T>())\n}\n\n/**\n * Returns a [MutableList] filled with all elements of this collection.\n */\npublic fun <T> Collection<T>.toMutableList(): MutableList<T> {\n return ArrayList(this)\n}\n\n/**\n * Returns a [Set] of all elements.\n * \n * The returned set preserves the element iteration order of the original collection.\n */\npublic fun <T> Iterable<T>.toSet(): Set<T> {\n if (this is Collection) {\n return when (size) {\n 0 -> emptySet()\n 1 -> setOf(if (this is List) this[0] else

```

iterator().next())\n        else -> toCollection(LinkedHashSet<T>(mapCapacity(size)))\n    }\n }\n return
toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()\n}\n\n/**\n * Returns a single list of all elements
yielded from results of [transform] function being invoked on each element of original collection.\n */\npublic inline
fun <T, R> Iterable<T>.flatMap(transform: (T) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
element of original collection, to the given [destination].\n */\npublic inline fun <T, R, C : MutableCollection<in
R>> Iterable<T>.flatMapTo(destination: C, transform: (T) -> Iterable<R>): C {\n    for (element in this) {\n        val
list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Groups elements of
the original collection by the key returned by the given [keySelector] function\n * applied to each element and
returns a map where each group key is associated with a list of corresponding elements.\n * \n * The returned map
preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.groupBy\n */\npublic inline fun <T, K>
Iterable<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {\n    return groupByTo(LinkedHashMap<K,
MutableList<T>>(), keySelector)\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to
each element of the original collection\n * by the key returned by the given [keySelector] function applied to the
element\n * and returns a map where each group key is associated with a list of corresponding values.\n * \n * The
returned map preserves the entry iteration order of the keys produced from the original collection.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V>
Iterable<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {\n    return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original collection by the key returned by the given [keySelector] function\n * applied to each element and
puts to the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n */\npublic inline
fun <T, K, M : MutableMap<in K, MutableList<T>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) ->
K): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list = destination.getOrPut(key) {
ArrayList<T>() }\n        list.add(element)\n    }\n    return destination\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each element of the original collection\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n */\npublic inline fun <T, K, V, M :
MutableMap<in K, MutableList<V>>> Iterable<T>.groupByTo(destination: M, keySelector: (T) -> K,
valueTransform: (T) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list =
destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return
destination\n}\n\n/**\n * Creates a [Grouping] source from a collection to be used later with one of group-and-fold
operations\n * using the specified [keySelector] function to extract a key from each element.\n * \n * @sample
samples.collections.Grouping.groupingByEachCount\n */\n@SinceKotlin("1.1")\npublic inline fun <T, K>
Iterable<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {\n    return object : Grouping<T, K>
{\n        override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()\n        override fun keyOf(element:
T): K = keySelector(element)\n    }\n}\n\n/**\n * Returns a list containing the results of applying the given
[transform] function\n * to each element in the original collection.\n */\npublic inline fun <T, R>
Iterable<T>.map(transform: (T) -> R): List<R> {\n    return mapTo(ArrayList<R>(collectionSizeOrDefault(10)),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each
element and its index in the original collection.\n * @param [transform] function that takes the index of an element
and the element itself\n * and returns the result of the transform applied to the element.\n */\npublic inline fun <T,
R> Iterable<T>.mapIndexed(transform: (index: Int, T) -> R): List<R> {\n    return
mapIndexedTo(ArrayList<R>(collectionSizeOrDefault(10)), transform)\n}\n\n/**\n * Returns a list containing only
the non-null results of applying the given [transform] function\n * to each element and its index in the original
collection.\n * @param [transform] function that takes the index of an element and the element itself\n * and returns

```

the result of the transform applied to the element.

```

public inline fun <T, R : Any>
Iterable<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): List<R> {
    return
    mapIndexedNotNullTo(ArrayList<R>(), transform)
}

```

* Applies the given [transform] function to each element and its index in the original collection and appends only the non-null results to the given [destination].

* @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <T, R : Any, C : MutableCollection<in R>>
Iterable<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {
    forEachIndexed {
    index, element -> transform(index, element)?.let { destination.add(it) }
    }
    return destination
}

```

* Applies the given [transform] function to each element and its index in the original collection and appends the results to the given [destination].

* @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.

```

public inline fun <T, R, C :
MutableCollection<in R>> Iterable<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {
    var
    index = 0
    for (item in this)
        destination.add(transform(checkIndexOverflow(index++), item))
    return
    destination
}

```

* Returns a list containing only the non-null results of applying the given [transform] function to each element in the original collection.

```

public inline fun <T, R : Any>
Iterable<T>.mapNotNull(transform: (T) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(),
    transform)
}

```

* Applies the given [transform] function to each element in the original collection and appends only the non-null results to the given [destination].

```

public inline fun <T, R : Any, C :
MutableCollection<in R>> Iterable<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
    forEach {
    element -> transform(element)?.let { destination.add(it) }
    }
    return destination
}

```

* Applies the given [transform] function to each element of the original collection and appends the results to the given [destination].

```

public inline fun <T, R, C : MutableCollection<in R>> Iterable<T>.mapTo(destination: C,
transform: (T) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return
    destination
}

```

* Returns a lazy [Iterable] of [IndexedValue] for each element of the original collection.

```

public fun <T> Iterable<T>.withIndex(): Iterable<IndexedValue<T>> {
    return IndexingIterable { iterator()
    }
}

```

* Returns a list containing only distinct elements from the given collection.

* The elements in the resulting list are in the same order as they were in the source collection.

```

public fun <T>
Iterable<T>.distinct(): List<T> {
    return this.toMutableSet().toList()
}

```

* Returns a list containing only elements from the given collection having distinct keys returned by the given [selector] function.

* The elements in the resulting list are in the same order as they were in the source collection.

```

public inline fun <T,
K> Iterable<T>.distinctBy(selector: (T) -> K): List<T> {
    val set = HashSet<K>()
    val list =
    ArrayList<T>()
    for (e in this) {
        val key = selector(e)
        if (set.add(key))
            list.add(e)
    }
    return list
}

```

* Returns a set containing all elements that are contained by both this set and the specified collection.

* The returned set preserves the element iteration order of the original collection.

```

public infix
fun <T> Iterable<T>.intersect(other: Iterable<T>): Set<T> {
    val set = this.toMutableSet()
    set.retainAll(other)
    return set
}

```

* Returns a set containing all elements that are contained by this collection and not contained by the specified collection.

* The returned set preserves the element iteration order of the original collection.

```

public infix fun <T> Iterable<T>.subtract(other: Iterable<T>): Set<T> {
    val set = this.toMutableSet()
    set.removeAll(other)
    return set
}

```

* Returns a mutable set containing all distinct elements from the given collection.

* The returned set preserves the element iteration order of the original collection.

```

public fun <T> Iterable<T>.toMutableSet(): MutableSet<T> {
    return when (this) {
    is Collection<T> -> LinkedHashSet(this)
    else -> toCollection(LinkedHashSet<T>())
    }
}

```

* Returns a set containing all distinct elements from both collections.

* The returned set preserves the element iteration order of the original collection.

* Those elements of the [other] collection that are unique are iterated in the end in the order of the [other] collection.

```

public infix fun <T> Iterable<T>.union(other: Iterable<T>):
Set<T> {
    val set = this.toMutableSet()
    set.addAll(other)
    return set
}

```

* Returns `true` if all elements match the given [predicate].

* @sample samples.collections.Collections.Aggregates.all

```

public inline fun <T> Iterable<T>.all(predicate: (T) -> Boolean): Boolean {
    if (this is Collection && isEmpty()) return

```

```

true\n for (element in this) if (!predicate(element)) return false\n return true\n}\n\n/**\n * Returns `true` if
collection has at least one element.\n * \n * @sample samples.collections.Collections.Aggregates.any\n */\npublic
fun <T> Iterable<T>.any(): Boolean {\n if (this is Collection) return isEmpty()\n return
iterator().hasNext()\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.anyWithPredicate\n */\npublic inline fun <T>
Iterable<T>.any(predicate: (T) -> Boolean): Boolean {\n if (this is Collection && isEmpty()) return false\n for
(element in this) if (predicate(element)) return true\n return false\n}\n\n/**\n * Returns the number of elements in
this collection.\n */\npublic fun <T> Iterable<T>.count(): Int {\n if (this is Collection) return size\n var count =
0\n for (element in this) checkCountOverflow(++count)\n return count\n}\n\n/**\n * Returns the number of
elements in this collection.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Collection<T>.count(): Int {\n
return size\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n */\npublic inline fun <T>
Iterable<T>.count(predicate: (T) -> Boolean): Int {\n if (this is Collection && isEmpty()) return 0\n var count =
0\n for (element in this) if (predicate(element)) checkCountOverflow(++count)\n return count\n}\n\n/**\n *
Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator
value and each element.\n */\npublic inline fun <T, R> Iterable<T>.fold(initial: R, operation: (acc: R, T) -> R): R
{\n var accumulator = initial\n for (element in this) accumulator = operation(accumulator, element)\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original collection.\n * @param
[operation] function that takes the index of an element, current accumulator value\n * and the element itself, and
calculates the next accumulator value.\n */\npublic inline fun <T, R> Iterable<T>.foldIndexed(initial: R, operation:
(index: Int, acc: R, T) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator
= operation(checkIndexOverflow(index++), accumulator, element)\n return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from right to left to each element and
current accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRight(initial: R, operation: (T, acc: R) -> R):
R {\n var accumulator = initial\n if (!isEmpty()) {\n val iterator = listIterator(size)\n while
(iterator.hasPrevious()) {\n accumulator = operation(iterator.previous(), accumulator)\n } }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to
left\n * to each element with its index in the original list and current accumulator value.\n * @param [operation]
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the
next accumulator value.\n */\npublic inline fun <T, R> List<T>.foldRightIndexed(initial: R, operation: (index: Int,
T, acc: R) -> R): R {\n var accumulator = initial\n if (!isEmpty()) {\n val iterator = listIterator(size)\n
while (iterator.hasPrevious()) {\n val index = iterator.previousIndex()\n accumulator =
operation(index, iterator.previous(), accumulator)\n } }\n return accumulator\n}\n\n/**\n * Performs the
given [action] on each element.\n */\n@kotlin.internal.HidesMembers\npublic inline fun <T>
Iterable<T>.forEach(action: (T) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n * Performs the
given [action] on each element, providing sequential index with the element.\n * @param [action] function that
takes the index of an element and the element itself\n * and performs the desired action on the element.\n */\npublic
inline fun <T> Iterable<T>.forEachIndexed(action: (index: Int, T) -> Unit): Unit {\n var index = 0\n for (item in
this) action(checkIndexOverflow(index++), item)\n}\n\n/**\n * Returns the largest element or `null` if there are no
elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun
Iterable<Double>.max(): Double? {\n val iterator = iterator()\n if (!iterator.hasNext()) return null\n var max =
iterator.next()\n if (max.isNaN()) return max\n while (iterator.hasNext()) {\n val e = iterator.next()\n if
(e.isNaN()) return e\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns the largest element or
`null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun
Iterable<Float>.max(): Float? {\n val iterator = iterator()\n if
(!iterator.hasNext()) return null\n var max = iterator.next()\n if (max.isNaN()) return max\n while
(iterator.hasNext()) {\n val e = iterator.next()\n if (e.isNaN()) return e\n if (max < e) max = e\n }\n
return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\npublic fun <T>

```

```

Comparable<T>> Iterable<T>.max(): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var\n  max = iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there\n  are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <T, R\n : Comparable<R>> Iterable<T>.maxBy(selector: (T) -> R): T? {\n  val iterator = iterator()\n  if\n  (!iterator.hasNext()) return null\n  var maxElem = iterator.next()\n  var maxValue = selector(maxElem)\n  while\n  (iterator.hasNext()) {\n    val e = iterator.next()\n    val v = selector(e)\n    if (maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first element\n  having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun\n <T> Iterable<T>.maxWith(comparator: Comparator<in T>): T? {\n  val iterator = iterator()\n  if\n  (!iterator.hasNext()) return null\n  var max = iterator.next()\n  while (iterator.hasNext()) {\n    val e =\n  iterator.next()\n    if (comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the\n  smallest element or `null` if there are no elements.\n * \n * If any of elements is `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun Iterable<Double>.min(): Double? {\n  val iterator = iterator()\n  if\n  (!iterator.hasNext()) return null\n  var min = iterator.next()\n  if (min.isNaN()) return min\n  while\n  (iterator.hasNext()) {\n    val e = iterator.next()\n    if (e.isNaN()) return e\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n * \n * If any of elements is\n  `NaN` returns `NaN`.\n */\n@SinceKotlin("1.1")\npublic fun Iterable<Float>.min(): Float? {\n  val iterator =\n  iterator()\n  if (!iterator.hasNext()) return null\n  var min = iterator.next()\n  if (min.isNaN()) return min\n  while\n  (iterator.hasNext()) {\n    val e = iterator.next()\n    if (e.isNaN()) return e\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\npublic fun <T : Comparable<T>> Iterable<T>.min(): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var\n  min = iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there\n  are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <T, R : Comparable<R>> Iterable<T>.minBy(selector: (T) -> R): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext())\n  return null\n  var minElem = iterator.next()\n  var minValue = selector(minElem)\n  while (iterator.hasNext())\n  {\n    val e = iterator.next()\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first element having the smallest value\n  according to the provided [comparator] or `null` if there are no elements.\n */\npublic fun <T>\n Iterable<T>.minWith(comparator: Comparator<in T>): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext())\n  return null\n  var min = iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if\n  (comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns `true` if the collection has no\n  elements.\n * \n * @sample samples.collections.Collections.Aggregates.none\n */\npublic fun <T>\n Iterable<T>.none(): Boolean {\n  if (this is Collection) return isEmpty()\n  return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample\n  samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T>\n Iterable<T>.none(predicate: (T) -> Boolean): Boolean {\n  if (this is Collection && isEmpty()) return true\n  for\n  (element in this) if (predicate(element)) return false\n  return true\n}\n\n/**\n * Performs the given [action] on each\n  element and returns the collection itself afterwards.\n */\n@SinceKotlin("1.1")\npublic inline fun <T, C : Iterable<T>> C.onEach(action: (T) -> Unit): C {\n  return apply { for (element in this) action(element)\n  }\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to right to\n  current accumulator value and each element.\n */\npublic inline fun <S, T : S> Iterable<T>.reduce(operation: (acc:\n  S, T) -> S): S {\n  val iterator = this.iterator()\n  if (!iterator.hasNext()) throw\n  UnsupportedOperationException("Empty collection can't be reduced.")\n  var accumulator: S = iterator.next()\n  while (iterator.hasNext()) {\n    accumulator = operation(accumulator, iterator.next())\n  }\n  return\n  accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to\n  right\n * to current accumulator value and each element with its index in the original collection.\n * \n * @param

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[operation] function that takes the index of an element, current accumulator value\n * and the element itself and
calculates the next accumulator value.\n */\npublic inline fun <S, T : S> Iterable<T>.reduceIndexed(operation:
(index: Int, acc: S, T) -> S): S {\n    val iterator = this.iterator()\n    if (!iterator.hasNext()) throw
UnsupportedOperationException("Empty collection can't be reduced.")\n    var index = 1\n    var accumulator: S =
iterator.next()\n    while (iterator.hasNext()) {\n        accumulator = operation(checkIndexOverflow(index++),
accumulator, iterator.next())\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element
and applying [operation] from right to left to each element and current accumulator value.\n */\npublic inline fun
<S, T : S> List<T>.reduceRight(operation: (T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        accumulator =
operation(iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting
with last element and applying [operation] from right to left\n * to each element with its index in the original list and
current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n *
and current accumulator value, and calculates the next accumulator value.\n */\npublic inline fun <S, T : S>
List<T>.reduceRightIndexed(operation: (index: Int, T, acc: S) -> S): S {\n    val iterator = listIterator(size)\n    if
(!iterator.hasPrevious())\n        throw UnsupportedOperationException("Empty list can't be reduced.")\n    var
accumulator: S = iterator.previous()\n    while (iterator.hasPrevious()) {\n        val index = iterator.previousIndex()\n
        accumulator = operation(index, iterator.previous(), accumulator)\n    }\n    return accumulator\n}\n\n/**\n *
Returns the sum of all values produced by [selector] function applied to each element in the collection.\n */\npublic
inline fun <T> Iterable<T>.sumBy(selector: (T) -> Int): Int {\n    var sum: Int = 0\n    for (element in this) {\n
sum += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]
function applied to each element in the collection.\n */\npublic inline fun <T> Iterable<T>.sumByDouble(selector:
(T) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += selector(element)\n
    }\n    return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an
[IllegalArgumentException] if there are any `null` elements.\n */\npublic fun <T : Any>
Iterable<T?>.requireNonNulls(): Iterable<T> {\n    for (element in this) {\n        if (element == null) {\n            throw
IllegalArgumentException("null element found in $this.")\n        }\n    }\n    @Suppress("UNCHECKED_CAST")\n    return this as Iterable<T>\n}\n\n/**\n * Returns an original collection
containing all the non-`null` elements, throwing an [IllegalArgumentException] if there are any `null` elements.\n
*/\npublic fun <T : Any> List<T?>.requireNonNulls(): List<T> {\n    for (element in this) {\n        if (element ==
null) {\n            throw IllegalArgumentException("null element found in $this.")\n        }\n    }\n    @Suppress("UNCHECKED_CAST")\n    return this as List<T>\n}\n\n/**\n * Splits this collection into a list of
lists each not exceeding the given [size].\n * \n * The last list in the resulting list may have less elements than the
given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater
than the number of elements in this collection.\n * \n * @sample
samples.collections.Collections.Transformations.chunked\n */\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.chunked(size: Int): List<List<T>> {\n    return windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this collection into several lists each not exceeding the given [size]\n * and applies the given [transform]
function to an each.\n * \n * @return list of results of the [transform] applied to an each list.\n * \n * Note that the
list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You should not store it
or allow it to escape in some way, unless you made a snapshot of it.\n * The last list may have less elements than the
given [size].\n * \n * @param size the number of elements to take in each list, must be positive and can be greater
than the number of elements in this collection.\n * \n * @sample samples.text.Strings.chunkedTransform\n */\n@SinceKotlin("1.2")\npublic fun <T, R> Iterable<T>.chunked(size: Int, transform: (List<T>) -> R): List<R>
{\n    return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a list
containing all elements of the original collection without the first occurrence of the given [element].\n */\npublic
operator fun <T> Iterable<T>.minus(element: T): List<T> {\n    val result =
ArrayList<T>(collectionSizeOrDefault(10))\n    var removed = false\n    return this.filterTo(result) { if (!removed

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&& it == element) { removed = true; false } else true }
}

fun <T>.minus(elements: Array<out T>): List<T> {
    if (elements.isEmpty()) return this.toList()
    val other = elements.toHashSet()
    return this.filterNot { it in other }
}

fun <T>.minus(elements: Iterable<T>): List<T> {
    val other = elements.convertToSetForSetOperationWith(this)
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

fun <T>.minus(elements: Sequence<T>): List<T> {
    val other = elements.toHashSet()
    if (other.isEmpty()) return this.toList()
    return this.filterNot { it in other }
}

fun <T>.minusElement(element: T): List<T> {
    return minus(element)
}

fun <T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {
    val first = ArrayList<T>()
    val second = ArrayList<T>()
    for (element in this) {
        if (predicate(element)) first.add(element)
        else second.add(element)
    }
    return Pair(first, second)
}

fun <T>.plus(element: T): List<T> {
    if (this is Collection) return this.plus(element)
    val result = ArrayList<T>()
    result.addAll(this)
    result.add(element)
    return result
}

fun <T>.plus(elements: Array<out T>): List<T> {
    if (this is Collection) return this.plus(elements)
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

fun <T>.plus(elements: Iterable<T>): List<T> {
    if (this is Collection) return this.plus(elements)
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

fun <T>.plus(elements: Sequence<T>): List<T> {
    if (elements is Collection) {
        val result = ArrayList<T>(this.size + elements.size)
        result.addAll(this)
        result.addAll(elements)
        return result
    } else {
        val result = ArrayList<T>(this)
        result.addAll(elements)
        return result
    }
}

fun <T>.plus(elements: List<T>): List<T> {
    if (elements is Collection) {
        val result = ArrayList<T>(this.size + elements.size)
        result.addAll(this)
        result.addAll(elements)
        return result
    } else {
        val result = ArrayList<T>(this)
        result.addAll(elements)
        return result
    }
}

fun <T>.plus(elements: Sequence<T>): List<T> {
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

fun <T>.plus(elements: List<T>): List<T> {
    val result = ArrayList<T>()
    result.addAll(this)
    result.addAll(elements)
    return result
}

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Collection<T>.plus(elements: Sequence<T>): List<T> {\n    val result = ArrayList<T>(this.size + 10)\n
result.addAll(this)\n    result.addAll(elements)\n    return result\n}\n\n/**\n * Returns a list containing all elements
of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Iterable<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list containing all
elements of the original collection and then the given [element].\n */\n@kotlin.internal.InlineOnly\npublic inline fun
<T> Collection<T>.plusElement(element: T): List<T> {\n    return plus(element)\n}\n\n/**\n * Returns a list of
snapshots of the window of the given [size]\n * sliding along this collection with the given [step], where each\n *
snapshot is a list.\n * \n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and
[step] must be positive and can be greater than the number of elements in this collection.\n * @param size the
number of elements to take in each window\n * @param step the number of elements to move the window forward
by on an each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the
end if any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.takeWindows\n */\n@SinceKotlin("1.2")\npublic fun <T>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<List<T>> {\n
checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize = this.size\n
val result = ArrayList<List<T>>((thisSize + step - 1) / step)\n        var index = 0\n        while (index < thisSize) {\n
            val windowSize = size.coerceAtMost(thisSize - index)\n            if (windowSize < size && !partialWindows)
break\n            result.add(List(windowSize) { this[it + index] })\n            index += step\n        }\n        return result\n
    }\n    val result = ArrayList<List<T>>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer =
false).forEach {\n        result.add(it)\n    }\n    return result\n}\n\n/**\n * Returns a list of results of applying the
given [transform] function to\n * an each list representing a view over the window of the given [size]\n * sliding
along this collection with the given [step].\n * \n * Note that the list passed to the [transform] function is ephemeral
and is valid only inside that function.\n * You should not store it or allow it to escape in some way, unless you made
a snapshot of it.\n * Several last lists may have less elements than the given [size].\n * \n * Both [size] and [step]
must be positive and can be greater than the number of elements in this collection.\n * @param size the number of
elements to take in each window\n * @param step the number of elements to move the window forward by on an
each step, by default 1\n * @param partialWindows controls whether or not to keep partial windows in the end if
any,\n * by default `false` which means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.averageWindows\n */\n@SinceKotlin("1.2")\npublic fun <T, R>
Iterable<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
List<R> {\n    checkWindowSizeStep(size, step)\n    if (this is RandomAccess && this is List) {\n        val thisSize =
this.size\n        val result = ArrayList<R>((thisSize + step - 1) / step)\n        val window = MovingSubList(this)\n
var index = 0\n        while (index < thisSize) {\n            window.move(index, (index +
size).coerceAtMost(thisSize))\n            if (!partialWindows && window.size < size) break\n
            result.add(transform(window))\n            index += step\n        }\n        return result\n    }\n    val result =
ArrayList<R>()\n    windowedIterator(iterator(), size, step, partialWindows, reuseBuffer = true).forEach {\n
        result.add(transform(it))\n    }\n    return result\n}\n\n/**\n * Returns a list of pairs built from the elements of `this`
collection and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n *
@sample samples.collections.Iterables.Operations.zipIterable\n */\npublic infix fun <T, R> Iterable<T>.zip(other:
Array<out R>): List<Pair<T, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values
built from the elements of `this` collection and the [other] array with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Array<out R>, transform: (a: T, b: R) -> V): List<V> {\n    val arraySize = other.size\n    val
list = ArrayList<V>(minOf(collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in this) {\n        if
(i >= arraySize) break\n        list.add(transform(element, other[i++]))\n    }\n    return list\n}\n\n/**\n * Returns a list
of pairs built from the elements of `this` collection and [other] collection with the same index.\n * The returned list
has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n

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*\npublic infix fun <T, R> Iterable<T>.zip(other: Iterable<R>): List<Pair<T, R>> {\n  return zip(other) { t1, t2 ->
t1 to t2 }\n}\n\n/**\n * Returns a list of values built from the elements of `this` collection and the [other] collection
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the\nshortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n */\npublic inline fun <T, R, V>
Iterable<T>.zip(other: Iterable<R>, transform: (a: T, b: R) -> V): List<V> {\n  val first = iterator()\n  val second
= other.iterator()\n  val list = ArrayList<V>(minOf(collectionSizeOrDefault(10),
other.collectionSizeOrDefault(10)))\n  while (first.hasNext() && second.hasNext()) {\n
list.add(transform(first.next(), second.next()))\n  }\n  return list\n}\n\n/**\n * Returns a list of pairs of each two
adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains less than two
elements.\n * \n * @sample samples.collections.Collections.Transformations.zipWithNext\n */\n@SinceKotlin("1.2")\npublic fun <T> Iterable<T>.zipWithNext(): List<Pair<T, T>> {\n  return zipWithNext
{ a, b -> a to b }\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to
an each pair of two adjacent elements in this collection.\n * \n * The returned list is empty if this collection contains
less than two elements.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n */\n@SinceKotlin("1.2")\npublic
inline fun <T, R> Iterable<T>.zipWithNext(transform: (a: T, b: T) -> R): List<R> {\n  val iterator = iterator()\n  if
(!iterator.hasNext()) return emptyList()\n  val result = mutableListOf<R>()\n  var current = iterator.next()\n
while (iterator.hasNext()) {\n  val next = iterator.next()\n  result.add(transform(current, next))\n  current
= next\n  }\n  return result\n}\n\n/**\n * Appends the string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-
negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to `"...`").\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n */\npublic fun <T, A : Appendable>
Iterable<T>.joinTo(buffer: A, separator: CharSequence = ``, prefix: CharSequence = ``, postfix: CharSequence
= ``, limit: Int = -1, truncated: CharSequence = `"...`, transform: ((T) -> CharSequence)? = null): A {\n
buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n  if (++count > 1) buffer.append(separator)\n
if (limit < 0 || count <= limit) {\n  buffer.appendElement(element, transform)\n  } else break\n  }\n  if
(limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n  return buffer\n}\n\n/**\n *
Creates a string from all the elements separated using [separator] and using the given [prefix] and [postfix] if
supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of [limit], in which case only
the first [limit]\n * elements will be appended, followed by the [truncated] string (which defaults to `"...`").\n * \n *
@sample samples.collections.Collections.Transformations.joinToString\n */\npublic fun <T>
Iterable<T>.joinToString(separator: CharSequence = ``, prefix: CharSequence = ``, postfix: CharSequence =
``, limit: Int = -1, truncated: CharSequence = `"...`, transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n\n/**\n * Returns this
collection as an [Iterable].\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Iterable<T>.asIterable():
Iterable<T> {\n  return this\n}\n\n/**\n * Creates a [Sequence] instance that wraps the original collection returning
its elements when being iterated.\n * \n * @sample
samples.collections.Sequences.Building.sequenceFromCollection\n */\npublic fun <T> Iterable<T>.asSequence():
Sequence<T> {\n  return Sequence { this.iterator() }\n}\n\n/**\n * Returns an average value of elements in the
collection.\n */\n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Iterable<Byte>.average(): Double {\n  var
sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n  sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns
an average value of elements in the collection.\n */\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun
Iterable<Short>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n  checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */

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*\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Iterable<Int>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun Iterable<Long>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Iterable<Float>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns an average value of elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Iterable<Double>.average(): Double {\n    var sum: Double = 0.0\n    var count: Int = 0\n    for (element in this) {\n        sum += element\n        checkCountOverflow(++count)\n    }\n    return if (count == 0) Double.NaN else sum / count\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Iterable<Byte>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun Iterable<Short>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfInt")\npublic fun Iterable<Int>.sum(): Int {\n    var sum: Int = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfLong")\npublic fun Iterable<Long>.sum(): Long {\n    var sum: Long = 0L\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfFloat")\npublic fun Iterable<Float>.sum(): Float {\n    var sum: Float = 0.0f\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n */\n*\n@kotlin.jvm.JvmName("sumOfDouble")\npublic fun Iterable<Double>.sum(): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\nimport kotlin.comparisons.naturalOrder\nimport kotlin.random.Random\n\n/**\n * Returns the array if it's not `null`, or an empty array otherwise.\n */\n*\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Array<out T>?.orEmpty(): Array<out T> = this ?: emptyArray<T>()\n\n*\n@kotlin.internal.InlineOnly\npublic actual inline fun <T> Collection<T>.toArray(): Array<T> = copyToArray(this)\n\n*\n@JsName("copyToArray")\n@PublishedApi\ninternal fun <T> copyToArray(collection: Collection<T>): Array<T> {\n    return if (collection.asDynamic().toArray !== undefined)\n        collection.asDynamic().toArray().unsafeCast<Array<T>>()\n    else\n        copyToArrayImpl(collection).unsafeCast<Array<T>>()\n}\n\n*\n@JsName("copyToArrayImpl")\ninternal actual fun copyToArrayImpl(collection: Collection<*>): Array<Any?> {\n    val array = emptyArray<Any?>()\n    val iterator = collection.iterator()\n    while (iterator.hasNext())\n        array.asDynamic().push(iterator.next())\n    return array\n}\n\n*\n@JsName("copyToExistingArrayImpl")\ninternal actual fun <T> copyToArrayImpl(collection: Collection<*>, array: Array<T>): Array<T> {\n    if (array.size < collection.size)\n        return copyToArrayImpl(collection).unsafeCast<Array<T>>()\n    val iterator = collection.iterator()\n    var index = 0\n    while (iterator.hasNext()) {\n        array[index++] = iterator.next().unsafeCast<T>()\n    }\n    if (index < array.size)\n        array[index] = null.unsafeCast<T>()\n    return array\n}\n\n/**\n * Returns an immutable list containing only the specified object [element].\n */\n*\npublic fun <T> listOf(element: T): List<T> = arrayListOf(element)\n\n/**\n * Returns an immutable set containing only the specified object [element].\n */\n*\npublic fun <T> setOf(element: T): Set<T> = hashSetOf(element)\n\n/**\n * Returns an immutable map, mapping only the specified key to the\n * specified value.\n */\n*\npublic fun <K, V> mapOf(pair: Pair<K, V>): Map<K, V> = hashMapOf(pair)\n\n/**\n * Fills the list with the provided [value].\n */\n*\n * Each element in the list

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gets replaced with the [value].\n *\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.fill(value: T):
Unit {\n for (index in 0..lastIndex) {\n this[index] = value\n }\n}\n\n/**\n * Randomly shuffles elements in
this list.\n *\n * See: https://en.wikipedia.org/wiki/Fisher%20%80%93Yates_shuffle#The_modern_algorithm\n
*\n@SinceKotlin("1.2")\npublic actual fun <T> MutableList<T>.shuffle(): Unit = shuffle(Random)\n\n/**\n *
Returns a new list with the elements of this list randomly shuffled.\n *\n@SinceKotlin("1.2")\npublic actual fun
<T> Iterable<T>.shuffled(): List<T> = toMutableList().apply { shuffle() }\n\n/**\n * Sorts elements in the list in-
place according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their
order relative to each other after sorting.\n *\npublic actual fun <T : Comparable<T>> MutableList<T>.sort(): Unit
{\n collectionsSort(this, naturalOrder())\n}\n\n/**\n * Sorts elements in the list in-place according to the order
specified with [comparator].\n *\n * The sort is _stable_. It means that equal elements preserve their order relative to
each other after sorting.\n *\npublic actual fun <T> MutableList<T>.sortWith(comparator: Comparator<in T>):
Unit {\n collectionsSort(this, comparator)\n}\n\nprivate fun <T> collectionsSort(list: MutableList<T>,
comparator: Comparator<in T>) {\n if (list.size <= 1) return\n\n val array = copyToArray(list)\n
sortArrayWith(array, comparator)\n\n for (i in 0 until array.size) {\n list[i] = array[i]\n }\n}\n\ninternal
actual fun <T> arrayOfNulls(reference: Array<T>, size: Int): Array<T> {\n return
arrayOfNulls<Any>(size).unsafeCast<Array<T>>()\n}\n\n@SinceKotlin("1.3")\n@PublishedApi\n@JsName("arr
ayCopy")\ninternal fun <T> arrayCopy(source: Array<out T>, destination: Array<in T>, destinationOffset: Int,
startIndex: Int, endIndex: Int) {\n AbstractList.checkRangeIndexes(startIndex, endIndex, source.size)\n val
rangeSize = endIndex - startIndex\n AbstractList.checkRangeIndexes(destinationOffset, destinationOffset +
rangeSize, destination.size)\n\n if (js("ArrayBuffer").isView(destination) &&
js("ArrayBuffer").isView(source)) {\n val subrange = source.asDynamic().subarray(startIndex, endIndex)\n
destination.asDynamic().set(subrange, destinationOffset)\n } else {\n if (source !== destination ||
destinationOffset <= startIndex) {\n for (index in 0 until rangeSize) {\n
destination[destinationOffset + index] = source[startIndex + index]\n }\n } else {\n for (index in
rangeSize - 1 downTo 0) {\n destination[destinationOffset + index] = source[startIndex + index]\n
}\n }\n }\n}\n\n// no singleton map implementation in js, return map as
is\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <K, V> Map<K,
V>.toSingletonMapOrSelf(): Map<K, V> = this\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline
fun <K, V> Map<out K, V>.toSingletonMap(): Map<K, V> =
this.toMutableMap()\n\n@Suppress("NOTHING_TO_INLINE")\ninternal actual inline fun <T> Array<out
T>.copyToArrayOfAny(isVarargs: Boolean): Array<out Any?> =\n if (isVarargs)\n // no need to copy vararg
array in JS\n this\n else\n this.copyOf()\n\n\n@PublishedApi\ninternal actual fun
checkIndexOverflow(index: Int): Int {\n if (index < 0) {\n throwIndexOverflow()\n }\n return
index\n}\n\n@PublishedApi\ninternal actual fun checkCountOverflow(count: Int): Int {\n if (count < 0) {\n
throwCountOverflow()\n }\n return count\n}\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\n/**\n * Returns the given iterator itself. This allows to use an instance of iterator in a `for`
loop.\n *\n * @sample samples.collections.Iterators.iterator\n *\n@kotlin.internal.InlineOnly\npublic inline operator
fun <T> Iterator<T>.iterator(): Iterator<T> = this\n\n/**\n * Returns an [Iterator] wrapping each value produced by
this [Iterator] with the [IndexedValue],\n * containing value and it's index.\n *\n * @sample
samples.collections.Iterators.withIndexIterator\n *\npublic fun <T> Iterator<T>.withIndex():
Iterator<IndexedValue<T>> = IndexingIterator(this)\n\n/**\n * Performs the given [operation] on each element of
this [Iterator].\n *\n * @sample samples.collections.Iterators.forEachIterator\n *\npublic inline fun <T>
Iterator<T>.forEach(operation: (T) -> Unit): Unit {\n for (element in this) operation(element)\n}\n\n/**\n *
Iterator transforming original `iterator` into iterator of [IndexedValue], counting index from zero.\n *\ninternal class
IndexingIterator<out T>(private val iterator: Iterator<T>) : Iterator<IndexedValue<T>> {\n private var index =
0\n final override fun hasNext(): Boolean = iterator.hasNext()\n final override fun next(): IndexedValue<T> =

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IndexedValue(checkIndexOverflow(index++), iterator.next())\n}\n", "/*\n * Copyright 2010-2019 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt
file.\n * \n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
<https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib>\n/\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n * If values are equal, returns the first one.\n */\n@SinceKotlin("1.1")\npublic expect fun
<T : Comparable<T>> maxOf(a: T, b: T): T\n\n/**\n * Returns the greater of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte):
Byte\n\n/**\n * Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Short, b: Short): Short\n\n/**\n * Returns the greater of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int): Int\n\n/**\n *
Returns the greater of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun maxOf(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float):
Float\n\n/**\n * Returns the greater of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double):
Double\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.1")\npublic expect fun <T :
Comparable<T>> maxOf(a: T, b: T, c: T): T\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Byte, b: Byte, c: Byte):
Byte\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the greater of three values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun maxOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Float, b: Float, c:
Float): Float\n\n/**\n * Returns the greater of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun maxOf(a: Double, b: Double, c:
Double): Double\n\n/**\n * Returns the greater of three values according to the order specified by the given
[comparator].\n */\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, c: T, comparator: Comparator<in T>):
T {\n return maxOf(a, maxOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the greater of two values
according to the order specified by the given [comparator].\n * If values are equal, returns the first one.\n
*/\n@SinceKotlin("1.1")\npublic fun <T> maxOf(a: T, b: T, comparator: Comparator<in T>): T {\n return if
(comparator.compare(a, b) >= 0) a else b\n}\n\n/**\n * Returns the smaller of two values.\n * If values are equal,
returns the first one.\n */\n@SinceKotlin("1.1")\npublic expect fun <T : Comparable<T>> minOf(a: T, b: T):
T\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Byte, b: Byte): Byte\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short):
Short\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int): Int\n\n/**\n *
Returns the smaller of two values.\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline
fun minOf(a: Long, b: Long): Long\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float):
Float\n\n/**\n * Returns the smaller of two values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double):
Double\n\n/**\n * Returns the smaller of three values.\n */\n@SinceKotlin("1.1")\npublic expect fun <T :
Comparable<T>> minOf(a: T, b: T, c: T): T\n\n/**\n * Returns the smaller of three values.\n
*/\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Byte, b: Byte, c: Byte):

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Byte\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Short, b: Short, c:
Short): Short\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Int, b: Int, c: Int):
Int\n\n/**\n * Returns the smaller of three values.\n *\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic
expect inline fun minOf(a: Long, b: Long, c: Long): Long\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Float, b: Float, c: Float):
Float\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic expect inline fun minOf(a: Double, b: Double, c:
Double): Double\n\n/**\n * Returns the smaller of three values according to the order specified by the given
[comparator].\n *\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, c: T, comparator: Comparator<in T>):
T {\n    return minOf(a, minOf(b, c, comparator), comparator)\n}\n\n/**\n * Returns the smaller of two values
according to the order specified by the given [comparator].\n * If values are equal, returns the first one.\n
*\n@SinceKotlin("1.1")\npublic fun <T> minOf(a: T, b: T, comparator: Comparator<in T>): T {\n    return if
(comparator.compare(a, b) <= 0) a else b\n}\n\n"/\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage
kotlin.collections\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
[List] containing all key-value pairs.\n *\npublic fun <K, V> Map<out K, V>.toList(): List<Pair<K, V>> {\n    if
(size == 0)\n        return emptyList()\n    val iterator = entries.iterator()\n    if (!iterator.hasNext())\n        return
emptyList()\n    val first = iterator.next()\n    if (!iterator.hasNext())\n        return listOf(first.toPair())\n    val result =
ArrayList<Pair<K, V>>(size)\n    result.add(first.toPair())\n    do {\n        result.add(iterator.next().toPair())\n    }
while (iterator.hasNext())\n    return result\n}\n\n/**\n * Returns a single list of all elements yielded from results of
[transform] function being invoked on each entry of original map.\n *\npublic inline fun <K, V, R> Map<out K,
V>.flatMap(transform: (Map.Entry<K, V>) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each
entry of original map, to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>>
Map<out K, V>.flatMapTo(destination: C, transform: (Map.Entry<K, V>) -> Iterable<R>): C {\n    for (element in
this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each entry in the original
map.\n *\npublic inline fun <K, V, R> Map<out K, V>.map(transform: (Map.Entry<K, V>) -> R): List<R> {\n    return
mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of
applying the given [transform] function\n * to each entry in the original map.\n *\npublic inline fun <K, V, R :
Any> Map<out K, V>.mapNotNull(transform: (Map.Entry<K, V>) -> R?): List<R> {\n    return
mapNotNullTo(ArrayList<R>(), transform)\n}\n\n/**\n * Applies the given [transform] function to each entry in the
original map\n * and appends only the non-null results to the given [destination].\n *\npublic inline fun <K, V, R :
Any, C : MutableCollection<in R>> Map<out K, V>.mapNotNullTo(destination: C, transform: (Map.Entry<K, V>)
-> R?): C {\n    forEach { element -> transform(element)?.let { destination.add(it) } }\n    return
destination\n}\n\n/**\n * Applies the given [transform] function\n * to each entry of the original map\n * and appends
the results to the given [destination].\n *\npublic inline fun <K, V, R, C : MutableCollection<in R>> Map<out K,
V>.mapTo(destination: C, transform: (Map.Entry<K, V>) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n/**\n * Returns `true` if all entries match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *\npublic inline fun <K, V>
Map<out K, V>.all(predicate: (Map.Entry<K, V>) -> Boolean): Boolean {\n    if (isEmpty()) return true\n    for
(element in this) if (!predicate(element)) return false\n    return true\n}\n\n/**\n * Returns `true` if map has at least
one entry.\n * \n * @sample samples.collections.Collections.Aggregates.any\n *\npublic fun <K, V> Map<out K,
V>.any(): Boolean {\n    return !isEmpty()\n}\n\n/**\n * Returns `true` if at least one entry matches the given

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{\n  return elementOrElse(index) { throw IndexOutOfBoundsException("Sequence doesn't contain element at
index $index.\n") } }\n}\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue]
function if the [index] is out of bounds of this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementOrElse\n *\npublic fun <T>
Sequence<T>.elementOrElse(index: Int, defaultValue: (Int) -> T): T {\n  if (index < 0)\n    return
defaultValue(index)\n  val iterator = iterator()\n  var count = 0\n  while (iterator.hasNext()) {\n    val element
= iterator.next()\n    if (index == count++)\n      return element\n  }\n  return
defaultValue(index)\n}\n}\n\n/**\n * Returns an element at the given [index] or `null` if the [index] is out of bounds of
this sequence.\n *\n * The operation is _terminal_.\n *\n * @sample
samples.collections.Collections.Elements.elementOrNull\n *\npublic fun <T>
Sequence<T>.elementOrNull(index: Int): T? {\n  if (index < 0)\n    return null\n  val iterator = iterator()\n
var count = 0\n  while (iterator.hasNext()) {\n    val element = iterator.next()\n    if (index == count++)\n
return element\n  }\n  return null\n}\n}\n\n/**\n * Returns the first element matching the given [predicate], or `null`
if no such element was found.\n *\n * The operation is _terminal_.\n *\n * @kotlin.internal.InlineOnly\npublic inline
fun <T> Sequence<T>.find(predicate: (T) -> Boolean): T? {\n  return firstOrNull(predicate)\n}\n}\n\n/**\n * Returns
the last element matching the given [predicate], or `null` if no such element was found.\n *\n * The operation is
_terminal_.\n *\n * @kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.findLast(predicate: (T) ->
Boolean): T? {\n  return lastOrNull(predicate)\n}\n}\n\n/**\n * Returns first element.\n *\n * @throws
[NoSuchElementException] if the sequence is empty.\n *\n * The operation is _terminal_.\n *\npublic fun <T>
Sequence<T>.first(): T {\n  val iterator = iterator()\n  if (!iterator.hasNext())\n    throw
NoSuchElementException("Sequence is empty.\n")\n  return iterator.next()\n}\n}\n\n/**\n * Returns the first element
matching the given [predicate].\n *\n * @throws [NoSuchElementException] if no such element is found.\n *\n * The
operation is _terminal_.\n *\npublic inline fun <T> Sequence<T>.first(predicate: (T) -> Boolean): T {\n  for
(element in this) if (predicate(element)) return element\n  throw NoSuchElementException("Sequence contains no
element matching the predicate.\n")\n}\n}\n\n/**\n * Returns the first element, or `null` if the sequence is empty.\n *\n *
The operation is _terminal_.\n *\npublic fun <T> Sequence<T>.firstOrNull(): T? {\n  val iterator = iterator()\n
if (!iterator.hasNext())\n    return null\n  return iterator.next()\n}\n}\n\n/**\n * Returns the first element matching the
given [predicate], or `null` if element was not found.\n *\n * The operation is _terminal_.\n *\npublic inline fun
<T> Sequence<T>.firstOrNull(predicate: (T) -> Boolean): T? {\n  for (element in this) if (predicate(element))
return element\n  return null\n}\n}\n\n/**\n * Returns first index of [element], or -1 if the sequence does not contain
element.\n *\n * The operation is _terminal_.\n *\npublic fun <@kotlin.internal.OnlyInputTypes T>
Sequence<T>.indexOf(element: T): Int {\n  var index = 0\n  for (item in this) {\n
checkIndexOverflow(index)\n    if (element == item)\n      return index\n    index++\n  }\n  return -
1\n}\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the sequence does not
contain such element.\n *\n * The operation is _terminal_.\n *\npublic inline fun <T>
Sequence<T>.indexOfFirst(predicate: (T) -> Boolean): Int {\n  var index = 0\n  for (item in this) {\n
checkIndexOverflow(index)\n    if (predicate(item))\n      return index\n    index++\n  }\n  return -
1\n}\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the sequence does not
contain such element.\n *\n * The operation is _terminal_.\n *\npublic inline fun <T>
Sequence<T>.indexOfLast(predicate: (T) -> Boolean): Int {\n  var lastIndex = -1\n  var index = 0\n  for (item in
this) {\n    checkIndexOverflow(index)\n    if (predicate(item))\n      lastIndex = index\n    index++\n  }\n
return lastIndex\n}\n}\n\n/**\n * Returns the last element.\n *\n * @throws [NoSuchElementException] if the
sequence is empty.\n *\n * The operation is _terminal_.\n *\npublic fun <T> Sequence<T>.last(): T {\n  val
iterator = iterator()\n  if (!iterator.hasNext())\n    throw NoSuchElementException("Sequence is empty.\n")\n
var last = iterator.next()\n  while (iterator.hasNext())\n    last = iterator.next()\n  return last\n}\n}\n\n/**\n *
Returns the last element matching the given [predicate].\n *\n * @throws [NoSuchElementException] if no such
element is found.\n *\n * The operation is _terminal_.\n *\npublic inline fun <T> Sequence<T>.last(predicate: (T) -
> Boolean): T {\n  var last: T? = null\n  var found = false\n  for (element in this) {\n    if (predicate(element))

```

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        last = element\n        found = true\n    }\n    }\n    if (!found) throw
NoSuchElementException("Sequence contains no element matching the predicate.")\n
@Suppress("UNCHECKED_CAST")\n    return last as T\n}\n\n/**\n * Returns last index of [element], or -1 if the
sequence does not contain element.\n *\n * The operation is _terminal_.\n */\npublic fun
<@kotlin.internal.OnlyInputTypes T> Sequence<T>.lastIndexOf(element: T): Int {\n    var lastIndex = -1\n    var
index = 0\n    for (item in this) {\n        checkIndexOverflow(index)\n        if (element == item)\n            lastIndex =
index\n            index++\n    }\n    return lastIndex\n}\n\n/**\n * Returns the last element, or `null` if the sequence is
empty.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.lastOrNull(): T? {\n    val iterator =
iterator()\n    if (!iterator.hasNext())\n        return null\n    var last = iterator.next()\n    while (iterator.hasNext())\n        last =
iterator.next()\n    return last\n}\n\n/**\n * Returns the last element matching the given [predicate], or `null` if
no such element was found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T>
Sequence<T>.lastOrNull(predicate: (T) -> Boolean): T? {\n    var last: T? = null\n    for (element in this) {\n        if
(predicate(element)) {\n            last = element\n        }\n    }\n    return last\n}\n\n/**\n * Returns the single element,
or throws an exception if the sequence is empty or has more than one element.\n *\n * The operation is _terminal_.\n */\npublic fun <T> Sequence<T>.single(): T {\n    val iterator = iterator()\n    if (!iterator.hasNext())\n        throw
NoSuchElementException("Sequence is empty.")\n    val single = iterator.next()\n    if (iterator.hasNext())\n        throw
IllegalArgumentException("Sequence has more than one element.")\n    return single\n}\n\n/**\n * Returns
the single element matching the given [predicate], or throws exception if there is no or more than one matching
element.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T> Sequence<T>.single(predicate: (T) ->
Boolean): T {\n    var single: T? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element))
{\n            if (found) throw IllegalArgumentException("Sequence contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Sequence
contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as
T\n}\n\n/**\n * Returns single element, or `null` if the sequence is empty or has more than one element.\n *\n * The
operation is _terminal_.\n */\npublic fun <T> Sequence<T>.singleOrNull(): T? {\n    val iterator = iterator()\n    if
(!iterator.hasNext())\n        return null\n    val single = iterator.next()\n    if (iterator.hasNext())\n        return
single\n}\n\n/**\n * Returns the single element matching the given [predicate], or `null` if element was not
found or more than one element was found.\n *\n * The operation is _terminal_.\n */\npublic inline fun <T>
Sequence<T>.singleOrNull(predicate: (T) -> Boolean): T? {\n    var single: T? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) return null\n            single = element\n
found = true\n        }\n    }\n    if (!found) return null\n    return single\n}\n\n/**\n * Returns a sequence containing
all elements except first [n] elements.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * @throws
IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.drop(n: Int):
Sequence<T> {\n    require(n >= 0) { "Requested element count $n is less than zero." }\n    return when {\n        n
== 0 -> this\n        this is DropTakeSequence -> this.drop(n)\n        else -> DropSequence(this, n)\n    }\n}\n\n/**\n *
Returns a sequence containing all elements except first elements that satisfy the given [predicate].\n *\n * The
operation is _intermediate_ and _stateless_.\n *\n * @sample
samples.collections.Collections.Transformations.drop\n */\npublic fun <T> Sequence<T>.dropWhile(predicate: (T)
-> Boolean): Sequence<T> {\n    return DropWhileSequence(this, predicate)\n}\n\n/**\n * Returns a sequence
containing only elements matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.filter(predicate: (T) -> Boolean): Sequence<T> {\n    return
FilteringSequence(this, true, predicate)\n}\n\n/**\n * Returns a sequence containing only elements matching the
given [predicate].\n *\n * @param [predicate] function that takes the index of an element and the element itself\n *\n * and
returns the result of predicate evaluation on the element.\n *\n * The operation is _intermediate_ and _stateless_.\n */\npublic fun <T> Sequence<T>.filterIndexed(predicate: (index: Int, T) -> Boolean): Sequence<T> {\n    // TODO:
Rewrite with generalized MapFilterIndexingSequence\n    return
TransformingSequence(FilteringSequence(IndexingSequence(this), true, { predicate(it.index, it.value) }), { it.value

```

```

})\n\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n *\n * The operation is _terminal_.\n *\npublic inline fun <T, C : MutableCollection<in
T>> Sequence<T>.filterIndexedTo(destination: C, predicate: (index: Int, T) -> Boolean): C {\n  forEachIndexed {
index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n\n/**\n * Returns a sequence containing all elements that are instances of specified type parameter
R.\n *\n * The operation is _intermediate_ and _stateless_.\n *\npublic inline fun <reified R>
Sequence<*>.filterIsInstance(): Sequence<@kotlin.internal.NoInfer R> {\n
@Suppress("UNCHECKED_CAST")\n  return filter { it is R } as Sequence<R>\n}\n\n\n/**\n * Appends all
elements that are instances of specified type parameter R to the given [destination].\n *\n * The operation is
_terminal_.\n *\npublic inline fun <reified R, C : MutableCollection<in R>>
Sequence<*>.filterIsInstanceTo(destination: C): C {\n  for (element in this) if (element is R)
destination.add(element)\n  return destination\n}\n\n\n/**\n * Returns a sequence containing all elements not
matching the given [predicate].\n *\n * The operation is _intermediate_ and _stateless_.\n *\npublic fun <T>
Sequence<T>.filterNot(predicate: (T) -> Boolean): Sequence<T> {\n  return FilteringSequence(this, false,
predicate)\n}\n\n\n/**\n * Returns a sequence containing all elements that are not `null`.\n *\n * The operation is
_intermediate_ and _stateless_.\n *\npublic fun <T : Any> Sequence<T?>.filterNotNull(): Sequence<T> {\n
@Suppress("UNCHECKED_CAST")\n  return filterNot { it == null } as Sequence<T>\n}\n\n\n/**\n * Appends all
elements that are not `null` to the given [destination].\n *\n * The operation is _terminal_.\n *\npublic fun <C :
MutableCollection<in T>, T : Any> Sequence<T?>.filterNotNullTo(destination: C): C {\n  for (element in this) if
(element != null) destination.add(element)\n  return destination\n}\n\n\n/**\n * Appends all elements not matching
the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\npublic inline fun <T, C :
MutableCollection<in T>> Sequence<T>.filterNotTo(destination: C, predicate: (T) -> Boolean): C {\n  for
(element in this) if (!predicate(element)) destination.add(element)\n  return destination\n}\n\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n *\n * The operation is _terminal_.\n *\npublic
inline fun <T, C : MutableCollection<in T>> Sequence<T>.filterTo(destination: C, predicate: (T) -> Boolean): C
{\n  for (element in this) if (predicate(element)) destination.add(element)\n  return destination\n}\n\n\n/**\n *
Returns a sequence containing first [n] elements.\n *\n * The operation is _intermediate_ and _stateless_.\n *\n *
@throws IllegalArgumentException if [n] is negative.\n *\n * @sample
samples.collections.Collections.Transformations.take\n *\npublic fun <T> Sequence<T>.take(n: Int): Sequence<T>
{\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  return when {\n    n == 0 ->
emptySequence()\n    this is DropTakeSequence -> this.take(n)\n    else -> TakeSequence(this, n)\n  }\n}\n\n\n/**\n * Returns a sequence containing first elements satisfying the given [predicate].\n *\n * The operation
is _intermediate_ and _stateless_.\n *\n * @sample samples.collections.Collections.Transformations.take\n *\npublic
fun <T> Sequence<T>.takeWhile(predicate: (T) -> Boolean): Sequence<T> {\n  return
TakeWhileSequence(this, predicate)\n}\n\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
according to their natural sort order.\n *\n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n *\n * The operation is _intermediate_ and _stateful_.\n *\npublic fun <T :
Comparable<T>> Sequence<T>.sorted(): Sequence<T> {\n  return object : Sequence<T> {\n    override fun
iterator(): Iterator<T> {\n      val sortedList = this@sorted.toMutableList()\n      sortedList.sort()\n      return sortedList.iterator()\n    }\n  }\n}\n\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted according to natural sort order of the value returned by specified [selector] function.\n *\n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation
is _intermediate_ and _stateful_.\n *\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedBy(crossinline selector: (T) -> R?): Sequence<T> {\n  return
sortedWith(compareBy(selector))\n}\n\n\n/**\n * Returns a sequence that yields elements of this sequence sorted
descending according to natural sort order of the value returned by specified [selector] function.\n *\n * The sort is
_stable_. It means that equal elements preserve their order relative to each other after sorting.\n *\n * The operation

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is _intermediate_ and _stateful_.\n *^\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.sortedByDescending(crossinline selector: (T) -> R?): Sequence<T> {\n  return
sortedWith(compareByDescending(selector))\n}\n\n/**\n * Returns a sequence that yields elements of this sequence
sorted descending according to their natural sort order.\n * \n * The sort is _stable_. It means that equal elements
preserve their order relative to each other after sorting.\n * \n * The operation is _intermediate_ and _stateful_.\n
*^\npublic fun <T : Comparable<T>> Sequence<T>.sortedDescending(): Sequence<T> {\n  return
sortedWith(reverseOrder())\n}\n\n/**\n * Returns a sequence that yields elements of this sequence sorted according
to the specified [comparator].\n * \n * The sort is _stable_. It means that equal elements preserve their order relative
to each other after sorting.\n * \n * The operation is _intermediate_ and _stateful_.\n *^\npublic fun <T>
Sequence<T>.sortedWith(comparator: Comparator<in T>): Sequence<T> {\n  return object : Sequence<T> {\n
override fun iterator(): Iterator<T> {\n      val sortedList = this@sortedWith.toMutableList()\n
sortedList.sortWith(comparator)\n      return sortedList.iterator()\n    }\n  }\n}\n\n/**\n * Returns a [Map]
containing key-value pairs provided by [transform] function\n * applied to elements of the given sequence.\n * \n *
If any of two pairs would have the same key the last one gets added to the map.\n * \n * The returned map preserves
the entry iteration order of the original sequence.\n * \n * The operation is _terminal_.\n *^\npublic inline fun <T, K,
V> Sequence<T>.associate(transform: (T) -> Pair<K, V>): Map<K, V> {\n  return
associateTo(LinkedHashMap<K, V>(), transform)\n}\n\n/**\n * Returns a [Map] containing the elements from the
given sequence indexed by the key\n * returned from [keySelector] function applied to each element.\n * \n * If any
two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original sequence.\n * \n * The operation is _terminal_.\n
*^\npublic inline fun <T, K> Sequence<T>.associateBy(keySelector: (T) -> K): Map<K, T> {\n  return
associateByTo(LinkedHashMap<K, T>(), keySelector)\n}\n\n/**\n * Returns a [Map] containing the values
provided by [valueTransform] and indexed by [keySelector] functions applied to elements of the given sequence.\n
* \n * If any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n
* \n * The returned map preserves the entry iteration order of the original sequence.\n * \n * The operation is
_terminal_.\n *^\npublic inline fun <T, K, V> Sequence<T>.associateBy(keySelector: (T) -> K, valueTransform: (T)
-> V): Map<K, V> {\n  return associateByTo(LinkedHashMap<K, V>(), keySelector, valueTransform)\n}\n\n/**\n
* Populates and returns the [destination] mutable map with key-value pairs,\n * where key is provided by the
[keySelector] function applied to each element of the given sequence\n * and value is the element itself.\n * \n * If
any two elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
operation is _terminal_.\n *^\npublic inline fun <T, K, M : MutableMap<in K, in T>>
Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K): M {\n  for (element in this) {\n
destination.put(keySelector(element), element)\n  }\n  return destination\n}\n\n/**\n * Populates and returns the
[destination] mutable map with key-value pairs,\n * where key is provided by the [keySelector] function and\n * and
value is provided by the [valueTransform] function applied to elements of the given sequence.\n * \n * If any two
elements would have the same key returned by [keySelector] the last one gets added to the map.\n * \n * The
operation is _terminal_.\n *^\npublic inline fun <T, K, V, M : MutableMap<in K, in V>>
Sequence<T>.associateByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {\n  for
(element in this) {\n    destination.put(keySelector(element), valueTransform(element))\n  }\n  return
destination\n}\n\n/**\n * Populates and returns the [destination] mutable map with key-value pairs\n * provided by
[transform] function applied to each element of the given sequence.\n * \n * If any of two pairs would have the same
key the last one gets added to the map.\n * \n * The operation is _terminal_.\n *^\npublic inline fun <T, K, V, M :
MutableMap<in K, in V>> Sequence<T>.associateTo(destination: M, transform: (T) -> Pair<K, V>): M {\n  for
(element in this) {\n    destination += transform(element)\n  }\n  return destination\n}\n\n/**\n * Returns a
[Map] where keys are elements from the given sequence and values are\n * produced by the [valueSelector] function
applied to each element.\n * \n * If any two elements are equal, the last one gets added to the map.\n * \n * The
returned map preserves the entry iteration order of the original sequence.\n * \n * The operation is _terminal_.\n
* \n * @sample samples.collections.Collections.Transformations.associateWith\n *^\n@SinceKotlin("1.3")\npublic

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inline fun <K, V> Sequence<K>.associateWith(valueSelector: (K) -> V): Map<K, V> {
    val result = LinkedHashMap<K, V>()
    return associateWithTo(result, valueSelector)
}

Populates and returns the [destination] mutable map with key-value pairs for each element of the given sequence, where key is the element itself and value is provided by the [valueSelector] function applied to that key. If any two elements are equal, the last one overwrites the former value in the map. The operation is _terminal_.

@SinceKotlin("1.3")
public inline fun <K, V, M : MutableMap<in K, in V>>
Sequence<K>.associateWithTo(destination: M, valueSelector: (K) -> V): M {
    for (element in this) {
        destination.put(element, valueSelector(element))
    }
    return destination
}

Appends all elements to the given [destination] collection. The operation is _terminal_.

public fun <T, C : MutableCollection<in T>> Sequence<T>.toCollection(destination: C): C {
    for (item in this) {
        destination.add(item)
    }
    return destination
}

Returns a [HashSet] of all elements. The operation is _terminal_.

public fun <T> Sequence<T>.toHashSet(): HashSet<T> {
    return toCollection(HashSet<T>())
}

Returns a [List] containing all elements. The operation is _terminal_.

public fun <T> Sequence<T>.toList(): List<T> {
    return this.toMutableList().optimizeReadOnlyList()
}

Returns a [MutableList] filled with all elements of this sequence. The operation is _terminal_.

public fun <T> Sequence<T>.toMutableList(): MutableList<T> {
    return toCollection(ArrayList<T>())
}

Returns a [Set] of all elements. The returned set preserves the element iteration order of the original sequence. The operation is _terminal_.

public fun <T> Sequence<T>.toSet(): Set<T> {
    return toCollection(LinkedHashSet<T>()).optimizeReadOnlySet()
}

Returns a single sequence of all elements from results of [transform] function being invoked on each element of original sequence. The operation is _intermediate_ and _stateless_.

public fun <T, R> Sequence<T>.flatMap(transform: (T) -> Sequence<R>):
Sequence<R> {
    return FlatteningSequence(this, transform, { it.iterator() })
}

Appends all elements yielded from results of [transform] function being invoked on each element of original sequence, to the given [destination]. The operation is _terminal_.

public inline fun <T, R, C : MutableCollection<in R>>
Sequence<T>.flatMapTo(destination: C, transform: (T) -> Sequence<R>): C {
    for (element in this) {
        val list = transform(element)
        destination.addAll(list)
    }
    return destination
}

Groups elements of the original sequence by the key returned by the given [keySelector] function applied to each element and returns a map where each group key is associated with a list of corresponding elements. The returned map preserves the entry iteration order of the keys produced from the original sequence. The operation is _terminal_.

@sample samples.collections.Collections.Transformations.groupBy
public inline fun <T, K> Sequence<T>.groupBy(keySelector: (T) -> K): Map<K, List<T>> {
    return groupByTo(LinkedHashMap<K, MutableList<T>>(), keySelector)
}

Groups values returned by the [valueTransform] function applied to each element of the original sequence by the key returned by the given [keySelector] function applied to the element and returns a map where each group key is associated with a list of corresponding values. The returned map preserves the entry iteration order of the keys produced from the original sequence. The operation is _terminal_.

@sample
samples.collections.Collections.Transformations.groupByKeysAndValues
public inline fun <T, K, V>
Sequence<T>.groupBy(keySelector: (T) -> K, valueTransform: (T) -> V): Map<K, List<V>> {
    return groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)
}

Groups elements of the original sequence by the key returned by the given [keySelector] function applied to each element and puts to the [destination] map each group key associated with a list of corresponding elements.

@return The [destination] map. The operation is _terminal_.

@sample
samples.collections.Collections.Transformations.groupBy
public inline fun <T, K, M : MutableMap<in K, MutableList<T>>>
Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K): M {
    for (element in this) {
        val key = keySelector(element)
        val list = destination.getOrPut(key) { ArrayList<T>() }
        list.add(element)
    }
    return destination
}

Groups values returned by the [valueTransform] function applied to each element of the original sequence by the key returned by the given [keySelector] function applied

```

to the element and puts to the [destination] map each group key associated with a list of corresponding values.

```

    * @return The [destination] map.
    * The operation is _terminal_.
    * @sample
    samples.collections.Collections.Transformations.groupByKeyAndValues
    * public inline fun <T, K, V, M : MutableMap<in K, MutableList<V>>> Sequence<T>.groupByTo(destination: M, keySelector: (T) -> K, valueTransform: (T) -> V): M {
        for (element in this) {
            val key = keySelector(element)
            val list = destination.getOrPut(key) { ArrayList<V>() }
            list.add(valueTransform(element))
        }
        return destination
    }
    * Creates a [Grouping] source from a sequence to be used later with one of group-and-fold operations using the specified [keySelector] function to extract a key from each element.
    * The operation is _intermediate_ and _stateless_.
    * @sample
    samples.collections.Grouping.groupingByEachCount
    * @SinceKotlin("1.1")
    * public inline fun <T, K> Sequence<T>.groupingBy(crossinline keySelector: (T) -> K): Grouping<T, K> {
        return object : Grouping<T, K> {
            override fun sourceIterator(): Iterator<T> = this@groupingBy.iterator()
            override fun keyOf(element: T): K = keySelector(element)
        }
    }
    * Returns a sequence containing the results of applying the given [transform] function to each element in the original sequence.
    * The operation is _intermediate_ and _stateless_.
    * public fun <T, R> Sequence<T>.map(transform: (T) -> R): Sequence<R> {
        return TransformingSequence(this, transform)
    }
    * Returns a sequence containing the results of applying the given [transform] function to each element and its index in the original sequence.
    * @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
    * The operation is _intermediate_ and _stateless_.
    * public fun <T, R> Sequence<T>.mapIndexed(transform: (index: Int, T) -> R): Sequence<R> {
        return TransformingIndexedSequence(this, transform)
    }
    * Returns a sequence containing only the non-null results of applying the given [transform] function to each element and its index in the original sequence.
    * @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
    * The operation is _intermediate_ and _stateless_.
    * public fun <T, R : Any> Sequence<T>.mapIndexedNotNull(transform: (index: Int, T) -> R?): Sequence<R> {
        return TransformingIndexedSequence(this, transform).filterNotNull()
    }
    * Applies the given [transform] function to each element and its index in the original sequence and appends only the non-null results to the given [destination].
    * @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
    * The operation is _terminal_.
    * public inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapIndexedNotNullTo(destination: C, transform: (index: Int, T) -> R?): C {
        forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }
        return destination
    }
    * Applies the given [transform] function to each element and its index in the original sequence and appends the results to the given [destination].
    * @param [transform] function that takes the index of an element and the element itself and returns the result of the transform applied to the element.
    * The operation is _terminal_.
    * public inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapIndexedTo(destination: C, transform: (index: Int, T) -> R): C {
        var index = 0
        for (item in this)
            destination.add(transform(checkIndexOverflow(index++), item))
        return destination
    }
    * Returns a sequence containing only the non-null results of applying the given [transform] function to each element in the original sequence.
    * The operation is _intermediate_ and _stateless_.
    * public fun <T, R : Any> Sequence<T>.mapNotNull(transform: (T) -> R?): Sequence<R> {
        return TransformingSequence(this, transform).filterNotNull()
    }
    * Applies the given [transform] function to each element in the original sequence and appends only the non-null results to the given [destination].
    * The operation is _terminal_.
    * public inline fun <T, R : Any, C : MutableCollection<in R>> Sequence<T>.mapNotNullTo(destination: C, transform: (T) -> R?): C {
        forEach { element -> transform(element)?.let { destination.add(it) } }
        return destination
    }
    * Applies the given [transform] function to each element of the original sequence and appends the results to the given [destination].
    * The operation is _terminal_.
    * public inline fun <T, R, C : MutableCollection<in R>> Sequence<T>.mapTo(destination: C, transform: (T) -> R): C {
        for (item in this)
            destination.add(transform(item))
        return destination
    }
    * Returns a sequence of [IndexedValue] for

```



```

Sequence<Float>.max(): Float? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var max =
iterator.next()\n  if (max.isNaN()) return max\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if
(e.isNaN()) return e\n    if (max < e) max = e\n  }\n  return max\n}\n\n/**\n * Returns the largest element or
`null` if there are no elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T : Comparable<T>>
Sequence<T>.max(): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var max =
iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if (max < e) max = e\n  }\n
return max\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there
are no elements.\n *\n * The operation is _terminal_.\n */\n * @sample
samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.maxBy(selector: (T) -> R): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n
var maxElem = iterator.next()\n  var maxValue = selector(maxElem)\n  while (iterator.hasNext()) {\n    val e =
iterator.next()\n    val v = selector(e)\n    if (maxValue < v) {\n      maxElem = e\n      maxValue = v\n    }\n  }\n  return maxElem\n}\n\n/**\n * Returns the first element having the largest value according to the
provided [comparator] or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T>
Sequence<T>.maxWith(comparator: Comparator<in T>): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext())
return null\n  var max = iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if
(comparator.compare(max, e) < 0) max = e\n  }\n  return max\n}\n\n/**\n * Returns the smallest element or `null`
if there are no elements.\n *\n * If any of elements is `NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n
*/\n * @SinceKotlin("1.1")\npublic fun Sequence<Double>.min(): Double? {\n  val iterator = iterator()\n  if
(!iterator.hasNext()) return null\n  var min = iterator.next()\n  if (min.isNaN()) return min\n  while
(iterator.hasNext()) {\n    val e = iterator.next()\n    if (e.isNaN()) return e\n    if (min > e) min = e\n  }\n
return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n *\n * If any of elements is
`NaN` returns `NaN`.\n *\n * The operation is _terminal_.\n */\n * @SinceKotlin("1.1")\npublic fun
Sequence<Float>.min(): Float? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var min =
iterator.next()\n  if (min.isNaN()) return min\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if
(e.isNaN()) return e\n    if (min > e) min = e\n  }\n  return min\n}\n\n/**\n * Returns the smallest element or
`null` if there are no elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T : Comparable<T>>
Sequence<T>.min(): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n  var min =
iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if (min > e) min = e\n  }\n
return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there are no
elements.\n *\n * The operation is _terminal_.\n */\n * @sample
samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <T, R : Comparable<R>>
Sequence<T>.minBy(selector: (T) -> R): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext()) return null\n
var minElem = iterator.next()\n  var minValue = selector(minElem)\n  while (iterator.hasNext()) {\n    val e =
iterator.next()\n    val v = selector(e)\n    if (minValue > v) {\n      minElem = e\n      minValue = v\n    }\n  }\n  return minElem\n}\n\n/**\n * Returns the first element having the smallest value according to the
provided [comparator] or `null` if there are no elements.\n *\n * The operation is _terminal_.\n */\npublic fun <T>
Sequence<T>.minWith(comparator: Comparator<in T>): T? {\n  val iterator = iterator()\n  if (!iterator.hasNext())
return null\n  var min = iterator.next()\n  while (iterator.hasNext()) {\n    val e = iterator.next()\n    if
(comparator.compare(min, e) > 0) min = e\n  }\n  return min\n}\n\n/**\n * Returns `true` if the sequence has no
elements.\n *\n * The operation is _terminal_.\n */\n * @sample samples.collections.Collections.Aggregates.none\n
*/\npublic fun <T> Sequence<T>.none(): Boolean {\n  return !iterator().hasNext()\n}\n\n/**\n * Returns `true` if
no elements match the given [predicate].\n *\n * The operation is _terminal_.\n */\n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun <T>
Sequence<T>.none(predicate: (T) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return
false\n  return true\n}\n\n/**\n * Returns a sequence which performs the given [action] on each element of the
original sequence as they pass through it.\n *\n * The operation is _intermediate_ and _stateless_.\n
*/\n * @SinceKotlin("1.1")\npublic fun <T> Sequence<T>.onEach(action: (T) -> Unit): Sequence<T> {\n  return

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map { \n      action(it)\n      it\n    }\n\n/**\n * Accumulates value starting with the first element and applying  

[operation] from left to right to current accumulator value and each element.\n *\n * The operation is _terminal_.\n *\n * \npublic inline fun <S, T : S> Sequence<T>.reduce(operation: (acc: S, T) -> S): S {\n  val iterator =  

this.iterator()\n  if (!iterator.hasNext()) throw UnsupportedOperationException("Empty sequence can't be  

reduced.")\n  var accumulator: S = iterator.next()\n  while (iterator.hasNext()) {\n    accumulator =  

operation(accumulator, iterator.next())\n  }\n  return accumulator\n}\n\n/**\n * Accumulates value starting with  

the first element and applying [operation] from left to right\n * to current accumulator value and each element with  

its index in the original sequence.\n * @param [operation] function that takes the index of an element, current  

accumulator value\n * and the element itself and calculates the next accumulator value.\n *\n * The operation is  

_terminal_.\n *\n * \npublic inline fun <S, T : S> Sequence<T>.reduceIndexed(operation: (index: Int, acc: S, T) -> S): S  

{\n  val iterator = this.iterator()\n  if (!iterator.hasNext()) throw UnsupportedOperationException("Empty  

sequence can't be reduced.")\n  var index = 1\n  var accumulator: S = iterator.next()\n  while (iterator.hasNext())  

{\n    accumulator = operation(checkIndexOverflow(index++), accumulator, iterator.next())\n  }\n  return  

accumulator\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in  

the sequence.\n *\n * The operation is _terminal_.\n *\n * \npublic inline fun <T> Sequence<T>.sumBy(selector: (T) ->  

Int): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += selector(element)\n  }\n  return  

sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function applied to each element in the  

sequence.\n *\n * The operation is _terminal_.\n *\n * \npublic inline fun <T> Sequence<T>.sumByDouble(selector:  

(T) -> Double): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += selector(element)\n  }\n  return sum\n}\n\n/**\n * Returns an original collection containing all the non-`null` elements, throwing an  

[IllegalArgumentException] if there are any `null` elements.\n *\n * The operation is _intermediate_ and  

_stateless_.\n *\n * \npublic fun <T : Any> Sequence<T?>.requireNonNulls(): Sequence<T> {\n  return map { it ?:  

throw IllegalArgumentException("null element found in $this.") }\n}\n\n/**\n * Splits this sequence into a  

sequence of lists each not exceeding the given [size].\n *\n * The last list in the resulting sequence may have less  

elements than the given [size].\n *\n * @param size the number of elements to take in each list, must be positive  

and can be greater than the number of elements in this sequence.\n *\n * The operation is _intermediate_ and  

_stateful_.\n *\n * @sample samples.collections.Collections.Transformations.chunked\n\n *\n * \n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.chunked(size: Int): Sequence<List<T>> {\n  return  

windowed(size, size, partialWindows = true)\n}\n\n/**\n * Splits this sequence into several lists each not exceeding  

the given [size]\n * and applies the given [transform] function to an each.\n *\n * @return sequence of results of the  

[transform] applied to an each list.\n *\n * Note that the list passed to the [transform] function is ephemeral and is  

valid only inside that function.\n *\n * You should not store it or allow it to escape in some way, unless you made a  

snapshot of it.\n *\n * The last list may have less elements than the given [size].\n *\n * @param size the number of  

elements to take in each list, must be positive and can be greater than the number of elements in this sequence.\n *\n * The operation is _intermediate_ and _stateful_.\n *\n * @sample samples.text.Strings.chunkedTransform\n\n *\n * \n@SinceKotlin("1.2")\npublic fun <T, R> Sequence<T>.chunked(size: Int, transform: (List<T>) -> R):  

Sequence<R> {\n  return windowed(size, size, partialWindows = true, transform = transform)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence without the first occurrence of the given  

[element].\n *\n * The operation is _intermediate_ and _stateless_.\n *\n * \npublic operator fun <T>  

Sequence<T>.minus(element: T): Sequence<T> {\n  return object: Sequence<T> {\n    override fun iterator():  

Iterator<T> {\n      var removed = false\n      return this@minus.filter { if (!removed && it == element) {\n  

removed = true; false } else true }.iterator()\n    }\n  }\n}\n\n/**\n * Returns a sequence containing all elements  

of original sequence except the elements contained in the given [elements] array.\n *\n * Note that the source  

sequence and the array being subtracted are iterated only when an `iterator` is requested from\n * the resulting  

sequence. Changing any of them between successive calls to `iterator` may affect the result.\n *\n * The [elements]  

array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct  

and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * The  

operation is _intermediate_ and _stateful_.\n *\n * \npublic operator fun <T> Sequence<T>.minus(elements: Array<out

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T>): Sequence<T> {\n if (elements.isEmpty()) return this\n return object: Sequence<T> {\n override fun
iterator(): Iterator<T> {\n val other = elements.toHashSet()\n return this@minus.filterNot { it in other
}.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all elements of original sequence except the
elements contained in the given [elements] collection.\n * \n * Note that the source sequence and the collection
being subtracted are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of
them between successive calls to `iterator` may affect the result.\n * \n * The [elements] collection may be converted
to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable
implementation of `hashCode()` that doesn't change between successive invocations.\n * \n * The operation is
intermediate and _stateful_.\n */\n\npublic operator fun <T> Sequence<T>.minus(elements: Iterable<T>):
Sequence<T> {\n return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other =
elements.convertToSetForSetOperation()\n if (other.isEmpty())\n return this@minus.iterator()\n
else\n return this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence
containing all elements of original sequence except the elements contained in the given [elements] sequence.\n * \n
* Note that the source sequence and the sequence being subtracted are iterated only when an `iterator` is requested
from\n * the resulting sequence. Changing any of them between successive calls to `iterator` may affect the result.\n
* \n * The operation is _intermediate_ for this sequence and _terminal_ and _stateful_ for the [elements] sequence.\n
* \n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are
required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive
invocations.\n */\n\npublic operator fun <T> Sequence<T>.minus(elements: Sequence<T>): Sequence<T> {\n
return object: Sequence<T> {\n override fun iterator(): Iterator<T> {\n val other =
elements.toHashSet()\n if (other.isEmpty())\n return this@minus.iterator()\n else\n
return this@minus.filterNot { it in other }.iterator()\n }\n }\n}\n\n/**\n * Returns a sequence containing all
elements of the original sequence without the first occurrence of the given [element].\n * \n * The operation is
intermediate and _stateless_.\n */\n\n@kotlin.internal.InlineOnly\n\npublic inline fun <T>
Sequence<T>.minusElement(element: T): Sequence<T> {\n return minus(element)\n}\n\n/**\n * Splits the
original sequence into pair of lists,\n * where *first* list contains elements for which [predicate] yielded `true`,\n * \n * while *second* list contains elements for which [predicate] yielded `false`.\n * \n * The operation is _terminal_.\n */\n\npublic inline fun <T> Sequence<T>.partition(predicate: (T) -> Boolean): Pair<List<T>, List<T>> {\n val first
= ArrayList<T>()\n val second = ArrayList<T>()\n for (element in this) {\n if (predicate(element)) {\n
first.add(element)\n } else {\n second.add(element)\n }\n }\n return Pair(first,
second)\n}\n\n/**\n * Returns a sequence containing all elements of the original sequence and then the given
[element].\n * \n * The operation is _intermediate_ and _stateless_.\n */\n\npublic operator fun <T>
Sequence<T>.plus(element: T): Sequence<T> {\n return sequenceOf(this,
sequenceOf(element)).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and
then all elements of the given [elements] array.\n * \n * Note that the source sequence and the array being added are
iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between
successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements: Array<out T>): Sequence<T> {\n return
this.plus(elements.asList())\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and then
all elements of the given [elements] collection.\n * \n * Note that the source sequence and the collection being added
are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them between
successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements: Iterable<T>): Sequence<T> {\n return sequenceOf(this,
elements.asSequence()).flatten()\n}\n\n/**\n * Returns a sequence containing all elements of original sequence and
then all elements of the given [elements] sequence.\n * \n * Note that the source sequence and the sequence being
added are iterated only when an `iterator` is requested from\n * the resulting sequence. Changing any of them
between successive calls to `iterator` may affect the result.\n * \n * The operation is _intermediate_ and _stateless_.\n */\n\npublic operator fun <T> Sequence<T>.plus(elements: Sequence<T>): Sequence<T> {\n return

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sequenceOf(this, elements).flatten()\n\n\n/**\n * Returns a sequence containing all elements of the original
sequence and then the given [element].\n * The operation is _intermediate_ and _stateless_.\n
*/\n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.plusElement(element: T): Sequence<T> {\n
return plus(element)\n}\n\n\n/**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding
along this sequence with the given [step], where each\n * snapshot is a list.\n * Several last lists may have less
elements than the given [size].\n * Both [size] and [step] must be positive and can be greater than the number of
elements in this sequence.\n * @param size the number of elements to take in each window\n * @param step the
number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows
controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial
windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n
*/\n@SinceKotlin("1.2")\npublic fun <T> Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows:
Boolean = false): Sequence<List<T>> {\n    return windowedSequence(size, step, partialWindows, reuseBuffer =
false)\n}\n\n\n/**\n * Returns a sequence of results of applying the given [transform] function to\n * an each list
representing a view over the window of the given [size]\n * sliding along this sequence with the given [step].\n * \n
* Note that the list passed to the [transform] function is ephemeral and is valid only inside that function.\n * You
should not store it or allow it to escape in some way, unless you made a snapshot of it.\n * Several last lists may
have less elements than the given [size].\n * Both [size] and [step] must be positive and can be greater than the
number of elements in this sequence.\n * @param size the number of elements to take in each window\n * @param
step the number of elements to move the window forward by on an each step, by default 1\n * @param
partialWindows controls whether or not to keep partial windows in the end if any,\n * by default `false` which
means partial windows won't be preserved\n * \n * @sample
samples.collections.Sequences.Transformations.averageWindows\n
*/\n@SinceKotlin("1.2")\npublic fun <T, R>
Sequence<T>.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (List<T>) -> R):
Sequence<R> {\n    return windowedSequence(size, step, partialWindows, reuseBuffer =
true).map(transform)\n}\n\n\n/**\n * Returns a sequence of values built from the elements of `this` sequence and the
[other] sequence with the same index.\n * The resulting sequence ends as soon as the shortest input sequence ends.\n
*\n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Sequences.Transformations.zip\n
*/\npublic infix fun <T, R> Sequence<T>.zip(other:
Sequence<R>): Sequence<Pair<T, R>> {\n    return MergingSequence(this, other) { t1, t2 -> t1 to t2 }\n}\n\n\n/**\n *
Returns a sequence of values built from the elements of `this` sequence and the [other] sequence with the same
index\n * using the provided [transform] function applied to each pair of elements.\n * The resulting sequence ends
as soon as the shortest input sequence ends.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n *
@sample samples.collections.Sequences.Transformations.zipWithTransform\n
*/\npublic fun <T, R, V>
Sequence<T>.zip(other: Sequence<R>, transform: (a: T, b: R) -> V): Sequence<V> {\n    return
MergingSequence(this, other, transform)\n}\n\n\n/**\n * Returns a sequence of pairs of each two adjacent elements in
this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two elements.\n * \n * The
operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNext\n
*/\n@SinceKotlin("1.2")\npublic fun <T>
Sequence<T>.zipWithNext(): Sequence<Pair<T, T>> {\n    return zipWithNext { a, b -> a to b }\n}\n\n\n/**\n *
Returns a sequence containing the results of applying the given [transform] function\n * to an each pair of two
adjacent elements in this sequence.\n * \n * The returned sequence is empty if this sequence contains less than two
elements.\n * \n * The operation is _intermediate_ and _stateless_.\n * \n * @sample
samples.collections.Collections.Transformations.zipWithNextToFindDeltas\n
*/\n@SinceKotlin("1.2")\npublic
fun <T, R> Sequence<T>.zipWithNext(transform: (a: T, b: T) -> R): Sequence<R> {\n    return sequence result@
{\n        val iterator = iterator()\n        if (!iterator.hasNext()) return@result\n        var current = iterator.next()\n
while (iterator.hasNext()) {\n            val next = iterator.next()\n            yield(transform(current, next))\n
current = next\n        }\n    }\n}\n\n\n/**\n * Appends the string from all the elements separated using [separator] and
using the given [prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-

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negative value of [limit], in which case only the first [limit]\n * elements will be appended, followed by the
[truncated] string (which defaults to "...").\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.joinTo\n * \npublic fun <T, A : Appendable>
Sequence<T>.joinTo(buffer: A, separator: CharSequence = "\", \"", prefix: CharSequence = \"\", postfix:
CharSequence = \"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): A
{\n  buffer.append(prefix)\n  var count = 0\n  for (element in this) {\n    if (++count > 1)
buffer.append(separator)\n    if (limit < 0 || count <= limit) {\n      buffer.appendElement(element, transform)\n
    } else break\n  }\n  if (limit >= 0 && count > limit) buffer.append(truncated)\n  buffer.append(postfix)\n
return buffer}\n}\n\n/**\n * Creates a string from all the elements separated using [separator] and using the given
[prefix] and [postfix] if supplied.\n * \n * If the collection could be huge, you can specify a non-negative value of
[limit], in which case only the first [limit]\n * elements will be appended, followed by the [truncated] string (which
defaults to "...").\n * \n * The operation is _terminal_.\n * \n * @sample
samples.collections.Collections.Transformations.joinToString\n * \npublic fun <T>
Sequence<T>.joinToString(separator: CharSequence = "\", \"", prefix: CharSequence = \"\", postfix: CharSequence =
\"\", limit: Int = -1, truncated: CharSequence = \"...\", transform: ((T) -> CharSequence)? = null): String {\n  return
joinTo(StringBuilder(), separator, prefix, postfix, limit, truncated, transform).toString()\n}\n}\n\n/**\n * Creates an
[Iterable] instance that wraps the original sequence returning its elements when being iterated.\n * \npublic fun <T>
Sequence<T>.asIterable(): Iterable<T> {\n  return Iterable { this.iterator() }\n}\n}\n\n/**\n * Returns this sequence as
a [Sequence].\n * \n@kotlin.internal.InlineOnly\npublic inline fun <T> Sequence<T>.asSequence(): Sequence<T>
{\n  return this}\n}\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is
_terminal_.\n * \n@kotlin.jvm.JvmName("averageOfByte")\npublic fun Sequence<Byte>.average(): Double {\n  var
sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("averageOfShort")\npublic fun Sequence<Short>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("averageOfInt")\npublic fun Sequence<Int>.average(): Double {\n  var sum: Double
= 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("averageOfLong")\npublic fun
Sequence<Long>.average(): Double {\n  var sum: Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n
sum += element\n  checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum /
count\n}\n}\n\n/**\n * Returns an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("averageOfFloat")\npublic fun Sequence<Float>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns
an average value of elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("averageOfDouble")\npublic fun Sequence<Double>.average(): Double {\n  var sum:
Double = 0.0\n  var count: Int = 0\n  for (element in this) {\n    sum += element\n
checkCountOverflow(++count)\n  }\n  return if (count == 0) Double.NaN else sum / count\n}\n}\n\n/**\n * Returns
the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfByte")\npublic fun Sequence<Byte>.sum(): Int {\n  var sum: Int = 0\n  for
(element in this) {\n    sum += element\n  }\n  return sum\n}\n}\n\n/**\n * Returns the sum of all elements in the
sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfShort")\npublic fun
Sequence<Short>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return
sum\n}\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n

```

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*@\n@kotlin.jvm.JvmName("\sumOfInt")\npublic fun Sequence<Int>.sum(): Int {\n  var sum: Int = 0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfLong")\npublic fun Sequence<Long>.sum(): Long {\n  var sum: Long = 0L\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfFloat")\npublic fun Sequence<Float>.sum(): Float {\n  var sum: Float = 0.0f\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n *\n * The operation is _terminal_.\n */\n@kotlin.jvm.JvmName("\sumOfDouble")\npublic fun Sequence<Double>.sum(): Double {\n  var sum: Double = 0.0\n  for (element in this) {\n    sum += element\n  }\n  return sum\n}\n\n",null,"*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n\n*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("SetsKt")\n\npackage kotlin.collections\n\n/\n\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * public operator fun <T> Set<T>.minus(element: T): Set<T> {\n  val result = LinkedHashSet<T>(mapCapacity(size))\n  var removed = false\n  return this.filterTo(result) { if (!removed && it == element) { removed = true; false } else true }\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] array.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] array may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * public operator fun <T> Set<T>.minus(elements: Array<out T>): Set<T> {\n  val result = LinkedHashSet<T>(this)\n  result.removeAll(elements)\n  return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] collection.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] collection may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * public operator fun <T> Set<T>.minus(elements: Iterable<T>): Set<T> {\n  val other = elements.convertToSetForSetOperationWith(this)\n  if (other.isEmpty())\n    return this.toSet()\n  if (other is Set)\n    return this.filterNotTo(LinkedHashSet<T>()) { it in other }\n  val result = LinkedHashSet<T>(this)\n  result.removeAll(other)\n  return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the elements contained in the given [elements] sequence.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * The [elements] sequence may be converted to a [HashSet] to speed up the operation, thus the elements are required to have\n * a correct and stable implementation of `hashCode()` that doesn't change between successive invocations.\n *\n * public operator fun <T> Set<T>.minus(elements: Sequence<T>): Set<T> {\n  val result = LinkedHashSet<T>(this)\n  result.removeAll(elements)\n  return result\n}\n\n/**\n * Returns a set containing all elements of the original set except the given [element].\n *\n * The returned set preserves the element iteration order of the original set.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Set<T>.minusElement(element: T): Set<T> {\n  return minus(element)\n}\n\n/**\n * Returns a set containing all elements of the original set and then the given [element] if it isn't already in this set.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * public operator fun <T> Set<T>.plus(element: T): Set<T> {\n  val result = LinkedHashSet<T>(mapCapacity(size + 1))\n  result.addAll(this)\n  result.add(element)\n  return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] array,\n * which aren't already in this set.\n *\n * The returned set preserves the element iteration order of the original set.\n *\n * public operator fun <T> Set<T>.plus(elements: Array<out T>): Set<T> {\n  val result = LinkedHashSet<T>(mapCapacity(this.size + elements.size))\n  result.addAll(this)\n  result.addAll(elements)\n  return result\n}\n\n/**\n * Returns a set containing all elements of the original set and the given [elements] collection,\n * which aren't already in this set.\n *\n * The returned set preserves the element

```

```

iteration order of the original set.\n */\npublic operator fun <T> Set<T>.plus(elements: Iterable<T>): Set<T> {\n
val result = LinkedHashSet<T>(mapCapacity(elements.collectionSizeOrNull()?.let { this.size + it } ?: this.size *
2))\n result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all
elements of the original set and the given [elements] sequence,\n * which aren't already in this set.\n * \n * The
returned set preserves the element iteration order of the original set.\n */\npublic operator fun <T>
Set<T>.plus(elements: Sequence<T>): Set<T> {\n val result = LinkedHashSet<T>(mapCapacity(this.size * 2))\n
result.addAll(this)\n result.addAll(elements)\n return result\n}\n\n/**\n * Returns a set containing all elements of
the original set and then the given [element] if it isn't already in this set.\n * \n * The returned set preserves the
element iteration order of the original set.\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun <T>
Set<T>.plusElement(element: T): Set<T> {\n return plus(element)\n}\n\n"/\n * Copyright 2010-2019 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license \n * that can be found in the
license/LICENSE.txt file.\n
\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n */\npublic expect fun
CharSequence.elementAt(index: Int): Char\n\n/**\n * Returns a character at the given [index] or the result of calling
the [defaultValue] function if the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.elementAtOrElse(index: Int, defaultValue: (Int) -> Char): Char {\n return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a character at the given [index] or `null` if
the [index] is out of bounds of this char sequence.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun
CharSequence.elementAtOrNull(index: Int): Char? {\n return this.getOrNull(index)\n}\n\n/**\n * Returns the first
character matching the given [predicate], or `null` if no such character was found.\n
\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.find(predicate: (Char) -> Boolean): Char? {\n
return firstOrNull(predicate)\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no
such character was found.\n
\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.findLast(predicate:
(Char) -> Boolean): Char? {\n return lastOrNull(predicate)\n}\n\n/**\n * Returns first character.\n * @throws
[NoSuchElementException] if the char sequence is empty.\n */\n\npublic fun CharSequence.first(): Char {\n if
(isEmpty())\n throw NoSuchElementException("Char sequence is empty.")\n return this[0]\n}\n\n/**\n *
Returns the first character matching the given [predicate].\n * @throws [NoSuchElementException] if no such
character is found.\n */\n\npublic inline fun CharSequence.first(predicate: (Char) -> Boolean): Char {\n for (element
in this) if (predicate(element)) return element\n throw NoSuchElementException("Char sequence contains no
character matching the predicate.")\n}\n\n/**\n * Returns the first character, or `null` if the char sequence is
empty.\n */\n\npublic fun CharSequence.firstOrNull(): Char? {\n return if (isEmpty()) null else this[0]\n}\n\n/**\n *
Returns the first character matching the given [predicate], or `null` if character was not found.\n */\n\npublic inline fun
CharSequence.firstOrNull(predicate: (Char) -> Boolean): Char? {\n for (element in this) if (predicate(element))
return element\n return null\n}\n\n/**\n * Returns a character at the given [index] or the result of calling the
[defaultValue] function if the [index] is out of bounds of this char sequence.\n
\n */\n\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.getOrNull(index: Int, defaultValue: (Int) -> Char):
Char {\n return if (index >= 0 && index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns a
character at the given [index] or `null` if the [index] is out of bounds of this char sequence.\n */\n\npublic fun
CharSequence.getOrNull(index: Int): Char? {\n return if (index >= 0 && index <= lastIndex) get(index) else
null\n}\n\n/**\n * Returns index of the first character matching the given [predicate], or -1 if the char sequence does
not contain such character.\n */\n\npublic inline fun CharSequence.indexOfFirst(predicate: (Char) -> Boolean): Int {\n
for (index in indices) {\n if (predicate(this[index])) {\n return index\n }\n }\n return -

```

```

1\n}\n\n/**\n * Returns index of the last character matching the given [predicate], or -1 if the char sequence does
not contain such character.\n * \npublic inline fun CharSequence.indexOfLast(predicate: (Char) -> Boolean): Int {\n
for (index in indices.reversed()) {\n    if (predicate(this[index])) {\n        return index\n    }\n }\n return -
1\n}\n\n/**\n * Returns the last character.\n * @throws [NoSuchElementException] if the char sequence is empty.\n
*\npublic fun CharSequence.last(): Char {\n    if (isEmpty())\n        throw NoSuchElementException("Char
sequence is empty.")\n    return this[lastIndex]\n}\n\n/**\n * Returns the last character matching the given
[predicate].\n * @throws [NoSuchElementException] if no such character is found.\n * \npublic inline fun
CharSequence.last(predicate: (Char) -> Boolean): Char {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Char
sequence contains no character matching the predicate.")\n}\n\n/**\n * Returns the last character, or `null` if the
char sequence is empty.\n * \npublic fun CharSequence.lastOrNull(): Char? {\n    return if (isEmpty()) null else
this[length - 1]\n}\n\n/**\n * Returns the last character matching the given [predicate], or `null` if no such character
was found.\n * \npublic inline fun CharSequence.lastOrNull(predicate: (Char) -> Boolean): Char? {\n    for (index in
this.indices.reversed()) {\n        val element = this[index]\n        if (predicate(element)) return element\n    }\n
return null\n}\n\n/**\n * Returns a random character from this char sequence.\n * \n * @throws
NoSuchElementException if this char sequence is empty.\n
*\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.random(): Char {\n
return random(Random)\n}\n\n/**\n * Returns a random character from this char sequence using the specified
source of randomness.\n * \n * @throws NoSuchElementException if this char sequence is empty.\n
*\n@SinceKotlin("1.3")\npublic fun CharSequence.random(random: Random): Char {\n    if (isEmpty())\n        throw
NoSuchElementException("Char sequence is empty.")\n    return get(random.nextInt(length))\n}\n\n/**\n *
Returns the single character, or throws an exception if the char sequence is empty or has more than one character.\n
*\npublic fun CharSequence.single(): Char {\n    return when (length) {\n        0 -> throw
NoSuchElementException("Char sequence is empty.")\n        1 -> this[0]\n        else -> throw
IllegalArgumentException("Char sequence has more than one element.")\n    }\n}\n\n/**\n * Returns the single
character matching the given [predicate], or throws exception if there is no or more than one matching character.\n
*\npublic inline fun CharSequence.single(predicate: (Char) -> Boolean): Char {\n    var single: Char? = null\n    var
found = false\n    for (element in this) {\n        if (predicate(element)) {\n            if (found) throw
IllegalArgumentException("Char sequence contains more than one matching element.")\n            single =
element\n            found = true\n        }\n    }\n    if (!found) throw NoSuchElementException("Char sequence
contains no character matching the predicate.")\n    @SuppressWarnings("UNCHECKED_CAST")\n    return single as
Char\n}\n}\n\n/**\n * Returns single character, or `null` if the char sequence is empty or has more than one character.\n
*\npublic fun CharSequence.singleOrNull(): Char? {\n    return if (length == 1) this[0] else null\n}\n\n/**\n *
Returns the single character matching the given [predicate], or `null` if character was not found or more than one
character was found.\n * \npublic inline fun CharSequence.singleOrNull(predicate: (Char) -> Boolean): Char? {\n
var single: Char? = null\n    var found = false\n    for (element in this) {\n        if (predicate(element)) {\n
            if (found) return null\n            single = element\n            found = true\n        }\n    }\n    if
(!found) return null\n    return single\n}\n\n/**\n * Returns a subsequence of this char sequence with the first [n]
characters removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n
*\npublic fun CharSequence.drop(n: Int): CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero."
}\n    return subSequence(n.coerceAtMost(length), length)\n}\n\n/**\n * Returns a string with the first [n] characters
removed.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.text.Strings.drop\n
*\npublic fun String.drop(n: Int): String {\n    require(n >= 0) { "Requested character
count $n is less than zero." }\n    return substring(n.coerceAtMost(length))\n}\n\n/**\n * Returns a subsequence of
this char sequence with the last [n] characters removed.\n * \n * @throws IllegalArgumentException if [n] is
negative.\n * \n * @sample samples.text.Strings.drop\n
*\npublic fun CharSequence.dropLast(n: Int):
CharSequence {\n    require(n >= 0) { "Requested character count $n is less than zero." }\n    return take((length -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a string with the last [n] characters removed.\n * \n * @throws

```

```

IllegalArgumentException if [n] is negative.\n * \n * @sample samples.text.Strings.drop\n */\npublic fun
String.dropLast(n: Int): String {\n    require(n >= 0) {\n        "Requested character count $n is less than zero.\n    }\n    return
take((length - n).coerceAtLeast(0))\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun CharSequence.dropLastWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return subSequence(0, index + 1)\n    return
""\n}\n\n/**\n * Returns a string containing all characters except last characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropLastWhile(predicate: (Char) ->
Boolean): String {\n    for (index in lastIndex downTo 0)\n        if (!predicate(this[index]))\n            return
substring(0, index + 1)\n    return ""\n}\n\n/**\n * Returns a subsequence of this char sequence containing all
characters except first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun CharSequence.dropWhile(predicate: (Char) -> Boolean): CharSequence {\n    for (index in
this.indices)\n        if (!predicate(this[index]))\n            return subSequence(index, length)\n    return ""\n}\n\n/**\n * Returns a string containing all characters except first characters that satisfy the given [predicate].\n * \n * @sample samples.text.Strings.drop\n */\npublic inline fun String.dropWhile(predicate: (Char) -> Boolean): String
{\n    for (index in this.indices)\n        if (!predicate(this[index]))\n            return substring(index)\n    return
""\n}\n\n/**\n * Returns a char sequence containing only those characters from the original char sequence that
match the given [predicate].\n */\npublic inline fun CharSequence.filter(predicate: (Char) -> Boolean):
CharSequence {\n    return filterTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a string containing only those
characters from the original string that match the given [predicate].\n */\npublic inline fun String.filter(predicate:
(Char) -> Boolean): String {\n    return filterTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Returns a char
sequence containing only those characters from the original char sequence that match the given [predicate].\n * @param [predicate] function that takes the index of a character and the character itself\n * and returns the result of
predicate evaluation on the character.\n */\npublic inline fun CharSequence.filterIndexed(predicate: (index: Int,
Char) -> Boolean): CharSequence {\n    return filterIndexedTo(StringBuilder(), predicate)\n}\n\n/**\n * Returns a
string containing only those characters from the original string that match the given [predicate].\n * @param
[predicate] function that takes the index of a character and the character itself\n * and returns the result of predicate
evaluation on the character.\n */\npublic inline fun String.filterIndexed(predicate: (index: Int, Char) -> Boolean):
String {\n    return filterIndexedTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n * @param [predicate] function that takes the index of a
character and the character itself\n * and returns the result of predicate evaluation on the character.\n */\npublic
inline fun <C : Appendable> CharSequence.filterIndexedTo(destination: C, predicate: (index: Int, Char) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))\n            destination.append(element)\n    }\n    return destination\n}\n\n/**\n * Returns a char sequence containing only
those characters from the original char sequence that do not match the given [predicate].\n */\npublic inline fun
CharSequence.filterNot(predicate: (Char) -> Boolean): CharSequence {\n    return filterNotTo(StringBuilder(),
predicate)\n}\n\n/**\n * Returns a string containing only those characters from the original string that do not match
the given [predicate].\n */\npublic inline fun String.filterNot(predicate: (Char) -> Boolean): String {\n    return
filterNotTo(StringBuilder(), predicate).toString()\n}\n\n/**\n * Appends all characters not matching the given
[predicate] to the given [destination].\n */\npublic inline fun <C : Appendable>
CharSequence.filterNotTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (element in this) if
(!predicate(element)) destination.append(element)\n    return destination\n}\n\n/**\n * Appends all characters
matching the given [predicate] to the given [destination].\n */\npublic inline fun <C : Appendable>
CharSequence.filterTo(destination: C, predicate: (Char) -> Boolean): C {\n    for (index in 0 until length) {\n        val
element = get(index)\n        if (predicate(element)) destination.append(element)\n    }\n    return
destination\n}\n\n/**\n * Returns a char sequence containing characters of the original char sequence at the
specified range of [indices].\n */\npublic fun CharSequence.slice(indices: IntRange): CharSequence {\n    if
(indices.isEmpty()) return ""\n    return subSequence(indices)\n}\n\n/**\n * Returns a string containing characters

```

of the original string at the specified range of [indices].

```

public fun String.slice(indices: IntRange): String {
    if (indices.isEmpty()) return ""
    return substring(indices)
}

```

* Returns a char sequence containing characters of the original char sequence at specified [indices].

```

public fun CharSequence.slice(indices: Iterable<Int>): CharSequence {
    val size = indices.collectionSizeOrDefault(10)
    if (size == 0) return ""
    val result = StringBuilder(size)
    for (i in indices) {
        result.append(get(i))
    }
    return result
}

```

* Returns a string containing characters of the original string at specified [indices].

```

@kotlin.internal.InlineOnly
public inline fun String.slice(indices: Iterable<Int>): String {
    return (this as CharSequence).slice(indices).toString()
}

```

* Returns a subsequence of this char sequence containing the first [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.

* @throws IllegalArgumentException if [n] is negative.

```

@sample samples.text.Strings.take

```

```

public fun CharSequence.take(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return subSequence(0, n.coerceAtMost(length))
}

```

* Returns a string containing the first [n] characters from this string, or the entire string if this string is shorter.

* @throws IllegalArgumentException if [n] is negative.

```

@sample samples.text.Strings.take

```

```

public fun String.take(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    return substring(0, n.coerceAtMost(length))
}

```

* Returns a subsequence of this char sequence containing the last [n] characters from this char sequence, or the entire char sequence if this char sequence is shorter.

* @throws IllegalArgumentException if [n] is negative.

```

@sample samples.text.Strings.take

```

```

public fun CharSequence.takeLast(n: Int): CharSequence {
    require(n >= 0) { "Requested character count $n is less than zero." }
    val length = length
    return subSequence(length - n.coerceAtMost(length), length)
}

```

* Returns a string containing the last [n] characters from this string, or the entire string if this string is shorter.

* @throws IllegalArgumentException if [n] is negative.

```

@sample samples.text.Strings.take

```

```

public fun String.takeLast(n: Int): String {
    require(n >= 0) { "Requested character count $n is less than zero." }
    val length = length
    return substring(length - n.coerceAtMost(length))
}

```

* Returns a subsequence of this char sequence containing last characters that satisfy the given [predicate].

* @sample samples.text.Strings.take

```

public inline fun CharSequence.takeLastWhile(predicate: (Char) -> Boolean):
CharSequence {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return subSequence(index + 1, length)
        }
    }
    return subSequence(0, length)
}

```

* Returns a string containing last characters that satisfy the given [predicate].

* @sample samples.text.Strings.take

```

public inline fun String.takeLastWhile(predicate: (Char) -> Boolean): String {
    for (index in lastIndex downTo 0) {
        if (!predicate(this[index])) {
            return substring(index + 1)
        }
    }
    return this
}

```

* Returns a subsequence of this char sequence containing the first characters that satisfy the given [predicate].

* @sample samples.text.Strings.take

```

public inline fun CharSequence.takeWhile(predicate: (Char) -> Boolean):
CharSequence {
    for (index in 0 until length) {
        if (!predicate(get(index))) {
            return subSequence(0, index)
        }
    }
    return subSequence(0, length)
}

```

* Returns a string containing the first characters that satisfy the given [predicate].

* @sample samples.text.Strings.take

```

public inline fun String.takeWhile(predicate: (Char) -> Boolean): String {
    for (index in 0 until length) {
        if (!predicate(get(index))) {
            return substring(0, index)
        }
    }
    return this
}

```

* Returns a char sequence with characters in reversed order.

```

public fun CharSequence.reversed(): CharSequence {
    return StringBuilder(this).reverse()
}

```

* Returns a string with characters in reversed order.

```

@kotlin.internal.InlineOnly
public inline fun String.reversed(): String {
    return (this as CharSequence).reversed().toString()
}

```

* Returns a [Map] containing key-value pairs provided by [transform] function applied to characters of the given char sequence.

* If any of two pairs would have the same key the last one gets added to the map.

* The returned map preserves the entry iteration order of the original char sequence.

```

public inline fun <K, V> CharSequence.associate(transform: (Char) -> Pair<K, V>):
Map<K, V> {
    val capacity = mapCapacity(length).coerceAtLeast(16)
    return associateTo(LinkedHashMap<K, V>(capacity), transform)
}

```

* Returns a [Map] containing the characters from the given char sequence indexed by the key returned from [keySelector] function applied to each


```

else -> toCollection(LinkedHashSet<Char>(mapCapacity(length)))\n } }\n\n/**\n * Returns a single list of all
elements yielded from results of [transform] function being invoked on each character of original char sequence.\n
*\npublic inline fun <R> CharSequence.flatMap(transform: (Char) -> Iterable<R>): List<R> {\n return
flatMapTo(ArrayList<R>(), transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform]
function being invoked on each character of original char sequence, to the given [destination].\n
*\npublic inline
fun <R, C : MutableCollection<in R>> CharSequence.flatMapTo(destination: C, transform: (Char) -> Iterable<R>):
C {\n for (element in this) {\n val list = transform(element)\n destination.addAll(list)\n }\n return
destination\n}\n\n/**\n * Groups characters of the original char sequence by the key returned by the given
[keySelector] function\n
*\n * applied to each character and returns a map where each group key is associated with a list
of corresponding characters.\n
*\n * The returned map preserves the entry iteration order of the keys produced from
the original char sequence.\n
*\n * @sample samples.collections.Collections.Transformations.groupBy\n
*\npublic inline fun <K> CharSequence.groupBy(keySelector: (Char) -> K): Map<K, List<Char>> {\n return
groupByTo(LinkedHashMap<K, MutableList<Char>>(), keySelector)\n}\n\n/**\n * Groups values returned by the
[valueTransform] function applied to each character of the original char sequence\n
*\n * by the key returned by the given [keySelector] function applied to the character\n
*\n * and returns a map where each group key is associated with a list of corresponding values.\n
*\n * The returned map preserves the entry iteration order of the keys produced
from the original char sequence.\n
*\n * @sample
samples.collections.Collections.Transformations.groupByKeyAndValues\n
*\npublic inline fun <K, V>
CharSequence.groupBy(keySelector: (Char) -> K, valueTransform: (Char) -> V): Map<K, List<V>> {\n return
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups
characters of the original char sequence by the key returned by the given [keySelector] function\n
*\n * applied to each character and puts to the [destination] map each group key associated with a list of corresponding characters.\n
*\n *
*\n * @return The [destination] map.\n
*\n * @sample samples.collections.Collections.Transformations.groupBy\n
*\npublic inline fun <K, M : MutableMap<in K, MutableList<Char>>> CharSequence.groupByTo(destination: M,
keySelector: (Char) -> K): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<Char>() }\n list.add(element)\n }\n return destination\n}\n\n/**\n *
Groups values returned by the [valueTransform] function applied to each character of the original char sequence\n
*\n * by the key returned by the given [keySelector] function applied to the character\n
*\n * and puts to the [destination] map each group key associated with a list of corresponding values.\n
*\n * @return The [destination] map.\n
*\n *
*\n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n
*\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> CharSequence.groupByTo(destination: M, keySelector: (Char) -> K,
valueTransform: (Char) -> V): M {\n for (element in this) {\n val key = keySelector(element)\n val list =
destination.getOrPut(key) { ArrayList<V>() }\n list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Creates a [Grouping] source from a char sequence to be used later with one of group-and-
fold operations\n
*\n * using the specified [keySelector] function to extract a key from each character.\n
*\n * @sample
samples.collections.Grouping.groupingByEachCount\n
*\n@SinceKotlin("1.1")\npublic inline fun <K>
CharSequence.groupingBy(crossinline keySelector: (Char) -> K): Grouping<Char, K> {\n return object :
Grouping<Char, K> {\n override fun sourceIterator(): Iterator<Char> = this@groupingBy.iterator()\n
override fun keyOf(element: Char): K = keySelector(element)\n }\n}\n\n/**\n * Returns a list containing the
results of applying the given [transform] function\n
*\n * to each character in the original char sequence.\n
*\npublic inline fun <R> CharSequence.map(transform: (Char) -> R): List<R> {\n return mapTo(ArrayList<R>(length),
transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n
*\n * to each character and its index in the original char sequence.\n
*\n * @param [transform] function that takes the index of a character and the character itself\n
*\n * and returns the result of the transform applied to the character.\n
*\npublic inline fun <R> CharSequence.mapIndexed(transform: (index: Int, Char) -> R): List<R> {\n return
mapIndexedTo(ArrayList<R>(length), transform)\n}\n\n/**\n * Returns a list containing only the non-null results of
applying the given [transform] function\n
*\n * to each character and its index in the original char sequence.\n
*\n *
*\n * @param [transform] function that takes the index of a character and the character itself\n
*\n * and returns the result of

```

the transform applied to the character.

```

public inline fun <R : Any>
CharSequence.mapIndexedNotNull(transform: (index: Int, Char) -> R?): List<R> {
    return
    mapIndexedNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each character and its index in the original char sequence and appends only the non-null results to the given [destination].

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

public inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapIndexedNotNullTo(destination: C, transform: (index: Int, Char) -> R?): C {
    forEachIndexed { index, element -> transform(index, element)?.let { destination.add(it) } }
    return destination
}

```

Applies the given [transform] function to each character and its index in the original char sequence and appends the results to the given [destination].

@param [transform] function that takes the index of a character and the character itself and returns the result of the transform applied to the character.

```

public inline fun <R : Any, C : MutableCollection<in R>> CharSequence.mapIndexedTo(destination: C, transform: (index: Int, Char) -> R): C {
    var index = 0
    for (item in this)
        destination.add(transform(index++, item))
    return destination
}

```

Returns a list containing only the non-null results of applying the given [transform] function to each character in the original char sequence.

```

public inline fun <R : Any>
CharSequence.mapNotNull(transform: (Char) -> R?): List<R> {
    return mapNotNullTo(ArrayList<R>(), transform)
}

```

Applies the given [transform] function to each character in the original char sequence and appends only the non-null results to the given [destination].

```

public inline fun <R : Any, C :
MutableCollection<in R>> CharSequence.mapNotNullTo(destination: C, transform: (Char) -> R?): C {
    forEach { element -> transform(element)?.let { destination.add(it) } }
    return destination
}

```

Applies the given [transform] function to each character of the original char sequence and appends the results to the given [destination].

```

public inline fun <R, C : MutableCollection<in R>> CharSequence.mapTo(destination: C, transform: (Char) -> R): C {
    for (item in this)
        destination.add(transform(item))
    return destination
}

```

Returns a lazy [Iterable] of [IndexedValue] for each character of the original char sequence.

```

public fun CharSequence.withIndex(): Iterable<IndexedValue<Char>> {
    return IndexingIterable { iterator() }
}

```

Returns `true` if all characters match the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.all

```

```

public inline fun CharSequence.all(predicate: (Char) -> Boolean): Boolean {
    for (element in this) if (!predicate(element)) return false
    return true
}

```

Returns `true` if char sequence has at least one character.

@sample

```

samples.collections.Collections.Aggregates.any

```

```

public fun CharSequence.any(): Boolean {
    return !isEmpty()
}

```

Returns `true` if at least one character matches the given [predicate].

@sample

```

samples.collections.Collections.Aggregates.anyWithPredicate

```

```

public inline fun CharSequence.any(predicate: (Char) -> Boolean): Boolean {
    for (element in this) if (predicate(element)) return true
    return false
}

```

Returns the length of this char sequence.

```

@kotlin.internal.InlineOnly
public inline fun
CharSequence.count(): Int {
    return length
}

```

Returns the number of characters matching the given [predicate].

```

public inline fun CharSequence.count(predicate: (Char) -> Boolean): Int {
    var count = 0
    for (element in this) if (predicate(element)) ++count
    return count
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each character.

```

public inline fun <R> CharSequence.fold(initial: R, operation: (acc: R, Char) -> R): R {
    var accumulator = initial
    for (element in this) accumulator = operation(accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from left to right to current accumulator value and each character with its index in the original char sequence.

@param [operation] function that takes the index of a character, current accumulator value and the character itself, and calculates the next accumulator value.

```

public inline fun <R> CharSequence.foldIndexed(initial: R, operation: (index: Int, acc: R, Char) -> R): R {
    var index = 0
    var accumulator = initial
    for (element in this) accumulator = operation(index++, accumulator, element)
    return accumulator
}

```

Accumulates value starting with [initial] value and applying [operation] from right to left to each character and current accumulator value.

```

public inline fun <R>
CharSequence.foldRight(initial: R, operation: (Char, acc: R) -> R): R {
    var index = lastIndex
    var

```

```

accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n
return accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right
to left\n * to each character with its index in the original char sequence and current accumulator value.\n * @param
[operation] function that takes the index of a character, the character itself\n * and current accumulator value, and
calculates the next accumulator value.\n */\npublic inline fun <R> CharSequence.foldRightIndexed(initial: R,
operation: (index: Int, Char, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while
(index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return
accumulator\n}\n\n/**\n * Performs the given [action] on each character.\n */\npublic inline fun
CharSequence.forEach(action: (Char) -> Unit): Unit {\n for (element in this) action(element)\n}\n\n/**\n *
Performs the given [action] on each character, providing sequential index with the character.\n * @param [action]
function that takes the index of a character and the character itself\n * and performs the desired action on the
character.\n */\npublic inline fun CharSequence.forEachIndexed(action: (index: Int, Char) -> Unit): Unit {\n var
index = 0\n for (item in this) action(index++, item)\n}\n\n/**\n * Returns the largest character or `null` if there are
no characters.\n */\npublic fun CharSequence.max(): Char? {\n if (isEmpty()) return null\n var max = this[0]\n
for (i in 1..lastIndex) {\n val e = this[i]\n if (max < e) max = e\n }\n return max\n}\n\n/**\n * Returns
the first character yielding the largest value of the given function or `null` if there are no characters.\n * \n *
@sample samples.collections.Collections.Aggregates.maxBy\n */\npublic inline fun <R : Comparable<R>>
CharSequence.maxBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var maxElem = this[0]\n
var maxValue = selector(maxElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if
(maxValue < v) {\n maxElem = e\n maxValue = v\n }\n }\n return maxElem\n}\n\n/**\n *
Returns the first character having the largest value according to the provided [comparator] or `null` if there are no
characters.\n */\npublic fun CharSequence.maxWith(comparator: Comparator<in Char>): Char? {\n if (isEmpty())
return null\n var max = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(max,
e) < 0) max = e\n }\n return max\n}\n\n/**\n * Returns the smallest character or `null` if there are no
characters.\n */\npublic fun CharSequence.min(): Char? {\n if (isEmpty()) return null\n var min = this[0]\n for
(i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min = e\n }\n return min\n}\n\n/**\n * Returns the
first character yielding the smallest value of the given function or `null` if there are no characters.\n * \n *
@sample samples.collections.Collections.Aggregates.minBy\n */\npublic inline fun <R : Comparable<R>>
CharSequence.minBy(selector: (Char) -> R): Char? {\n if (isEmpty()) return null\n var minElem = this[0]\n
var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v = selector(e)\n if
(minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return minElem\n}\n\n/**\n *
Returns the first character having the smallest value according to the provided [comparator] or `null` if there are no
characters.\n */\npublic fun CharSequence.minWith(comparator: Comparator<in Char>): Char? {\n if (isEmpty())
return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min,
e) > 0) min = e\n }\n return min\n}\n\n/**\n * Returns `true` if the char sequence has no characters.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n */\npublic fun CharSequence.none(): Boolean {\n
return isEmpty()\n}\n\n/**\n * Returns `true` if no characters match the given [predicate].\n * \n *
@sample samples.collections.Collections.Aggregates.noneWithPredicate\n */\npublic inline fun
CharSequence.none(predicate: (Char) -> Boolean): Boolean {\n for (element in this) if (predicate(element)) return
false\n return true\n}\n\n/**\n * Performs the given [action] on each character and returns the char sequence itself
afterwards.\n */\n@SinceKotlin("1.1")\npublic inline fun <S : CharSequence> S.onEach(action: (Char) -> Unit): S
{\n return apply { for (element in this) action(element) }\n}\n\n/**\n * Accumulates value starting with the first
character and applying [operation] from left to right to current accumulator value and each character.\n */\npublic
inline fun CharSequence.reduce(operation: (acc: Char, Char) -> Char): Char {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty char sequence can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first character and applying [operation] from left to
right\n * to current accumulator value and each character with its index in the original char sequence.\n * @param

```

```

[operation] function that takes the index of a character, current accumulator value
and calculates the next accumulator value.
*/
public inline fun CharSequence.reduceIndexed(operation: (index: Int,
acc: Char, Char) -> Char): Char {
    if (isEmpty()) throw UnsupportedOperationException("Empty char
sequence can't be reduced.")
    var accumulator = this[0]
    for (index in 1..lastIndex) {
        accumulator =
operation(index, accumulator, this[index])
    }
    return accumulator
}
*/
Accumulates value starting
with last character and applying [operation] from right to left to each character and current accumulator value.
*/
public inline fun CharSequence.reduceRight(operation: (Char, acc: Char) -> Char): Char {
    var index =
lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(get(index--), accumulator)
    }
    return accumulator
}
*/
Accumulates value starting with last character and applying [operation] from
right to left
to each character with its index in the original char sequence and current accumulator value.
*/
@param [operation] function that takes the index of a character, the character itself
and current accumulator
value, and calculates the next accumulator value.
*/
public inline fun
CharSequence.reduceRightIndexed(operation: (index: Int, Char, acc: Char) -> Char): Char {
    var index =
lastIndex
    if (index < 0) throw UnsupportedOperationException("Empty char sequence can't be reduced.")
    var accumulator = get(index--)
    while (index >= 0) {
        accumulator = operation(index, get(index),
accumulator)
        --index
    }
    return accumulator
}
*/
Returns the sum of all values produced by
[selector] function applied to each character in the char sequence.
*/
public inline fun
CharSequence.sumBy(selector: (Char) -> Int): Int {
    var sum: Int = 0
    for (element in this) {
        sum +=
selector(element)
    }
    return sum
}
*/
Returns the sum of all values produced by [selector] function
applied to each character in the char sequence.
*/
public inline fun CharSequence.sumByDouble(selector: (Char)
-> Double): Double {
    var sum: Double = 0.0
    for (element in this) {
        sum += selector(element)
    }
    return sum
}
*/
Splits this char sequence into a list of strings each not exceeding the given [size].
*/
The last string in the resulting list may have less characters than the given [size].
*/
@param size the number
of elements to take in each string, must be positive and can be greater than the number of elements in this char
sequence.
*/
@param sample samples.collections.Collections.Transformations.chunked
*/
*/
@SinceKotlin("1.2")
public fun CharSequence.chunked(size: Int): List<String> {
    return windowed(size,
size, partialWindows = true)
}
*/
Splits this char sequence into several char sequences each not exceeding
the given [size]
and applies the given [transform] function to an each.
*/
@param return list of results of the
[transform] applied to an each char sequence.
*/
Note that the char sequence passed to the [transform] function
is ephemeral and is valid only inside that function.
*/
You should not store it or allow it to escape in some way,
unless you made a snapshot of it.
*/
The last char sequence may have less characters than the given [size].
*/
@param size the number of elements to take in each char sequence, must be positive and can be greater than the
number of elements in this char sequence.
*/
@param sample samples.text.Strings.chunkedTransform
*/
*/
@SinceKotlin("1.2")
public fun <R> CharSequence.chunked(size: Int, transform: (CharSequence) -> R):
List<R> {
    return windowed(size, size, partialWindows = true, transform = transform)
}
*/
Splits this
char sequence into a sequence of strings each not exceeding the given [size].
*/
The last string in the resulting
sequence may have less characters than the given [size].
*/
@param size the number of elements to take in
each string, must be positive and can be greater than the number of elements in this char sequence.
*/
@param sample
samples.collections.Collections.Transformations.chunked
*/
*/
@SinceKotlin("1.2")
public fun
CharSequence.chunkedSequence(size: Int): Sequence<String> {
    return chunkedSequence(size) { it.toString()
}
}
*/
Splits this char sequence into several char sequences each not exceeding the given [size]
and
applies the given [transform] function to an each.
*/
@param return sequence of results of the [transform] applied to
an each char sequence.
*/
Note that the char sequence passed to the [transform] function is ephemeral and is
valid only inside that function.
*/
You should not store it or allow it to escape in some way, unless you made a
snapshot of it.
*/
The last char sequence may have less characters than the given [size].
*/
@param size the
number of elements to take in each char sequence, must be positive and can be greater than the number of elements
in this char sequence.
*/
@param sample samples.text.Strings.chunkedTransformToSequence

```

```

*^@SinceKotlin("1.2")\npublic fun <R> CharSequence.chunkedSequence(size: Int, transform: (CharSequence) -
> R): Sequence<R> {\n    return windowedSequence(size, size, partialWindows = true, transform =
transform)\n}\n\n/**\n * Splits the original char sequence into pair of char sequences,\n * where *first* char
sequence contains characters for which [predicate] yielded `true`,\n * while *second* char sequence contains
characters for which [predicate] yielded `false`.\n */\n\npublic inline fun CharSequence.partition(predicate: (Char) ->
Boolean): Pair<CharSequence, CharSequence> {\n    val first = StringBuilder()\n    val second = StringBuilder()\n
for (element in this) {\n        if (predicate(element)) {\n            first.append(element)\n        } else {\n
second.append(element)\n        }\n    }\n    return Pair(first, second)\n}\n\n/**\n * Splits the original string into pair
of strings,\n * where *first* string contains characters for which [predicate] yielded `true`,\n * while *second* string
contains characters for which [predicate] yielded `false`.\n */\n\npublic inline fun String.partition(predicate: (Char) ->
Boolean): Pair<String, String> {\n    val first = StringBuilder()\n    val second = StringBuilder()\n
for (element in this) {\n        if (predicate(element)) {\n            first.append(element)\n        } else {\n
second.append(element)\n        }\n    }\n    return Pair(first.toString(), second.toString())\n}\n\n/**\n * Returns a list
of snapshots of the window of the given [size]\n * sliding along this char sequence with the given [step], where
each\n * snapshot is a string.\n * \n * Several last strings may have less characters than the given [size].\n * \n *
Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.\n *
@param size the number of elements to take in each window\n * @param step the number of elements to move the
window forward by on an each step, by default 1\n * @param partialWindows controls whether or not to keep
partial windows in the end if any,\n * by default `false` which means partial windows won't be preserved\n * \n *
@sample samples.collections.Sequences.Transformations.takeWindows\n */\n\n@SinceKotlin("1.2")\npublic fun
CharSequence.windowed(size: Int, step: Int = 1, partialWindows: Boolean = false): List<String> {\n    return
windowed(size, step, partialWindows) { it.toString() }\n}\n\n/**\n * Returns a list of results of applying the given
[transform] function to\n * an each char sequence representing a view over the window of the given [size]\n *
sliding along this char sequence with the given [step].\n * \n * Note that the char sequence passed to the [transform]
function is ephemeral and is valid only inside that function.\n * You should not store it or allow it to escape in some
way, unless you made a snapshot of it.\n * Several last char sequences may have less characters than the given
[size].\n * \n * Both [size] and [step] must be positive and can be greater than the number of elements in this char
sequence.\n * \n * @param size the number of elements to take in each window\n * @param step the number of
elements to move the window forward by on an each step, by default 1\n * @param partialWindows controls
whether or not to keep partial windows in the end if any,\n * by default `false` which means partial windows won't
be preserved\n * \n * @sample samples.collections.Sequences.Transformations.averageWindows\n */\n\n@SinceKotlin("1.2")\npublic fun <R> CharSequence.windowed(size: Int, step: Int = 1, partialWindows:
Boolean = false, transform: (CharSequence) -> R): List<R> {\n    checkWindowSizeStep(size, step)\n    val thisSize
= this.length\n    val result = ArrayList<R>((thisSize + step - 1) / step)\n    var index = 0\n    while (index < thisSize)
{\n        val end = index + size\n        val coercedEnd = if (end > thisSize) { if (partialWindows) thisSize else break }
else end\n        result.add(transform(subSequence(index, coercedEnd)))\n        index += step\n    }\n    return
result\n}\n\n/**\n * Returns a sequence of snapshots of the window of the given [size]\n * sliding along this char
sequence with the given [step], where each\n * snapshot is a string.\n * \n * Several last strings may have less
characters than the given [size].\n * \n * Both [size] and [step] must be positive and can be greater than the number
of elements in this char sequence.\n * \n * @param size the number of elements to take in each window\n * @param step
the number of elements to move the window forward by on an each step, by default 1\n * @param partialWindows
controls whether or not to keep partial windows in the end if any,\n * by default `false` which means partial
windows won't be preserved\n * \n * @sample samples.collections.Sequences.Transformations.takeWindows\n */\n\n@SinceKotlin("1.2")\npublic fun CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows:
Boolean = false): Sequence<String> {\n    return windowedSequence(size, step, partialWindows) { it.toString()
}\n}\n\n/**\n * Returns a sequence of results of applying the given [transform] function to\n * an each char
sequence representing a view over the window of the given [size]\n * sliding along this char sequence with the given
[step].\n * \n * Note that the char sequence passed to the [transform] function is ephemeral and is valid only inside

```

that function.

- * You should not store it or allow it to escape in some way, unless you made a snapshot of it.
- * Several last char sequences may have less characters than the given [size].
- * Both [size] and [step] must be positive and can be greater than the number of elements in this char sequence.
- * @param size the number of elements to take in each window
- * @param step the number of elements to move the window forward by on each step, by default 1
- * @param partialWindows controls whether or not to keep partial windows in the end if any, by default `false` which means partial windows won't be preserved
- * @sample samples.collections.Sequences.Transformations.averageWindows

```


^@SinceKotlin("1.2")
public fun <R> CharSequence.windowedSequence(size: Int, step: Int = 1, partialWindows: Boolean = false, transform: (CharSequence) -> R): Sequence<R> {
    checkWindowSizeStep(size, step)
    val windows = (if (partialWindows) indices else 0 until length - size + 1) step step
    return windows.asSequence().map { index -> transform(subSequence(index, (index + size).coerceAtMost(length))) }
}


```

- * Returns a list of pairs built from the characters of `this` and the [other] char sequences with the same index
- * The returned list has length of the shortest char sequence.
- * @sample samples.text.Strings.zip

```


^public infix fun CharSequence.zip(other: CharSequence): List<Pair<Char, Char>> {
    return zip(other) { c1, c2 -> c1 to c2 }
}


```

- * Returns a list of values built from the characters of `this` and the [other] char sequences with the same index
- * using the provided [transform] function applied to each pair of characters.
- * The returned list has length of the shortest char sequence.
- * @sample samples.text.Strings.zipWithTransform

```


^public inline fun <V> CharSequence.zip(other: CharSequence, transform: (a: Char, b: Char) -> V): List<V> {
    val length = minOf(this.length, other.length)
    val list = ArrayList<V>(length)
    for (i in 0 until length) {
        list.add(transform(this[i], other[i]))
    }
    return list
}


```

- * Returns a list of pairs of each two adjacent characters in this char sequence.
- * The returned list is empty if this char sequence contains less than two characters.
- * @sample samples.collections.Collections.Transformations.zipWithNext

```


^@SinceKotlin("1.2")
public fun CharSequence.zipWithNext(): List<Pair<Char, Char>> {
    return zipWithNext { a, b -> a to b }
}


```

- * Returns a list containing the results of applying the given [transform] function to an each pair of two adjacent characters in this char sequence.
- * The returned list is empty if this char sequence contains less than two characters.
- * @sample samples.collections.Collections.Transformations.zipWithNextToFindDeltas

```


^@SinceKotlin("1.2")
public inline fun <R> CharSequence.zipWithNext(transform: (a: Char, b: Char) -> R): List<R> {
    val size = length - 1
    if (size < 1) return emptyList()
    val result = ArrayList<R>(size)
    for (index in 0 until size) {
        result.add(transform(this[index], this[index + 1]))
    }
    return result
}


```

- * Creates an [Iterable] instance that wraps the original char sequence returning its characters when being iterated.
- * @public fun CharSequence.asIterable(): Iterable<Char> {
 if (this is String && isEmpty()) return emptyList()
 return Iterable { this.iterator() }
}
- * Creates a [Sequence] instance that wraps the original char sequence returning its characters when being iterated.
- * @public fun CharSequence.asSequence(): Sequence<Char> {
 if (this is String && isEmpty()) return emptySequence()
 return Sequence { this.iterator() }
}

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```


^@file:kotlin.jvm.JvmMultifileClass
^@file:kotlin.jvm.JvmName("StringsKt")
package kotlin.text
import kotlin.contracts.contract


```

- * Returns a sub sequence of this char sequence having leading and trailing characters matching the [predicate] removed.
- * @public inline fun CharSequence.trim(predicate: (Char) -> Boolean): CharSequence {
 var startIndex = 0
 var endIndex = length - 1
 var startFound = false
 while (startIndex <= endIndex) {
 val index = if (!startFound) startIndex else endIndex
 val match = predicate(this[index])
 if (!startFound) {
 if (!match) startFound = true
 } else {
 startIndex += 1
 }
 if (!match) break
 else endIndex -= 1
 }
 return subSequence(startIndex, endIndex + 1)
}
- * Returns a string having leading and trailing characters matching the [predicate] removed.
- * @public inline fun String.trim(predicate: (Char) -> Boolean): String = (this as CharSequence).trim(predicate).toString()
- * Returns a sub sequence of this char sequence having leading characters matching the [predicate] removed.

```

*public inline fun CharSequence.trimStart(predicate: (Char) -> Boolean): CharSequence {
    for (index in this.indices)
        if (!predicate(this[index]))
            return subSequence(index, length)
    return ""
}
* Returns a string having leading characters matching the [predicate] removed.
*public inline fun String.trimStart(predicate: (Char) -> Boolean): String =
    (this as CharSequence).trimStart(predicate).toString()
* Returns a sub sequence of this char sequence having trailing characters matching the [predicate] removed.
*public inline fun CharSequence.trimEnd(predicate: (Char) -> Boolean): CharSequence {
    for (index in this.indices.reversed())
        if (!predicate(this[index]))
            return subSequence(0, index + 1)
    return ""
}
* Returns a string having trailing characters matching the [predicate] removed.
*public inline fun String.trimEnd(predicate: (Char) -> Boolean): String =
    (this as CharSequence).trimEnd(predicate).toString()
* Returns a sub sequence of this char sequence having leading and trailing characters from the [chars] array removed.
*public fun CharSequence.trim(vararg chars: Char): CharSequence = trim { it in chars }
* Returns a string having leading and trailing characters from the [chars] array removed.
*public fun String.trim(vararg chars: Char): String = trim { it in chars }
* Returns a sub sequence of this char sequence having leading characters from the [chars] array removed.
*public fun CharSequence.trimStart(vararg chars: Char): CharSequence = trimStart { it in chars }
* Returns a string having leading characters from the [chars] array removed.
*public fun String.trimStart(vararg chars: Char): String = trimStart { it in chars }
* Returns a sub sequence of this char sequence having trailing characters from the [chars] array removed.
*public fun CharSequence.trimEnd(vararg chars: Char): CharSequence = trimEnd { it in chars }
* Returns a string having trailing characters from the [chars] array removed.
*public fun String.trimEnd(vararg chars: Char): String = trimEnd { it in chars }
* Returns a sub sequence of this char sequence having leading and trailing whitespace removed.
*public fun CharSequence.trim(): CharSequence = trim(Char::isWhitespace)
* Returns a string having leading and trailing whitespace removed.
*internal inline fun String.trim(): String = (this as CharSequence).trim().toString()
* Returns a sub sequence of this char sequence having leading whitespace removed.
*public fun CharSequence.trimStart(): CharSequence = trimStart(Char::isWhitespace)
* Returns a string having leading whitespace removed.
*internal inline fun String.trimStart(): String = (this as CharSequence).trimStart().toString()
* Returns a sub sequence of this char sequence having trailing whitespace removed.
*public fun CharSequence.trimEnd(): CharSequence = trimEnd(Char::isWhitespace)
* Returns a string having trailing whitespace removed.
*internal inline fun String.trimEnd(): String = (this as CharSequence).trimEnd().toString()
* Returns a char sequence with content of this char sequence padded at the beginning
* to the specified [length] with the specified character or space.
* @param length the desired string length.
* @param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
* @return Returns a char sequence of length at least [length] consisting of `this` char sequence
prepending with [padChar] as many times
* as are necessary to reach that length.
* @sample samples.text.Strings.padStart
*public fun CharSequence.padStart(length: Int, padChar: Char = ' '): CharSequence {
    if (length < 0)
        throw IllegalArgumentException("Desired length $length is less than zero.")
    if (length <= this.length)
        return this.subSequence(0, this.length)
    val sb = StringBuilder(length)
    for (i in 1..(length - this.length))
        sb.append(padChar)
    sb.append(this)
    return sb
}
* Pads the string to the specified [length] at the beginning with the specified character or space.
* @param length the desired string length.
* @param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
* @return Returns a string of length at least [length] consisting of `this` string prepending with [padChar] as many times
* as are necessary to reach that length.
* @sample samples.text.Strings.padStart
*public fun String.padStart(length: Int, padChar: Char = ' '): String =
    (this as CharSequence).padStart(length, padChar).toString()
* Returns a char sequence with content of this char sequence padded at the end
* to the specified [length] with the specified character or space.
* @param length the desired string length.
* @param padChar the character to pad string with, if it has length less than the [length] specified.
Space is used by default.
* @return Returns a char sequence of length at least [length]

```

```

consisting of `this` char sequence appended with [padChar] as many times\n * as are necessary to reach that
length.\n * @sample samples.text.Strings.padEnd\n */\npublic fun CharSequence.padEnd(length: Int, padChar: Char
= ' '): CharSequence {\n    if (length < 0)\n        throw IllegalArgumentException("Desired length $length is less
than zero.")\n    if (length <= this.length)\n        return this.subSequence(0, this.length)\n\n    val sb =
StringBuilder(length)\n    sb.append(this)\n    for (i in 1..(length - this.length))\n        sb.append(padChar)\n    return
sb\n}\n\n/**\n * Pads the string to the specified [length] at the end with the specified character or space.\n *\n *
@param length the desired string length.\n * @param padChar the character to pad string with, if it has length less
than the [length] specified. Space is used by default.\n * @return Returns a string of length at least [length]
consisting of `this` string appended with [padChar] as many times\n * as are necessary to reach that length.\n *
@sample samples.text.Strings.padEnd\n */\npublic fun String.padEnd(length: Int, padChar: Char = ' '): String =\n(this as CharSequence).padEnd(length, padChar).toString()\n\n/**\n * Returns `true` if this nullable char sequence is
either `null` or empty.\n *\n * @sample samples.text.Strings.stringOrNull\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun CharSequence?.isNullOrEmpty(): Boolean {\n    contract {\n
returns(false) implies (this@isNullOrEmpty != null)\n    }\n\n    return this == null || this.length == 0\n}\n\n/**\n * Returns `true` if this char sequence is empty (contains no characters).\n *\n * @sample
samples.text.Strings.stringIsEmpty\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun CharSequence.isEmpty():
Boolean = length == 0\n\n/**\n * Returns `true` if this char sequence is not empty.\n *\n * @sample
samples.text.Strings.stringIsNotEmpty\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun
CharSequence.isNotEmpty(): Boolean = length > 0\n\n// implemented differently in JVM and JS\n//\npublic fun
String.isBlank(): Boolean = length() == 0 || all { it.isWhitespace() }\n\n/**\n * Returns `true` if this char sequence
is not empty and contains some characters except of whitespace characters.\n *\n * @sample
samples.text.Strings.stringIsNotBlank\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun
CharSequence.isNotBlank(): Boolean = !isBlank()\n\n/**\n * Returns `true` if this nullable char sequence is either
`null` or empty or consists solely of whitespace characters.\n *\n * @sample
samples.text.Strings.stringOrNullOrBlank\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun
CharSequence?.isNullOrBlank(): Boolean {\n    contract {\n
returns(false) implies (this@isNullOrBlank !=
null)\n    }\n\n    return this == null || this.isBlank()\n}\n\n/**\n * Iterator for characters of the given char sequence.\n
*\n * @public operator fun CharSequence.iterator(): CharIterator = object : CharIterator() {\n    private var index = 0\n\n
public override fun nextChar(): Char = get(index++)\n\n    public override fun hasNext(): Boolean = index <
length\n}\n\n/**\n * Returns the string if it is not `null`, or the empty string otherwise.\n *\n * @kotlin.internal.InlineOnly\n */\npublic inline fun String?.orEmpty(): String = this ?: ""\n\n/**\n * Returns this
char sequence if it's not empty\n * or the result of calling [defaultValue] function if the char sequence is empty.\n
*\n * @sample samples.text.Strings.stringIfEmpty\n */\n\n/**\n * @kotlin("1.3")\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun <C, R> C.ifEmpty(defaultValue: () ->
R): R where C : CharSequence, C : R =\n    if (isEmpty()) defaultValue() else this\n\n/**\n * Returns this char
sequence if it is not empty and doesn't consist solely of whitespace characters,\n * or the result of calling
[defaultValue] function otherwise.\n *\n * @sample samples.text.Strings.stringIfNotBlank\n */\n\n/**\n * @kotlin("1.3")\n */\n\n/**\n * @kotlin.internal.InlineOnly\n */\npublic inline fun <C, R> C.ifBlank(defaultValue: () -> R):
R where C : CharSequence, C : R =\n    if (isBlank()) defaultValue() else this\n\n/**\n * Returns the range of valid
character indices for this char sequence.\n *\n * @public val CharSequence.indices: IntRange\n    get() = 0..length -
1\n\n/**\n * Returns the index of the last character in the char sequence or -1 if it is empty.\n *\n * @public val
CharSequence.lastIndex: Int\n    get() = this.length - 1\n\n/**\n * Returns `true` if this CharSequence has Unicode
surrogate pair at the specified [index].\n *\n * @public fun CharSequence.hasSurrogatePairAt(index: Int): Boolean {\n
return index in 0..length - 2\n    && this[index].isHighSurrogate()\n    && this[index +
1].isLowSurrogate()\n}\n\n/**\n * Returns a substring specified by the given [range] of indices.\n *\n * @public fun
String.substring(range: IntRange): String = substring(range.start, range.endInclusive + 1)\n\n/**\n * Returns a
subsequence of this char sequence specified by the given [range] of indices.\n *\n * @public fun
CharSequence.subSequence(range: IntRange): CharSequence = subSequence(range.start, range.endInclusive +

```

```

1)\n\n/**\n * Returns a subsequence of this char sequence.\n * This extension is chosen only for invocation with
old-named parameters.\n * Replace parameter names with the same as those of [CharSequence.subSequence].\n
*\n@kotlin.internal.InlineOnly\n@Suppress("\u0027EXTENSION_SHADOWED_BY_MEMBER\u0027") // false
warning\n@Deprecated("Use parameters named startIndex and endIndex.\u0027", ReplaceWith("\u0027subSequence(startIndex
= start, endIndex = end)\u0027"))\npublic inline fun String.subSequence(start: Int, end: Int): CharSequence =
subSequence(start, end)\n\n/**\n * Returns a substring of chars from a range of this char sequence starting at the
[startIndex] and ending right before the [endIndex].\n * @param startIndex the start index (inclusive).\n *
@param endIndex the end index (exclusive). If not specified, the length of the char sequence is used.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.substring(startIndex: Int, endIndex: Int = length):
String = subSequence(startIndex, endIndex).toString()\n\n/**\n * Returns a substring of chars at indices from the
specified [range] of this char sequence.\n * \npublic fun CharSequence.substring(range: IntRange): String =
subSequence(range.start, range.endInclusive + 1).toString()\n\n/**\n * Returns a substring before the first
occurrence of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which
defaults to the original string.\n * \npublic fun String.substringBefore(delimiter: Char, missingDelimiterValue:
String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(0, index)\n}\n\n/**\n * Returns a substring before the first occurrence of [delimiter].\n * If the string does
not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n * \npublic fun
String.substringBefore(delimiter: String, missingDelimiterValue: String = this): String {\n    val index =
indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns
a substring after the first occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n * \npublic fun String.substringAfter(delimiter:
Char, missingDelimiterValue: String = this): String {\n    val index = indexOf(delimiter)\n    return if (index == -1)
missingDelimiterValue else substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the first occurrence
of [delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n * \npublic fun String.substringAfter(delimiter: String, missingDelimiterValue: String = this):
String {\n    val index = indexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)\n}\n\n/**\n * Returns a substring before the last occurrence of [delimiter].\n * If the string
does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n * \npublic
fun String.substringBeforeLast(delimiter: Char, missingDelimiterValue: String = this): String {\n    val index =
lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n *
Returns a substring before the last occurrence of [delimiter].\n * If the string does not contain the delimiter, returns
[missingDelimiterValue] which defaults to the original string.\n * \npublic fun String.substringBeforeLast(delimiter:
String, missingDelimiterValue: String = this): String {\n    val index = lastIndexOf(delimiter)\n    return if (index ==
-1) missingDelimiterValue else substring(0, index)\n}\n\n/**\n * Returns a substring after the last occurrence of
[delimiter].\n * If the string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the
original string.\n * \npublic fun String.substringAfterLast(delimiter: Char, missingDelimiterValue: String = this):
String {\n    val index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else
substring(index + 1, length)\n}\n\n/**\n * Returns a substring after the last occurrence of [delimiter].\n * If the
string does not contain the delimiter, returns [missingDelimiterValue] which defaults to the original string.\n
*\npublic fun String.substringAfterLast(delimiter: String, missingDelimiterValue: String = this): String {\n    val
index = lastIndexOf(delimiter)\n    return if (index == -1) missingDelimiterValue else substring(index +
delimiter.length, length)\n}\n\n/**\n * Returns a char sequence with content of this char sequence where its part at
the given range\n * is replaced with the [replacement] char sequence.\n * @param startIndex the index of the first
character to be replaced.\n * @param endIndex the index of the first character after the replacement to keep in the
string.\n * \npublic fun CharSequence.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence):
CharSequence {\n    if (endIndex < startIndex)\n        throw IndexOutOfBoundsException("\u0027End index ($endIndex)
is less than start index ($startIndex).\u0027")\n    val sb = StringBuilder()\n    sb.append(this, 0, startIndex)\n
sb.append(replacement)\n    sb.append(this, endIndex, length)\n    return sb\n}\n\n/**\n * Replaces the part of the

```

string at the given range with the [replacement] char sequence.

`@param startIndex` the index of the first character to be replaced.

`@param endIndex` the index of the first character after the replacement to keep in the string.

```
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(startIndex: Int, endIndex: Int, replacement: CharSequence): String = (this as CharSequence).replaceRange(startIndex, endIndex, replacement).toString()

```

Returns a char sequence with content of this char sequence where its part at the given [range] is replaced with the [replacement] char sequence.

The end index of the [range] is included in the part to be replaced.

```
public fun CharSequence.replaceRange(range: IntRange, replacement: CharSequence): CharSequence = replaceRange(range.start, range.endInclusive + 1, replacement)

```

Replace the part of string at the given [range] with the [replacement] string.

The end index of the [range] is included in the part to be replaced.

```
@kotlin.internal.InlineOnly
public inline fun String.replaceRange(range: IntRange, replacement: CharSequence): String = (this as CharSequence).replaceRange(range, replacement).toString()

```

Returns a char sequence with content of this char sequence where its part at the given range is removed.

`@param startIndex` the index of the first character to be removed.

`@param endIndex` the index of the first character after the removed part to keep in the string.

[endIndex] is not included in the removed part.

```
public fun CharSequence.removeRange(startIndex: Int, endIndex: Int): CharSequence {
    if (endIndex < startIndex) throw IndexOutOfBoundsException("End index ($endIndex) is less than start index ($startIndex).")
    if (endIndex == startIndex) return this.subSequence(0, length)
    val sb = StringBuilder(length - (endIndex - startIndex))
    sb.append(this, 0, startIndex)
    sb.append(this, endIndex, length)
    return sb
}

```

Removes the part of a string at a given range.

`@param startIndex` the index of the first character to be removed.

`@param endIndex` the index of the first character after the removed part to keep in the string.

[endIndex] is not included in the removed part.

```
@kotlin.internal.InlineOnly
public inline fun String.removeRange(startIndex: Int, endIndex: Int): String = (this as CharSequence).removeRange(startIndex, endIndex).toString()

```

Returns a char sequence with content of this char sequence where its part at the given [range] is removed.

The end index of the [range] is included in the removed part.

```
public fun CharSequence.removeRange(range: IntRange): CharSequence = removeRange(range.start, range.endInclusive + 1)

```

Removes the part of a string at the given [range].

The end index of the [range] is included in the removed part.

```
@kotlin.internal.InlineOnly
public inline fun String.removeRange(range: IntRange): String = (this as CharSequence).removeRange(range).toString()

```

If this char sequence starts with the given [prefix], returns a new char sequence with the prefix removed. Otherwise, returns a new char sequence with the same characters.

```
public fun CharSequence.removePrefix(prefix: CharSequence): CharSequence {
    if (startsWith(prefix)) return subSequence(prefix.length, length)
    return subSequence(0, length)
}

```

If this string starts with the given [prefix], returns a copy of this string with the prefix removed. Otherwise, returns this string.

```
public fun String.removePrefix(prefix: CharSequence): String {
    if (startsWith(prefix)) return substring(prefix.length)
    return this
}

```

If this char sequence ends with the given [suffix], returns a new char sequence with the suffix removed. Otherwise, returns a new char sequence with the same characters.

```
public fun CharSequence.removeSuffix(suffix: CharSequence): CharSequence {
    if (endsWith(suffix)) return subSequence(0, length - suffix.length)
    return subSequence(0, length)
}

```

If this string ends with the given [suffix], returns a copy of this string with the suffix removed. Otherwise, returns this string.

```
public fun String.removeSuffix(suffix: CharSequence): String {
    if (endsWith(suffix)) return substring(0, length - suffix.length)
    return this
}

```

When this char sequence starts with the given [prefix] and ends with the given [suffix], returns a new char sequence having both the given [prefix] and [suffix] removed. Otherwise returns a new char sequence with the same characters.

```
public fun CharSequence.removeSurrounding(prefix: CharSequence, suffix: CharSequence): CharSequence {
    if ((length >= prefix.length + suffix.length) && startsWith(prefix) && endsWith(suffix)) return subSequence(prefix.length, length - suffix.length)
    return subSequence(0, length)
}

```

Removes from a string both the given [prefix] and [suffix] if and only if it starts with the [prefix] and ends with the [suffix]. Otherwise returns this string unchanged.

```
public fun String.removeSurrounding(prefix:
```

```

CharSequence, suffix: CharSequence): String {
    if ((length >= prefix.length + suffix.length) &&
        startsWith(prefix) && endsWith(suffix)) {
        return substring(prefix.length, length - suffix.length)
    }
    return this
}

When this char sequence starts with and ends with the given [delimiter],
returns a new char sequence having this [delimiter] removed both from the start and end.
Otherwise returns a new char sequence with the same characters.

public fun CharSequence.removeSurrounding(delimiter: CharSequence):
CharSequence = removeSurrounding(delimiter, delimiter)

Removes the given [delimiter] string from both the start and the end of this string
if and only if it starts with and ends with the [delimiter].
Otherwise returns this string unchanged.

public fun String.removeSurrounding(delimiter: CharSequence): String =
removeSurrounding(delimiter, delimiter)

Replace part of string before the first occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceBefore(delimiter: Char, replacement: String,
missingDelimiterValue: String = this): String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

Replace part of string before the first occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceBefore(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

Replace part of string after the first occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceAfter(delimiter: Char, replacement: String,
missingDelimiterValue: String = this): String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)
}

Replace part of string after the first occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceAfter(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {
    val index = indexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)
}

Replace part of string after the last occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceAfterLast(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(index + delimiter.length, length, replacement)
}

Replace part of string after the last occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceAfterLast(delimiter: Char, replacement: String,
missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(index + 1, length, replacement)
}

Replace part of string before the last occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceBeforeLast(delimiter: Char, replacement: String,
missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

Replace part of string before the last occurrence of given delimiter with the [replacement] string.
If the string does not contain the delimiter, returns [missingDelimiterValue]
which defaults to the original string.

public fun String.replaceBeforeLast(delimiter: String, replacement: String,
missingDelimiterValue: String = this): String {
    val index = lastIndexOf(delimiter)
    return if (index == -1) missingDelimiterValue else replaceRange(0, index, replacement)
}

// public fun String.replace(oldChar: Char, newChar: Char, ignoreCase: Boolean): String // JVM- and JS-specific
// public fun String.replace(oldValue: String, newValue: String, ignoreCase: Boolean): String // JVM- and JS-specific

Returns a new string obtained by replacing each substring of this char sequence that matches the given regular expression
with the given [replacement].
The [replacement] can consist of any combination of literal text and $-substitutions. To treat

```

the replacement string `\n *` literally escape it with the `[kotlin.text.Regex.Companion.escapeReplacement]` method.

```

*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, replacement: String): String
= regex.replace(this, replacement)\n\n/**\n * Returns a new string obtained by replacing each substring of this char
sequence that matches the given regular expression\n * with the result of the given function [transform] that takes
[MatchResult] and returns a string to be used as a\n * replacement for that match.\n
*\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replace(regex: Regex, noinline transform:
(MatchResult) -> CharSequence): String =\n    regex.replace(this, transform)\n\n/**\n * Replaces the first
occurrence of the given regular expression [regex] in this char sequence with specified [replacement] expression.\n
*\n * @param replacement A replacement expression that can include substitutions. See [Regex.replaceFirst] for
details.\n *\n@kotlin.internal.InlineOnly\npublic inline fun CharSequence.replaceFirst(regex: Regex, replacement:
String): String = regex.replaceFirst(this, replacement)\n\n/**\n * Returns `true` if this char sequence matches the
given regular expression.\n *\n@kotlin.internal.InlineOnly\npublic infix fun CharSequence.matches(regex:
Regex): Boolean = regex.matches(this)\n\n/**\n * Implementation of [regionMatches] for CharSequences.\n *
Invoked when it's already known that arguments are not Strings, so that no additional type checks are performed.\n
*\ninternal fun CharSequence.regionMatchesImpl(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int,
ignoreCase: Boolean): Boolean {\n    if ((otherOffset < 0) || (thisOffset < 0) || (thisOffset > this.length - length) ||
(otherOffset > other.length - length)) {\n        return false\n    }\n    for (index in 0 until length) {\n        if
(!this[thisOffset + index].equals(other[otherOffset + index], ignoreCase))\n            return false\n    }\n    return
true\n}\n\n/**\n * Returns `true` if this char sequence starts with the specified character.\n *\npublic fun
CharSequence.startsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n    this.length > 0 &&
this[0].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence ends with the specified character.\n
*\npublic fun CharSequence.endsWith(char: Char, ignoreCase: Boolean = false): Boolean =\n    this.length > 0 &&
this[lastIndex].equals(char, ignoreCase)\n\n/**\n * Returns `true` if this char sequence starts with the specified
prefix.\n *\npublic fun CharSequence.startsWith(prefix: CharSequence, ignoreCase: Boolean = false): Boolean {\n
if (!ignoreCase && this is String && prefix is String)\n    return this.startsWith(prefix)\n    else\n    return
regionMatchesImpl(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if a substring of this char
sequence starting at the specified offset [startIndex] starts with the specified prefix.\n *\npublic fun
CharSequence.startsWith(prefix: CharSequence, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n    if
(!ignoreCase && this is String && prefix is String)\n        return this.startsWith(prefix, startIndex)\n    else\n
return regionMatchesImpl(startIndex, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n * Returns `true` if this char
sequence ends with the specified suffix.\n *\npublic fun CharSequence.endsWith(suffix: CharSequence,
ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase && this is String && suffix is String)\n        return
this.endsWith(suffix)\n    else\n        return regionMatchesImpl(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\n/**\n * Returns the longest string `prefix` such that this char
sequence and [other] char sequence both start with this prefix,\n * taking care not to split surrogate pairs.\n * If this
and [other] have no common prefix, returns the empty string.\n * @param ignoreCase `true` to ignore character
case when matching a character. By default `false`.\n * @sample samples.text.Strings.commonPrefixWith\n
*\npublic fun CharSequence.commonPrefixWith(other: CharSequence, ignoreCase: Boolean = false): String {\n
val shortestLength = minOf(this.length, other.length)\n    var i = 0\n    while (i < shortestLength &&
this[i].equals(other[i], ignoreCase = ignoreCase)) {\n        i++\n    }\n    if (this.hasSurrogatePairAt(i - 1) ||
other.hasSurrogatePairAt(i - 1)) {\n        i--\n    }\n    return subSequence(0, i).toString()\n}\n\n/**\n * Returns the
longest string `suffix` such that this char sequence and [other] char sequence both end with this suffix,\n * taking
care not to split surrogate pairs.\n * If this and [other] have no common suffix, returns the empty string.\n\n *
@param ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @sample
samples.text.Strings.commonSuffixWith\n *\npublic fun CharSequence.commonSuffixWith(other: CharSequence,
ignoreCase: Boolean = false): String {\n    val thisLength = this.length\n    val otherLength = other.length\n    val
shortestLength = minOf(thisLength, otherLength)\n    var i = 0\n    while (i < shortestLength && this[thisLength -
i - 1].equals(other[otherLength - i - 1], ignoreCase = ignoreCase)) {\n        i++\n    }\n    if

```

```

(this.hasSurrogatePairAt(thisLength - i - 1) || other.hasSurrogatePairAt(otherLength - i - 1)) {\n    i--\n    }\n
return subSequence(thisLength - i, thisLength).toString()\n}\n\n// indexOfAny()\n\n/**\n * Finds the index of the
first occurrence of any of the specified [chars] in this char sequence,\n * starting from the specified [startIndex] and
optionally ignoring the case.\n * \n * @param ignoreCase `true` to ignore character case when matching a character.
By default `false`.\n * @return An index of the first occurrence of matched character from [chars] or -1 if none of
[chars] are found.\n * \n */\n\npublic fun CharSequence.indexOfAny(chars: CharArray, startIndex: Int = 0, ignoreCase:
Boolean = false): Int {\n    if (!ignoreCase && chars.size == 1 && this is String) {\n        val char = chars.single()\n        return nativeIndexOf(char, startIndex)\n    }\n\n    for (index in startIndex.coerceAtLeast(0)..lastIndex) {\n        val
charAtIndex = get(index)\n        if (chars.any { it.equals(charAtIndex, ignoreCase) })\n            return index\n    }\n
return -1\n}\n\n/**\n * Finds the index of the last occurrence of any of the specified [chars] in this char sequence,\n *
starting from the specified [startIndex] and optionally ignoring the case.\n * \n * @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param
ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of
the last occurrence of matched character from [chars] or -1 if none of [chars] are found.\n * \n */\n\npublic fun
CharSequence.lastIndexOfAny(chars: CharArray, startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    if
(!ignoreCase && chars.size == 1 && this is String) {\n        val char = chars.single()\n        return
nativeLastIndexOf(char, startIndex)\n    }\n\n    for (index in startIndex.coerceAtMost(lastIndex) downTo 0) {\n       
val charAtIndex = get(index)\n        if (chars.any { it.equals(charAtIndex, ignoreCase) })\n            return index\n
    }\n\n    return -1\n}\n\nprivate fun CharSequence.indexOf(other: CharSequence, startIndex: Int, endIndex: Int,
ignoreCase: Boolean, last: Boolean = false): Int {\n    val indices = if (!last)\n        startIndex.coerceAtLeast(0)..endIndex.coerceAtMost(length)\n    else\n        startIndex.coerceAtMost(lastIndex)
downTo endIndex.coerceAtLeast(0)\n\n    if (this is String && other is String) { // smart cast\n        for (index in
indices) {\n            if (other.regionMatches(0, this, index, other.length, ignoreCase))\n                return index\n
        }\n    } else {\n        for (index in indices) {\n            if (other.regionMatchesImpl(0, this, index, other.length,
ignoreCase))\n                return index\n        }\n    }\n\n    return -1\n}\n\nprivate fun CharSequence.findAnyOf(strings:
Collection<String>, startIndex: Int, ignoreCase: Boolean, last: Boolean): Pair<Int, String>? {\n    if (!ignoreCase
&& strings.size == 1) {\n        val string = strings.single()\n        val index = if (!last) indexOf(string, startIndex) else
lastIndexOf(string, startIndex)\n        return if (index < 0) null else index to string\n    }\n\n    val indices = if (!last)
startIndex.coerceAtLeast(0)..length else startIndex.coerceAtMost(lastIndex) downTo 0\n\n    if (this is String) {\n        for
(index in indices) {\n            val matchingString = strings.firstOrNull { it.regionMatches(0, this, index, it.length,
ignoreCase) }\n            if (matchingString != null)\n                return index to matchingString\n        }\n    } else {\n        for
(index in indices) {\n            val matchingString = strings.firstOrNull { it.regionMatchesImpl(0, this, index,
it.length, ignoreCase) }\n            if (matchingString != null)\n                return index to matchingString\n        }\n
    }\n\n    return null\n}\n\n/**\n * Finds the first occurrence of any of the specified [strings] in this char sequence,\n *
starting from the specified [startIndex] and optionally ignoring the case.\n * \n * @param ignoreCase `true` to ignore
character case when matching a string. By default `false`.\n * @return A pair of an index of the first occurrence of
matched string from [strings] and the string matched\n * or `null` if none of [strings] are found.\n * \n * To avoid
ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the
beginning to the end of this string, and finds at each position the first element in [strings]\n * that matches this
string at that position.\n * \n */\n\npublic fun CharSequence.findAnyOf(strings: Collection<String>, startIndex: Int = 0,
ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings, startIndex, ignoreCase, last =
false)\n}\n\n/**\n * Finds the last occurrence of any of the specified [strings] in this char sequence,\n * starting from
the specified [startIndex] and optionally ignoring the case.\n * \n * @param startIndex The index of character to start
searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to
ignore character case when matching a string. By default `false`.\n * @return A pair of an index of the last
occurrence of matched string from [strings] and the string matched or `null` if none of [strings] are found.\n * \n * To
avoid ambiguous results when strings in [strings] have characters in common, this method proceeds from\n * the end
toward the beginning of this string, and finds at each position the first element in [strings]\n * that matches this

```

```

string at that position.\n */\npublic fun CharSequence.findLastAnyOf(strings: Collection<String>, startIndex: Int =
lastIndex, ignoreCase: Boolean = false): Pair<Int, String>? =\n    findAnyOf(strings, startIndex, ignoreCase, last =
true)\n\n/**\n * Finds the index of the first occurrence of any of the specified [strings] in this char sequence,\n *
starting from the specified [startIndex] and optionally ignoring the case.\n * @param ignoreCase `true` to ignore
character case when matching a string. By default `false`.\n * @return An index of the first occurrence of matched
string from [strings] or -1 if none of [strings] are found.\n * @param startIndex The index of character to start
searching at. The search proceeds from\n * the beginning to the end of this string, and finds at each position
the first element in [strings]\n * that matches this string at that position.\n */\npublic fun
CharSequence.indexOfAny(strings: Collection<String>, startIndex: Int = 0, ignoreCase: Boolean = false): Int =\n
findAnyOf(strings, startIndex, ignoreCase, last = false)?.first ?: -1\n\n/**\n * Finds the index of the last occurrence
of any of the specified [strings] in this char sequence,\n * starting from the specified [startIndex] and optionally
ignoring the case.\n * @param startIndex The index of character to start searching at. The search proceeds
backward toward the beginning of the string.\n * @param ignoreCase `true` to ignore character case when matching
a string. By default `false`.\n * @return An index of the last occurrence of matched string from [strings] or -1
if none of [strings] are found.\n * @param ignoreCase `true` to ignore character case when matching a character.
By default `false`.\n * @return An index of the first occurrence of [char] or -1 if none is found.\n */\npublic fun
CharSequence.lastIndexOfAny(strings: Collection<String>, startIndex: Int = lastIndex, ignoreCase: Boolean =
false): Int =\n    findAnyOf(strings, startIndex, ignoreCase, last = true)?.first ?: -1\n\n// indexOf\n\n/**\n * Returns
the index within this string of the first occurrence of the specified character, starting from the specified
[startIndex].\n * @param ignoreCase `true` to ignore character case when matching a character. By default
`false`.\n * @return An index of the first occurrence of [char] or -1 if none is found.\n */\npublic fun
CharSequence.indexOf(char: Char, startIndex: Int = 0, ignoreCase: Boolean = false): Int {\n    return if (ignoreCase
|| this !is String)\n        indexOfAny(charArrayOf(char), startIndex, ignoreCase)\n    else\n        nativeIndexOf(char,
startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the first occurrence of the specified
[string],\n * starting from the specified [startIndex].\n * @param ignoreCase `true` to ignore character case when
matching a string. By default `false`.\n * @return An index of the first occurrence of [string] or -1 if none is
found.\n */\npublic fun CharSequence.indexOf(string: String, startIndex: Int = 0, ignoreCase: Boolean = false): Int
{\n    return if (ignoreCase || this !is String)\n        indexOf(string, startIndex, length, ignoreCase)\n    else\n
nativeIndexOf(string, startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence of
the specified character,\n * starting from the specified [startIndex].\n * @param startIndex The index of
character to start searching at. The search proceeds backward toward the beginning of the string.\n * @param
ignoreCase `true` to ignore character case when matching a character. By default `false`.\n * @return An index of
the first occurrence of [char] or -1 if none is found.\n */\npublic fun CharSequence.lastIndexOf(char: Char,
startIndex: Int = lastIndex, ignoreCase: Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n
lastIndexOfAny(charArrayOf(char), startIndex, ignoreCase)\n    else\n        nativeLastIndexOf(char,
startIndex)\n}\n\n/**\n * Returns the index within this char sequence of the last occurrence of the specified
[string],\n * starting from the specified [startIndex].\n * @param startIndex The index of character to start
searching at. The search proceeds backward toward the beginning of the string.\n * @param ignoreCase `true` to
ignore character case when matching a string. By default `false`.\n * @return An index of the first occurrence of
[string] or -1 if none is found.\n */\npublic fun CharSequence.lastIndexOf(string: String, startIndex: Int = lastIndex,
ignoreCase: Boolean = false): Int {\n    return if (ignoreCase || this !is String)\n        indexOf(string, startIndex, 0,
ignoreCase, last = true)\n    else\n        nativeLastIndexOf(string, startIndex)\n}\n\n/**\n * Returns `true` if this char
sequence contains the specified [other] sequence of characters as a substring.\n * @param ignoreCase `true` to
ignore character case when comparing strings. By default `false`.\n
*/\n\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun
CharSequence.contains(other: CharSequence, ignoreCase: Boolean = false): Boolean =\n    if (other is String)\n
indexOf(other, ignoreCase = ignoreCase) >= 0\n    else\n        indexOf(other, 0, length, ignoreCase) >=

```

```

0\n\n\n/**\n * Returns `true` if this char sequence contains the specified character [char].\n *\n * @param
ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n
*/\n@Suppress("INAPPLICABLE_OPERATOR_MODIFIER")\npublic operator fun CharSequence.contains(char:
Char, ignoreCase: Boolean = false): Boolean =\n    indexOf(char, ignoreCase = ignoreCase) >= 0\n\n/**\n * Returns
`true` if this char sequence contains at least one match of the specified regular expression [regex].\n
*/\n@kotlin.internal.InlineOnly\npublic inline operator fun CharSequence.contains(regex: Regex): Boolean =
regex.containsMatchIn(this)\n\n// rangesDelimitedBy\n\nprivate class DelimitedRangesSequence(\n    private
val input: CharSequence,\n    private val startIndex: Int,\n    private val limit: Int,\n    private val getNextMatch:
CharSequence.(currentIndex: Int) -> Pair<Int, Int>?\n) : Sequence<IntRange> {\n    override fun iterator():
Iterator<IntRange> = object : Iterator<IntRange> {\n        var nextState: Int = -1 // -1 for unknown, 0 for done, 1 for
continue\n        var currentStartIndex: Int = startIndex.coerceIn(0, input.length)\n        var nextSearchIndex: Int =
currentStartIndex\n        var nextItem: IntRange? = null\n        var counter: Int = 0\n\n        private fun calcNext() {\n
            if (nextSearchIndex < 0) {\n                nextState = 0\n                nextItem = null\n            } else {\n                if
(limit > 0 && ++counter >= limit || nextSearchIndex > input.length) {\n                    nextItem =
currentStartIndex..input.lastIndex\n                    nextSearchIndex = -1\n                } else {\n                    val match =
input.getNextMatch(nextSearchIndex)\n                    if (match == null) {\n                        nextItem =
currentStartIndex..input.lastIndex\n                        nextSearchIndex = -1\n                    } else {\n                        val
(index, length) = match\n                        nextItem = currentStartIndex until index\n                        currentStartIndex
= index + length\n                        nextSearchIndex = currentStartIndex + if (length == 0) 1 else 0\n                    }\n
                }\n                nextState = 1\n            }\n        }\n\n        override fun next(): IntRange {\n            if (nextState ==
-1)\n                calcNext()\n            if (nextState == 0)\n                throw NoSuchElementException()\n            val
result = nextItem as IntRange\n            // Clean next to avoid keeping reference on yielded instance\n            nextItem = null\n            nextState = -1\n            return result\n        }\n\n        override fun hasNext(): Boolean {\n
            if (nextState == -1)\n                calcNext()\n            return nextState == 1\n        }\n    }\n}\n\n/**\n * Returns a
sequence of index ranges of substrings in this char sequence around occurrences of the specified [delimiters].\n *\n *
@param delimiters One or more characters to be used as delimiters.\n * @param startIndex The index to start
searching delimiters from.\n * No range having its start value less than [startIndex] is returned.\n * [startIndex] is
coerced to be non-negative and not greater than length of this string.\n * @param ignoreCase `true` to ignore
character case when matching a delimiter. By default `false`.\n * @param limit The maximum number of substrings
to return. Zero by default means no limit is set.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters:
CharArray, startIndex: Int = 0, ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {\n    require(limit
>= 0, { "\"Limit must be non-negative, but was $limit.\" " })\n    return DelimitedRangesSequence(this, startIndex,
limit, { currentIndex ->\n        indexOfAny(delimiters, currentIndex, ignoreCase = ignoreCase).let { if (it < 0) null
else it to 1 }\n    })\n}\n\n/**\n * Returns a sequence of index ranges of substrings in this char sequence around
occurrences of the specified [delimiters].\n *\n * @param delimiters One or more strings to be used as delimiters.\n
* @param startIndex The index to start searching delimiters from.\n * No range having its start value less than
[startIndex] is returned.\n * [startIndex] is coerced to be non-negative and not greater than length of this string.\n
* @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.\n * @param limit
The maximum number of substrings to return. Zero by default means no limit is set.\n *\n * To avoid ambiguous
results when strings in [delimiters] have characters in common, this method proceeds from\n * the beginning to the
end of this string, and finds at each position the first element in [delimiters]\n * that matches this string at that
position.\n */\nprivate fun CharSequence.rangesDelimitedBy(delimiters: Array<out String>, startIndex: Int = 0,
ignoreCase: Boolean = false, limit: Int = 0): Sequence<IntRange> {\n    require(limit >= 0, { "\"Limit must be non-
negative, but was $limit.\" " })\n    val delimitersList = delimiters.asList()\n    return
DelimitedRangesSequence(this, startIndex, limit, { currentIndex -> findAnyOf(delimitersList, currentIndex,
ignoreCase = ignoreCase, last = false)?.let { it.first to it.second.length } })\n}\n\n// split\n\n/**\n * Splits this
char sequence to a sequence of strings around occurrences of the specified [delimiters].\n *\n * @param delimiters
One or more strings to be used as delimiters.\n * @param ignoreCase `true` to ignore character case when matching

```

a delimiter. By default `false`.
 @param limit The maximum number of substrings to return. Zero by default means no limit is set.
 To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from the beginning to the end of this string, and finds at each position the first element in [delimiters] that matches this string at that position.

```

public fun CharSequence.splitToSequence(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
  rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

```

Splits this char sequence to a list of strings around occurrences of the specified [delimiters].
 @param delimiters One or more strings to be used as delimiters.
 @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
 @param limit The maximum number of substrings to return. Zero by default means no limit is set.
 To avoid ambiguous results when strings in [delimiters] have characters in common, this method proceeds from the beginning to the end of this string, and matches at each position the first element in [delimiters] that is equal to a delimiter in this instance at that position.

```

public fun CharSequence.split(vararg delimiters: String, ignoreCase: Boolean = false, limit: Int = 0): List<String> {
  if (delimiters.size == 1) {
    val delimiter = delimiters[0]
    if (!delimiter.isEmpty()) {
      return split(delimiter, ignoreCase, limit)
    }
  }
  return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }
}

```

Splits this char sequence to a sequence of strings around occurrences of the specified [delimiters].
 @param delimiters One or more characters to be used as delimiters.
 @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
 @param limit The maximum number of substrings to return.

```

public fun CharSequence.splitToSequence(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): Sequence<String> =
  rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).map { substring(it) }

```

Splits this char sequence to a list of strings around occurrences of the specified [delimiters].
 @param delimiters One or more characters to be used as delimiters.
 @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
 @param limit The maximum number of substrings to return.

```

public fun CharSequence.split(vararg delimiters: Char, ignoreCase: Boolean = false, limit: Int = 0): List<String> {
  if (delimiters.size == 1) {
    return split(delimiters[0].toString(), ignoreCase, limit)
  }
  return rangesDelimitedBy(delimiters, ignoreCase = ignoreCase, limit = limit).asIterable().map { substring(it) }
}

```

Splits this char sequence to a list of strings around occurrences of the specified [delimiter].
 This is specialized version of split which receives single non-empty delimiter and offers better performance.
 @param delimiter String used as delimiter
 @param ignoreCase `true` to ignore character case when matching a delimiter. By default `false`.
 @param limit The maximum number of substrings to return.

```

private fun CharSequence.split(delimiter: String, ignoreCase: Boolean, limit: Int): List<String> {
  require(limit >= 0, { "Limit must be non-negative, but was $limit." })
  var currentOffset = 0
  var nextIndex = indexOf(delimiter, currentOffset, ignoreCase)
  if (nextIndex == -1 || limit == 1) {
    return listOf(this.toString())
  }
  val isLimited = limit > 0
  val result = ArrayList<String>(if (isLimited) limit.coerceAtMost(10) else 10)
  do {
    result.add(substring(currentOffset, nextIndex))
    currentOffset = nextIndex + delimiter.length
    // Do not search for next occurrence if we're reaching limit
    if (isLimited && result.size == limit - 1) break
    nextIndex = indexOf(delimiter, currentOffset, ignoreCase)
  } while (nextIndex != -1)
  result.add(substring(currentOffset, length))
  return result
}

```

Splits this char sequence around matches of the given regular expression.
 @param limit Non-negative value specifying the maximum number of substrings to return. Zero by default means no limit is set.

```

@kotlin.internal.InlineOnly
public inline fun CharSequence.split(regex: Regex, limit: Int = 0): List<String> =
  regex.split(this, limit)

```

Splits this char sequence to a sequence of lines delimited by any of the following character sequences: CRLF, LF or CR.
 The lines returned do not include terminating line separators.

```

public fun CharSequence.lineSequence(): Sequence<String> = splitToSequence("\\r\\n", "\\n", "\\r")

```

Splits this char sequence to a list of lines delimited by any of the following character sequences: CRLF, LF or CR.
 The lines returned do not include terminating line separators.

```

public fun CharSequence.lines(): List<String> = lineSequence().toList()

```

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```

this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.text\n\nimport kotlin.js.RegExp\n\n/**\n * Converts the characters in the specified array to a
string.\n *\n@SinceKotlin("1.2")\n\npublic actual fun String(chars: CharArray): String {\n    var result = ""\n    for
(char in chars) {\n        result += char\n    }\n    return result\n}\n\n/**\n * Converts the characters from a portion of
the specified array to a string.\n *\n * @throws IndexOutOfBoundsException if either [offset] or [length] are less
than zero\n * or `offset + length` is out of [chars] array bounds.\n *\n@SinceKotlin("1.2")\n\npublic actual fun
String(chars: CharArray, offset: Int, length: Int): String {\n    if (offset < 0 || length < 0 || chars.size - offset <
length)\n        throw IndexOutOfBoundsException("size: ${chars.size}; offset: $offset; length: $length")\n    var
result = ""\n    for (index in offset until offset + length) {\n        result += chars[index]\n    }\n    return
result\n}\n\n/**\n * Returns a copy of this string converted to upper case using the rules of the default locale.\n *\n *
@sample samples.text.Strings.toUpperCase\n *\n@kotlin.internal.InlineOnly\n\npublic actual inline fun
String.toUpperCase(): String = asDynamic().toUpperCase()\n\n/**\n * Returns a copy of this string converted to
lower case using the rules of the default locale.\n *\n * @sample samples.text.Strings.toLowerCase\n
*\n@kotlin.internal.InlineOnly\n\npublic actual inline fun String.toLowerCase(): String =
asDynamic().toLowerCase()\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeIndexOf(str:
String, fromIndex: Int): Int = asDynamic().indexOf(str, fromIndex)\n\n@kotlin.internal.InlineOnly\n\ninternal actual
inline fun String.nativeLastIndexOf(str: String, fromIndex: Int): Int = asDynamic().lastIndexOf(str,
fromIndex)\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun String.nativeStartsWith(s: String, position: Int):
Boolean = asDynamic().startsWith(s, position)\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun
String.nativeEndsWith(s: String): Boolean = asDynamic().endsWith(s)\n\n@kotlin.internal.InlineOnly\n\npublic
actual inline fun String.substring(startIndex: Int): String =
asDynamic().substring(startIndex)\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun
String.substring(startIndex: Int, endIndex: Int): String = asDynamic().substring(startIndex,
endIndex)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.concat(str: String): String =
asDynamic().concat(str)\n\n@kotlin.internal.InlineOnly\n\npublic inline fun String.match(regex: String):
Array<String>? = asDynamic().match(regex)\n\n//native public fun String.trim(): String\n//TODO: String.replace to
implement effective trimLeading and trimTrailing\n\n@kotlin.internal.InlineOnly\n\ninternal inline fun
String.nativeReplace(pattern: RegExp, replacement: String): String = asDynamic().replace(pattern,
replacement)\n\n@SinceKotlin("1.2")\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun String.compareTo(other: String, ignoreCase: Boolean = false): Int {\n    if (ignoreCase) {\n
val n1 = this.length\n        val n2 = other.length\n        val min = minOf(n1, n2)\n        if (min == 0) return n1 - n2\n
        var start = 0\n        while (true) {\n            val end = minOf(start + 16, min)\n            var s1 = this.substring(start,
end)\n            var s2 = other.substring(start, end)\n            if (s1 != s2) {\n                s1 = s1.toUpperCase()\n
s2 = s2.toUpperCase()\n                if (s1 != s2) {\n                    s1 = s1.toLowerCase()\n                    s2 =
s2.toLowerCase()\n                    if (s1 != s2) {\n                        return s1.compareTo(s2)\n                    }\n
}\n            }\n            if (end == min) break\n            start = end\n        }\n        return n1 - n2\n    } else {\n        return
compareTo(other)\n    }\n}\n\nprivate val STRING_CASE_INSENSITIVE_ORDER = Comparator<String> { a, b
-> a.compareTo(b, ignoreCase = true) }\n\n@SinceKotlin("1.2")\n\npublic actual val
String.Companion.CASE_INSENSITIVE_ORDER: Comparator<String>\n    get() =
STRING_CASE_INSENSITIVE_ORDER\n"}\n\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n\n@file:kotlin.jvm.JvmName("UArraysKt")\n\n@file:kotlin.jvm.JvmPacka
geName("kotlin.collections.unsigned")\n\npackage kotlin.collections\n\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateStandardLib.kt\n\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns 1st
*element* from the collection.\n
*\n@SinceKotlin("1.3")\n\n@ExperimentalUnsignedTypes\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun
UIntArray.component1(): UInt {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the collection.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component1(): ULong {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component1(): UByte {\n    return get(0)\n}\n\n/**\n * Returns 1st *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component1(): UShort {\n    return get(0)\n}\n\n/**\n * Returns 2nd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component2(): UInt {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component2(): ULong {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component2(): UByte {\n    return get(1)\n}\n\n/**\n * Returns 2nd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component2(): UShort {\n    return get(1)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component3(): UInt {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component3(): ULong {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component3(): UByte {\n    return get(2)\n}\n\n/**\n * Returns 3rd *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component3(): UShort {\n    return get(2)\n}\n\n/**\n * Returns 4th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component4(): UInt {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component4(): ULong {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component4(): UByte {\n    return get(3)\n}\n\n/**\n * Returns 4th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component4(): UShort {\n    return get(3)\n}\n\n/**\n * Returns 5th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.component5(): UInt {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.component5(): ULong {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.component5(): UByte {\n    return get(4)\n}\n\n/**\n * Returns 5th *element* from the collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.component5(): UShort {\n    return get(4)\n}\n\n/**\n * Returns an element at the given [index] or
throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.elementAt(index: Int):
UInt\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.elementAt(index: Int):
ULong\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]
is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.elementAt(index: Int):
UByte\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index]

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is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.elementAt(index: Int):
UShort\n\n/**\n * Returns an element at the given [index] or the result of calling the [defaultValue] function if the
[index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UInt): UInt {\n    return if (index >= 0 && index <=
lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result of
calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrElse(index: Int, defaultValue: (Int) -> ULong): ULong {\n    return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the
result of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UByte): UByte {\n    return if (index >= 0 && index
<= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or the result
of calling the [defaultValue] function if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrElse\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.elementAtOrElse(index: Int, defaultValue: (Int) -> UShort): UShort {\n    return if (index >= 0 &&
index <= lastIndex) get(index) else defaultValue(index)\n}\n\n/**\n * Returns an element at the given [index] or
`null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.elementAtOrNull(index: Int): UInt? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an element
at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.elementAtOrNull(index: Int): ULong? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.elementAtOrNull(index: Int): UByte? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns an
element at the given [index] or `null` if the [index] is out of bounds of this array.\n * \n * @sample
samples.collections.Collections.Elements.elementAtOrNull\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.elementAtOrNull(index: Int): UShort? {\n    return this.getOrNull(index)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.find(predicate: (UInt) -> Boolean): UInt? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns the
first element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.find(predicate: (ULong) -> Boolean): ULong? {\n    return firstOrNull(predicate)\n}\n\n/**\n *
Returns the first element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.find(predicate: (UByte) -> Boolean): UByte? {\n    return firstOrNull(predicate)\n}\n\n/**\n * Returns

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the first element matching the given [predicate], or `null` if no such element was found.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.find(predicate: (UShort) -> Boolean): UShort? {\n    return firstOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.findLast(predicate: (UInt) -> Boolean): UInt? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the
last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.findLast(predicate: (ULong) -> Boolean): ULong? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.findLast(predicate: (UByte) -> Boolean): UByte? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns the last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.findLast(predicate: (UShort) -> Boolean): UShort? {\n    return lastOrNull(predicate)\n}\n\n/**\n *
Returns first element.\n * @throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(): UInt {\n    return storage.first().toUInt()\n}\n\n/**\n *
Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(): ULong {\n    return storage.first().toULong()\n}\n\n/**\n *
Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(): UByte {\n    return storage.first().toUByte()\n}\n\n/**\n *
Returns first element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(): UShort {\n    return storage.first().toUShort()\n}\n\n/**\n *
Returns the first element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.first(predicate: (UInt) -> Boolean): UInt {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.first(predicate: (ULong) -> Boolean): ULong {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.first(predicate: (UByte) -> Boolean): UByte {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element matching the given [predicate].\n * @throws [NoSuchElementException] if no such
element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.first(predicate: (UShort) -> Boolean): UShort {\n    for (element in this) if (predicate(element)) return
element\n    throw NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n *
Returns the first element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.firstOrNull(): UInt? {\n    return
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UShort? {\n    return if (index >= 0 && index <= lastIndex) get(index) else null\n}\n\n/**\n * Returns first index of
[element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOf(element: UInt): Int {\n    return storage.indexOf(element.toInt())\n}\n\n/**\n * Returns first
index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.indexOf(element: ULong): Int {\n    return storage.indexOf(element.toLong())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOf(element: UByte): Int {\n    return storage.indexOf(element.toByte())\n}\n\n/**\n * Returns
first index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOf(element: UShort): Int {\n    return storage.indexOf(element.toShort())\n}\n\n/**\n * Returns
index of the first element matching the given [predicate], or -1 if the array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfFirst(predicate: (UInt) -> Boolean): Int {\n    return storage.indexOfFirst { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the array does not contain
such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfFirst(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfFirst(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the first element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfFirst(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfFirst {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.indexOfLast(predicate: (UInt) -> Boolean): Int {\n    return storage.indexOfLast { predicate(it.toUInt())
}\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the array does not contain
such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun ULongArray.indexOfLast(predicate: (ULong) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toULong()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.indexOfLast(predicate: (UByte) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUByte()) }\n}\n\n/**\n * Returns index of the last element matching the given [predicate], or -1 if the
array does not contain such element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.indexOfLast(predicate: (UShort) -> Boolean): Int {\n    return storage.indexOfLast {
predicate(it.toUShort()) }\n}\n\n/**\n * Returns the last element.\n
*\n@throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun UIntArray.last(): UInt {\n    return storage.last().toInt()\n}\n\n/**\n * Returns the last element.\n
*\n@throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(): ULong {\n    return storage.last().toULong()\n}\n\n/**\n * Returns the last element.\n
*\n

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@throws [NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(): UByte {\n    return storage.last().toUByte()\n}\n\n/**\n * Returns the last element.\n * @throws
[NoSuchElementException] if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(): UShort {\n    return storage.last().toUShort()\n}\n\n/**\n * Returns the last element matching
the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.last(predicate: (UInt) -> Boolean): UInt {\n    for (index in this.indices.reversed()) {\n        val element =
this[index]\n        if (predicate(element)) return element\n    }\n    throw NoSuchElementException("Array contains
no element matching the predicate.")\n}\n\n/**\n * Returns the last element matching the given [predicate].\n *
@throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.last(predicate: (ULong) -> Boolean): ULong {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.last(predicate: (UByte) -> Boolean): UByte {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns the last
element matching the given [predicate].\n * @throws [NoSuchElementException] if no such element is found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.last(predicate: (UShort) -> Boolean): UShort {\n    for (index in this.indices.reversed()) {\n        val
element = this[index]\n        if (predicate(element)) return element\n    }\n    throw
NoSuchElementException("Array contains no element matching the predicate.")\n}\n\n/**\n * Returns last index
of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastIndexOf(element: UInt): Int {\n    return storage.lastIndexOf(element.toInt())\n}\n\n/**\n * Returns
last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastIndexOf(element: ULong): Int {\n    return storage.lastIndexOf(element.toLong())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastIndexOf(element: UByte): Int {\n    return storage.lastIndexOf(element.toByte())\n}\n\n/**\n *
Returns last index of [element], or -1 if the array does not contain element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastIndexOf(element: UShort): Int {\n    return storage.lastIndexOf(element.toShort())\n}\n\n/**\n *
Returns the last element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.lastOrNull(): UInt? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.lastOrNull(): ULong? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.lastOrNull(): UByte? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element, or `null` if the array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.lastOrNull(): UShort? {\n    return
if (isEmpty()) null else this[size - 1]\n}\n\n/**\n * Returns the last element matching the given [predicate], or
`null` if no such element was found.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.lastOrNull(predicate: (UInt) -> Boolean): UInt? {\n  for (index in this.indices.reversed()) {\n    val
element = this[index]\n    if (predicate(element)) return element\n  }\n  return null\n}\n\n/**\n * Returns the last
element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.lastOrNull(predicate: (ULong) -> Boolean): ULong? {\n  for (index in this.indices.reversed()) {\n
val element = this[index]\n    if (predicate(element)) return element\n  }\n  return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.lastOrNull(predicate: (UByte) -> Boolean): UByte? {\n  for (index in this.indices.reversed()) {\n
val element = this[index]\n    if (predicate(element)) return element\n  }\n  return null\n}\n\n/**\n * Returns the
last element matching the given [predicate], or `null` if no such element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.lastOrNull(predicate: (UShort) -> Boolean): UShort? {\n  for (index in this.indices.reversed()) {\n
val element = this[index]\n    if (predicate(element)) return element\n  }\n  return null\n}\n\n/**\n * Returns a
random element from this array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.random(): UInt {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this array.\n
* \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.random(): ULong {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.random(): UByte {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this
array.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.random(): UShort {\n  return random(Random)\n}\n\n/**\n * Returns a random element from this
array using the specified source of randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.random(random: Random): UInt
{\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.random(random: Random):
ULong {\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.random(random: Random):
UByte {\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns a random element from this array using the specified source of
randomness.\n * \n * @throws NoSuchElementException if this array is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.random(random: Random):
UShort {\n  if (isEmpty())\n    throw NoSuchElementException("Array is empty.")\n  return
get(random.nextInt(size))\n}\n\n/**\n * Returns the single element, or throws an exception if the array is empty or
has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(): UInt {\n  return storage.single().toInt()\n}\n\n/**\n * Returns the single element, or throws an
exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

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ULongArray.single(): ULong {\n    return storage.single().toULong()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(): UByte {\n    return storage.single().toUByte()\n}\n\n/**\n * Returns the single element, or
throws an exception if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(): UShort {\n    return storage.single().toUShort()\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.single(predicate: (UInt) -> Boolean): UInt {\n    var single: UInt? = null\n    var found = false\n    for
(element in this) {\n        if (predicate(element)) {\n            if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n            single = element\n            found = true\n        }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UInt\n}\n\n/**\n * Returns the single element matching
the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.single(predicate: (ULong) -> Boolean): ULong {\n    var single: ULong? = null\n    var found = false\n
for (element in this) {\n    if (predicate(element)) {\n        if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n        single = element\n        found = true\n    }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as ULong\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.single(predicate: (UByte) -> Boolean): UByte {\n    var single: UByte? = null\n    var found = false\n
for (element in this) {\n    if (predicate(element)) {\n        if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n        single = element\n        found = true\n    }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UByte\n}\n\n/**\n * Returns the single element
matching the given [predicate], or throws exception if there is no or more than one matching element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.single(predicate: (UShort) -> Boolean): UShort {\n    var single: UShort? = null\n    var found = false\n
for (element in this) {\n    if (predicate(element)) {\n        if (found) throw IllegalArgumentException("Array
contains more than one matching element.")\n        single = element\n        found = true\n    }\n    }\n    if
(!found) throw NoSuchElementException("Array contains no element matching the predicate.")\n    @Suppress("UNCHECKED_CAST")\n    return single as UShort\n}\n\n/**\n * Returns single element, or `null` if
the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.singleOrNull(): UInt? {\n
return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.singleOrNull(): ULong? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single
element, or `null` if the array is empty or has more than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.singleOrNull(): UByte? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns single element, or `null` if the array is empty or has more
than one element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.singleOrNull(): UShort? {\n    return if (size == 1) this[0] else null\n}\n\n/**\n * Returns the single
element matching the given [predicate], or `null` if element was not found or more than one element was found.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.singleOrNull(predicate: (UInt) -> Boolean): UInt? {\n    var single: UInt? = null\n    var found = false\n

```

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for (element in this) {
    if (predicate(element)) {
        if (found) return null
        single = element
        found = true
    }
}
if (!found) return null
return single
}

/** Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
ULongArray.singleOrNull(predicate: (ULong) -> Boolean): ULong? {
    var single: ULong? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

/** Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UByteArray.singleOrNull(predicate: (UByte) -> Boolean): UByte? {
    var single: UByte? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

/** Returns the single element matching the given [predicate], or `null` if element was not found or more than one element was found.
 */
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
@kotlin.internal.InlineOnly
public inline fun
UShortArray.singleOrNull(predicate: (UShort) -> Boolean): UShort? {
    var single: UShort? = null
    var found = false
    for (element in this) {
        if (predicate(element)) {
            if (found) return null
            single = element
            found = true
        }
    }
    if (!found) return null
    return single
}

/** Returns a list containing all elements except first [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UIntArray.drop(n: Int): List<UInt> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except first [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun ULongArray.drop(n: Int): List<ULong> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except first [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UByteArray.drop(n: Int): List<UByte> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except first [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UShortArray.drop(n: Int): List<UShort> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return takeLast((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except last [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UIntArray.dropLast(n: Int): List<UInt> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return take((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except last [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun ULongArray.dropLast(n: Int): List<ULong> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return take((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except last [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UByteArray.dropLast(n: Int): List<UByte> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return take((size - n).coerceAtLeast(0))
}

/** Returns a list containing all elements except last [n] elements.
 * @throws IllegalArgumentException if [n] is negative.
 */
@sample samples.collections.Collections.Transformations.drop
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun UShortArray.dropLast(n: Int): List<UShort> {
    require(n >= 0) { "Requested element count $n is less than zero." }
    return take((size - n).coerceAtLeast(0))
}

```

```

samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.dropLast(n: Int): List<UByte>
{\n  require(n >= 0) { \ "Requested element count $n is less than zero." }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last [n] elements.\n * \n * @throws
IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.dropLast(n: Int):
List<UShort> {\n  require(n >= 0) { \ "Requested element count $n is less than zero." }\n  return take((size -
n).coerceAtLeast(0))\n}\n\n/**\n * Returns a list containing all elements except last elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n *
Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n
* Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return emptyList()\n}\n\n/**\n
* Returns a list containing all elements except last elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex downTo
0) {\n  if (!predicate(this[index])) {\n      return take(index + 1)\n    }\n  }\n  return
emptyList()\n}\n\n/**\n * Returns a list containing all elements except first elements that satisfy the given
[predicate].\n * \n * @sample samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.dropWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  var yielding = false\n  val list =
ArrayList<UInt>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item)) {\n
      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.dropWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  var yielding = false\n  val list =
ArrayList<ULong>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.dropWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  var yielding = false\n  val list =
ArrayList<UByte>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))
{\n      list.add(item)\n      yielding = true\n    }\n  return list\n}\n\n/**\n * Returns a list containing all
elements except first elements that satisfy the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.drop\n

```

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.dropWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  var yielding = false\n  val list =
ArrayList<UShort>()\n  for (item in this)\n    if (yielding)\n      list.add(item)\n    else if (!predicate(item))\n      list.add(item)\n    yielding = true\n  }\n  return list\n}\n\n/**\n * Returns a list containing only
elements matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filter(predicate: (UInt) -> Boolean): List<UInt> {\n  return filterTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filter(predicate: (ULong) -> Boolean): List<ULong> {\n  return filterTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filter(predicate: (UByte) -> Boolean): List<UByte> {\n  return filterTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filter(predicate: (UShort) -> Boolean): List<UShort> {\n  return filterTo(ArrayList<UShort>(),
predicate)\n}\n\n/**\n * Returns a list containing only elements matching the given [predicate].\n * @param
[predicate] function that takes the index of an element and the element itself\n * and returns the result of predicate
evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterIndexed(predicate: (index: Int, UInt) -> Boolean): List<UInt> {\n  return
filterIndexedTo(ArrayList<UInt>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterIndexed(predicate: (index: Int, ULong) -> Boolean): List<ULong> {\n  return
filterIndexedTo(ArrayList<ULong>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterIndexed(predicate: (index: Int, UByte) -> Boolean): List<UByte> {\n  return
filterIndexedTo(ArrayList<UByte>(), predicate)\n}\n\n/**\n * Returns a list containing only elements matching the
given [predicate].\n * @param [predicate] function that takes the index of an element and the element itself\n * and
returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterIndexed(predicate: (index: Int, UShort) -> Boolean): List<UShort> {\n  return
filterIndexedTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements matching the given [predicate]
to the given [destination].\n * @param [predicate] function that takes the index of an element and the element
itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterIndexedTo(destination: C, predicate: (index: Int, UInt) -> Boolean): C {
\n  forEachIndexed { index, element ->\n    if (predicate(index, element)) destination.add(element)\n  }\n  return
destination\n}\n\n/**\n * Appends all elements matching the given [predicate] to the given [destination].\n *
@param [predicate] function that takes the index of an element and the element itself\n * and returns the result of
predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterIndexedTo(destination: C, predicate: (index: Int, ULong) ->
Boolean): C {\n  forEachIndexed { index, element ->\n    if (predicate(index, element))

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destination.add(element)\n } \n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterIndexedTo(destination: C, predicate: (index: Int, UByte) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    } \n return destination\n}\n\n/**\n * Appends all elements matching the given
[predicate] to the given [destination].\n * @param [predicate] function that takes the index of an element and the
element itself\n * and returns the result of predicate evaluation on the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterIndexedTo(destination: C, predicate: (index: Int, UShort) ->
Boolean): C {\n    forEachIndexed { index, element ->\n        if (predicate(index, element))
destination.add(element)\n    } \n return destination\n}\n\n/**\n * Returns a list containing all elements not
matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.filterNot(predicate: (UInt) -> Boolean): List<UInt> {\n    return filterNotTo(ArrayList<UInt>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.filterNot(predicate: (ULong) -> Boolean): List<ULong> {\n    return filterNotTo(ArrayList<ULong>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.filterNot(predicate: (UByte) -> Boolean): List<UByte> {\n    return filterNotTo(ArrayList<UByte>(),
predicate)\n}\n\n/**\n * Returns a list containing all elements not matching the given [predicate].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.filterNot(predicate: (UShort) -> Boolean): List<UShort> {\n    return
filterNotTo(ArrayList<UShort>(), predicate)\n}\n\n/**\n * Appends all elements not matching the given [predicate]
to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterNotTo(destination: C, predicate: (UInt) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in ULong>> ULongArray.filterNotTo(destination: C, predicate: (ULong) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements not matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterNotTo(destination: C, predicate: (UByte) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all
elements not matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterNotTo(destination: C, predicate: (UShort) -> Boolean): C {\n    for
(element in this) if (!predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends
all elements matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UInt>> UIntArray.filterTo(destination: C, predicate: (UInt) -> Boolean): C {\n    for (element
in this) if (predicate(element)) destination.add(element)\n    return destination\n}\n\n/**\n * Appends all elements
matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :

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MutableCollection<in ULong>> ULongArray.filterTo(destination: C, predicate: (ULong) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UByte>> UByteArray.filterTo(destination: C, predicate: (UByte) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination}\n\n/**\n * Appends all
elements matching the given [predicate] to the given [destination].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <C :
MutableCollection<in UShort>> UShortArray.filterTo(destination: C, predicate: (UShort) -> Boolean): C {\n for
(element in this) if (predicate(element)) destination.add(element)\n return destination}\n\n/**\n * Returns a list
containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: IntRange):
List<UInt> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive +
1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: IntRange):
List<ULong> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: IntRange):
List<UByte> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: IntRange):
List<UShort> {\n if (indices.isEmpty()) return listOf()\n return copyOfRange(indices.start, indices.endInclusive
+ 1).asList()\n}\n\n/**\n * Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.slice(indices: Iterable<Int>):
List<UInt> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<UInt>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.slice(indices: Iterable<Int>):
List<ULong> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<ULong>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.slice(indices: Iterable<Int>):
List<UByte> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<UByte>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n *
Returns a list containing elements at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.slice(indices: Iterable<Int>):
List<UShort> {\n val size = indices.collectionSizeOrDefault(10)\n if (size == 0) return emptyList()\n val list =
ArrayList<UShort>(size)\n for (index in indices) {\n list.add(get(index))\n }\n return list}\n\n/**\n *
Returns an array containing elements of this array at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices:
Collection<Int>): UIntArray {\n return UIntArray(storage.sliceArray(indices))}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices:
Collection<Int>): ULongArray {\n return ULongArray(storage.sliceArray(indices))}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices:
Collection<Int>): UByteArray {\n return UByteArray(storage.sliceArray(indices))}\n\n/**\n * Returns an array
containing elements of this array at specified [indices].\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices:
Collection<Int>): UShortArray {\n    return UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an
array containing elements at indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sliceArray(indices: IntRange):
UIntArray {\n    return UIntArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at
indices in the specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sliceArray(indices: IntRange): ULongArray {\n    return
ULongArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the
specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sliceArray(indices: IntRange): UByteArray {\n    return
UByteArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns an array containing elements at indices in the
specified [indices] range.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sliceArray(indices: IntRange): UShortArray {\n    return
UShortArray(storage.sliceArray(indices))\n}\n\n/**\n * Returns a list containing first [n] elements.\n * \n *
@throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.take(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UInt>(n)\n    for
(item in this) {\n        if (count++ == n)\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.take(n: Int): List<ULong> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<ULong>(n)\n    for
(item in this) {\n        if (count++ == n)\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.take(n: Int): List<UByte> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UByte>(n)\n    for
(item in this) {\n        if (count++ == n)\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns
a list containing first [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.take(n: Int): List<UShort> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    if (n >=
size) return toList()\n    if (n == 1) return listOf(this[0])\n    var count = 0\n    val list = ArrayList<UShort>(n)\n    for
(item in this) {\n        if (count++ == n)\n            break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns
a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.takeLast(n: Int): List<UInt> {\n
require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val size =
size\n    if (n >= size) return toList()\n    if (n == 1) return listOf(this[size - 1])\n    val list = ArrayList<UInt>(n)\n
for (index in size - n until size)\n        list.add(this[index])\n    return list\n}\n\n/**\n * Returns a list containing last
[n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.takeLast(n: Int): List<ULong>
{\n    require(n >= 0) { \"Requested element count $n is less than zero.\" }\n    if (n == 0) return emptyList()\n    val

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size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<ULong>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n * @sample samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UByteArray.takeLast(n: Int): List<UByte>
{\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  val
size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<UByte>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n * Returns a list containing last [n] elements.\n * \n * @throws IllegalArgumentException if [n] is negative.\n * \n *
@sample samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public fun UShortArray.takeLast(n: Int): List<UShort>
{\n  require(n >= 0) { "Requested element count $n is less than zero." }\n  if (n == 0) return emptyList()\n  val
size = size\n  if (n >= size) return toList()\n  if (n == 1) return listOf(this[size - 1])\n  val list =
ArrayList<UShort>(n)\n  for (index in size - n until size)\n    list.add(this[index])\n  return list\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.takeLastWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  for (index in lastIndex downTo 0) {\n
if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n * Returns a
list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.takeLastWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.takeLastWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n * Returns a list containing last elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UShortArray.takeLastWhile(predicate: (UShort) -> Boolean): List<UShort> {\n  for (index in lastIndex downTo 0)
{\n  if (!predicate(this[index])) {\n    return drop(index + 1)\n  }\n }\n  return toList()\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.takeWhile(predicate: (UInt) -> Boolean): List<UInt> {\n  val list = ArrayList<UInt>()\n  for (item in
this) {\n  if (!predicate(item))\n    break\n  list.add(item)\n }\n  return list\n}\n\n/**\n * Returns a list
containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
ULongArray.takeWhile(predicate: (ULong) -> Boolean): List<ULong> {\n  val list = ArrayList<ULong>()\n  for
(item in this) {\n  if (!predicate(item))\n    break\n  list.add(item)\n }\n  return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample
samples.collections.Collections.Transformations.take\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UByteArray.takeWhile(predicate: (UByte) -> Boolean): List<UByte> {\n  val list = ArrayList<UByte>()\n  for

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(item in this) {\n    if (!predicate(item))\n        break\n        list.add(item)\n    }\n    return list\n}\n\n/**\n * Returns a list containing first elements satisfying the given [predicate].\n * \n * @sample\n samples.collections.Collections.Transformations.take\n\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun\n UShortArray.takeWhile(predicate: (UShort) -> Boolean): List<UShort> {\n    val list = ArrayList<UShort>()\n    for\n    (item in this) {\n        if (!predicate(item))\n            break\n            list.add(item)\n        }\n        return list\n    }\n\n    /**\n     * Reverses elements in the array in-place.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     UIntArray.reverse(): Unit {\n        storage.reverse()\n    }\n\n    /**\n     * Reverses elements in the array in-place.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     ULongArray.reverse(): Unit {\n        storage.reverse()\n    }\n\n    /**\n     * Reverses elements in the array in-place.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     UByteArray.reverse(): Unit {\n        storage.reverse()\n    }\n\n    /**\n     * Returns a list with elements in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UIntArray.reversed(): List<UInt> {\n        if\n        (isEmpty()) return emptyList()\n        val list = toMutableList()\n        list.reverse()\n        return list\n    }\n\n    /**\n     * Returns a list with elements in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     ULongArray.reversed(): List<ULong> {\n        if (isEmpty()) return emptyList()\n        val list = toMutableList()\n        list.reverse()\n        return list\n    }\n\n    /**\n     * Returns a list with elements in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UByteArray.reversed(): List<UByte> {\n        if (isEmpty()) return emptyList()\n        val list = toMutableList()\n        list.reverse()\n        return list\n    }\n\n    /**\n     * Returns a list with elements in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UShortArray.reversed(): List<UShort> {\n        if (isEmpty()) return emptyList()\n        val list = toMutableList()\n        list.reverse()\n        return list\n    }\n\n    /**\n     * Returns an array with elements of this array in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     UIntArray.reversedArray(): UIntArray {\n        return UIntArray(storage.reversedArray())\n    }\n\n    /**\n     * Returns an array with elements of this array in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     ULongArray.reversedArray(): ULongArray {\n        return ULongArray(storage.reversedArray())\n    }\n\n    /**\n     * Returns an array with elements of this array in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     UByteArray.reversedArray(): UByteArray {\n        return UByteArray(storage.reversedArray())\n    }\n\n    /**\n     * Returns an array with elements of this array in reversed order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     @kotlin.internal.InlineOnly\n     public inline fun\n     UShortArray.reversedArray(): UShortArray {\n        return UShortArray(storage.reversedArray())\n    }\n\n    /**\n     * Sorts elements in the array in-place descending according to their natural sort order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UIntArray.sortDescending(): Unit {\n        if\n        (size > 1) {\n            sort()\n            reverse()\n        }\n    }\n\n    /**\n     * Sorts elements in the array in-place descending according to their natural sort order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     ULongArray.sortDescending(): Unit {\n        if (size > 1) {\n            sort()\n            reverse()\n        }\n    }\n\n    /**\n     * Sorts elements in the array in-place descending according to their natural sort order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UByteArray.sortDescending(): Unit {\n        if\n        (size > 1) {\n            sort()\n            reverse()\n        }\n    }\n\n    /**\n     * Returns a list of all elements sorted according to their natural sort order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UShortArray.sortDescending(): Unit {\n        if (size > 1) {\n            sort()\n            reverse()\n        }\n    }\n\n    /**\n     * Returns a list of all elements sorted according to their natural sort order.\n\n     *\n     @SinceKotlin("1.3")\n     @ExperimentalUnsignedTypes\n     public fun\n     UIntArray.sorted(): List<UInt> {\n        return

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copyOf().apply { sort() }.asList()\n\n/**\n * Returns a list of all elements sorted according to their natural sort
order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sorted():
List<ULong> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all elements sorted
according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.sorted(): List<UByte> {\n    return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns a list of all
elements sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sorted(): List<UShort> {\n
return copyOf().apply { sort() }.asList()\n}\n\n/**\n * Returns an array with all elements of this array sorted
according to their natural sort order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.sortedArray(): UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort()
}\n}\n\n/**\n * Returns an array with all elements of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArray(): ULongArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArray(): UByteArray {\n
if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all elements
of this array sorted according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArray(): UShortArray
{\n    if (isEmpty()) return this\n    return this.copyOf().apply { sort() }\n}\n\n/**\n * Returns an array with all
elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedArrayDescending():
UIntArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n * Returns
an array with all elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sortedArrayDescending():
ULongArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedArrayDescending():
UByteArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns an array with all elements of this array sorted descending according to their natural sort order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sortedArrayDescending():
UShortArray {\n    if (isEmpty()) return this\n    return this.copyOf().apply { sortDescending() }\n}\n\n/**\n *
Returns a list of all elements sorted descending according to their natural sort order.\n */\n * \n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sortedDescending(): List<UInt>
{\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted descending
according to their natural sort order.\n */\n * \n * The sort is _stable_. It means that equal elements preserve their order
relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.sortedDescending(): List<ULong> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns
a list of all elements sorted descending according to their natural sort order.\n */\n * \n * The sort is _stable_. It
means that equal elements preserve their order relative to each other after sorting.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sortedDescending():
List<UByte> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n * Returns a list of all elements sorted
descending according to their natural sort order.\n */\n * \n * The sort is _stable_. It means that equal elements preserve
their order relative to each other after sorting.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun UShortArray.sortedDescending(): List<UShort> {\n    return copyOf().apply { sort() }.reversed()\n}\n\n/**\n *
Returns an array of type [ByteArray], which is a view of this array where each element is a signed reinterpretation\n
*/\n * of the corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

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ByteArray.asByteArray(): ByteArray { \n  return storage\n}\n\n/**\n * Returns an array of type [IntArray], which
is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.asIntArray(): IntArray { \n  return storage\n}\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UIntArray.asList():
List<UInt>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun ULongArray.asList():
List<ULong>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UByteArray.asList():
List<UByte>\n\n/**\n * Returns a [List] that wraps the original array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic expect fun UShortArray.asList():
List<UShort>\n\n/**\n * Returns an array of type [LongArray], which is a view of this array where each element is
a signed reinterpretation\n * of the corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.asLongArray(): LongArray { \n  return storage\n}\n\n/**\n * Returns an array of type [ShortArray],
which is a view of this array where each element is a signed reinterpretation\n * of the corresponding element of this
array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.asShortArray(): ShortArray { \n  return storage\n}\n\n/**\n * Returns an array of type [UByteArray],
which is a view of this array where each element is an unsigned reinterpretation\n * of the corresponding element of
this array.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun ByteArray.asUByteArray(): UByteArray { \n  return UByteArray(this)\n}\n\n/**\n * Returns an array of type
[UIntArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
IntArray.asUIntArray(): UIntArray { \n  return UIntArray(this)\n}\n\n/**\n * Returns an array of type
[ULongArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
LongArray.asULongArray(): ULongArray { \n  return ULongArray(this)\n}\n\n/**\n * Returns an array of type
[UShortArray], which is a view of this array where each element is an unsigned reinterpretation\n * of the
corresponding element of this array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ShortArray.asUShortArray(): UShortArray { \n  return UShortArray(this)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the
same order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun
UIntArray.contentEquals(other: UIntArray): Boolean { \n  return storage.contentEquals(other.storage)\n}\n\n/**\n *
Returns `true` if the two specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of
the same elements in the same order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun
ULongArray.contentEquals(other: ULongArray): Boolean { \n  return
storage.contentEquals(other.storage)\n}\n\n/**\n * Returns `true` if the two specified arrays are *structurally* equal
to one another,\n * i.e. contain the same number of the same elements in the same order.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.contentEquals(other:
UByteArray): Boolean { \n  return storage.contentEquals(other.storage)\n}\n\n/**\n * Returns `true` if the two
specified arrays are *structurally* equal to one another,\n * i.e. contain the same number of the same elements in the
same order.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun
UShortArray.contentEquals(other: UShortArray): Boolean { \n  return
storage.contentEquals(other.storage)\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is
[List].\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentHashCode(): Int

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{\n  return storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it
is [List].\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UByteArray.contentHashCode(): Int {\n  return storage.contentHashCode()\n}\n\n/**\n * Returns a hash code
based on the contents of this array as if it is [List].\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentHashCode(): Int {\n
return storage.contentHashCode()\n}\n\n/**\n * Returns a hash code based on the contents of this array as if it is
[List].\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentHashCode():
Int {\n  return storage.contentHashCode()\n}\n\n/**\n * Returns a string representation of the contents of the
specified array as if it is [List].\n */\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.contentToString(): String {\n
return joinToString(", ", "[", "]")\n}\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n */\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.contentToString(): String {\n
return joinToString(", ", "[", "]")\n}\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n */\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.contentToString(): String {\n
return joinToString(", ", "[", "]")\n}\n\n/**\n * Returns a string representation of the contents of the specified
array as if it is [List].\n */\n * @sample samples.collections.Arrays.ContentOperations.contentToString\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.contentToString(): String {\n
return joinToString(", ", "[", "]")\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and
returns that array.\n */\n * It's allowed to pass the same array in the [destination] and even specify the subrange so
that it overlaps with the destination range.\n */\n * @param destination the array to copy to.\n * @param
destinationOffset the position in the [destination] array to copy to, 0 by default.\n * @param startIndex the
beginning (inclusive) of the subrange to copy, 0 by default.\n * @param endIndex the end (exclusive) of the
subrange to copy, size of this array by default.\n */\n * @throws IndexOutOfBoundsException or
[IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex
> endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array
starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices
range.\n */\n * @return the [destination] array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyInto(destination: UIntArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UIntArray {\n  storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n  return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n */\n
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n */\n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to
copy, 0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by
default.\n */\n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex]
is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException
when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or
when that index is out of the [destination] array indices range.\n */\n * @return the [destination] array.\n
*/\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.copyInto(destination: ULongArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
ULongArray {\n  storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n  return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n */\n
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n */\n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to
copy,\n

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0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n * @throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyInto(destination: UByteArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int = size):
UByteArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Copies this array or its subrange into the [destination] array and returns that array.\n * \n *
It's allowed to pass the same array in the [destination] and even specify the subrange so that it overlaps with the
destination range.\n * \n * @param destination the array to copy to.\n * @param destinationOffset the position in the
[destination] array to copy to, 0 by default.\n * @param startIndex the beginning (inclusive) of the subrange to copy,
0 by default.\n * @param endIndex the end (exclusive) of the subrange to copy, size of this array by default.\n * \n *
@throws IndexOutOfBoundsException or [IllegalArgumentException] when [startIndex] or [endIndex] is out of
range of this array indices or when `startIndex > endIndex`.\n * @throws IndexOutOfBoundsException when the
subrange doesn't fit into the [destination] array starting at the specified [destinationOffset],\n * or when that index is
out of the [destination] array indices range.\n * \n * @return the [destination] array.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyInto(destination: UShortArray, destinationOffset: Int = 0, startIndex: Int = 0, endIndex: Int =
size): UShortArray {\n    storage.copyInto(destination.storage, destinationOffset, startIndex, endIndex)\n    return
destination\n}\n\n/**\n * Returns new array which is a copy of the original array.\n * \n * @sample
samples.collections.Arrays.CopyOfOperations.copyOfOf\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOf(): UIntArray {\n    return UIntArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array which is
a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfOf(): UByteArray {\n    return UByteArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array.\n * \n * @sample samples.collections.Arrays.CopyOfOperations.copyOfOf\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.copyOfOf(): UShortArray {\n    return UShortArray(storage.copyOfOf())\n}\n\n/**\n * Returns new array
which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at
the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the original array, the copy array
is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the
copy array are filled with zero values.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.copyOfOf(newSize: Int): UIntArray {\n    return UIntArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.copyOfOf(newSize: Int): UByteArray {\n    return UByteArray(storage.copyOfOf(newSize))\n}\n\n/**\n *
Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either
truncated or padded at the end with zero values if necessary.\n * \n * - If [newSize] is less than the size of the
original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original
array, the extra elements in the copy array are filled with zero values.\n

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array, the extra elements in the copy array are filled with zero values.\n

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOf(newSize: Int): UByteArray {\n    return UByteArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns new array which is a copy of the original array, resized to the given [newSize].\n * The copy is either truncated or padded at the end with zero values if necessary.\n * - If [newSize] is less than the size of the original array, the copy array is truncated to the [newSize].\n * - If [newSize] is greater than the size of the original array, the extra elements in the copy array are filled with zero values.\n
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```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOf(newSize: Int): UShortArray {\n    return UShortArray(storage.copyOf(newSize))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
```

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.copyOfRange(fromIndex: Int, toIndex: Int): UIntArray {\n    return  
UIntArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.copyOfRange(fromIndex: Int, toIndex: Int): ULongArray {\n    return  
ULongArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.copyOfRange(fromIndex: Int, toIndex: Int): UByteArray {\n    return  
UByteArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns a new array which is a copy of the specified range of the original array.\n * @param fromIndex the start of the range (inclusive), must be in `0..array.size`\n * @param toIndex the end of the range (exclusive), must be in `fromIndex..array.size`\n
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.copyOfRange(fromIndex: Int, toIndex: Int): UShortArray {\n    return  
UShortArray(storage.copyOfRange(fromIndex, toIndex))\n}\n\n/**\n * Returns the range of valid indices for the array.\n * @SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.indices:  
IntRange\n    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.indices: IntRange\n    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.indices: IntRange\n    get() = storage.indices\n\n/**\n * Returns the range of valid indices for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.indices: IntRange\n    get() = storage.indices\n\n/**\n * Returns the last valid index for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UIntArray.lastIndex: Int\n    get() =  
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val ULongArray.lastIndex: Int\n    get() =  
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UByteArray.lastIndex: Int\n    get() =  
storage.lastIndex\n\n/**\n * Returns the last valid index for the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic inline val UShortArray.lastIndex: Int\n    get() =  
storage.lastIndex\n\n/**\n * Returns an array containing all elements of the original array and then the given  
[element].\n * @SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline  
operator fun UIntArray.plus(element: UInt): UIntArray {\n    return UIntArray(storage +
```

```

element.toInt())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun ULongArray.plus(element: ULong): ULongArray {\n    return ULongArray(storage +
element.toLong())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UByteArray.plus(element: UByte): UByteArray {\n    return UByteArray(storage +
element.toByte())\n}\n\n/**\n * Returns an array containing all elements of the original array and then the given
[element].\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
operator fun UShortArray.plus(element: UShort): UShortArray {\n    return UShortArray(storage +
element.toShort())\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UIntArray.plus(elements: Collection<UInt>): UIntArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toInt()\n    return
UIntArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun ULongArray.plus(elements: Collection<ULong>): ULongArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toLong()\n    return
ULongArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] collection.\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
operator fun UByteArray.plus(elements: Collection<UByte>): UByteArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toByte()\n    return
UByteArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] collection.\n *^\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic operator
fun UShortArray.plus(elements: Collection<UShort>): UShortArray {\n    var index = size\n    val result =
storage.copyOfOf(size + elements.size)\n    for (element in elements) result[index++] = element.toShort()\n    return
UShortArray(result)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all
elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UIntArray.plus(elements: UIntArray): UIntArray {\n    return UIntArray(storage + elements.storage)\n}\n\n/**\n *
Returns an array containing all elements of the original array and then all elements of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
ULongArray.plus(elements: ULongArray): ULongArray {\n    return ULongArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UByteArray.plus(elements: UByteArray): UByteArray {\n    return UByteArray(storage +
elements.storage)\n}\n\n/**\n * Returns an array containing all elements of the original array and then all elements
of the given [elements] array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline operator fun
UShortArray.plus(elements: UShortArray): UShortArray {\n    return UShortArray(storage +
elements.storage)\n}\n\n/**\n * Sorts the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.sort(): Unit {\n    if (size > 1)
sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.sort(): Unit {\n    if (size > 1)
sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.sort(): Unit {\n    if (size > 1)
sortArray(this)\n}\n\n/**\n * Sorts the array in-place.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.sort(): Unit {\n    if (size > 1)

```

`sortArray(this)`\n}\n\n/**\n * Returns an array of type [ByteArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UByteArray.toByteArray(): ByteArray` {\n return storage.copyOf()\n}\n\n/**\n * Returns an array of type [IntArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UIntArray.toIntArray(): IntArray` {\n return storage.copyOf()\n}\n\n/**\n * Returns an array of type [LongArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ULongArray.toLongArray(): LongArray` {\n return storage.copyOf()\n}\n\n/**\n * Returns an array of type [ShortArray], which is a copy of this array where each element is a signed reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun UShortArray.toShortArray(): ShortArray` {\n return storage.copyOf()\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.toTypedArray(): Array<UInt>` {\n return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.toTypedArray(): Array<ULong>` {\n return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.toTypedArray(): Array<UByte>` {\n return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns a *typed* object array containing all of the elements of this primitive array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.toTypedArray(): Array<UShort>` {\n return Array(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of UByte containing all of the elements of this generic array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UByte>.toUByteArray(): UByteArray` {\n return UByteArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UByteArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun ByteArray.toUByteArray(): UByteArray` {\n return UByteArray(this.copyOf())\n}\n\n/**\n * Returns an array of UInt containing all of the elements of this generic array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UInt>.toUIntArray(): UIntArray` {\n return UIntArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [UIntArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun IntArray.toUIntArray(): UIntArray` {\n return UIntArray(this.copyOf())\n}\n\n/**\n * Returns an array of ULong containing all of the elements of this generic array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out ULong>.toULongArray(): ULongArray` {\n return ULongArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type [ULongArray], which is a copy of this array where each element is an unsigned reinterpretation\n * of the corresponding element of this array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun LongArray.toULongArray(): ULongArray` {\n return ULongArray(this.copyOf())\n}\n\n/**\n * Returns an array of UShort containing all of the elements of this generic array.\n

`*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Array<out UShort>.toUShortArray(): UShortArray` {\n return UShortArray(size) { index -> this[index] }\n}\n\n/**\n * Returns an array of type

[UShortArray], which is a copy of this array where each element is an unsigned reinterpretation of the corresponding element of this array.

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ShortArray.toUShortArray(): UShortArray {\n    return UShortArray(this.copyOf())\n}\n\n/**\n * Returns a single  
list of all elements yielded from results of [transform] function being invoked on each element of original array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UIntArray.flatMap(transform: (UInt) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),  
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  
invoked on each element of original array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
ULongArray.flatMap(transform: (ULong) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),  
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  
invoked on each element of original array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UByteArray.flatMap(transform: (UByte) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),  
transform)\n}\n\n/**\n * Returns a single list of all elements yielded from results of [transform] function being  
invoked on each element of original array.
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>  
UShortArray.flatMap(transform: (UShort) -> Iterable<R>): List<R> {\n    return flatMapTo(ArrayList<R>(),  
transform)\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element of original array, to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :  
MutableCollection<in R>> UIntArray.flatMapTo(destination: C, transform: (UInt) -> Iterable<R>): C {\n    for  
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element of original array, to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :  
MutableCollection<in R>> ULongArray.flatMapTo(destination: C, transform: (ULong) -> Iterable<R>): C {\n    for  
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element of original array, to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :  
MutableCollection<in R>> UByteArray.flatMapTo(destination: C, transform: (UByte) -> Iterable<R>): C {\n    for  
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Appends all elements yielded from results of [transform] function being invoked on each  
element of original array, to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C :  
MutableCollection<in R>> UShortArray.flatMapTo(destination: C, transform: (UShort) -> Iterable<R>): C {\n    for  
(element in this) {\n        val list = transform(element)\n        destination.addAll(list)\n    }\n    return  
destination\n}\n\n/**\n * Groups elements of the original array by the key returned by the given [keySelector]  
function\n * applied to each element and returns a map where each group key is associated with a list of  
corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced from the  
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>  
UIntArray.groupBy(keySelector: (UInt) -> K): Map<K, List<UInt>> {\n    return groupByTo(LinkedHashMap<K,  
MutableList<UInt>>(), keySelector)\n}\n\n/**\n * Groups elements of the original array by the key returned by the  
given [keySelector] function\n * applied to each element and returns a map where each group key is associated with  
a list of corresponding elements.\n * \n * The returned map preserves the entry iteration order of the keys produced
```

```

from the original array.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>\n
UIntArray.groupBy(keySelector: (ULong) -> K): Map<K, List<ULong>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<ULong>>(), keySelector)\n}\n\n/**\n * Groups elements of the\n
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map\n
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the\n
entry iteration order of the keys produced from the original array.\n * \n * @sample\n
samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>\n
UByteArray.groupBy(keySelector: (UByte) -> K): Map<K, List<UByte>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<UByte>>(), keySelector)\n}\n\n/**\n * Groups elements of the\n
original array by the key returned by the given [keySelector] function\n * applied to each element and returns a map\n
where each group key is associated with a list of corresponding elements.\n * \n * The returned map preserves the\n
entry iteration order of the keys produced from the original array.\n * \n * @sample\n
samples.collections.Collections.Transformations.groupBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K>\n
UShortArray.groupBy(keySelector: (UShort) -> K): Map<K, List<UShort>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<UShort>>(), keySelector)\n}\n\n/**\n * Groups values returned by\n
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given\n
[keySelector] function applied to the element\n * and returns a map where each group key is associated with a list of\n
corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys produced from the\n
original array.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\n
UIntArray.groupBy(keySelector: (UInt) -> K, valueTransform: (UInt) -> V): Map<K, List<V>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values\n
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by\n
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated\n
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys\n
produced from the original array.\n * \n * @sample\n
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\n
UIntArray.groupBy(keySelector: (ULong) -> K, valueTransform: (ULong) -> V): Map<K, List<V>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values\n
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by\n
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated\n
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys\n
produced from the original array.\n * \n * @sample\n
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\n
UByteArray.groupBy(keySelector: (UByte) -> K, valueTransform: (UByte) -> V): Map<K, List<V>> {\n return\n
groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups values\n
returned by the [valueTransform] function applied to each element of the original array\n * by the key returned by\n
the given [keySelector] function applied to the element\n * and returns a map where each group key is associated\n
with a list of corresponding values.\n * \n * The returned map preserves the entry iteration order of the keys\n
produced from the original array.\n * \n * @sample\n
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V>\n
UShortArray.groupBy(keySelector: (UShort) -> K, valueTransform: (UShort) -> V): Map<K, List<V>> {\n return

```

```

groupByTo(LinkedHashMap<K, MutableList<V>>(), keySelector, valueTransform)\n}\n\n/**\n * Groups elements
of the original array by the key returned by the given [keySelector] function\n * applied to each element and puts to
the [destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UInt>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K): M {\n
for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<UInt>() }\n    list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<ULong>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K):
M {\n for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<ULong>() }\n    list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UByte>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K):
M {\n for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<UByte>() }\n    list.add(element)\n }\n return destination\n}\n\n/**\n * Groups elements of the
original array by the key returned by the given [keySelector] function\n * applied to each element and puts to the
[destination] map each group key associated with a list of corresponding elements.\n * \n * @return The
[destination] map.\n * \n * @sample samples.collections.Collections.Transformations.groupBy\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, M :
MutableMap<in K, MutableList<UShort>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K):
M {\n for (element in this) {\n    val key = keySelector(element)\n    val list = destination.getOrPut(key) {
ArrayList<UShort>() }\n    list.add(element)\n }\n return destination\n}\n\n/**\n * Groups values returned by
the [valueTransform] function applied to each element of the original array\n * by the key returned by the given
[keySelector] function applied to the element\n * and puts to the [destination] map each group key associated with a
list of corresponding values.\n * \n * @return The [destination] map.\n * \n * @sample
samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> UIntArray.groupByTo(destination: M, keySelector: (UInt) -> K,
valueTransform: (UInt) -> V): M {\n for (element in this) {\n    val key = keySelector(element)\n    val list =
destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]
map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeysAndValues\n
*\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,
M : MutableMap<in K, MutableList<V>>> ULongArray.groupByTo(destination: M, keySelector: (ULong) -> K,
valueTransform: (ULong) -> V): M {\n for (element in this) {\n    val key = keySelector(element)\n    val list
= destination.getOrPut(key) { ArrayList<V>() }\n    list.add(valueTransform(element))\n }\n return
destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the
original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the
[destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]

```

```

map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,\n M : MutableMap<in K, MutableList<V>>> UByteArray.groupByTo(destination: M, keySelector: (UByte) -> K,\n valueTransform: (UByte) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list\n = destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return\n destination\n}\n\n/**\n * Groups values returned by the [valueTransform] function applied to each element of the\n original array\n * by the key returned by the given [keySelector] function applied to the element\n * and puts to the\n [destination] map each group key associated with a list of corresponding values.\n * \n * @return The [destination]\n map.\n * \n * @sample samples.collections.Collections.Transformations.groupByKeyAndValues\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <K, V,\n M : MutableMap<in K, MutableList<V>>> UShortArray.groupByTo(destination: M, keySelector: (UShort) -> K,\n valueTransform: (UShort) -> V): M {\n    for (element in this) {\n        val key = keySelector(element)\n        val list\n = destination.getOrPut(key) { ArrayList<V>() }\n        list.add(valueTransform(element))\n    }\n    return\n destination\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each\n element in the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UIntArray.map(transform: (UInt) -> R): List<R> {\n    return mapTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each element in the original\n array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\n <R> ULongArray.map(transform: (ULong) -> R): List<R> {\n    return mapTo(ArrayList<R>(size),\n transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each\n element in the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UByteArray.map(transform: (UByte) -> R): List<R> {\n    return mapTo(ArrayList<R>(size),\n transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each\n element in the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UShortArray.map(transform: (UShort) -> R): List<R> {\n    return mapTo(ArrayList<R>(size),\n transform)\n}\n\n/**\n * Returns a list containing the results of applying the given [transform] function\n * to each\n element and its index in the original array.\n * @param [transform] function that takes the index of an element and\n the element itself\n * and returns the result of the transform applied to the element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\n UIntArray.mapIndexed(transform: (index: Int, UInt) -> R): List<R> {\n    return\n mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the\n given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function\n that takes the index of an element and the element itself\n * and returns the result of the transform applied to the\n element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\n fun <R> ULongArray.mapIndexed(transform: (index: Int, ULong) -> R): List<R> {\n    return\n mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the\n given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function\n that takes the index of an element and the element itself\n * and returns the result of the transform applied to the\n element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\n fun <R> UByteArray.mapIndexed(transform: (index: Int, UByte) -> R): List<R> {\n    return\n mapIndexedTo(ArrayList<R>(size), transform)\n}\n\n/**\n * Returns a list containing the results of applying the\n given [transform] function\n * to each element and its index in the original array.\n * @param [transform] function\n that takes the index of an element and the element itself\n * and returns the result of the transform applied to the\n element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline\n fun <R> UShortArray.mapIndexed(transform: (index: Int, UShort) -> R): List<R> {\n    return

```

mapIndexedTo(ArrayList<R>(size), transform)\n\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapIndexedTo(destination: C, transform: (index: Int, UInt) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapIndexedTo(destination: C, transform: (index: Int, ULong) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapIndexedTo(destination: C, transform: (index: Int, UByte) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n * Applies the given [transform] function to each element and its index in the original array\n * and appends the results to the given [destination].\n * @param [transform] function that takes the index of an element and the element itself\n * and returns the result of the transform applied to the element.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapIndexedTo(destination: C, transform: (index: Int, UShort) -> R): C {\n    var index = 0\n    for (item in this)\n        destination.add(transform(index++, item))\n    return destination\n}\n\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UIntArray.mapTo(destination: C, transform: (UInt) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> ULongArray.mapTo(destination: C, transform: (ULong) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UByteArray.mapTo(destination: C, transform: (UByte) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n * Applies the given [transform] function to each element of the original array\n * and appends the results to the given [destination].\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, C : MutableCollection<in R>> UShortArray.mapTo(destination: C, transform: (UShort) -> R): C {\n    for (item in this)\n        destination.add(transform(item))\n    return destination\n}\n\n * Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.withIndex(): Iterable<IndexedValue<UInt>> {\n    return IndexingIterable { iterator() }\n}\n\n * Returns a lazy [Iterable] of [IndexedValue] for each element of the original array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.withIndex(): Iterable<IndexedValue<ULong>> {\n    return IndexingIterable { iterator() }\n}\n\n * Returns a lazy [Iterable]
```

```

of [IndexedValue] for each element of the original array.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.withIndex():\nIterable<IndexedValue<UByte>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns a lazy [Iterable]\n * of [IndexedValue] for each element of the original array.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.withIndex():\nIterable<IndexedValue<UShort>> {\n    return IndexingIterable { iterator() }\n}\n\n/**\n * Returns `true` if all\n * elements match the given [predicate].\n * \n * @sample samples.collections.Collections.Aggregates.all\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.all(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return\n    false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.all\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.all(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return\n    false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.all\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.all(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return\n    false\n    return true\n}\n\n/**\n * Returns `true` if all elements match the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.all\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.all(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (!predicate(element)) return\n    false\n    return true\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample\n * samples.collections.Collections.Aggregates.any\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one element.\n * \n * @sample\n * samples.collections.Collections.Aggregates.any\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one\n * element.\n * \n * @sample\n * samples.collections.Collections.Aggregates.any\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if array has at least one\n * element.\n * \n * @sample\n * samples.collections.Collections.Aggregates.any\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUShortArray.any(): Boolean {\n    return storage.any()\n}\n\n/**\n * Returns `true` if at least one element matches\n * the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.anyWithPredicate\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUIntArray.any(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.anyWithPredicate\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nULongArray.any(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return\n    true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.anyWithPredicate\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun\nUByteArray.any(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return\n    true\n    return false\n}\n\n/**\n * Returns `true` if at least one element matches the given [predicate].\n * \n * @sample\n * samples.collections.Collections.Aggregates.anyWithPredicate\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

UShortArray.any(predicate: (UShort) -> Boolean): Boolean {\n  for (element in this) if (predicate(element)) return true\n  return false\n}\n\n/**\n * Returns the number of elements matching the given [predicate].\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun
UIntArray.count(predicate: (UInt) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun ULongArray.count(predicate: (ULong) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun UByteArray.count(predicate: (UByte) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Returns the number of elements matching the given
[predicate].\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public
inline fun UShortArray.count(predicate: (UShort) -> Boolean): Int {\n  var count = 0\n  for (element in this) if
(predicate(element)) ++count\n  return count\n}\n\n/**\n * Accumulates value starting with [initial] value and
applying [operation] from left to right to current accumulator value and each element.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.fold(initial: R, operation: (acc: R, UInt) -> R): R {\n  var accumulator = initial\n  for (element in this)
accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value starting
with [initial] value and applying [operation] from left to right to current accumulator value and each element.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
ULongArray.fold(initial: R, operation: (acc: R, ULong) -> R): R {\n  var accumulator = initial\n  for (element in
this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates value
starting with [initial] value and applying [operation] from left to right to current accumulator value and each
element.\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline
fun <R> UByteArray.fold(initial: R, operation: (acc: R, UByte) -> R): R {\n  var accumulator = initial\n  for
(element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right to current accumulator value and each
element.\n *\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline
fun <R> UShortArray.fold(initial: R, operation: (acc: R, UShort) -> R): R {\n  var accumulator = initial\n  for
(element in this) accumulator = operation(accumulator, element)\n  return accumulator\n}\n\n/**\n * Accumulates
value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and
each element with its index in the original array.\n *\n @param [operation] function that takes the index of an element,
current accumulator value\n * and the element itself, and calculates the next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
UIntArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UInt) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n *\n @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>
ULongArray.foldIndexed(initial: R, operation: (index: Int, acc: R, ULong) -> R): R {\n  var index = 0\n  var
accumulator = initial\n  for (element in this) accumulator = operation(index++, accumulator, element)\n  return
accumulator\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n *\n @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the
next accumulator value.\n
*\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n @kotlin.internal.InlineOnly\n public inline fun <R>

```

UByteArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UByte) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from left to right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation] function that takes the index of an element, current accumulator value\n * and the element itself, and calculates the next accumulator value.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.foldIndexed(initial: R, operation: (index: Int, acc: R, UShort) -> R): R {\n var index = 0\n var accumulator = initial\n for (element in this) accumulator = operation(index++, accumulator, element)\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.foldRight(initial: R, operation: (UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.foldRight(initial: R, operation: (ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUByteArray.foldRight(initial: R, operation: (UByte, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUShortArray.foldRight(initial: R, operation: (UShort, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nUIntArray.foldRightIndexed(initial: R, operation: (index: Int, UInt, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>\nULongArray.foldRightIndexed(initial: R, operation: (index: Int, ULong, acc: R) -> R): R {\n var index = lastIndex\n var accumulator = initial\n while (index >= 0) {\n accumulator = operation(index, get(index), accumulator)\n --index\n }\n return accumulator}\n}\n\n/**\n * Accumulates value starting with [initial] value and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R>
```

```

ByteArray.foldRightIndexed(initial: R, operation: (index: Int, UByte, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
/** Accumulates value starting with [initial] value and applying [operation] from right to left to each element with its index in the original array and current accumulator value.
 * @param [operation] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun <R> UShortArray.foldRightIndexed(initial: R, operation: (index: Int, UShort, acc: R) -> R): R {
    var index = lastIndex
    var accumulator = initial
    while (index >= 0) {
        accumulator = operation(index, get(index), accumulator)
        --index
    }
    return accumulator
}
/** Performs the given [action] on each element.
 * @param [action] function that takes the index of an element, the element itself and current accumulator value, and calculates the next accumulator value.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UIntArray.forEach(action: (UInt) -> Unit): Unit {
    for (element in this) action(element)
}
/** Performs the given [action] on each element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun ULongArray.forEach(action: (ULong) -> Unit): Unit {
    for (element in this) action(element)
}
/** Performs the given [action] on each element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UByteArray.forEach(action: (UByte) -> Unit): Unit {
    for (element in this) action(element)
}
/** Performs the given [action] on each element, providing sequential index with the element.
 * @param [action] function that takes the index of an element and the element itself and performs the desired action on the element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UShortArray.forEach(action: (UShort) -> Unit): Unit {
    for (element in this) action(element)
}
/** Performs the given [action] on each element, providing sequential index with the element.
 * @param [action] function that takes the index of an element and the element itself and performs the desired action on the element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UIntArray.forEachIndexed(action: (index: Int, UInt) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
/** Performs the given [action] on each element, providing sequential index with the element.
 * @param [action] function that takes the index of an element and the element itself and performs the desired action on the element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun ULongArray.forEachIndexed(action: (index: Int, ULong) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
/** Performs the given [action] on each element, providing sequential index with the element.
 * @param [action] function that takes the index of an element and the element itself and performs the desired action on the element.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UByteArray.forEachIndexed(action: (index: Int, UByte) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
/** Returns the largest element or `null` if there are no elements.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UShortArray.forEachIndexed(action: (index: Int, UShort) -> Unit): Unit {
    var index = 0
    for (item in this) action(index++, item)
}
/** Returns the largest element or `null` if there are no elements.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UIntArray.max(): UInt? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (max < e) max = e
    }
    return max
}
/** Returns the largest element or `null` if there are no elements.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun ULongArray.max(): ULong? {
    if (isEmpty()) return null
    var max = this[0]
    for (i in 1..lastIndex) {
        val e = this[i]
        if (max < e) max = e
    }
    return max
}
/** Returns the largest element or `null` if there are no elements.
 */
@SinceKotlin("1.3")@ExperimentalUnsignedTypes
public fun UByteArray.max(): UByte? {
    if

```

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(isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the largest element or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.max(): UShort? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (max < e) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n@sample samples.collections.Collections.Aggregates.maxBy\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UIntArray.maxBy(selector: (UInt) -> R): UInt? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n@sample samples.collections.Collections.Aggregates.maxBy\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> ULongArray.maxBy(selector: (ULong) -> R): ULong? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n@sample samples.collections.Collections.Aggregates.maxBy\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UByteArray.maxBy(selector: (UByte) -> R): UByte? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element yielding the largest value of the given function or `null` if there are no elements.\n */\n@sample samples.collections.Collections.Aggregates.maxBy\n\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R : Comparable<R>> UShortArray.maxBy(selector: (UShort) -> R): UShort? {\n    if (isEmpty()) return null\n    var maxElem = this[0]\n    var maxValue = selector(maxElem)\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        val v = selector(e)\n        if (maxValue < v) {\n            maxElem = e\n            maxValue = v\n        }\n    }\n    return maxElem\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.maxWith(comparator: Comparator<in UInt>): UInt? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.maxWith(comparator: Comparator<in ULong>): ULong? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.maxWith(comparator: Comparator<in UByte>): UByte? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the first element having the largest value according to the provided [comparator] or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.maxWith(comparator: Comparator<in UShort>): UShort? {\n    if (isEmpty()) return null\n    var max = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (comparator.compare(max, e) < 0) max = e\n    }\n    return max\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntArray.min(): UInt? {\n    if (isEmpty()) return null\n    var min = this[0]\n    for (i in 1..lastIndex) {\n        val e = this[i]\n        if (min > e) min = e\n    }\n    return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n */

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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongArray.min(): ULong? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByteArray.min(): UByte? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the smallest element or `null` if there are no elements.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShortArray.min(): UShort? {\n if
(isEmpty()) return null\n var min = this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (min > e) min =
e\n }\n return min\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or
`null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UIntArray.minBy(selector: (UInt) -> R): UInt? {\n if (isEmpty()) return null\n var minElem =
this[0]\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val v =
selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return
minElem\n}\n\n/**\n * Returns the first element yielding the smallest value of the given function or `null` if there
are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
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minElem = this[0]\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val
v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return
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v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return
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*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R :
Comparable<R>> UShortArray.minBy(selector: (UShort) -> R): UShort? {\n if (isEmpty()) return null\n var
minElem = this[0]\n var minValue = selector(minElem)\n for (i in 1..lastIndex) {\n val e = this[i]\n val
v = selector(e)\n if (minValue > v) {\n minElem = e\n minValue = v\n }\n }\n return
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or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UIntArray.minWith(comparator: Comparator<in UInt>): UInt? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULongArray.minWith(comparator: Comparator<in ULong>): ULong? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
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UByteArray.minWith(comparator: Comparator<in UByte>): UByte? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
UShortArray.minWith(comparator: Comparator<in UShort>): UShort? {\n if (isEmpty()) return null\n var min =
this[0]\n for (i in 1..lastIndex) {\n val e = this[i]\n if (comparator.compare(min, e) > 0) min = e\n }\n
return min\n}\n\n/**\n * Returns the first element having the smallest value according to the provided [comparator]
or `null` if there are no elements.\n * \n * @sample samples.collections.Collections.Aggregates.minBy\n

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return min\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n * @sample
samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if the array has no elements.\n * \n *
@sample samples.collections.Collections.Aggregates.none\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(): Boolean {\n    return isEmpty()\n}\n\n/**\n * Returns `true` if no elements match the given
[predicate].\n * \n * @sample samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.none(predicate: (UInt) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.none(predicate: (ULong) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
false\n    return true\n}\n\n/**\n * Returns `true` if no elements match the given [predicate].\n * \n * @sample
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UByteArray.none(predicate: (UByte) -> Boolean): Boolean {\n    for (element in this) if (predicate(element)) return
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samples.collections.Collections.Aggregates.noneWithPredicate\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.none(predicate: (UShort) -> Boolean): Boolean {\n    for (element in this) if (predicate(element))
return false\n    return true\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation]
from left to right to current accumulator value and each element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduce(operation: (acc: UInt, UInt) -> UInt): UInt {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduce(operation: (acc: ULong, ULong) -> ULong): ULong {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduce(operation: (acc: UByte, UByte) -> UByte): UByte {\n    if (isEmpty())\n        throw
UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = this[0]\n    for (index in
1..lastIndex) {\n        accumulator = operation(accumulator, this[index])\n    }\n    return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right to current accumulator
value and each element.\n

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*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduce(operation: (acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(accumulator, this[index])\n }\n return accumulator\n}\n\n/**\n *
Accumulates value starting with the first element and applying [operation] from left to right\n * to current
accumulator value and each element with its index in the original array.\n * @param [operation] function that takes
the index of an element, current accumulator value\n * and the element itself and calculates the next accumulator
value.\n *^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceIndexed(operation: (index: Int, acc: UInt, UInt) -> UInt): UInt {\n if (isEmpty())\n throw
UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for (index in
1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
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next accumulator value.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceIndexed(operation: (index: Int, acc: ULong, ULong) -> ULong): ULong {\n if (isEmpty())\n
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(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
right\n * to current accumulator value and each element with its index in the original array.\n * @param [operation]
function that takes the index of an element, current accumulator value\n * and the element itself and calculates the
next accumulator value.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UByteArray.reduceIndexed(operation: (index: Int, acc: UByte, UByte) -> UByte): UByte {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with the first element and applying [operation] from left to
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next accumulator value.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UShortArray.reduceIndexed(operation: (index: Int, acc: UShort, UShort) -> UShort): UShort {\n if (isEmpty())\n
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = this[0]\n for
(index in 1..lastIndex) {\n accumulator = operation(index, accumulator, this[index])\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
UIntArray.reduceRight(operation: (UInt, acc: UInt) -> UInt): UInt {\n var index = lastIndex\n if (index < 0)
throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator = get(index--)\n
while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left
to each element and current accumulator value.\n
*^@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly\npublic inline fun
ULongArray.reduceRight(operation: (ULong, acc: ULong) -> ULong): ULong {\n var index = lastIndex\n if
(index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n var accumulator =
get(index--)\n while (index >= 0) {\n accumulator = operation(get(index--), accumulator)\n }\n return
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left

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UByteArray.reduceRight(operation: (UByte, acc: UByte) -> UByte): UByte {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left  
to each element and current accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.reduceRight(operation: (UShort, acc: UShort) -> UShort): UShort {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =  
get(index--)\n    while (index >= 0) {\n        accumulator = operation(get(index--), accumulator)\n    }\n    return  
accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from right to left\n * to each element with its index in the original array and current accumulator value.\n * @param [operation]  
function that takes the index of an element, the element itself\n * and current accumulator value, and calculates the  
next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.reduceRightIndexed(operation: (index: Int, UInt, acc: UInt) -> UInt): UInt {\n    var index = lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var accumulator =  
get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index), accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element and applying [operation] from  
right to left\n * to each element with its index in the original array and current accumulator value.\n * @param  
[operation] function that takes the index of an element, the element itself\n * and current accumulator value, and  
calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.reduceRightIndexed(operation: (index: Int, ULong, acc: ULong) -> ULong): ULong {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element  
and applying [operation] from right to left\n * to each element with its index in the original array and current  
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and  
current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.reduceRightIndexed(operation: (index: Int, UByte, acc: UByte) -> UByte): UByte {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Accumulates value starting with last element  
and applying [operation] from right to left\n * to each element with its index in the original array and current  
accumulator value.\n * @param [operation] function that takes the index of an element, the element itself\n * and  
current accumulator value, and calculates the next accumulator value.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.reduceRightIndexed(operation: (index: Int, UShort, acc: UShort) -> UShort): UShort {\n    var index =  
lastIndex\n    if (index < 0) throw UnsupportedOperationException("Empty array can't be reduced.")\n    var  
accumulator = get(index--)\n    while (index >= 0) {\n        accumulator = operation(index, get(index),  
accumulator)\n        --index\n    }\n    return accumulator\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.sumBy(selector: (UInt) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum +=  
selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector] function\n
```

applied to each element in the array.\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.sumBy(selector: (ULong) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]  
function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.sumBy(selector: (UByte) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]  
function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.sumBy(selector: (UShort) -> UInt): UInt {\n    var sum: UInt = 0u\n    for (element in this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by [selector]  
function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UIntArray.sumByDouble(selector: (UInt) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
ULongArray.sumByDouble(selector: (ULong) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in  
this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UByteArray.sumByDouble(selector: (UByte) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in  
this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all values produced by  
[selector] function applied to each element in the array.\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun  
UShortArray.sumByDouble(selector: (UShort) -> Double): Double {\n    var sum: Double = 0.0\n    for (element in  
this) {\n        sum  
        += selector(element)\n    }\n    return sum\n}\n\n/**\n * Returns a list of pairs built from the  
elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest  
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other: Array<out  
R>): List<Pair<UInt, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from  
the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest  
collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:  
Array<out R>): List<Pair<ULong, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of  
pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has  
length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other: Array<out  
R>): List<Pair<UByte, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built  
from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the  
shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:  
Array<out R>): List<Pair<UShort, R>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of  
values built from the elements of `this` array and the [other] array with the same index\n * using the provided  
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
```

```

UIntArray.zip(other: Array<out R>, transform: (a: UInt, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
ULongArray.zip(other: Array<out R>, transform: (a: ULong, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UByteArray.zip(other: Array<out R>, transform: (a: UByte, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array
with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned
list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UShortArray.zip(other: Array<out R>, transform: (a: UShort, b: R) -> V): List<V> {\n  val size = minOf(size,
other.size)\n  val list = ArrayList<V>(size)\n  for (i in 0 until size) {\n    list.add(transform(this[i], other[i]))\n  }\n  return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` collection and [other] array with
the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample
samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UIntArray.zip(other:
Iterable<R>): List<Pair<UInt, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> ULongArray.zip(other:
Iterable<R>): List<Pair<ULong, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UByteArray.zip(other:
Iterable<R>): List<Pair<UByte, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs
built from the elements of `this` collection and [other] array with the same index.\n * The returned list has length of
the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun <R> UShortArray.zip(other:
Iterable<R>): List<Pair<UShort, R>> {\n  return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of
values built from the elements of `this` array and the [other] collection with the same index\n * using the provided
[transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n *
\n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>
UIntArray.zip(other: Iterable<R>, transform: (a: UInt, b: R) -> V): List<V> {\n  val arraySize = size\n  val list =
ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n  var i = 0\n  for (element in other) {\n
if (i >= arraySize) break\n    list.add(transform(this[i++], element))\n  }\n  return list\n}\n\n/**\n * Returns a
list of values built from the elements of `this` array and the [other] collection with the same index\n * using the

```

provided [transform] function applied to each pair of elements.\n * The returned list has length of the shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nULongArray.zip(other: Iterable<R>, transform: (a: ULong, b: R) -> V): List<V> {\n    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the\n * shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nUByteArray.zip(other: Iterable<R>, transform: (a: UByte, b: R) -> V): List<V> {\n    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] collection with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned list has length of the\n * shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <R, V>\nUShortArray.zip(other: Iterable<R>, transform: (a: UShort, b: R) -> V): List<V> {\n    val arraySize = size\n    val list = ArrayList<V>(minOf(other.collectionSizeOrDefault(10), arraySize))\n    var i = 0\n    for (element in other) {\n        if (i >= arraySize) break\n        list.add(transform(this[i++], element))\n    }\n    return list\n}\n\n/**\n * Returns a list of pairs built from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest collection.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntArray.zip(other: UIntArray):\nList<Pair<UInt, UInt>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built from\n the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the shortest\n collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongArray.zip(other: ULongArray):\nList<Pair<ULong, ULong>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built\n from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the\n shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByteArray.zip(other: UByteArray):\nList<Pair<UByte, UByte>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of pairs built\n from the elements of `this` array and the [other] array with the same index.\n * The returned list has length of the\n shortest collection.\n * \n * @sample samples.collections.Iterables.Operations.zipIterable\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShortArray.zip(other: UShortArray):\nList<Pair<UShort, UShort>> {\n    return zip(other) { t1, t2 -> t1 to t2 }\n}\n\n/**\n * Returns a list of values built\n from the elements of `this` array and the [other] array with the same index\n * using the provided [transform]\n function applied to each pair of elements.\n * The returned list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>\nUIntArray.zip(other: UIntArray, transform: (a: UInt, b: UInt) -> V): List<V> {\n    val size = minOf(size,\n other.size)\n    val list = ArrayList<V>(size)\n    for (i in 0 until size) {\n        list.add(transform(this[i], other[i]))\n    }\n    return list\n}\n\n/**\n * Returns a list of values built from the elements of `this` array and the [other] array\n with the same index\n * using the provided [transform] function applied to each pair of elements.\n * The returned\n list has length of the shortest array.\n * \n * @sample\n samples.collections.Iterables.Operations.zipIterableWithTransform\n
```

```
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun <V>
```

```

ULongArray.zip(other: ULongArray, transform: (a: ULong, b: ULong) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned list has length of the shortest array.
 */
@sample
samples.collections.Iterables.Operations.zipIterableWithTransform

*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UByteArray.zip(other: UByteArray, transform: (a: UByte, b: UByte) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns a list of values built from the elements of `this` array and the [other] array
 * with the same index
 * using the provided [transform] function applied to each pair of elements.
 * The returned list has length of the shortest array.
 */
@sample
samples.collections.Iterables.Operations.zipIterableWithTransform

*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun <V>
UShortArray.zip(other: UShortArray, transform: (a: UShort, b: UShort) -> V): List<V> {
    val size = minOf(size, other.size)
    val list = ArrayList<V>(size)
    for (i in 0 until size) {
        list.add(transform(this[i], other[i]))
    }
    return list
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@kotlin.jvm.JvmName("sumOfUInt")\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
Array<out UInt>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum += element
    }
    return sum
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@kotlin.jvm.JvmName("sumOfULong")\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
Array<out ULong>.sum(): ULong {
    var sum: ULong = 0uL
    for (element in this) {
        sum += element
    }
    return sum
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@kotlin.jvm.JvmName("sumOfUByte")\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
Array<out UByte>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum += element
    }
    return sum
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@kotlin.jvm.JvmName("sumOfUShort")\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun
Array<out UShort>.sum(): UInt {
    var sum: UInt = 0u
    for (element in this) {
        sum += element
    }
    return sum
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UIntArray.sum(): UInt {
    return storage.sum().toUInt()
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
ULongArray.sum(): ULong {
    return storage.sum().toULong()
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UByteArray.sum(): UInt {
    return sumBy { it.toUInt() }
}

/**
 * Returns the sum of all elements in the array.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/n@kotlin.internal.InlineOnly\/npublic inline fun
UShortArray.sum(): UInt {
    return sumBy { it.toUInt() }
}

/**
 * Copyright 2010-2019 JetBrains s.r.o.
 * Use of this source code is governed by the Apache 2.0 license
 * that can be found in the license/LICENSE.txt file.
 */
*\/n@file:kotlin.jvm.JvmMultifileClass\/n@file:kotlin.jvm.JvmName("UCollectionsKt")\/npackage
kotlin.collections

// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt
// See:
// https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib

import kotlin.random.*

/**
 * Returns an array of UByte containing all of the elements of this collection.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun Collection<UByte>.toUByteArray():
UByteArray {
    val result = UByteArray(size)
    var index = 0
    for (element in this) {
        result[index++] = element
    }
    return result
}

/**
 * Returns an array of UInt containing all of the elements of this collection.
 */
*\/n@SinceKotlin("1.3")\/n@ExperimentalUnsignedTypes\/npublic fun Collection<UInt>.toUIntArray(): UIntArray {
    val result = UIntArray(size)
    var index = 0
    for (element in this) {
        result[index++] = element
    }
    return result
}

/**
 * Returns an array of ULong containing all of the elements of this collection.
 */

```

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<ULong>.toULongArray():
ULongArray {\n    val result = ULongArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] =
element\n    return result\n}\n\n/**\n * Returns an array of UShort containing all of the elements of this collection.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Collection<UShort>.toUShortArray():
UShortArray {\n    val result = UShortArray(size)\n    var index = 0\n    for (element in this)\n        result[index++] =
element\n    return result\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UInt>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<ULong>.sum(): ULong {\n    var sum: ULong = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UByte>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n/**\n * Returns the sum of all elements in the collection.\n
*\n@kotlin.jvm.JvmName("sumOfUShort")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Iterable<UShort>.sum(): UInt {\n    var sum: UInt = 0\n    for (element in this) {\n        sum += element\n    }\n    return sum\n}\n\n"/**\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache
2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("UComparisonsKt")\n\npackage
kotlin.comparisons\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
greater of two values.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UInt, b:
UInt): UInt {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: ULong, b: ULong): ULong {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UByte, b: UByte): UByte {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun maxOf(a: UShort, b: UShort): UShort {\n    return if (a >= b) a else b\n}\n\n/**\n * Returns the greater of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
maxOf(a: UInt, b: UInt, c: UInt): UInt {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater of three
values.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline
fun maxOf(a: ULong, b: ULong, c: ULong): ULong {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the
greater of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun
maxOf(a: UByte, b: UByte, c: UByte): UByte {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n * Returns the greater
of three values.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic
inline fun maxOf(a: UShort, b: UShort, c: UShort): UShort {\n    return maxOf(a, maxOf(b, c))\n}\n\n/**\n *
Returns the smaller of two values.\n * \n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
minOf(a: UInt, b: UInt): UInt {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: ULong, b: ULong): ULong {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UByte, b: UByte): UByte {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun minOf(a: UShort, b: UShort): UShort {\n    return if (a <= b) a else b\n}\n\n/**\n * Returns the smaller of three values.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n@kotlin.internal.InlineOnly\npublic inline fun

```

```

minOf(a: UInt, b: UInt, c: UInt): UInt {
    return minOf(a, minOf(b, c))
}

Returns the smaller of three values.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun minOf(a: ULong, b: ULong, c: ULong): ULong {
    return minOf(a, minOf(b, c))
}

Returns the smaller of three values.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun minOf(a: UByte, b: UByte, c: UByte): UByte {
    return minOf(a, minOf(b, c))
}

Returns the smaller of three values.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun minOf(a: UShort, b: UShort, c: UShort): UShort {
    return minOf(a, minOf(b, c))
}

"/

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@file:kotlin.jvm.JvmMultifileClass@file:kotlin.jvm.JvmName("URangesKt")
package kotlin.ranges

NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt

See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib

import kotlin.random.*

Returns a random element from this range.

@throws IllegalArgumentException if this range is empty.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun UIntRange.random(): UInt {
    return random(Random)
}

Returns a random element from this range.

@throws IllegalArgumentException if this range is empty.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline fun ULongRange.random(): ULong {
    return random(Random)
}

Returns a random element from this range using the specified source of randomness.

@throws IllegalArgumentException if this range is empty.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public fun UIntRange.random(random: Random): UInt {
    try {
        return random.nextUInt(this)
    } catch (e: IllegalArgumentException) {
        throw NoSuchElementException(e.message)
    }
}

Returns a random element from this range using the specified source of randomness.

@throws IllegalArgumentException if this range is empty.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public fun ULongRange.random(random: Random): ULong {
    try {
        return random.nextULong(this)
    } catch (e: IllegalArgumentException) {
        throw NoSuchElementException(e.message)
    }
}

Returns `true` if this range contains the specified [element].

Always returns `false` if the [element] is `null`.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline operator fun UIntRange.contains(element: UInt?): Boolean {
    return element != null && contains(element)
}

Returns `true` if this range contains the specified [element].

Always returns `false` if the [element] is `null`.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public inline operator fun ULongRange.contains(element: ULong?): Boolean {
    return element != null && contains(element)
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun UIntRange.contains(value: UByte): Boolean {
    return contains(value.toUInt())
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun ULongRange.contains(value: UByte): Boolean {
    return contains(value.toULong())
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun ULongRange.contains(value: UInt): Boolean {
    return contains(value.toULong())
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun UIntRange.contains(value: ULong): Boolean {
    return (value shr UInt.SIZE_BITS) == 0uL && contains(value.toUInt())
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun UIntRange.contains(value: UShort): Boolean {
    return contains(value.toUInt())
}

Checks if the specified [value] belongs to this range.

@SinceKotlin("1.3")@ExperimentalUnsignedTypes@kotlin.internal.InlineOnly
public operator fun ULongRange.contains(value: UShort): Boolean {
    return contains(value.toULong())
}

Returns a

```

progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n

```

*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UByte.downTo(to: UByte):
UIntProgression {\n    return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)\n}\n\n/**\n * Returns
a progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UInt.downTo(to: UInt):
UIntProgression {\n    return UIntProgression.fromClosedRange(this, to, -1)\n}\n\n/**\n * Returns a progression
from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less than or equal
to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULong.downTo(to: ULong):
ULongProgression {\n    return ULongProgression.fromClosedRange(this, to, -1L)\n}\n\n/**\n * Returns a
progression from this value down to the specified [to] value with the step -1.\n * \n * The [to] value should be less
than or equal to `this` value.\n * If the [to] value is greater than `this` value the returned progression is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShort.downTo(to: UShort):
UIntProgression {\n    return UIntProgression.fromClosedRange(this.toUInt(), to.toUInt(), -1)\n}\n\n/**\n * Returns
a progression that goes over the same range in the opposite direction with the same step.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UIntProgression.reversed():
UIntProgression {\n    return UIntProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a
progression that goes over the same range in the opposite direction with the same step.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULongProgression.reversed():
ULongProgression {\n    return ULongProgression.fromClosedRange(last, first, -step)\n}\n\n/**\n * Returns a
progression that goes over the same range with the given step.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UIntProgression.step(step: Int):
UIntProgression {\n    checkStepIsPositive(step > 0, step)\n    return UIntProgression.fromClosedRange(first, last, if
(this.step > 0) step else -step)\n}\n\n/**\n * Returns a progression that goes over the same range with the given
step.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun ULongProgression.step(step:
Long): ULongProgression {\n    checkStepIsPositive(step > 0, step)\n    return
ULongProgression.fromClosedRange(first, last, if (this.step > 0) step else -step)\n}\n\n/**\n * Returns a range from
this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value,
then the returned range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun
UByte.until(to: UByte): UIntRange {\n    if (to <= UByte.MIN_VALUE) return UIntRange.EMPTY\n    return
this.toUInt() .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a range from this value up to but excluding the specified [to]
value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UInt.until(to: UInt): UIntRange {\n
if (to <= UInt.MIN_VALUE) return UIntRange.EMPTY\n    return this .. (to - 1u).toUInt()\n}\n\n/**\n * Returns a
range from this value up to but excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to
`this` value, then the returned range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
infix fun ULong.until(to: ULong): ULongRange {\n    if (to <= ULong.MIN_VALUE) return
ULongRange.EMPTY\n    return this .. (to - 1u).toULong()\n}\n\n/**\n * Returns a range from this value up to but
excluding the specified [to] value.\n * \n * If the [to] value is less than or equal to `this` value, then the returned
range is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic infix fun UShort.until(to:
UShort): UIntRange {\n    if (to <= UShort.MIN_VALUE) return UIntRange.EMPTY\n    return this.toUInt() .. (to -
1u).toUInt()\n}\n\n/**\n * Ensures that this value is not less than the specified [minimumValue].\n * \n * @return
this value if it's greater than or equal to the [minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtLeast(minimumValue: UInt):
UInt {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value is not less

```

```

than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the [minimumValue]
or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtLeast(minimumValue:
ULong): ULong {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this
value is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtLeast(minimumValue:
UByte): UByte {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this value
is not less than the specified [minimumValue].\n * \n * @return this value if it's greater than or equal to the
[minimumValue] or the [minimumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtLeastUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtLeast(minimumValue:
UShort): UShort {\n    return if (this < minimumValue) minimumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceAtMost(maximumValue: UInt):
UInt {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this value is not
greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceAtMost(maximumValue:
ULong): ULong {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceAtMost(maximumValue:
UByte): UByte {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value is not greater than the specified [maximumValue].\n * \n * @return this value if it's less than or equal to the
[maximumValue] or the [maximumValue] otherwise.\n * \n * @sample
samples.comparisons.ComparableOps.coerceAtMostUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceAtMost(maximumValue:
UShort): UShort {\n    return if (this > maximumValue) maximumValue else this\n}\n\n/**\n * Ensures that this
value lies in the specified range [minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range,
or [minimumValue] if this value is less than [minimumValue], or [maximumValue] if this value is greater than
[maximumValue].\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(minimumValue: UInt,
maximumValue: UInt): UInt {\n    if (minimumValue > maximumValue) throw IllegalArgumentException("Cannot
coerce value to an empty range: maximum $maximumValue is less than minimum $minimumValue.")\n    if (this <
minimumValue) return minimumValue\n    if (this > maximumValue) return maximumValue\n    return
this\n}\n\n/**\n * Ensures that this value lies in the specified range [minimumValue]..[maximumValue].\n * \n *
@return this value if it's in the range, or [minimumValue] if this value is less than [minimumValue], or
[maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(minimumValue: ULong,
maximumValue: ULong): ULong {\n    if (minimumValue > maximumValue) throw

```

```

IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UByte.coerceIn(minimumValue: UByte,
maximumValue: UByte): UByte {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified range
[minimumValue]..[maximumValue].\n * \n * @return this value if it's in the range, or [minimumValue] if this value
is less than [minimumValue], or [maximumValue] if this value is greater than [maximumValue].\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UShort.coerceIn(minimumValue: UShort,
maximumValue: UShort): UShort {\n if (minimumValue > maximumValue) throw
IllegalArgumentException("Cannot coerce value to an empty range: maximum $maximumValue is less than
minimum $minimumValue.")\n if (this < minimumValue) return minimumValue\n if (this > maximumValue)
return maximumValue\n return this\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n *
@return this value if it's in the [range], or `range.start` if this value is less than `range.start`, or `range.endInclusive`
if this value is greater than `range.endInclusive`.\n * \n * @sample
samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun UInt.coerceIn(range: ClosedRange<UInt>):
UInt {\n if (range is ClosedFloatingPointRange) {\n return this.coerceIn<UInt>(range)\n }\n if
(range.isEmpty()) throw IllegalArgumentException("Cannot coerce value to an empty range: $range.")\n return
when {\n this < range.start -> range.start\n this > range.endInclusive -> range.endInclusive\n else ->
this\n }\n}\n\n/**\n * Ensures that this value lies in the specified [range].\n * \n * @return this value if it's in the
[range], or `range.start` if this value is less than `range.start`, or `range.endInclusive` if this value is greater than
`range.endInclusive`.\n * \n * @sample samples.comparisons.ComparableOps.coerceInUnsigned\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun ULong.coerceIn(range:
ClosedRange<ULong>): ULong {\n if (range is ClosedFloatingPointRange) {\n return
this.coerceIn<ULong>(range)\n }\n if (range.isEmpty()) throw IllegalArgumentException("Cannot coerce value
to an empty range: $range.")\n return when {\n this < range.start -> range.start\n this >
range.endInclusive -> range.endInclusive\n else -> this\n }\n}\n\n"/*\n * Copyright 2010-2019 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("USequencesKt")\n\npackage
kotlin.sequences\n\n/\n// NOTE: THIS FILE IS AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n\nimport kotlin.random.*\n\n/**\n * Returns the
sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUInt")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Sequence<UInt>.sum(): UInt {\n var sum: UInt = 0u\n for (element in this) {\n sum += element\n }\n
return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is _terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfULong")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Sequence<ULong>.sum(): ULong {\n var sum: ULong = 0uL\n for (element in this) {\n sum += element\n
}\n return sum\n}\n\n/**\n * Returns the sum of all elements in the sequence.\n * \n * The operation is
_terminal_.\n
*\n@kotlin.jvm.JvmName("sumOfUByte")\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun

```

```

Sequence<UByte>.sum(): UInt {
    var sum: UInt = 0
    for (element in this) {
        sum += element
    }
    return sum
}

/**
 * Returns the sum of all elements in the sequence.
 * The operation is _terminal_.
 */
@kotlin.jvm.JvmName("sumOfUShort")
@SinceKotlin("1.3")
@ExperimentalUnsignedTypes
public fun
Sequence<UShort>.sum(): UInt {
    var sum: UInt = 0
    for (element in this) {
        sum += element
    }
    return sum
}

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 */
package
kotlin.collections
import kotlin.internal.PlatformDependent

/**
 * Classes that inherit from this interface can
 * be represented as a sequence of elements that can
 * be iterated over.
 * @param T the type of element being
 * iterated over. The iterator is covariant on its element type.
 */
public interface Iterable<out T> {
    /**
     * Returns an iterator over the elements of this object.
     */
    public operator fun iterator(): Iterator<T>
}

/**
 * Classes that inherit from this interface can be represented as a sequence of elements that can
 * be iterated over
 * and that supports removing elements during iteration.
 * @param T the type of element being iterated over. The
 * mutable iterator is invariant on its element type.
 */
public interface MutableIterable<out T> : Iterable<T> {
    /**
     * Returns an iterator over the elements of this sequence that supports removing elements during iteration.
     */
    override fun iterator(): MutableIterator<T>
}

/**
 * A generic collection of elements. Methods in this
 * interface support only read-only access to the collection;
 * read/write access is supported through the
 * [MutableCollection] interface.
 * @param E the type of elements contained in the collection. The collection is
 * covariant on its element type.
 */
public interface Collection<out E> : Iterable<E> {
    // Query Operations
    /**
     * Returns the size of the collection.
     */
    public val size: Int
    /**
     * Returns `true` if the
     * collection is empty (contains no elements), `false` otherwise.
     */
    public fun isEmpty(): Boolean
    /**
     * Checks if the specified element is contained in this collection.
     */
    public operator fun contains(element:
    @UnsafeVariance E): Boolean
    override fun iterator(): Iterator<E>
    // Bulk Operations
    /**
     * Checks if all elements in the specified collection are contained in this collection.
     */
    public fun
    containsAll(elements: Collection<@UnsafeVariance E>): Boolean
}

/**
 * A generic collection of elements
 * that supports adding and removing elements.
 * @param E the type of elements contained in the collection. The
 * mutable collection is invariant on its element type.
 */
public interface MutableCollection<E> : Collection<E>,
    MutableIterable<E> {
    // Query Operations
    override fun iterator(): MutableIterator<E>
    // Modification
    Operations
    /**
     * Adds the specified element to the collection.
     */
    * @return `true` if the element has
    been added, `false` if the collection does not support duplicates
    * and the element is already contained in the
    collection.
    */
    public fun add(element: E): Boolean
    /**
     * Removes a single instance of the
     * specified element from this
     * collection, if it is present.
     */
    * @return `true` if the element has been
    successfully removed; `false` if it was not present in the collection.
    */
    public fun remove(element: E):
    Boolean
    // Bulk Modification Operations
    /**
     * Adds all of the elements of the specified collection to
     * this collection.
     */
    * @return `true` if any of the specified elements was added to the collection, `false` if the
    collection was not modified.
    */
    public fun addAll(elements: Collection<E>): Boolean
    /**
     * Removes all of this collection's elements that are also contained in the specified collection.
     */
    * @return
    `true` if any of the specified elements was removed from the collection, `false` if the collection was not modified.
    */
    public fun removeAll(elements: Collection<E>): Boolean
    /**
     * Retains only the elements in this
    collection that are contained in the specified collection.
     */
    * @return `true` if any element was removed
    from the collection, `false` if the collection was not modified.
    */
    public fun retainAll(elements:
    Collection<E>): Boolean
    /**
     * Removes all elements from this collection.
     */
    public fun clear():
    Unit
}

/**
 * A generic ordered collection of elements. Methods in this interface support only read-only access
 * to the list;
 * read/write access is supported through the [MutableList] interface.
 * @param E the type of elements
 * contained in the list. The list is covariant on its element type.
 */
public interface List<out E> : Collection<E> {

```

```

// Query Operations\n\n override val size: Int\n override fun isEmpty(): Boolean\n override fun
contains(element: @UnsafeVariance E): Boolean\n override fun iterator(): Iterator<E>\n\n // Bulk Operations\n
override fun containsAll(elements: Collection<@UnsafeVariance E>): Boolean\n\n // Positional Access
Operations\n /**\n * Returns the element at the specified index in the list.\n */\n public operator fun
get(index: Int): E\n\n // Search Operations\n /**\n * Returns the index of the first occurrence of the specified
element in the list, or -1 if the specified\n * element is not contained in the list.\n */\n public fun
indexOf(element: @UnsafeVariance E): Int\n\n /**\n * Returns the index of the last occurrence of the specified
element in the list, or -1 if the specified\n * element is not contained in the list.\n */\n public fun
lastIndexOf(element: @UnsafeVariance E): Int\n\n // List Iterators\n /**\n * Returns a list iterator over the
elements in this list (in proper sequence).\n */\n public fun listIterator(): ListIterator<E>\n\n /**\n * Returns
a list iterator over the elements in this list (in proper sequence), starting at the specified [index].\n */\n public
fun listIterator(index: Int): ListIterator<E>\n\n // View\n /**\n * Returns a view of the portion of this list
between the specified [fromIndex] (inclusive) and [toIndex] (exclusive).\n * The returned list is backed by this
list, so non-structural changes in the returned list are reflected in this list, and vice-versa.\n */\n * Structural
changes in the base list make the behavior of the view undefined.\n */\n public fun subList(fromIndex: Int,
toIndex: Int): List<E>\n\n /**\n * A generic ordered collection of elements that supports adding and removing
elements.\n * @param E the type of elements contained in the list. The mutable list is invariant on its element
type.\n */\n public interface MutableList<E> : List<E>, MutableCollection<E> {\n // Modification Operations\n
/**\n * Adds the specified element to the end of this list.\n */\n * @return `true` because the list is always
modified as the result of this operation.\n */\n override fun add(element: E): Boolean\n\n override fun
remove(element: E): Boolean\n\n // Bulk Modification Operations\n /**\n * Adds all of the elements of the
specified collection to the end of this list.\n */\n * The elements are appended in the order they appear in the
[elements] collection.\n */\n * @return `true` if the list was changed as the result of the operation.\n */\n
override fun addAll(elements: Collection<E>): Boolean\n\n /**\n * Inserts all of the elements of the specified
collection [elements] into this list at the specified [index].\n */\n * @return `true` if the list was changed as the
result of the operation.\n */\n public fun addAll(index: Int, elements: Collection<E>): Boolean\n\n override
fun removeAll(elements: Collection<E>): Boolean\n override fun retainAll(elements: Collection<E>): Boolean\n
override fun clear(): Unit\n\n // Positional Access Operations\n /**\n * Replaces the element at the specified
position in this list with the specified element.\n */\n * @return the element previously at the specified
position.\n */\n public operator fun set(index: Int, element: E): E\n\n /**\n * Inserts an element into the list
at the specified [index].\n */\n public fun add(index: Int, element: E): Unit\n\n /**\n * Removes an element
at the specified [index] from the list.\n */\n * @return the element that has been removed.\n */\n public fun
removeAt(index: Int): E\n\n // List Iterators\n override fun listIterator(): MutableListIterator<E>\n\n override
fun listIterator(index: Int): MutableListIterator<E>\n\n // View\n override fun subList(fromIndex: Int, toIndex:
Int): MutableList<E>\n\n /**\n * A generic unordered collection of elements that does not support duplicate
elements.\n * Methods in this interface support only read-only access to the set;\n * read/write access is supported
through the [MutableSet] interface.\n * @param E the type of elements contained in the set. The set is covariant on
its element type.\n */\n public interface Set<out E> : Collection<E> {\n // Query Operations\n\n override val size:
Int\n override fun isEmpty(): Boolean\n override fun contains(element: @UnsafeVariance E): Boolean\n
override fun iterator(): Iterator<E>\n\n // Bulk Operations\n override fun containsAll(elements:
Collection<@UnsafeVariance E>): Boolean\n\n /**\n * A generic unordered collection of elements that does not
support duplicate elements, and supports\n * adding and removing elements.\n * @param E the type of elements
contained in the set. The mutable set is invariant on its element type.\n */\n public interface MutableSet<E> :
Set<E>, MutableCollection<E> {\n // Query Operations\n\n override fun iterator(): MutableIterator<E>\n\n //
Modification Operations\n\n /**\n * Adds the specified element to the set.\n */\n * @return `true` if the
element has been added, `false` if the element is already contained in the set.\n */\n override fun add(element:
E): Boolean\n\n override fun remove(element: E): Boolean\n\n // Bulk Modification Operations\n\n override
fun addAll(elements: Collection<E>): Boolean\n\n override fun removeAll(elements: Collection<E>): Boolean\n

```

```

override fun retainAll(elements: Collection<E>): Boolean
override fun clear(): Unit

/** A collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key. Methods in this interface support only read-only access to the map; read-write access is supported through the [MutableMap] interface. @param K the type of map keys. The map is invariant on its key type, as it can accept key as a parameter (of [containsKey] for example) and return it in [keys] set. @param V the type of map values. The map is covariant on its value type.
*/
public interface Map<K, out V> {
    // Query Operations
    /** Returns the number of key/value pairs in the map.
    */
    public val size: Int
    /** Returns `true` if the map is empty (contains no elements), `false` otherwise.
    */
    public fun isEmpty(): Boolean
    /** Returns `true` if the map contains the specified [key].
    */
    public fun containsKey(key: K): Boolean
    /** Returns `true` if the map maps one or more keys to the specified [value].
    */
    public fun containsValue(value: @UnsafeVariance V): Boolean
    /** Returns the value corresponding to the given [key], or `null` if such a key is not present in the map.
    */
    public operator fun get(key: K): V?
    /** Returns the value corresponding to the given [key], or [defaultValue] if such a key is not present in the map.
    */
    @since JDK 1.8
    @SinceKotlin("1.1")
    @PlatformDependent
    public fun getOrDefault(key: K, defaultValue: @UnsafeVariance V): V {
        // See default implementation in JDK sources
        return null as V
    }
    // Views
    /** Returns a read-only [Set] of all keys in this map.
    */
    public val keys: Set<K>
    /** Returns a read-only [Collection] of all values in this map. Note that this collection may contain duplicate values.
    */
    public val values: Collection<V>
    /** Returns a read-only [Set] of all key/value pairs in this map.
    */
    public val entries: Set<Map.Entry<K, V>>
    /** Represents a key/value pair held by a [Map].
    */
    public interface Entry<out K, out V> {
        /** Returns the key of this key/value pair.
        */
        public val key: K
        /** Returns the value of this key/value pair.
        */
        public val value: V
    }
}

/** A modifiable collection that holds pairs of objects (keys and values) and supports efficiently retrieving the value corresponding to each key. Map keys are unique; the map holds only one value for each key. @param K the type of map keys. The map is invariant on its key type. @param V the type of map values. The mutable map is invariant on its value type.
*/
public interface MutableMap<K, V> : Map<K, V> {
    // Modification Operations
    /** Associates the specified [value] with the specified [key] in the map.
    */
    @return the previous value associated with the key, or `null` if the key was not present in the map
    public fun put(key: K, value: V): V?
    /** Removes the specified key and its corresponding value from this map.
    */
    @return the previous value associated with the key, or `null` if the key was not present in the map
    public fun remove(key: K): V?
    /** Removes the entry for the specified key only if it is mapped to the specified value.
    */
    @return true if entry was removed
    @SinceKotlin("1.1")
    @PlatformDependent
    public fun remove(key: K, value: V): Boolean {
        // See default implementation in JDK sources
        return true
    }
    // Bulk Modification Operations
    /** Updates this map with key/value pairs from the specified map [from].
    */
    public fun putAll(from: Map<out K, V>): Unit
    /** Removes all elements from this map.
    */
    public fun clear(): Unit
    // Views
    /** Returns a [MutableSet] of all keys in this map.
    */
    override val keys: MutableSet<K>
    /** Returns a [MutableCollection] of all values in this map. Note that this collection may contain duplicate values.
    */
    override val values: MutableCollection<V>
    /** Returns a [MutableSet] of all key/value pairs in this map.
    */
    override val entries: MutableSet<MutableMap.MutableEntry<K, V>>
    /** Represents a key/value pair held by a [MutableMap].
    */
    public interface MutableEntry<K, V> : Map.Entry<K, V> {
        /** Changes the value associated with the key of this entry.
        */
        @return the previous value corresponding to the key
        public fun setValue(newValue: V): V
    }
}

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*/
// Auto-generated file. DO NOT EDIT!
package kotlin.collections

/** An iterator over a sequence of values of type `Byte`.
*/
public abstract class ByteIterator : Iterator<Byte> {
    override final fun next() = nextByte()
    /** Returns the next value in the sequence without boxing.
    */
    public abstract fun nextByte():

```

```

Byte\n}\n\n/** An iterator over a sequence of values of type `Char`. */\npublic abstract class CharIterator :
Iterator<Char> {\n    override final fun next() = nextChar()\n\n    /** Returns the next value in the sequence without
boxing. */\n    public abstract fun nextChar(): Char\n}\n\n/** An iterator over a sequence of values of type `Short`.
*/\npublic abstract class ShortIterator : Iterator<Short> {\n    override final fun next() = nextShort()\n\n    /**
Returns the next value in the sequence without boxing. */\n    public abstract fun nextShort(): Short\n}\n\n/** An
iterator over a sequence of values of type `Int`. */\npublic abstract class IntIterator : Iterator<Int> {\n    override final
fun next() = nextInt()\n\n    /** Returns the next value in the sequence without boxing. */\n    public abstract fun
nextInt(): Int\n}\n\n/** An iterator over a sequence of values of type `Long`. */\npublic abstract class LongIterator :
Iterator<Long> {\n    override final fun next() = nextLong()\n\n    /** Returns the next value in the sequence without
boxing. */\n    public abstract fun nextLong(): Long\n}\n\n/** An iterator over a sequence of values of type `Float`.
*/\npublic abstract class FloatIterator : Iterator<Float> {\n    override final fun next() = nextFloat()\n\n    /** Returns
the next value in the sequence without boxing. */\n    public abstract fun nextFloat(): Float\n}\n\n/** An iterator
over a sequence of values of type `Double`. */\npublic abstract class DoubleIterator : Iterator<Double> {\n    override
final fun next() = nextDouble()\n\n    /** Returns the next value in the sequence without boxing. */\n    public
abstract fun nextDouble(): Double\n}\n\n/** An iterator over a sequence of values of type `Boolean`. */\npublic
abstract class BooleanIterator : Iterator<Boolean> {\n    override final fun next() = nextBoolean()\n\n    /** Returns
the next value in the sequence without boxing. */\n    public abstract fun nextBoolean():
Boolean\n}\n\n"/\n\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license \n * that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated file. DO NOT
EDIT!\n\npackage kotlin.ranges\n\n/**\n * An iterator over a progression of values of type `Char`. \n * @property
step the number by which the value is incremented on each step.\n */\ninternal class CharProgressionIterator(first:
Char, last: Char, val step: Int) : CharIterator() {\n    private val finalElement = last.toInt()\n    private var hasNext:
Boolean = if (step > 0) first <= last else first >= last\n    private var next = if (hasNext) first.toInt() else
finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override fun nextChar(): Char {\n        val value
= next\n        if (value == finalElement) {\n            if (!hasNext) throw kotlin.NoSuchElementException()\n
            hasNext = false\n        }\n        else {\n            next += step\n        }\n        return value.toChar()\n    }\n}\n\n/**\n * An iterator over a progression of values of type `Int`. \n * @property step the number by which the value is
incremented on each step.\n */\ninternal class IntProgressionIterator(first: Int, last: Int, val step: Int) : IntIterator()
{\n    private val finalElement = last\n    private var hasNext: Boolean = if (step > 0) first <= last else first >= last\n
private var next = if (hasNext) first else finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n    override
fun nextInt(): Int {\n        val value = next\n        if (value == finalElement) {\n            if (!hasNext) throw
kotlin.NoSuchElementException()\n            hasNext = false\n        }\n        else {\n            next += step\n        }\n
return value\n    }\n}\n\n/**\n * An iterator over a progression of values of type `Long`. \n * @property step the
number by which the value is incremented on each step.\n */\ninternal class LongProgressionIterator(first: Long,
last: Long, val step: Long) : LongIterator() {\n    private val finalElement = last\n    private var hasNext: Boolean =
if (step > 0) first <= last else first >= last\n    private var next = if (hasNext) first else finalElement\n\n    override
fun hasNext(): Boolean = hasNext\n\n    override fun nextLong(): Long {\n        val value = next\n        if (value ==
finalElement) {\n            if (!hasNext) throw kotlin.NoSuchElementException()\n            hasNext = false\n        }\n
else {\n            next += step\n        }\n        return value\n    }\n}\n\n"/\n\n * Copyright 2010-2019 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt
file.\n */\n\n// Auto-generated file. DO NOT EDIT!\n\npackage kotlin.ranges\n\nimport
kotlin.internal.getProgressionLastElement\n\n/**\n * A progression of values of type `Char`. \n */\npublic open class
CharProgression\n    internal constructor\n        (\n            start: Char,\n            endInclusive: Char,\n            step: Int\n        ) : Iterable<Char> {\n    init {\n        if (step == 0) throw kotlin.IllegalArgumentException("\u0027Step must be non-zero.\u0027")\n        if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException("\u0027Step must be greater than Int.MIN_VALUE to avoid overflow on negation.\u0027")\n    }\n\n    /**\n     * The first element in the progression.\n     */\n    public val first: Char = start\n\n    /**\n     * The last element in the progression.\n     */\n    public val last: Char = getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toChar()\n\n    /**\n     * The step of the

```

```

progression.\n    */\n    public val step: Int = step\n\n    override fun iterator(): CharIterator =
CharProgressionIterator(first, last, step)\n\n    /** Checks if the progression is empty. */\n    public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n    override fun equals(other: Any?): Boolean =\nother is CharProgression && (isEmpty() && other.isEmpty()) ||\n    first == other.first && last == other.last &&
step == other.step)\n\n    override fun hashCode(): Int =\n        if (isEmpty()) -1 else (31 * (31 * first.toInt() +
last.toInt()) + step)\n\n    override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo
$last step ${-step}\"\n\n    companion object {\n        /**\n         * Creates CharProgression within the specified
bounds of a closed range.\n\n         * The progression starts with the [rangeStart] value and goes toward the
[rangeEnd] value not excluding it, with the specified [step].\n\n         * In order to go backwards the [step] must be
negative.\n\n         * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n\n         */\n        public fun fromClosedRange(rangeStart: Char, rangeEnd: Char, step: Int): CharProgression =
CharProgression(rangeStart, rangeEnd, step)\n    }\n\n    /**\n     * A progression of values of type `Int`.\n     */\n    public open class IntProgression\n        internal constructor(\n            start: Int,\n            endInclusive: Int,\n            step:
Int\n        ): Iterable<Int> {\n        init {\n            if (step == 0) throw kotlin.IllegalArgumentException(\"Step must be non-
zero.\")\n            if (step == Int.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than
Int.MIN_VALUE to avoid overflow on negation.\")\n        }\n\n        /**\n         * The first element in the progression.\n\n         */\n        public val first: Int = start\n\n        /**\n         * The last element in the progression.\n\n         */\n        public val last: Int =
getProgressionLastElement(start.toInt(), endInclusive.toInt(), step).toInt()\n\n        /**\n         * The step of the
progression.\n\n         */\n        public val step: Int = step\n\n        override fun iterator(): IntIterator =
IntProgressionIterator(first, last, step)\n\n        /** Checks if the progression is empty. */\n        public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n        override fun equals(other: Any?): Boolean =\nother is IntProgression && (isEmpty() && other.isEmpty()) ||\n            first == other.first && last == other.last &&
step == other.step)\n\n        override fun hashCode(): Int =\n            if (isEmpty()) -1 else (31 * (31 * first + last) +
step)\n\n        override fun toString(): String = if (step > 0) \"$first..$last step $step\" else \"$first downTo $last step ${-
step}\"\n\n        companion object {\n            /**\n             * Creates IntProgression within the specified bounds of a closed
range.\n\n             * The progression starts with the [rangeStart] value and goes toward the [rangeEnd] value not
excluding it, with the specified [step].\n\n             * In order to go backwards the [step] must be negative.\n\n             * [step] must be greater than `Int.MIN_VALUE` and not equal to zero.\n\n             */\n            public fun
fromClosedRange(rangeStart: Int, rangeEnd: Int, step: Int): IntProgression = IntProgression(rangeStart, rangeEnd,
step)\n        }\n\n        /**\n         * A progression of values of type `Long`.\n         */\n        public open class LongProgression\n            internal constructor(\n                start: Long,\n                endInclusive: Long,\n                step: Long\n            ):
Iterable<Long> {\n            init {\n                if (step == 0L) throw kotlin.IllegalArgumentException(\"Step must be non-
zero.\")\n                if (step == Long.MIN_VALUE) throw kotlin.IllegalArgumentException(\"Step must be greater than
Long.MIN_VALUE to avoid overflow on negation.\")\n            }\n\n            /**\n             * The first element in the progression.\n\n             */\n            public val first: Long = start\n\n            /**\n             * The last element in the progression.\n\n             */\n            public val last:
Long = getProgressionLastElement(start.toLong(), endInclusive.toLong(), step).toLong()\n\n            /**\n             * The step
of the progression.\n\n             */\n            public val step: Long = step\n\n            override fun iterator(): LongIterator =
LongProgressionIterator(first, last, step)\n\n            /** Checks if the progression is empty. */\n            public open fun
isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n            override fun equals(other: Any?): Boolean =\nother is LongProgression && (isEmpty() && other.isEmpty()) ||\n                first == other.first && last == other.last &&
step == other.step)\n\n            override fun hashCode(): Int =\n                if (isEmpty()) -1 else (31 * (31 * (first xor (first ushr
32)) + (last xor (last ushr 32))) + (step xor (step ushr 32))).toInt()\n\n            override fun toString(): String = if (step > 0)
=\"$first..$last step $step\" else \"$first downTo $last step ${-step}\"\n\n            companion object {\n                /**\n                 *
Creates LongProgression within the specified bounds of a closed range.\n\n                 * The progression starts with the
[rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n\n                 * In order
to go backwards the [step] must be negative.\n\n                 * [step] must be greater than `Long.MIN_VALUE` and
not equal to zero.\n\n                 */\n                public fun fromClosedRange(rangeStart: Long, rangeEnd: Long, step: Long):
LongProgression = LongProgression(rangeStart, rangeEnd, step)\n            }\n        }\n    }\n\n    /**\n     * Copyright 2010-2019

```

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`package kotlin.ranges`

Represents a range of values (for example, numbers or characters). See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/ranges.html) for more information.

public interface ClosedRange<T: Comparable<T>> {

 /** The minimum value in the range. public val start: T

 /** The maximum value in the range (inclusive). public val endInclusive: T

 Checks whether the specified [value] belongs to the range. public operator fun contains(value: T): Boolean = value >= start && value <= endInclusive

 /** Checks whether the range is empty. public fun isEmpty(): Boolean = start > endInclusive

 }
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`package kotlin`

The type with only one value: the `Unit` object. This type corresponds to the `void` type in Java.

public object Unit {

 override fun toString() = "kotlin.Unit"

 }
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`package kotlin.annotation`

`import kotlin.annotation.AnnotationTarget`

Contains the list of code elements which are the possible annotation targets

public enum class AnnotationTarget {

 /** Class, interface or object, annotation class is also included

 CLASS,

 /** Annotation class only

 ANNOTATION_CLASS,

 /** Generic type parameter (unsupported yet)

 TYPE_PARAMETER,

 /** Property

 PROPERTY,

 /** Field, including property's backing field

 FIELD,

 /** Local variable

 LOCAL_VARIABLE,

 /** Value parameter of a function or a constructor

 VALUE_PARAMETER,

 /** Constructor only (primary or secondary)

 CONSTRUCTOR,

 /** Function (constructors are not included)

 FUNCTION,

 /** Property getter only

 PROPERTY_GETTER,

 /** Property setter only

 PROPERTY_SETTER,

 /** Type usage

 TYPE,

 /** Any expression

 EXPRESSION,

 /** File

 FILE,

 /** Type alias

 TYPEALIAS

 }
 Contains the list of possible annotation's retentions. Determines how an annotation is stored in binary output.

public enum class AnnotationRetention {

 /** Annotation isn't stored in binary output

 SOURCE,

 /** Annotation is stored in binary output, but invisible for reflection

 BINARY,

 /** Annotation is stored in binary output and visible for reflection (default retention)

 RUNTIME

 }
 This meta-annotation indicates the kinds of code elements which are possible targets of an annotation. If the target meta-annotation is not present on an annotation declaration, the annotation is applicable to the following elements: [CLASS], [PROPERTY], [FIELD], [LOCAL_VARIABLE], [VALUE_PARAMETER], [CONSTRUCTOR], [FUNCTION], [PROPERTY_GETTER], [PROPERTY_SETTER].

@property allowedTargets list of allowed annotation targets

@Target(AnnotationTarget.ANNOTATION_CLASS)

@MustBeDocumented

public annotation class Target(vararg val allowedTargets: AnnotationTarget)

This meta-annotation determines whether an annotation is stored in binary output and visible for reflection. By default, both are true.

@property value necessary annotation retention (RUNTIME, BINARY or SOURCE)

@Target(AnnotationTarget.ANNOTATION_CLASS)

public annotation class Retention(val value: AnnotationRetention = AnnotationRetention.RUNTIME)

This meta-annotation determines that an annotation is applicable twice or more on a single code element

```

*/\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class Repeatable\n\n/**\n * This meta-annotation determines that an annotation is a part of public API and therefore should be included in the generated\n * documentation for the element to which the annotation is applied.\n */\n@Target(AnnotationTarget.ANNOTATION_CLASS)\npublic annotation class MustBeDocumented\n\n"/*\n * Copyright 2010-2016 JetBrains s.r.o.\n * Licensed under the Apache License, Version 2.0 (the "License");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n * \n * http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing,\n * software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language governing permissions and\n * limitations under the License.\n */\n\npackage kotlin.internal\n\n/**\n * Specifies that the corresponding type parameter is not used for unsafe operations such as casts or 'is' checks\n * That means it's completely safe to use generic types as argument for such parameter.\n */\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class PureReifiable\n\n/**\n * Specifies that the corresponding built-in method exists depending on platform.\n * Current implementation for JVM looks whether method with same JVM descriptor exists in the module JDK.\n * For example MutableMap.remove(K, V) available only if corresponding\n * method 'java/util/Map.remove(Ljava/lang/Object;Ljava/lang/Object;)Z' is defined in JDK (i.e. for major versions >= 8)\n */\n@Target(AnnotationTarget.FUNCTION)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class PlatformDependent\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.internal\n\n// a mod b (in arithmetical sense)\nprivate fun mod(a: Int, b: Int): Int {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\nprivate fun mod(a: Long, b: Long): Long {\n    val mod = a % b\n    return if (mod >= 0) mod else mod + b\n}\n\n// (a - b) mod c\nprivate fun differenceModulo(a: Int, b: Int, c: Int): Int {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\nprivate fun differenceModulo(a: Long, b: Long, c: Long): Long {\n    return mod(mod(a, c) - mod(b, c), c)\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * \n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * \n * @suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Int, end: Int, step: Int): Int =\n    when {\n        step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n        step < 0 -> if (start <= end) end else end + differenceModulo(start, end, -step)\n        else -> throw kotlin.IllegalArgumentException("Step is zero.")\n    }\n}\n\n/**\n * Calculates the final element of a bounded arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <= end`,\n * - or `step < 0` and `start >= end`.\n * \n * @param start first element of the progression\n * @param end ending bound for the progression\n * @param step increment, or difference of successive elements in the progression\n * @return the final element of the progression\n * \n * @suppress\n */\n@PublishedApi\ninternal fun getProgressionLastElement(start: Long, end: Long, step: Long): Long =\n    when {\n        step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step)\n        step < 0 -> if (start <= end) end else end + differenceModulo(start, end, -step)\n        else -> throw\n    }\n}\n\nkotlin.IllegalArgumentException("Step is zero.")\n\n"/*\n * Copyright 2010-2015 JetBrains s.r.o.\n * Licensed under the Apache License, Version 2.0 (the "License");\n * you may not use this file except in compliance with the License.\n * You may obtain a copy of the License at\n * \n * http://www.apache.org/licenses/LICENSE-2.0\n * Unless required by applicable law or agreed to in writing,\n * software\n * distributed under the License is distributed on an "AS IS" BASIS,\n * WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied.\n * See the License for the specific language

```

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```

package kotlin.reflect

 * Represents a parameter passed to a function or a property getter/setter, including `this` and extension receiver parameters.

public interface KParameter : KAnnotatedElement {
    * 0-based index of this parameter in the parameter list of its containing callable.
    * public val index: Int
    * Name of this parameter as it was declared in the source code, or `null` if the parameter has no name or its name is not available at runtime.
    * Examples of nameless parameters include `this` instance for member functions, extension receiver for extension functions or properties, parameters of Java methods compiled without the debug information, and others.
    * public val name: String?
    * Type of this parameter. For a `vararg` parameter, this is the type of the corresponding array, not the individual element.
    * public val type: KType
    * Kind of this parameter.
    * public val kind: Kind
    * Kind represents a particular position of the parameter declaration in the source code, such as an instance, an extension receiver parameter or a value parameter.
    * public enum class Kind {
        * Instance required to make a call to the member, or an outer class instance for an inner class constructor.
        INSTANCE,
        * Extension receiver of an extension function or property.
        EXTENSION_RECEIVER,
        * Ordinary named value parameter.
        VALUE,
    }
    * `true` if this parameter is optional and can be omitted when making a call via [KCallable.callBy], or `false` otherwise.
    * A parameter is optional in any of the two cases:
    * 1. The default value is provided at the declaration of this parameter.
    * 2. The parameter is declared in a member function and one of the corresponding parameters in the super functions is optional.
    * public val isOptional: Boolean
    * `true` if this parameter is `vararg`.
    * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/functions.html#variable-number-of-arguments-varargs) for more information.
    * @SinceKotlin("1.1")
    * public val isVararg: Boolean
}

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package kotlin.reflect

 * Represents a type. Type is usually either a class with optional type arguments, or a type parameter of some declaration, plus nullability.

public interface KType : KAnnotatedElement {
    * The declaration of the classifier used in this type.
    * For example, in the type `List<String>` the classifier would be the [KClass] instance for [List].
    * Returns `null` if this type is not denotable in Kotlin, for example if it is an intersection type.
    * @SinceKotlin("1.1")
    * public val classifier: KClassifier?
    * Type arguments passed for the parameters of the classifier in this type.
    * For example, in the type `Array<out Number>` the only type argument is `out Number`.
    * In case this type is based on an inner class, the returned list contains the type arguments provided for the innermost class first, then its outer class, and so on.
    * For example, in the type `Outer<A, B>.Inner<C, D>` the returned list is `[C, D, A, B]`.
    * @SinceKotlin("1.1")
    * public val arguments: List<KTypeProjection>
    * `true` if this type was marked nullable in the source code.
    * For Kotlin types, it means that `null` value is allowed to be represented by this type.
    * In practice it means that the type was declared with a question mark at the end.
    * For non-Kotlin types, it means the type or the symbol which was declared with this type is annotated with a runtime-retained nullability annotation such as [javax.annotation.Nullable].
    * Note that even if [isMarkedNullable] is false, values of the type can still be `null`.
    * This may happen if it is a type of the type parameter with a nullable upper bound:
    * fun <T> foo(t: T) {
    *     // isMarkedNullable == false for t's type, but t can be null here when T = "Any?"
    * }
    * @SinceKotlin("1.1")
    * public val isMarkedNullable: Boolean
}

 * Represents a type projection. Type projection is usually the argument to another type in a type usage.
    * For example, in the type `Array<out Number>`, `out Number` is the covariant projection of the type represented by the class `Number`.
    * Type projection is either the star projection, or an entity consisting of a specific type plus optional variance.
    * See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#type-projections) for more information.
    * @SinceKotlin("1.1")
    * public data class KTypeProjection constructor(
    *     * The use-site variance specified in the projection, or `null` if this is a star projection.
    *     * public val variance: KVariance?,
    *     * The type specified in the projection, or `null` if this is a star projection.
    *     * public val type: KType?,
    *     * public companion object {
    *         * Star projection, denoted by the `*` character.
    *         *

```

For example, in the type `KClass<*>`, `*` is the star projection. See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#star-projections) for more information.

```

public val STAR: KTypeProjection = KTypeProjection(null, null)

```

Creates an invariant projection of a given type. Invariant projection is just the type itself, without any use-site variance modifiers applied to it. For example, in the type `Set<String>`, `String` is an invariant projection of the type represented by the class `String`.

```

public fun invariant(type: KType): KTypeProjection =
    KTypeProjection(KVariance.INVARIANT, type)

```

Creates a contravariant projection of a given type, denoted by the `in` modifier applied to a type. For example, in the type `MutableList<in Number>`, `in Number` is a contravariant projection of the type of class `Number`.

```

public fun contravariant(type: KType): KTypeProjection =
    KTypeProjection(KVariance.IN, type)

```

Creates a covariant projection of a given type, denoted by the `out` modifier applied to a type. For example, in the type `Array<out Number>`, `out Number` is a covariant projection of the type of class `Number`.

```

public fun covariant(type: KType): KTypeProjection =
    KTypeProjection(KVariance.OUT, type)

```

Represents variance applied to a type parameter on the declaration site (*declaration-site variance*), or to a type in a projection (*use-site variance*). See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/generics.html#variance) for more information.

@see [KTypeParameter.variance] @see [KTypeProjection]

@SinceKotlin("1.1")

```

enum class KVariance {
    /** The affected type parameter or type is *invariant*, which means it has no variance applied to it.
     * INvariant
     */
    INVARIANT,
    /** The affected type parameter or type is *contravariant*.
     * Denoted by the `in` modifier in the source code.
     */
    IN,
    /** The affected type parameter or type is *covariant*.
     * Denoted by the `out` modifier in the source code.
     */
    OUT,
}

```

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package kotlin.reflect

Visibility is an aspect of a Kotlin declaration regulating where that declaration is accessible in the source code. Visibility can be changed with one of the following modifiers: `public`, `protected`, `internal`, `private`. Note that some Java visibilities such as package-private and protected (which also gives access to items from the same package) cannot be represented in Kotlin, so there's no [KVisibility] value corresponding to them. See the [Kotlin language documentation](https://kotlinlang.org/docs/reference/visibility-modifiers.html) for more information.

@SinceKotlin("1.1")

```

enum class KVisibility {
    /** Visibility of declarations marked with the `public` modifier, or with no modifier at all.
     */
    PUBLIC,
    /** Visibility of declarations marked with the `protected` modifier.
     */
    PROTECTED,
    /** Visibility of declarations marked with the `internal` modifier.
     */
    INTERNAL,
    /** Visibility of declarations marked with the `private` modifier.
     */
    PRIVATE,
}

```

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@JsName("arrayIterator")

```

internal fun arrayIterator(array: dynamic, type: String?) = when (type) {
    null -> {
        val arr: Array<dynamic> = array
        object : Iterator<dynamic> {
            var index = 0
            override fun hasNext() = index < arr.size
            override fun next() = if (index < arr.size) arr[index++] else throw NoSuchElementException("$index")
        }
    }
    "BooleanArray" -> booleanArrayIterator(array)
}

```

```

\"ByteArray\" -> byteArrayIterator(array)\n \"ShortArray\" -> shortArrayIterator(array)\n \"CharArray\" ->
charArrayIterator(array)\n \"IntArray\" -> intArrayIterator(array)\n \"LongArray\" -> longArrayIterator(array)\n
\"FloatArray\" -> floatArrayIterator(array)\n \"DoubleArray\" -> doubleArrayIterator(array)\n else -> throw
IllegalStateException(\"Unsupported type argument for arrayIterator:
$type\")\n}\n\n@JsName(\"booleanArrayIterator\")\ninternal fun booleanArrayIterator(array: BooleanArray) =
object : BooleanIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextBoolean() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"byteArrayIterator\")\ninternal fun byteArrayIterator(array:
ByteArray) = object : ByteIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextByte() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"shortArrayIterator\")\ninternal fun
shortArrayIterator(array: ShortArray) = object : ShortIterator() {\n    var index = 0\n    override fun hasNext() =
index < array.size\n    override fun nextShort() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"charArrayIterator\")\ninternal fun charArrayIterator(array:
CharArray) = object : CharIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override
fun nextChar() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"intArrayIterator\")\ninternal fun intArrayIterator(array:
IntArray) = object : IntIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n    override fun
nextInt() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"floatArrayIterator\")\ninternal fun
floatArrayIterator(array: FloatArray) = object : FloatIterator() {\n    var index = 0\n    override fun hasNext() = index
< array.size\n    override fun nextFloat() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"doubleArrayIterator\")\ninternal fun
doubleArrayIterator(array: DoubleArray) = object : DoubleIterator() {\n    var index = 0\n    override fun hasNext()
= index < array.size\n    override fun nextDouble() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"longArrayIterator\")\ninternal fun longArrayIterator(array:
LongArray) = object : LongIterator() {\n    var index = 0\n    override fun hasNext() = index < array.size\n
override fun nextLong() = if (index < array.size) array[index++] else throw
NoSuchElementException(\"$index\")\n}\n\n@JsName(\"PropertyMetadata\")\ninternal class
PropertyMetadata(@JsName(\"callableName\") val name:
String)\n\n@JsName(\"noWhenBranchMatched\")\ninternal fun noWhenBranchMatched(): Nothing = throw
NoWhenBranchMatchedException()\n\n@JsName(\"subSequence\")\ninternal fun subSequence(c: CharSequence,
startIndex: Int, endIndex: Int): CharSequence {\n    if (c is String) {\n        return c.substring(startIndex, endIndex)\n
    } else {\n        return c.asDynamic().`subSequence_vux9f0$` (startIndex, endIndex)\n
    }\n}\n\n@JsName(\"captureStack\")\ninternal fun captureStack(baseClass: JsClass<in Throwable>, instance:
Throwable) {\n    if (js(\"Error\").captureStackTrace) {\n        js(\"Error\").captureStackTrace(instance,
instance::class.js);\n    } else {\n        instance.asDynamic().stack = js(\"new Error()\").stack;\n
    }\n}\n\n@JsName(\"newThrowable\")\ninternal fun newThrowable(message: String?, cause: Throwable?):
Throwable {\n    val throwable = js(\"new Error()\")\n    throwable.message = if (jsTypeOf(message) ==
\"undefined\") {\n        if (cause != null) cause.toString() else null\n    } else {\n        message\n    }\n
throwable.cause = cause\n    throwable.name = \"Throwable\"\n    return
throwable\n}\n\n@JsName(\"BoxedChar\")\ninternal class BoxedChar(val c: Int) : Comparable<Int> {\n    override
fun equals(other: Any?): Boolean {\n        return other is BoxedChar && c == other.c\n    }\n    override fun
hashCode(): Int {\n        return c\n    }\n    override fun toString(): String {\n        return
js(\"this.c\").unsafeCast<Char>().toString()\n    }\n    override fun compareTo(other: Int): Int {\n        return
js(\"this.c - other\").unsafeCast<Int>()\n    }\n    @JsName(\"valueOf\")\n    public fun valueOf(): Int {\n
return c\n    }\n}\n\n@kotlin.internal.InlineOnly\ninternal inline fun <T> concat(args: Array<T>): T {\n    val typed
= js(\"Array\")(args.size)\n    for (i in args.indices) {\n        val arr = args[i]\n        if (arr !is Array<*>) {\n

```

```

typed[i] = js("[\").slice.call(arr)\n    } else {\n        typed[i] = arr\n    }\n    }\n    return
js("[\").concat.apply(js("[\").slice.call(arr), typed);\n}\n\n/** Concat regular Array's and TypedArray's into an Array.\n * \n@PublishedApi\n@JsName(\"arrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal fun <T>
arrayConcat(a: T, b: T): T {\n    return concat(js(\"arguments\")\n)\n}\n\n/** Concat primitive arrays. Main use:
prepare vararg arguments.\n * For compatibility with 1.1.0 the arguments may be a mixture of Array's and
TypedArray's.\n * \n * If the first argument is TypedArray (Byte-, Short-, Char-, Int-, Float-, and DoubleArray)
returns a TypedArray, otherwise an Array.\n * If the first argument has the $type$ property (Boolean-, Char-, and
LongArray) copy its value to result.$type$.\n * If the first argument is a regular Array without the $type$ property
default to arrayConcat.\n
 * \n@PublishedApi\n@JsName(\"primitiveArrayConcat\")\n@Suppress(\"UNUSED_PARAMETER\")\ninternal
fun <T> primitiveArrayConcat(a: T, b: T): T {\n    val args: Array<T> = js(\"arguments\")\n    if (a is Array<*> &&
a.asDynamic().`$type$` === undefined) {\n        return concat(args)\n    } else {\n        var size = 0\n        for (i in
args.indices) {\n            size += args[i].asDynamic().length as Int\n        }\n        val result = js(\"new
a.constructor(size)\")\n        kotlin.copyArrayType(a, result)\n        size = 0\n        for (i in args.indices) {\n            val
arr = args[i].asDynamic()\n            for (j in 0 until arr.length) {\n                result[size++] = arr[j]\n            }\n        }\n        return result\n    }\n}\n\n@JsName(\"booleanArrayOf\")\ninternal fun booleanArrayOf() =
withType(\"BooleanArray\", js(\"[]\").slice.call(arguments))\n}\n\n@JsName(\"charArrayOf\") // The arguments have
to be slice'd here because of Rhino (see KT-16974)\ninternal fun charArrayOf() = withType(\"CharArray\", js(\"new
Uint16Array([\").slice.call(arguments))\n)\n}\n\n@JsName(\"longArrayOf\")\ninternal fun longArrayOf() =
withType(\"LongArray\",
js(\"[]\").slice.call(arguments))\n}\n\n@JsName(\"withType\")\n@kotlin.internal.InlineOnly\ninternal inline fun
withType(type: String, array: dynamic): dynamic {\n    array.`$type$` = type\n    return array\n}\n\n/*\n * Copyright
2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in
the license/LICENSE.txt file.\n * \n@package kotlin.collections\n@n/\n// NOTE: THIS FILE IS AUTO-
GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n@n/\n\nimport kotlin.js.*\n\n/**\n * Reverses elements
in the list in-place.\n * \n@public actual fun <T> MutableList<T>.reverse(): Unit {\n    val midPoint = (size / 2) - 1\n
if (midPoint < 0) return\n    var reverseIndex = lastIndex\n    for (index in 0..midPoint) {\n        val tmp =
this[index]\n        this[index] = this[reverseIndex]\n        this[reverseIndex] = tmp\n        reverseIndex--\n
    }\n}\n\n/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license
\n * that can be found in the license/LICENSE.txt file.\n * \n@package kotlin.text\n@n/\n// NOTE: THIS FILE IS
AUTO-GENERATED by the GenerateStandardLib.kt\n// See:
https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n@n/\n\nimport kotlin.js.*\n\n/**\n * Returns a
character at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is out of bounds of this char
sequence.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n@public actual fun
CharSequence.elementAt(index: Int): Char {\n    return elementAtOrElse(index) { throw
IndexOutOfBoundsException(\"index: $index, length: $length\") }\n}\n\n/*\n * Copyright 2010-2019 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n * \n@package kotlin.collections\n@n/\n// NOTE: THIS FILE IS AUTO-GENERATED
by the GenerateStandardLib.kt\n// See: https://github.com/JetBrains/kotlin/tree/master/libraries/stdlib\n@n/\n\nimport
kotlin.js.*\n\n/**\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the
[index] is out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@public actual fun UIntArray.elementAt(index: Int):
UInt {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}\n\n/*\n * Returns an element at the given [index] or throws an [IndexOutOfBoundsException] if the [index] is
out of bounds of this array.\n * \n * @sample samples.collections.Collections.Elements.elementAt\n * \n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n@public actual fun ULongArray.elementAt(index: Int):
ULong {\n    return elementAtOrElse(index) { throw IndexOutOfBoundsException(\"index: $index, size: $size\") }\n}

```



```
'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.dialog(mode: String, param: String): Any? = asDynamic().dialog(mode, param)\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.dialog(mode: String): JQuery = asDynamic().dialog(mode)\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.dialog(mode: String, param: String, value: Any?): JQuery = asDynamic().dialog(mode, param, value)\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.button(): JQuery = asDynamic().button()\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.accordion(): JQuery = asDynamic().accordion()\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.draggable(params: Json): JQuery = asDynamic().draggable(params)\n\n@Deprecated("Use declarations from 'https://bintray.com/kotlin/js-externals/kotlin-js-jquery' package instead.')
```

```
public inline fun JQuery.selectable(): JQuery = asDynamic().selectable()\n\n"/>\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\nimport kotlin.annotation.AnnotationTarget.*\n\n@Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, VALUE_PARAMETER, PROPERTY_GETTER, PROPERTY_SETTER)\n@Deprecated("Use `external` modifier instead", level = DeprecationLevel.ERROR)\npublic annotation class native(public val name: String = "")\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using dynamic()")\npublic annotation class nativeGetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using dynamic()")\npublic annotation class nativeSetter\n\n@Target(FUNCTION)\n@Deprecated("Use inline extension function with body using dynamic()")\npublic annotation class nativeInvoke\n\n@Target(CLASS, FUNCTION, PROPERTY)\ninternal annotation class library(public val name: String = "")\n\n@Target(CLASS)\ninternal annotation class marker\n\n/**\n * Gives a declaration (a function, a property or a class) specific name in JavaScript.\n *\n * This may be useful in the following cases:\n *\n * * There are two functions for which the compiler gives same name in JavaScript, you can mark one with `@JsName(...)` to prevent the compiler from reporting error.\n *\n * * You are writing a JavaScript library in Kotlin. The compiler produces mangled names for functions with parameters, which is unnatural for usual JavaScript developer.\n *\n * You can put `@JsName(...)` on functions you want to be available from JavaScript.\n *\n * * For some reason you want to rename declaration, e.g. there's common term in JavaScript for a concept provided by the declaration, which is uncommon in Kotlin.\n *\n * Example:\n *\n * ``` kotlin\n * class Person(val name: String) {\n *     fun hello() {\n *         println("Hello $name!")\n *     }\n *     @JsName("helloWithGreeting")\n *     fun hello(greeting: String) {\n *         println("$greeting $name!")\n *     }\n * }\n *\n * @property name the name which compiler uses both for declaration itself and for all references to the declaration.\n *\n * It's required to denote a valid JavaScript identifier.\n *\n * @Retention(AnnotationRetention.BINARY)\n * @Target(CLASS, FUNCTION, PROPERTY, CONSTRUCTOR, PROPERTY_GETTER, PROPERTY_SETTER)\n * public actual annotation class JsName(actual val name: String)\n *\n * Denotes an `external` declaration that must be imported from native JavaScript library.\n *\n * The compiler produces the code relevant for the target module system, for example, in case of CommonJS, it will import the declaration via the `require(...)` function.\n *\n * The annotation can be used on top-level external declarations (classes, properties, functions) and files.\n *\n * In case of file (which can't be `external`) the following rule applies: all the declarations in the file must be `external`. By applying `@JsModule(...)` on a file you tell the compiler to import a JavaScript object that contain all the declarations from the file.\n *\n * Example:\n *\n * ``` kotlin\n * @JsModule("jquery")\n * external abstract class JQuery() {\n *     // some declarations here\n * }\n *\n * @JsModule("jquery")\n * external fun JQuery(element: Element): JQuery\n *\n * @property import name of a module to import declaration from.\n *\n * It is not interpreted by the Kotlin compiler, it's passed as is directly to the target module system.\n *\n * @see JsNonModule\n *\n * @Retention(AnnotationRetention.BINARY)\n * @Target(CLASS, PROPERTY, FUNCTION, FILE)\n * public annotation class JsModule(val import: String)\n *\n * Denotes an `external` declaration that can be
```

used without module system.

By default, an `external` declaration is available regardless your target module system.

However, by applying `[JsModule]` annotation you can make a declaration unavailable to `plain` module system.

Some JavaScript libraries are distributed both as a standalone downloadable piece of JavaScript and as a module available as an npm package.

To tell the Kotlin compiler to accept both cases, you can augment `[JsModule]` with the `@JsNonModule` annotation.

For example:

```
kotlin
@JsModule("jquery")
@JsNonModule
@JsName("$")
external abstract class JQuery() {
    // some declarations here
}
@JsModule("jquery")
@JsNonModule
@JsName("$")
external fun JQuery(element: Element): JQuery
@see JsModule

@Retention(AnnotationRetention.BINARY)
@Target(CLASS, PROPERTY, FUNCTION, FILE)
public annotation class JsNonModule
/**
 * Adds prefix to `external` declarations in a source file.
 * JavaScript does not have concept of packages (namespaces). They are usually emulated by nested objects.
 * The compiler turns references to `external` declarations either to plain unprefixed names (in case of `plain` modules) or to plain imports.
 * However, if a JavaScript library provides its declarations in packages, you won't be satisfied with this.
 * You can tell the compiler to generate additional prefix before references to `external` declarations using the `@JsQualifier(...)` annotation.
 * Note that a file marked with the `@JsQualifier(...)` annotation can't contain non-`external` declarations.
 * Example:
 * @file:JsQualifier("my.jsPackageName")
package some.kotlinPackage
external fun foo(x: Int)
external fun bar(): String
@property value the qualifier to add to the declarations in the generated code. It must be a sequence of valid JavaScript identifiers separated by the `.` character.
Examples of valid qualifiers are: `foo`, `bar.Baz`, `_.$.f`.
@see JsModule

@Retention(AnnotationRetention.BINARY)
@Target(AnnotationTarget.FILE)
public annotation class JsQualifier(val value: String)
/**
 * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license
 * that can be found in the license/LICENSE.txt file.
 */
package kotlin.jvm
// these are used in common generated code in stdlib
// TODO: find how to deprecate these ones
@Target(AnnotationTarget.FIELD)
@Retention(AnnotationRetention.SOURCE)
public actual annotation class Volatile
@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY_GETTER, AnnotationTarget.PROPERTY_SETTER)
@Retention(AnnotationRetention.SOURCE)
public actual annotation class Synchronized
/**
 * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license
 * that can be found in the license/LICENSE.txt file.
 */
package kotlin.js
/**
 * Function corresponding to JavaScript's `typeof` operator
 */
@kotlin.internal.InlineOnly
@Suppress("UNUSED_PARAMETER")
public inline fun jsTypeOf(a: Any?): String = js("typeof a")
/**
 * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license
 * that can be found in the license/LICENSE.txt file.
 */
@file:Suppress("UNUSED_PARAMETER", "NOTHING_TO_INLINE")
package kotlin
/**
 * Returns an empty array of the specified type [T].
 */
public inline fun <T> emptyArray(): Array<T> = js("[]")
@library
public fun <T> arrayOf(vararg elements: T): Array<T> = definedExternally
@library
public fun doubleArrayOf(vararg elements: Double): DoubleArray = definedExternally
@library
public fun floatArrayOf(vararg elements: Float): FloatArray = definedExternally
@library
public fun longArrayOf(vararg elements: Long): LongArray = definedExternally
@library
public fun intArrayOf(vararg elements: Int): IntArray = definedExternally
@library
public fun charArrayOf(vararg elements: Char): CharArray = definedExternally
@library
public fun shortArrayOf(vararg elements: Short): ShortArray = definedExternally
@library
public fun byteArrayOf(vararg elements: Byte): ByteArray = definedExternally
@library
public fun booleanArrayOf(vararg elements: Boolean): BooleanArray = definedExternally
/**
 * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].
 */
public actual fun <T> lazy(initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)
/**
 * Creates a new instance of the [Lazy] that uses the specified initialization function [initializer].
 * The [mode] parameter is ignored.
 */
public actual fun <T> lazy(mode: LazyThreadSafetyMode, initializer: () -> T): Lazy<T> =
```

```

UnsafeLazyImpl(initializer)\n\n/**\n * Creates a new instance of the [Lazy] that uses the specified initialization
function [initializer].\n *\n * The [lock] parameter is ignored.\n */\npublic actual fun <T> lazy(lock: Any?,
initializer: () -> T): Lazy<T> = UnsafeLazyImpl(initializer)\n\n\ninternal fun fillFrom(src: dynamic, dst: dynamic):
dynamic {\n    val srcLen: Int = src.length\n    val dstLen: Int = dst.length\n    var index: Int = 0\n    while (index <
srcLen && index < dstLen) dst[index] = src[index++]\n    return dst\n}\n\n\ninternal fun arrayCopyResize(source:
dynamic, newSize: Int, defaultValue: Any?): dynamic {\n    val result = source.slice(0, newSize)\n
copyArrayType(source, result)\n    var index: Int = source.length\n    if (newSize > index) {\n        result.length =
newSize\n        while (index < newSize) result[index++] = defaultValue\n    }\n    return result\n}\n\n\ninternal fun
<T> arrayPlusCollection(array: dynamic, collection: Collection<T>): dynamic {\n    val result = array.slice()\n
result.length += collection.size\n    copyArrayType(array, result)\n    var index: Int = array.length\n    for (element in
collection) result[index++] = element\n    return result\n}\n\n\ninternal fun <T> fillFromCollection(dst: dynamic,
startIndex: Int, collection: Collection<T>): dynamic {\n    var index = startIndex\n    for (element in collection)
dst[index++] = element\n    return dst\n}\n\n\ninternal inline fun copyArrayType(from: dynamic, to: dynamic) {\n    if
(from.`$type$` !== undefined) {\n        to.`$type$` = from.`$type$`\n    }\n}\n\n\ninternal inline fun jsIsType(obj:
dynamic, jsClass: dynamic) = js(\\"Kotlin\").isType(obj, jsClass)", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use
of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.text\n\n// actually \\s is enough to match all whitespace, but \\xA0 added because of different
regex behavior of Rhino used in Selenium tests\n\npublic actual fun Char.isWhitespace(): Boolean =
toString().matches(\\"[\\\\\\\\s\\\\\\\\xA0]\")\n\n@kotlin.internal.InlineOnly\n\npublic actual inline fun Char.toLowerCase():
Char =
js(\\"String.fromCharCode\")(toInt()).toLowerCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n@kotlin.internal.
InlineOnly\n\npublic actual inline fun Char.toUpperCase(): Char =
js(\\"String.fromCharCode\")(toInt()).toUpperCase().charCodeAt(0).unsafeCast<Int>().toChar()\n\n\n/**\n * Returns
`true` if this character is a Unicode high-surrogate code unit (also known as leading-surrogate code unit).\n
*/\n\npublic actual fun Char.isHighSurrogate(): Boolean = this in
Char.MIN_HIGH_SURROGATE..Char.MAX_HIGH_SURROGATE\n\n\n/**\n * Returns `true` if this character is a
Unicode low-surrogate code unit (also known as trailing-surrogate code unit).\n */\n\npublic actual fun
Char.isLowSurrogate(): Boolean = this in
Char.MIN_LOW_SURROGATE..Char.MAX_LOW_SURROGATE\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n\n/**\n * Provides a skeletal implementation of the
[MutableCollection] interface.\n *\n * @param E the type of elements contained in the collection. The collection is
invariant on its element type.\n */\n\npublic actual abstract class AbstractMutableCollection<E> protected actual
constructor() : AbstractCollection<E>(), MutableCollection<E> {\n\n    actual abstract override fun add(element: E):
Boolean\n\n    actual override fun remove(element: E): Boolean {\n        val iterator = iterator()\n        while
(iterator.hasNext()) {\n            if (iterator.next() == element) {\n                iterator.remove()\n                return true\n
            }\n        }\n        return false\n    }\n\n    actual override fun addAll(elements: Collection<E>): Boolean {\n
var modified = false\n    for (element in elements) {\n        if (add(element)) modified = true\n    }\n    return modified\n
}\n\n    actual override fun removeAll(elements: Collection<E>): Boolean = (this as
MutableIterable<E>).removeAll { it in elements }\n\n    actual override fun retainAll(elements: Collection<E>):
Boolean = (this as MutableIterable<E>).removeAll { it !in elements }\n\n    actual override fun clear(): Unit {\n
val iterator = this.iterator()\n    while (iterator.hasNext()) {\n        iterator.next()\n        iterator.remove()\n
}\n    }\n\n    open fun toJSON(): Any = this.toArray()\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\n\n/**\n * Based on GWT AbstractList\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n\n/**\n * Provides a skeletal implementation of the [MutableList] interface.\n *\n * @param E the type of elements
contained in the list. The list is invariant on its element type.\n */\n\npublic actual abstract class
AbstractMutableList<E> protected actual constructor() : AbstractMutableCollection<E>(), MutableList<E> {\n

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protected var modCount: Int = 0\n\n abstract override fun add(index: Int, element: E): Unit\n\n abstract override
fun removeAt(index: Int): E\n\n abstract override fun set(index: Int, element: E): E\n\n\n /**\n\n * Adds the
specified element to the end of this list.\n\n *\n\n * @return `true` because the list is always modified as the result
of this operation.\n\n */\n\n actual override fun add(element: E): Boolean {\n\n    add(size, element)\n\n    return
true\n\n }\n\n\n actual override fun addAll(index: Int, elements: Collection<E>): Boolean {\n\n    var _index =
index\n\n    var changed = false\n\n    for (e in elements) {\n\n        add(_index++, e)\n\n        changed = true\n\n
}\n\n    return changed\n\n }\n\n\n actual override fun clear() {\n\n    removeRange(0, size)\n\n }\n\n\n actual
override fun removeAll(elements: Collection<E>): Boolean = removeAll { it in elements }\n\n\n actual override fun
retainAll(elements: Collection<E>): Boolean = removeAll { it !in elements }\n\n\n\n actual override fun iterator():
MutableIterator<E> = IteratorImpl()\n\n\n actual override fun contains(element: E): Boolean = indexOf(element) >=
0\n\n\n actual override fun indexOf(element: E): Int {\n\n    for (index in 0..lastIndex) {\n\n        if (get(index) ==
element) {\n\n            return index\n\n        }\n\n    }\n\n    return -1\n\n }\n\n\n actual override fun
lastIndexOf(element: E): Int {\n\n    for (index in lastIndex downTo 0) {\n\n        if (get(index) == element) {\n\n
            return index\n\n        }\n\n    }\n\n    return -1\n\n }\n\n\n actual override fun listIterator():
MutableListIterator<E> = listIterator(0)\n\n\n actual override fun listIterator(index: Int): MutableListIterator<E> =
ListIteratorImpl(index)\n\n\n\n actual override fun subList(fromIndex: Int, toIndex: Int): MutableList<E> =
SubList(this, fromIndex, toIndex)\n\n\n\n /**\n\n * Removes the range of elements from this list starting from
[fromIndex] and ending with but not including [toIndex].\n\n *\n\n */\n\n\n protected open fun removeRange(fromIndex:
Int, toIndex: Int) {\n\n    val iterator = listIterator(fromIndex)\n\n    repeat(toIndex - fromIndex) {\n\n
        iterator.next()\n\n        iterator.remove()\n\n    }\n\n }\n\n\n\n /**\n\n * Compares this list with another list instance
with the ordered structural equality.\n\n *\n\n * @return true, if [other] instance is a [List] of the same size, which
contains the same elements in the same order.\n\n */\n\n\n override fun equals(other: Any?): Boolean {\n\n    if (other
=== this) return true\n\n    if (other !is List<*>) return false\n\n    return AbstractList.orderedEquals(this, other)\n\n
}\n\n\n\n /**\n\n * Returns the hash code value for this list.\n\n */\n\n\n override fun hashCode(): Int =
AbstractList.orderedHashCode(this)\n\n\n\n private open inner class IteratorImpl : MutableIterator<E> {\n\n    /**
the index of the item that will be returned on the next call to [next]()\n\n\n */\n\n    protected var index = 0\n\n    /**
the index of the item that was returned on the previous call to [next]()\n\n\n */\n\n    * or [ListIterator.previous]() (for
`ListIterator`),\n\n    * -1 if no such item exists\n\n\n */\n\n    protected var last = -1\n\n\n override fun
hasNext(): Boolean = index < size\n\n\n override fun next(): E {\n\n    if (!hasNext()) throw
NoSuchElementException()\n\n    last = index++\n\n    return get(last)\n\n }\n\n\n\n override fun remove()
{\n\n    check(last != -1) { \"Call next() or previous() before removing element from the iterator.\" }\n\n\n }\n\n\n
removeAt(last)\n\n    index = last\n\n    last = -1\n\n }\n\n }\n\n\n\n /**\n\n * Implementation of
`MutableListIterator` for abstract lists.\n\n */\n\n\n private inner class ListIteratorImpl(index: Int) : IteratorImpl(),
MutableListIterator<E> {\n\n    init {\n\n        AbstractList.checkPositionIndex(index,
this@AbstractMutableList.size)\n\n        this.index = index\n\n    }\n\n\n override fun hasPrevious(): Boolean =
index > 0\n\n\n override fun nextIndex(): Int = index\n\n\n override fun previous(): E {\n\n    if
(!hasPrevious()) throw NoSuchElementException()\n\n    last = --index\n\n    return get(last)\n\n }\n\n\n
override fun previousIndex(): Int = index - 1\n\n\n override fun add(element: E) {\n\n    add(index, element)\n\n
    index++\n\n    last = -1\n\n }\n\n\n override fun set(element: E) {\n\n    check(last != -1) { \"Call
next() or previous() before updating element value with the iterator.\" }\n\n\n    this@AbstractMutableList[last] =
element\n\n }\n\n }\n\n\n private class SubList<E>(private val list: AbstractMutableList<E>, private val
fromIndex: Int, toIndex: Int) : AbstractMutableList<E>(), RandomAccess {\n\n    private var _size: Int = 0\n\n\n
init {\n\n        AbstractList.checkRangeIndexes(fromIndex, toIndex, list.size)\n\n        this._size = toIndex -
fromIndex\n\n    }\n\n\n override fun add(index: Int, element: E) {\n\n
AbstractList.checkPositionIndex(index, _size)\n\n        list.add(fromIndex + index, element)\n\n        _size++\n\n
}\n\n\n override fun get(index: Int): E {\n\n        AbstractList.checkElementIndex(index, _size)\n\n        return
list[fromIndex + index]\n\n }\n\n\n override fun removeAt(index: Int): E {\n\n
AbstractList.checkElementIndex(index, _size)\n\n        val result = list.removeAt(fromIndex + index)\n

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_size--\n        return result\n    }\n\n    override fun set(index: Int, element: E): E {\n
AbstractList.checkElementIndex(index, _size)\n        return list.set(fromIndex + index, element)\n    }\n\n    override val size: Int get() = _size\n    }\n\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code\n is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n * Based on\n GWT AbstractMap\n * Copyright 2007 Google Inc.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal\n implementation of the [MutableMap] interface.\n */\n * The implementor is required to implement [entries] property,\n which should return mutable set of map entries, and [put] function.\n */\n * @param K the type of map keys. The\n map is invariant on its key type.\n */\n * @param V the type of map values. The map is invariant on its value type.\n */\n\npublic actual abstract class AbstractMutableMap<K, V> protected actual constructor() : AbstractMap<K, V>(),\n MutableMap<K, V> {\n\n    /**\n     * A mutable [Map.Entry] shared by several [Map] implementations.\n     */\n\n    internal open class SimpleEntry<K, V>(override val key: K, value: V) : MutableMap.MutableEntry<K, V> {\n\n        constructor(entry: Map.Entry<K, V>) : this(entry.key, entry.value)\n\n        private var _value = value\n\n        override val value: V get() = _value\n\n        override fun setValue(newValue: V): V {\n            val oldValue =\n                this._value\n            this._value = newValue\n            return oldValue\n        }\n\n        override fun hashCode(): Int =\n            entryHashCode(this)\n\n        override fun toString(): String = entryToString(this)\n\n        override fun equals(other:\n Any?): Boolean = entryEquals(this, other)\n    }\n\n    actual override fun clear() {\n        entries.clear()\n    }\n\n    private var _keys: MutableSet<K>? = null\n    actual override val keys: MutableSet<K>\n        get() {\n            if\n                (_keys == null) {\n                    _keys = object : AbstractMutableSet<K>() {\n\n                        override fun add(element:\n K): Boolean = throw UnsupportedOperationException("Add is not supported on keys")\n\n                        override fun\n clear() {\n                            this@AbstractMutableMap.clear()\n                        }\n\n                        override operator fun\n contains(element: K): Boolean = containsKey(element)\n\n                        override operator fun iterator():\n MutableIterator<K> {\n                            val entryIterator = entries.iterator()\n                            return object :\n MutableIterator<K> {\n\n                                override fun hasNext(): Boolean = entryIterator.hasNext()\n\n                                override fun next(): K = entryIterator.next().key\n\n                                override fun remove() =\n                                    entryIterator.remove()\n\n                                }\n                            }\n\n                        override fun remove(element: K): Boolean\n                            {\n                                if (containsKey(element)) {\n                                    this@AbstractMutableMap.remove(element)\n                                }\n\n                                return true\n                            }\n\n                        return false\n                    }\n\n                }\n\n            return _keys!!\n        }\n\n    actual\n abstract override fun put(key: K, value: V): V?\n\n    actual override fun putAll(from: Map<out K, V>) {\n        for\n            ((key, value) in from) {\n                put(key, value)\n            }\n    }\n\n    private var _values: MutableCollection<V>? =\n null\n    actual override val values: MutableCollection<V>\n        get() {\n            if (_values == null) {\n                _values = object : AbstractMutableCollection<V>() {\n\n                    override fun add(element: V): Boolean = throw\n UnsupportedOperationException("Add is not supported on values")\n\n                    override fun clear() =\n                        this@AbstractMutableMap.clear()\n\n                    override operator fun contains(element: V): Boolean =\n                        containsValue(element)\n\n                    override operator fun iterator(): MutableIterator<V> {\n                        val\n                            entryIterator = entries.iterator()\n                        return object : MutableIterator<V> {\n\n                            override fun\n                                hasNext(): Boolean = entryIterator.hasNext()\n\n                            override fun next(): V = entryIterator.next().value\n\n                            override fun remove() = entryIterator.remove()\n                        }\n                    }\n\n                }\n\n            }\n\n            // TODO: should we implement them\n            this way? Currently it's unspecified in JVM\n\n            override fun equals(other: Any?): Boolean {\n                if (this === other) return true\n                if (other !is Collection<*>) return false\n                return\n                    AbstractList.orderedEquals(this, other)\n            }\n\n            override fun hashCode(): Int =\n                AbstractList.orderedHashCode(this)\n        }\n\n        actual override\n fun remove(key: K): V? {\n            val iter = entries.iterator()\n            while (iter.hasNext()) {\n                val entry =\n                    iter.next()\n                val k = entry.key\n                if (key == k) {\n                    val value = entry.value\n                    iter.remove()\n                    return value\n                }\n            }\n            return null\n        }\n\n}\n\n"/*\n * Copyright 2010-2018\n JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the\n license/LICENSE.txt file.\n */\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the

```

```

[MutableSet] interface.\n * \n * @param E the type of elements contained in the set. The set is invariant on its
element type.\n * \n\npublic actual abstract class AbstractMutableSet<E> protected actual constructor() :
AbstractMutableCollection<E>(), MutableSet<E> {\n\n /** \n * Compares this set with another set instance with
the unordered structural equality.\n * \n * @return `true`, if [other] instance is a [Set] of the same size, all
elements of which are contained in this set.\n * \n override fun equals(other: Any?): Boolean {\n if (other
=== this) return true\n if (other !is Set<*>) return false\n return AbstractSet.setEquals(this, other)\n }\n\n
/** \n * Returns the hash code value for this set.\n * \n override fun hashCode(): Int =
AbstractSet.unorderedHashCode(this)\n\n }", /* \n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt file.\n * \n\npackage
kotlin.collections\n\n/** \n * Provides a [MutableList] implementation, which uses a resizable array as its backing
storage.\n * \n * This implementation doesn't provide a way to manage capacity, as backing JS array is resizable
itself.\n * There is no speed advantage to pre-allocating array sizes in JavaScript, so this implementation does not
include any of the \n * capacity and `growth increment` concepts.\n * \n\npublic actual open class ArrayList<E>
internal constructor(private var array: Array<Any?>) : AbstractMutableList<E>(), MutableList<E>, RandomAccess
{\n\n /** \n * Creates an empty [ArrayList].\n * \n public actual constructor() : this(emptyArray()) {\n\n\n
/** \n * Creates an empty [ArrayList].\n * @param initialCapacity initial capacity (ignored)\n * \n
@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n public actual
constructor(initialCapacity: Int = 0) : this(emptyArray()) {\n\n /** \n * Creates an [ArrayList] filled from the
[elements] collection.\n * \n public actual constructor(elements: Collection<E>) :
this(elements.toArray<Any?>()) {\n\n /** Does nothing in this ArrayList implementation. * \n public actual fun
trimToSize() {\n\n /** Does nothing in this ArrayList implementation. * \n public actual fun
ensureCapacity(minCapacity: Int) {\n\n actual override val size: Int get() = array.size\n
@Suppress("UNCHECKED_CAST")\n actual override fun get(index: Int): E = array[rangeCheck(index)] as E\n
actual override fun set(index: Int, element: E): E {\n rangeCheck(index)\n
@Suppress("UNCHECKED_CAST")\n return array[index].apply { array[index] = element } as E\n }\n\n
actual override fun add(element: E): Boolean {\n array.asDynamic().push(element)\n modCount++\n
return true\n }\n\n actual override fun add(index: Int, element: E): Unit {\n
array.asDynamic().splice(insertionRangeCheck(index), 0, element)\n modCount++\n }\n\n actual override
fun addAll(elements: Collection<E>): Boolean {\n if (elements.isEmpty()) return false\n\n array +=
elements.toArray<Any?>()\n modCount++\n return true\n }\n\n actual override fun addAll(index:
Int, elements: Collection<E>): Boolean {\n insertionRangeCheck(index)\n\n if (index == size) return
addAll(elements)\n if (elements.isEmpty()) return false\n when (index) {\n size -> return
addAll(elements)\n 0 -> array = elements.toArray<Any?>() + array\n else -> array =
array.copyOfRange(0, index).asDynamic().concat(elements.toArray<Any?>(), array.copyOfRange(index,
size))\n }\n\n modCount++\n return true\n }\n\n actual override fun removeAt(index: Int): E {\n
rangeCheck(index)\n modCount++\n return if (index == lastIndex)\n array.asDynamic().pop()\n
else\n array.asDynamic().splice(index, 1)[0]\n }\n\n actual override fun remove(element: E): Boolean {\n
for (index in array.indices) {\n if (array[index] == element) {\n array.asDynamic().splice(index,
1)\n modCount++\n return true\n }\n }\n return false\n }\n\n override fun
removeRange(fromIndex: Int, toIndex: Int) {\n modCount++\n array.asDynamic().splice(fromIndex,
toIndex - fromIndex)\n }\n\n actual override fun clear() {\n array = emptyArray()\n modCount++\n
}\n\n\n actual override fun indexOf(element: E): Int = array.indexOf(element)\n\n actual override fun
lastIndexOf(element: E): Int = array.lastIndexOf(element)\n\n override fun toString() = arrayToString(array)\n
override fun toArray(): Array<Any?> = js("").slice.call(array)\n\n\n private fun rangeCheck(index: Int) =
index.apply {\n AbstractList.checkElementIndex(index, size)\n }\n\n private fun
insertionRangeCheck(index: Int) = index.apply {\n AbstractList.checkPositionIndex(index, size)\n }\n }", /* \n
* Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license \n * that can be
found in the license/LICENSE.txt file.\n * \n\npackage kotlin.collections\n\ninternal fun <T> sortArrayWith(array:

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Array<out T>, comparison: (T, T) -> Int) {\n  if (getStableSortingIsSupported()) {\n
array.asDynamic().sort(comparison)\n  } else {\n    mergeSort(array.unsafeCast<Array<T>>(), 0,
array.lastIndex, Comparator(comparison))\n  }\n}\n\ninternal fun <T> sortArrayWith(array: Array<out T>,
comparison: Comparator<in T>) {\n  if (getStableSortingIsSupported()) {\n    val comparison = { a: T, b: T ->
comparison.compare(a, b) }\n    array.asDynamic().sort(comparison)\n  } else {\n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, comparison)\n  }\n}\n\ninternal fun <T :
Comparable<T>> sortArray(array: Array<out T>) {\n  if (getStableSortingIsSupported()) {\n    val comparison =
{ a: T, b: T -> a.compareTo(b) }\n    array.asDynamic().sort(comparison)\n  } else {\n
mergeSort(array.unsafeCast<Array<T>>(), 0, array.lastIndex, naturalOrder())\n  }\n}\n\nprivate var
_stableSortingIsSupported: Boolean? = null\nprivate fun getStableSortingIsSupported(): Boolean {\n
_stableSortingIsSupported?.let { return it }\n  _stableSortingIsSupported = false\n  val array =
js("[ ]").unsafeCast<Array<Int>>()\n  // known implementations may use stable sort for arrays of up to 512
elements\n  // so we create slightly more elements to test stability\n  for (index in 0 until 600)
array.asDynamic().push(index)\n  val comparison = { a: Int, b: Int -> (a and 3) - (b and 3) }\n
array.asDynamic().sort(comparison)\n  for (index in 1 until array.size) {\n    val a = array[index - 1]\n    val b
= array[index]\n    if ((a and 3) == (b and 3) && a >= b) return false\n  }\n  _stableSortingIsSupported = true\n
return true\n}\n\nprivate fun <T> mergeSort(array: Array<T>, start: Int, endInclusive: Int, comparator:
Comparator<in T>) {\n  val buffer = arrayOfNulls<Any?>(array.size).unsafeCast<Array<T>>()\n  val result =
mergeSort(array, buffer, start, endInclusive, comparator)\n  if (result !== array) {\n    result.forEachIndexed { i,
v -> array[i] = v }\n  }\n}\n\n// Both start and end are inclusive indices.\nprivate fun <T> mergeSort(array:
Array<T>, buffer: Array<T>, start: Int, end: Int, comparator: Comparator<in T>): Array<T> {\n  if (start == end)
{\n    return array\n  }\n  val median = (start + end) / 2\n  val left = mergeSort(array, buffer, start, median,
comparator)\n  val right = mergeSort(array, buffer, median + 1, end, comparator)\n  val target = if (left ===
buffer) array else buffer\n  // Merge.\n  var leftIndex = start\n  var rightIndex = median + 1\n  for (i in
start..end) {\n    when {\n      leftIndex <= median && rightIndex <= end -> {\n        val leftValue =
left[leftIndex]\n        val rightValue = right[rightIndex]\n        if (comparator.compare(leftValue,
rightValue) <= 0) {\n          target[i] = leftValue\n          leftIndex++\n        } else {\n
target[i] = rightValue\n          rightIndex++\n        }\n      }\n      leftIndex <= median -> {\n
target[i] = left[leftIndex]\n          leftIndex++\n        }\n      else /* rightIndex <= end */ -> {\n
target[i] = right[rightIndex]\n          rightIndex++\n        }\n      }\n    }\n  }\n  return target\n}"/**\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.collections\n\n@UseExperimental(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@kotlin.js
.JsName("contentDeepHashCodeImpl")\ninternal fun <T> Array<out T>.contentDeepHashCodeImpl(): Int {\n
var result = 1\n  for (element in this) {\n    val elementHash = when {\n      element == null -> 0\n
js("Kotlin").isArrayish(element) -> (element.unsafeCast<Array<*>>()).contentDeepHashCodeImpl()\n
element is UByteArray -> element.contentHashCode()\n      element is UShortArray ->
element.contentHashCode()\n      element is UIntArray -> element.contentHashCode()\n      element is
ULongArray -> element.contentHashCode()\n      else -> element.hashCode()\n    }\n  }\n  result = 31 * result + elementHash\n  return result\n}"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.collections\n\ninternal interface EqualityComparator {\n  /**\n   * Subclasses must override
to return a value indicating\n   * whether or not two keys or values are equal.\n   */\n  abstract fun equals(value1:
Any?, value2: Any?): Boolean\n\n  /**\n   * Subclasses must override to return the hash code of a given key.\n
*/\n  abstract fun getHashCode(value: Any?): Int\n\n  object HashCode : EqualityComparator {\n    override
fun equals(value1: Any?, value2: Any?): Boolean = value1 == value2\n\n    override fun getHashCode(value:
Any?): Int = value?.hashCode() ?: 0\n  }\n}"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n/* Based on

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GWT AbstractHashMap\n * Copyright 2008 Google Inc.\n *\n\npackage kotlin.collections\n\nimport
kotlin.collections.MutableMap.MutableEntry\n\n/**\n * Hash table based implementation of the [MutableMap]
interface.\n *\n * This implementation makes no guarantees regarding the order of enumeration of [keys], [values]
and [entries] collections.\n *\n\npublic actual open class HashMap<K, V> : AbstractMutableMap<K, V>,
MutableMap<K, V> {\n\n    private inner class EntrySet : AbstractMutableSet<MutableEntry<K, V>>() {\n\n\n        override fun add(element: MutableEntry<K, V>): Boolean = throw UnsupportedOperationException("Add is not
supported on entries")\n\n        override fun clear() {\n            this@HashMap.clear()\n        }\n\n        override
operator fun contains(element: MutableEntry<K, V>): Boolean = containsEntry(element)\n\n        override operator
fun iterator(): MutableIterator<MutableEntry<K, V>> = internalMap.iterator()\n\n        override fun
remove(element: MutableEntry<K, V>): Boolean {\n            if (contains(element)) {\n
this@HashMap.remove(element.key)\n                return true\n            }\n            return false\n        }\n\n        override
val size: Int get() = this@HashMap.size\n    }\n\n\n    /**\n     * Internal implementation of the map: either string-
based or hashcode-based.\n     *\n     * private val internalMap: InternalMap<K, V>\n     * private val equality:
EqualityComparator\n     * internal constructor(internalMap: InternalMap<K, V>) : super() {\n     *     this.internalMap
= internalMap\n     *     this.equality = internalMap.equality\n     * }\n     * /**\n     * Constructs an empty [HashMap]
instance.\n     *\n     * actual constructor() : this(InternalHashCodeMap(EqualityComparator.HashCode))\n     * /**\n     * Constructs an empty [HashMap] instance.\n     * *\n     * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor the load factor (ignored)\n     * *\n     * @throws IllegalArgumentException if the initial
capacity or load factor are negative\n     *\n     *\n     @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n     actual constructor(initialCapacity:
Int, loadFactor: Float = 0.0f) : this() {\n     * // This implementation of HashMap has no need of load factors or
capacities.\n     * require(initialCapacity >= 0) { "Negative initial capacity: $initialCapacity" }\n     *
require(loadFactor >= 0) { "Non-positive load factor: $loadFactor" }\n     * }\n     * actual constructor(initialCapacity:
Int) : this(initialCapacity, 0.0f)\n     * /**\n     * Constructs an instance of [HashMap] filled with the contents of the
specified [original] map.\n     *\n     * actual constructor(original: Map<out K, V>) : this() {\n     * this.putAll(original)\n     * }\n     * actual override fun clear() {\n     *     internalMap.clear()\n     * //
structureChanged(this)\n     * }\n     * actual override fun containsKey(key: K): Boolean =
internalMap.containsKey()\n     * actual override fun containsValue(value: V): Boolean = internalMap.any {\n     *
equality.equals(it.value, value) }\n     * private var _entries: MutableSet<MutableMap.MutableEntry<K, V>>? =
null\n     * actual override val entries: MutableSet<MutableMap.MutableEntry<K, V>>\n     *     get() {\n     *         if
(_entries == null) {\n     *             _entries = createEntrySet()\n     *         }\n     *         return _entries!!\n     *     }\n     * protected open fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n     * actual
override operator fun get(key: K): V? = internalMap.get(key)\n     * actual override fun put(key: K, value: V): V? =
internalMap.put(key, value)\n     * actual override fun remove(key: K): V? = internalMap.remove(key)\n     * actual
override val size: Int get() = internalMap.size\n    }\n\n\n    /**\n     * Constructs the specialized implementation of
[HashMap] with [String] keys, which stores the keys as properties of\n     * * JS object without hashing them.\n     *\n     *\n     * public fun <V> stringMapOf(vararg pairs: Pair<String, V>): HashMap<String, V> {\n     *     return
HashMap<String, V>(InternalStringMap(EqualityComparator.HashCode)).apply { putAll(pairs) }\n     * }\n     * /**\n     *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be
found in the license/LICENSE.txt file.\n     *\n     *\n     * Based on GWT HashSet\n     * Copyright 2008 Google Inc.\n     *\n     *\n     * package kotlin.collections\n     * /**\n     * The implementation of the [MutableSet] interface, backed by a
[HashMap] instance.\n     *\n     * public actual open class HashSet<E> : AbstractMutableSet<E>, MutableSet<E> {\n     *
private val map: HashMap<E, Any>\n     * /**\n     * Constructs a new empty [HashSet].\n     * *\n     * actual
constructor() {\n     *     map = HashMap<E, Any>()\n     * }\n     * /**\n     * Constructs a new [HashSet] filled with the
elements of the specified collection.\n     * *\n     * actual constructor(elements: Collection<E>) {\n     *     map =
HashMap<E, Any>(elements.size)\n     *     addAll(elements)\n     * }\n     * /**\n     * Constructs a new empty
[HashSet].\n     * *\n     * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor the load
factor (ignored)\n     * *\n     * @throws IllegalArgumentException if the initial capacity or load factor are negative\n

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*^n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n actual
constructor(initialCapacity: Int, loadFactor: Float = 0.0f) {\n    map = HashMap<E, Any>(initialCapacity,
loadFactor)\n } \n\n actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n /**\n * Protected
constructor to specify the underlying map. This is used by\n * LinkedHashMap.\n * @param map underlying
map to use.\n */\n internal constructor(map: HashMap<E, Any>) {\n    this.map = map\n } \n\n actual
override fun add(element: E): Boolean {\n    val old = map.put(element, this)\n    return old == null\n } \n\n
actual override fun clear() {\n    map.clear()\n } \n\n// public override fun clone(): Any {\n//    return
HashSet<E>(this)\n// } \n\n actual override operator fun contains(element: E): Boolean =
map.containsKey(element)\n\n actual override fun isEmpty(): Boolean = map.isEmpty()\n\n actual override fun
iterator(): MutableIterator<E> = map.keys.iterator()\n\n actual override fun remove(element: E): Boolean =
map.remove(element) != null\n\n actual override val size: Int get() = map.size\n\n}\n\n/**\n * Creates a new
instance of the specialized implementation of [HashSet] with the specified [String] elements,\n * which elements the
keys as properties of JS object without hashing them.\n */\npublic fun stringSetOf(vararg elements: String):
HashSet<String> {\n    return HashSet(stringMapOf<Any>()).apply { addAll(elements) }\n}\n\n", "*/\n * Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\n * Based on GWT InternalHashCodeMap\n * Copyright 2008 Google Inc.\n\n
*/\n\npackage kotlin.collections\n\nimport kotlin.collections.MutableMap.MutableEntry\nimport
kotlin.collections.AbstractMutableMap.SimpleEntry\n\n/**\n * A simple wrapper around JavaScriptObject to
provide [java.util.Map]-like semantics for any\n * key type.\n * *\n * *\n * Implementation notes:\n * *\n * *\n * A key's
hashCode is the index in backingMap which should contain that key. Since several keys may\n * have the same
hash, each value in hashCodeMap is actually an array containing all entries whose\n * keys share the same hash.\n *
*\n * *\n * internal class InternalHashCodeMap<K, V>(override val equality: EqualityComparator) : InternalMap<K, V>
{\n\n    private var backingMap: dynamic = createJsMap()\n    override var size: Int = 0\n    private set\n\n    override fun put(key: K, value: V): V? {\n        val hashCode = equality.getHashCode(key)\n        val chainOrEntry
= getChainOrEntryOrNull(hashCode)\n        if (chainOrEntry == null) {\n            // This is a new chain, put it to the
map.\n            backingMap[hashCode] = SimpleEntry(key, value)\n        } else {\n            if (chainOrEntry !is
Array<*>) {\n                // It is an entry\n                val entry: SimpleEntry<K, V> = chainOrEntry\n                if
(equality.equals(entry.key, key)) {\n                    return entry.setValue(value)\n                } else {\n
backingMap[hashCode] = arrayOf(entry, SimpleEntry(key, value))\n                    size++\n                    return null\n
                }\n            } else {\n                // Chain already exists, perhaps key also exists.\n                val chain:
Array<MutableEntry<K, V>> = chainOrEntry\n                val entry = chain.findEntryInChain(key)\n                if
(entry != null) {\n                    return entry.setValue(value)\n                }\n                chain.asDynamic().push(SimpleEntry(key, value))\n                }\n                size++\n                structureChanged(host)\n                return null\n            }\n        }\n\n        override fun remove(key: K): V? {\n            val hashCode = equality.getHashCode(key)\n            val chainOrEntry = getChainOrEntryOrNull(hashCode) ?: return null\n            if (chainOrEntry !is Array<*>) {\n                val entry: MutableEntry<K, V> = chainOrEntry\n                if (equality.equals(entry.key, key)) {\n                    deleteProperty(backingMap, hashCode)\n                    size--\n                    return entry.value\n                } else {\n                    return null\n                }\n            } else {\n                val chain: Array<MutableEntry<K, V>> = chainOrEntry\n                for
(index in chain.indices) {\n                    val entry = chain[index]\n                    if (equality.equals(key, entry.key)) {\n                        if (chain.size == 1) {\n                            chain.asDynamic().length = 0\n                            // remove the whole
array\n                            deleteProperty(backingMap, hashCode)\n                        } else {\n                            // splice out the
entry we're removing\n                            chain.asDynamic().splice(index, 1)\n                        }\n                        size--\n                        structureChanged(host)\n                        return entry.value\n                    }\n                }\n                }\n                return null\n            }\n        }\n\n        override fun clear() {\n            backingMap = createJsMap()\n            size = 0\n        }\n\n        override fun
contains(key: K): Boolean = getEntry(key) != null\n\n        override fun get(key: K): V? = getEntry(key)?.value\n\n        private fun getEntry(key: K): MutableEntry<K, V>? {\n            val chainOrEntry =
getChainOrEntryOrNull(equality.getHashCode(key)) ?: return null\n            if (chainOrEntry !is Array<*>) {\n                val entry: MutableEntry<K, V> = chainOrEntry\n                if (equality.equals(entry.key, key)) {\n                    return

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contains(element: MutableEntry<K, V>): Boolean = containsEntry(element)\n\n    override operator fun iterator():
MutableIterator<MutableEntry<K, V>> = EntryIterator()\n\n    override fun remove(element: MutableEntry<K,
V>): Boolean {\n        if (contains(element)) {\n            this@LinkedHashMap.remove(element.key)\n        }\n        return true\n    }\n    return false\n}\n\n    override val size: Int get() = this@LinkedHashMap.size\n}\n\n    /*\n     * The head of the insert order chain, which is a doubly-linked circular\n     * list.\n     * The most recently inserted node is at the end of the chain, ie.\n     * chain.prev.\n     */\n    private var head: ChainEntry<K, V>? = null\n\n    /**\n     * Add this node to the end of the chain.\n     */\n    private fun ChainEntry<K, V>.addToEnd()\n    {\n        // This entry is not in the list.\n        check(next == null && prev == null)\n        val _head = head\n        if (_head == null) {\n            head = this\n            next = this\n            prev = this\n        } else {\n            // Chain is valid.\n            val _tail = checkNotNull(_head.prev)\n            // Update me.\n            prev = _tail\n            next = _head\n            // Update my new siblings: current head and old tail\n            _head.prev = this\n            _tail.next = this\n        }\n    }\n\n    /**\n     * Remove this node from the chain it is a part of.\n     */\n    private fun ChainEntry<K, V>.remove()\n    {\n        if (this.next === this) {\n            // if this is single element, remove head\n            head = null\n        } else {\n            if (head === this) {\n                // if this is first element, move head to next\n                head = next\n            }\n            next!!.prev = prev\n            prev!!.next = next\n        }\n        next = null\n        prev = null\n    }\n\n    /*\n     * The hashmap that keeps track of our entries and the chain. Note that we\n     * duplicate the key here to eliminate changes to HashMap and minimize the\n     * code here, at the expense of additional space.\n     */\n    private val map: HashMap<K, ChainEntry<K, V>>\n\n    /**\n     * Constructs an empty [LinkedHashMap] instance.\n     */\n    actual constructor(): super() {\n        map = HashMap<K, ChainEntry<K, V>>()\n    }\n\n    internal constructor(backingMap: HashMap<K, Any>): super() {\n        @Suppress("UNCHECKED_CAST") // expected to work due to erasure\n        map = backingMap as HashMap<K, ChainEntry<K, V>>\n    }\n\n    /**\n     * Constructs an empty [LinkedHashMap] instance.\n     * @param initialCapacity the initial capacity (ignored)\n     * @param loadFactor the load factor (ignored)\n     * @throws IllegalArgumentException if the initial capacity or load factor are negative\n     */\n    @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n    actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f): super(initialCapacity, loadFactor) {\n        map = HashMap<K, ChainEntry<K, V>>()\n    }\n\n    actual constructor(initialCapacity: Int): this(initialCapacity, 0.0f)\n\n    /**\n     * Constructs an instance of [LinkedHashMap] filled with the contents of the specified [original] map.\n     */\n    actual constructor(original: Map<out K, V>): {\n        map = HashMap<K, ChainEntry<K, V>>()\n        this.putAll(original)\n    }\n\n    actual override fun clear(): {\n        map.clear()\n        head = null\n    }\n\n    override fun clone(): Any {\n        return LinkedHashMap(this)\n    }\n\n    actual override fun containsKey(key: K): Boolean = map.containsKey(key)\n\n    actual override fun containsValue(value: V): Boolean {\n        var node: ChainEntry<K, V> = head ?: return false\n        do {\n            if (node.value == value) {\n                return true\n            }\n            node = node.next!!\n        } while (node != head)\n        return false\n    }\n\n    override fun createEntrySet(): MutableSet<MutableMap.MutableEntry<K, V>> = EntrySet()\n\n    actual override operator fun get(key: K): V? = map.get(key)?.value\n\n    actual override fun put(key: K, value: V): V? {\n        val old = map.get(key)\n        if (old == null) {\n            val newEntry = ChainEntry(key, value)\n            map.put(key, newEntry)\n            newEntry.addToEnd()\n            return null\n        } else {\n            return old.setValue(value)\n        }\n    }\n\n    actual override fun remove(key: K): V? {\n        val entry = map.remove(key)\n        if (entry != null) {\n            entry.remove()\n            return entry.value\n        }\n        return null\n    }\n\n    actual override val size: Int get() = map.size\n}\n\n    /**\n     * Constructs the specialized implementation of [LinkedHashMap] with [String] keys, which stores the keys as properties of\n     * JS object without hashing them.\n     */\n    public fun <V> linkedStringMapOf(vararg pairs: Pair<String, V>): LinkedHashMap<String, V> {\n        return LinkedHashMap<String, V>(stringMapOf<Any>()).apply { putAll(pairs) }\n    }, /*\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be found in the license/LICENSE.txt file.\n     */\n    /*\n     * Based on GWT LinkedHashMap\n     * Copyright 2008 Google Inc.\n     */\n    /*\n     * package kotlin.collections\n     */\n    /**\n     * The implementation of the [MutableSet] interface, backed by a [LinkedHashMap] instance.\n     * This implementation preserves the insertion order of elements during the

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iteration.\n */\npublic actual open class LinkedHashSet<E> : HashSet<E>, MutableSet<E> {\n\n    internal
constructor(map: LinkedHashMap<E, Any>) : super(map)\n\n    /**\n     * Constructs a new empty
[LinkedHashSet].\n     */\n    actual constructor() : super(LinkedHashMap<E, Any>())\n\n    /**\n     * Constructs a
new [LinkedHashSet] filled with the elements of the specified collection.\n     */\n    actual constructor(elements:
Collection<E>) : super(LinkedHashMap<E, Any>()) {\n        addAll(elements)\n    }\n\n    /**\n     * Constructs a
new empty [LinkedHashSet].\n     */\n     * @param initialCapacity the initial capacity (ignored)\n     * @param
loadFactor the load factor (ignored)\n     */\n     * @throws IllegalArgumentException if the initial capacity or
load factor are negative\n     */\n     * @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n    actual constructor(initialCapacity: Int, loadFactor: Float = 0.0f) : super(LinkedHashMap<E, Any>(initialCapacity,
loadFactor))\n\n    actual constructor(initialCapacity: Int) : this(initialCapacity, 0.0f)\n\n    // public override fun
clone(): Any {\n    //     return LinkedHashSet(this)\n    // } \n\n    /**\n     * Creates a new instance of the specialized
implementation of [LinkedHashSet] with the specified [String] elements,\n     * which elements the keys as properties
of JS object without hashing them.\n     */\n    public fun linkedStringSetOf(vararg elements: String):
LinkedHashSet<String> {\n        return LinkedHashSet(linkedStringMapOf<Any>()).apply { addAll(elements)
}\n    }\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n
     * that can be found in the license/LICENSE.txt file.\n     */\n\n    package kotlin\n\n    import
kotlin.contracts.*\n\n    @Deprecated("Do not use Synchronized annotation in pure Kotlin/JS code", level =
DeprecationLevel.ERROR)\n    public typealias Synchronized = kotlin.jvm.Synchronized\n\n    @Deprecated("Do not
use Volatile annotation in pure Kotlin/JS code", level = DeprecationLevel.ERROR)\n    public typealias Volatile =
kotlin.jvm.Volatile\n\n    @kotlin.internal.InlineOnly\n    public actual inline fun <R> synchronized(lock: Any, block: () -
> R): R {\n        contract {\n            callsInPlace(block, InvocationKind.EXACTLY_ONCE)\n        }\n        return
block()\n    }\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n     * that can be found in the license/LICENSE.txt file.\n     */\n\n    package kotlin.io\n\n    internal abstract class
BaseOutput {\n        open fun println() {\n            print("\\n")\n        }\n\n        open fun println(message: Any?) {\n
            print(message)\n            println()\n        }\n\n        abstract fun print(message: Any?)\n\n        open fun flush() {\n        }\n\n    /**
JsName used to make the declaration available outside of module to test it
     */\n    @JsName("NodeJsOutput")\n    internal class NodeJsOutput(val outputStream: dynamic) : BaseOutput() {\n
        override fun print(message: Any?) = outputStream.write(String(message))\n    }\n\n    /** JsName used to make the
declaration available outside of module to test it\n     */\n    @JsName("OutputToConsoleLog")\n    internal class
OutputToConsoleLog : BaseOutput() {\n        override fun print(message: Any?) {\n            console.log(message)\n
        }\n\n        override fun println(message: Any?) {\n            console.log(message)\n        }\n\n        override fun println() {\n
            console.log("")\n        }\n    }\n\n    /** JsName used to make the declaration available outside of module to test it and use
at try.kotl.in\n     */\n    @JsName("BufferedOutput")\n    internal open class BufferedOutput : BaseOutput() {\n        var buffer
= ""\n\n        override fun print(message: Any?) {\n            buffer += String(message)\n        }\n\n        override fun flush() {\n
            buffer = ""\n        }\n    }\n\n    /** JsName used to make the declaration available outside of module to test it
     */\n    @JsName("BufferedOutputToConsoleLog")\n    internal class BufferedOutputToConsoleLog : BufferedOutput()
{\n        override fun print(message: Any?) {\n            var s = String(message)\n            val i = s.lastIndexOf("\\n")\n            if (i
>= 0) {\n                buffer += s.substring(0, i)\n                flush()\n                s = s.substring(i + 1)\n            }\n            buffer +=
s\n        }\n\n        override fun flush() {\n            console.log(buffer)\n            buffer = ""\n        }\n    }\n\n    /** JsName used to
make the declaration available outside of module to test it and use at try.kotl.in\n     */\n    @JsName("output")\n    internal
var output = run {\n        val isNode: Boolean = js("typeof process !== 'undefined' && process.versions &&
!!process.versions.node")\n        if (isNode) NodeJsOutput(js("process.stdout")) else
        BufferedOutputToConsoleLog()\n    }\n\n    @kotlin.internal.InlineOnly\n    private inline fun String(value: Any?): String =
js("String")(value)\n\n    /** Prints the line separator to the standard output stream. */\n    public actual fun println() {\n
        output.println()\n    }\n\n    /** Prints the given [message] and the line separator to the standard output stream. */\n    public
actual fun println(message: Any?) {\n        output.println(message)\n    }\n\n    /** Prints the given [message] to the standard
output stream. */\n    public actual fun print(message: Any?) {\n        output.print(message)\n    }\n\n    /**\n     * Copyright 2010-
2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be found in the

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license/LICENSE.txt file.\n *\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@SinceKotlin("1.3")\n\n@JsName("CoroutineImpl")\n
ninternal abstract class CoroutineImpl(private val resultContinuation: Continuation<Any?>) : Continuation<Any?>
{\n    protected var state = 0\n    protected var exceptionState = 0\n    protected var result: Any? = null\n    protected
var exception: Throwable? = null\n    protected var finallyPath: Array<Int>? = null\n\n    public override val context:
CoroutineContext = resultContinuation.context\n\n    private var intercepted_: Continuation<Any?>? = null\n\n
public fun intercepted(): Continuation<Any?> =\n        intercepted_\n        ?:\n
(context[ContinuationInterceptor]?.interceptContinuation(this) ?: this)\n        .also { intercepted_ = it }\n\n
override fun resumeWith(result: Result<Any?>) {\n    var current = this\n    var currentResult: Any? =
result.getOrNull()\n    var currentException: Throwable? = result.exceptionOrNull()\n    // This loop unrolls
recursion in current.resumeWith(param) to make saner and shorter stack traces on resume\n    while (true) {\n
with(current) {\n        val completion = resultContinuation\n        // Set result and exception fields in
the current continuation\n        if (currentException == null) {\n            this.result = currentResult\n
        } else {\n            state = exceptionState\n            exception = currentException\n        }\n
try {\n        val outcome = doResume()\n        if (outcome === COROUTINE_SUSPENDED)\n        return\n        currentResult = outcome\n        currentException = null\n    } catch (exception:
dynamic) { // Catch all exceptions\n        currentResult = null\n        currentException =
exception.unsafeCast<Throwable>()\n    }\n    releaseIntercepted() // this state machine instance is
terminating\n    if (completion is CoroutineImpl) {\n        // unrolling recursion via loop\n        current = completion\n    } else {\n        // top-level completion reached -- invoke and return\n        currentException?.let {\n            completion.resumeWithException(it)\n        } ?:\n        completion.resume(currentResult)\n        return\n    }\n    }\n    }\n    }\n    }\n    private fun
releaseIntercepted() {\n    val intercepted = intercepted_\n    if (intercepted != null && intercepted != this) {\n
context[ContinuationInterceptor]!!.releaseInterceptedContinuation(intercepted)\n    }\n    this.intercepted_
= CompletedContinuation // just in case\n    }\n\n    protected abstract fun doResume(): Any?\n\n    ninternal object
CompletedContinuation : Continuation<Any?> {\n    override val context: CoroutineContext\n    get() =
error("This continuation is already complete")\n\n    override fun resumeWith(result: Result<Any?>) {\n
error("This continuation is already complete")\n    }\n\n    override fun toString(): String = "This continuation is
already complete"\n    }\n\n    /*\n    * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the
Apache 2.0 license\n    * that can be found in the license/LICENSE.txt file.\n
*\n\n    @file:Suppress("UNCHECKED_CAST", "RedundantVisibilityModifier")\n\n    npackage kotlin\n\n    nimport
kotlin.contracts.*\n\n    nimport kotlin.internal.InlineOnly\n\n    nimport kotlin.jvm.JvmField\n\n    n/*\n    * A discriminated union
that encapsulates successful outcome with a value of type [T]\n    * or a failure with an arbitrary [Throwable]
exception.\n
*\n\n    @Suppress("NON_PUBLIC_PRIMARY_CONSTRUCTOR_OF_INLINE_CLASS")\n\n    @SinceKotlin("1.3")\n
npublic inline class Result<out T> @PublishedApi internal constructor(\n    @PublishedApi\n    internal val value:
Any?) : Serializable {\n    // discovery\n\n    /**\n    * Returns `true` if this instance represents successful
outcome.\n    * In this case [isFailure] returns `false`.\n    */\n    public val isSuccess: Boolean get() = value !is
Failure\n\n    /**\n    * Returns `true` if this instance represents failed outcome.\n    * In this case [isSuccess]
returns `false`.\n    */\n    public val isFailure: Boolean get() = value is Failure\n\n    // value & exception
retrieval\n\n    /**\n    * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or
`null`\n    * if it is [failure][Result.isFailure].\n    */\n    * This function is shorthand for `getOrNull` (see
[getOrNull]) or\n    * `fold(onSuccess = { it }, onFailure = { null })` (see [fold]).\n    */\n    @InlineOnly\n    public
inline fun getOrNull(): T? =\n        when {\n            isFailure -> null\n            else -> value as T\n        }\n\n    /**\n    * Returns the encapsulated exception if this instance represents [failure][isFailure] or `null`\n    * if it is
[success][isSuccess].\n    */\n    * This function is shorthand for `fold(onSuccess = { null }, onFailure = { it })` (see
[fold]).\n    */\n    public fun exceptionOrNull(): Throwable? =\n        when (value) {\n            is Failure ->
value.exception\n            else -> null\n        }\n\n    /**\n    * Returns a string `Success(v)` if this instance represents

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[success][Result.isSuccess]\n    * where `v` is a string representation of the value or a string `Failure(x)` if\n    * it is [failure][isFailure] where `x` is a string representation of the exception.\n    * /\n    public override fun toString():\n    String =\n        when (value) {\n            is Failure -> value.toString() // \"Failure($exception)\"\n            else ->\n                \"Success($value)\"\n        }\n    // companion with constructors\n    /**\n     * Companion object for [Result]\n     * class that contains its constructor functions\n     * [success] and [failure].\n     * /\n     public companion object {\n        /**\n         * Returns an instance that encapsulates the given [value] as successful value.\n         * /\n        @InlineOnly\n        public inline fun <T> success(value: T): Result<T> =\n            Result(value)\n        /**\n         * Returns an instance that encapsulates the given [exception] as failure.\n         * /\n        @InlineOnly\n        public\n        inline fun <T> failure(exception: Throwable): Result<T> =\n            Result(createFailure(exception))\n    }\n\n    internal class Failure(\n        @JvmField\n        val exception: Throwable\n    ): Serializable {\n        override fun\n        equals(other: Any?): Boolean = other is Failure && exception == other.exception\n        override fun hashCode():\n        Int = exception.hashCode()\n        override fun toString(): String = \"Failure($exception)\"\n    }\n\n    /**\n     * Creates an instance of internal marker [Result.Failure] class to\n     * make sure that this class is not exposed in ABI.\n     * /\n    @PublishedApi\n    @SinceKotlin(\"1.3\")\n    internal fun createFailure(exception: Throwable): Any =\n        Result.Failure(exception)\n\n    /**\n     * Throws exception if the result is failure. This internal function minimizes\n     * inlined bytecode for [getOrThrow] and makes sure that in the future we can\n     * add some exception-augmenting logic here (if needed).\n     * /\n    @PublishedApi\n    @SinceKotlin(\"1.3\")\n    internal fun Result<*>.throwOnFailure() {\n        if (value is Result.Failure) throw value.exception\n    }\n\n    /**\n     * Calls the specified function [block] and returns its encapsulated result if invocation was successful,\n     * catching and encapsulating any thrown exception as a failure.\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <R> runCatching(block: () -> R): Result<R> {\n        return try {\n            Result.success(block())\n        } catch (e: Throwable) {\n            Result.failure(e)\n        }\n    }\n\n    /**\n     * Calls the specified function [block] with `this` value as its receiver and returns its encapsulated result\n     * if invocation was successful, catching and encapsulating any thrown exception as a failure.\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <T, R> T.runCatching(block: T.() -> R): Result<R> {\n        return try {\n            Result.success(block())\n        } catch (e: Throwable) {\n            Result.failure(e)\n        }\n    }\n\n    /**\n     * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or\n     * throws the encapsulated exception\n     * if it is [failure][Result.isFailure].\n     * /\n     * This function is shorthand for\n     * `getOrElse { throw it }` (see [getOrElse]).\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <T>\n    Result<T>.getOrThrow(): T {\n        throwOnFailure()\n        return value as T\n    }\n\n    /**\n     * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n     * result of [onFailure] function for encapsulated exception if it is [failure][Result.isFailure].\n     * /\n     * Note, that an exception thrown by [onFailure] function is rethrown by this function.\n     * /\n     * This function is shorthand for `fold(onSuccess = { it }, onFailure = onFailure)`\n     * (see [fold]).\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <R, T : R>\n    Result<T>.getOrElse(onFailure: (exception: Throwable) -> R): R {\n        contract {\n            callsInPlace(onFailure,\n                InvocationKind.AT_MOST_ONCE)\n        }\n        return when (val exception = exceptionOrNull()) {\n            null ->\n                value as T\n            else -> onFailure(exception)\n        }\n    }\n\n    /**\n     * Returns the encapsulated value if this instance represents [success][Result.isSuccess] or the\n     * [defaultValue] if it is [failure][Result.isFailure].\n     * /\n     * This function is shorthand for `getOrElse { defaultValue }` (see [getOrElse]).\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <R, T : R> Result<T>.getOrDefault(defaultValue: R):\n    R {\n        if (isFailure) return defaultValue\n        return value as T\n    }\n\n    /**\n     * Returns the the result of [onSuccess] for encapsulated value if this instance represents [success][Result.isSuccess]\n     * or the result of [onFailure] function for encapsulated exception if it is [failure][Result.isFailure].\n     * /\n     * Note, that an exception thrown by [onSuccess] or by [onFailure] function is rethrown by this function.\n     * /\n    @InlineOnly\n    @SinceKotlin(\"1.3\")\n    public inline fun <R, T> Result<T>.fold(\n        onSuccess: (value: T) -> R,\n        onFailure: (exception: Throwable) -> R\n    ): R {\n        contract {\n            callsInPlace(onSuccess, InvocationKind.AT_MOST_ONCE)\n            callsInPlace(onFailure,\n                InvocationKind.AT_MOST_ONCE)\n        }\n        return when (val exception = exceptionOrNull()) {\n            null ->\n                onSuccess(value as T)\n            else -> onFailure(exception)\n        }\n    }\n\n    /**\n     * Returns the encapsulated result of the given [transform] function applied to encapsulated value\n     * if this instance represents

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[success][Result.isSuccess] or the\n * original encapsulated exception if it is [failure][Result.isFailure].\n *\n * Note, that an exception thrown by [transform] function is rethrown by this function.\n * See [mapCatching] for an alternative that encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.map(transform: (value: T) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when {\n isSuccess -> Result.success(transform(value as T))\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to encapsulated value\n * if this instance represents [success][Result.isSuccess] or the\n * original encapsulated exception if it is [failure][Result.isFailure].\n *\n * Any exception thrown by [transform] function is caught, encapsulated as a failure and returned by this function.\n * See [map] for an alternative that rethrows exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T> Result<T>.mapCatching(transform: (value: T) -> R): Result<R> {\n return when {\n isSuccess -> runCatching { transform(value as T) }\n else -> Result(value)\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to encapsulated exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n *\n * Note, that an exception thrown by [transform] function is rethrown by this function.\n * See [recoverCatching] for an alternative that encapsulates exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recover(transform: (exception: Throwable) -> R): Result<R> {\n contract {\n callsInPlace(transform, InvocationKind.AT_MOST_ONCE)\n }\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> Result.success(transform(exception))\n }\n}\n\n/**\n * Returns the encapsulated result of the given [transform] function applied to encapsulated exception\n * if this instance represents [failure][Result.isFailure] or the\n * original encapsulated value if it is [success][Result.isSuccess].\n *\n * Any exception thrown by [transform] function is caught, encapsulated as a failure and returned by this function.\n * See [recover] for an alternative that rethrows exceptions.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <R, T : R> Result<T>.recoverCatching(transform: (exception: Throwable) -> R): Result<R> {\n val value = value // workaround for inline classes BE bug\n return when (val exception = exceptionOrNull()) {\n null -> this\n else -> runCatching { transform(exception) }\n }\n}\n\n/**\n * Performs the given [action] on encapsulated exception if this instance represents [failure][Result.isFailure].\n * Returns the original `Result` unchanged.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onFailure(action: (exception: Throwable) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n exceptionOrNull()?.let { action(it) }\n return this\n}\n\n/**\n * Performs the given [action] on encapsulated value if this instance represents [success][Result.isSuccess].\n * Returns the original `Result` unchanged.\n */\n@InlineOnly\n@SinceKotlin("1.3")\npublic inline fun <T> Result<T>.onSuccess(action: (value: T) -> Unit): Result<T> {\n contract {\n callsInPlace(action, InvocationKind.AT_MOST_ONCE)\n }\n if (isSuccess) action(value as T)\n return this\n}\n\n-----\n\n"/\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.coroutines\n\nimport kotlin.coroutines.intrinsics.CoroutineSingletons\n\nimport kotlin.coroutines.intrinsics.COROUTINE_SUSPENDED\n\n@PublishedApi\n@SinceKotlin("1.3")\ninternal actual class SafeContinuation<in T>\n\ninternal actual constructor(\n private val delegate: Continuation<T>,\n\n initialResult: Any?)\n : Continuation<T> {\n @PublishedApi\n internal actual constructor(delegate: Continuation<T>)\n : this(delegate, UNDECIDED)\n\n public actual override val context: CoroutineContext\n get() = delegate.context\n\n private var result: Any? = initialResult\n\n public actual override fun resumeWith(result: Result<T>) {\n val cur = this.result\n when {\n cur === UNDECIDED -> {\n this.result = result.value\n }\n cur === COROUTINE_SUSPENDED -> {\n this.result = RESUMED\n delegate.resumeWith(result)\n }\n else -> throw\n\n IllegalStateException("Already resumed")\n }\n }\n\n @PublishedApi\n internal actual fun getOrThrow(): Any? {\n if (result === UNDECIDED) {\n result = COROUTINE_SUSPENDED\n return COROUTINE_SUSPENDED\n }\n val result = this.result\n return when {\n result ===

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RESUMED -> COROUTINE_SUSPENDED // already called continuation, indicate COROUTINE_SUSPENDED
upstream\n      result is Result.Failure -> throw result.exception\n      else -> result // either
COROUTINE_SUSPENDED or data\n      }\n      }\n"}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin.coroutines.intrinsics\n\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/*\n * Starts unintercepted coroutine without receiver and with result type [T] and executes it until its first suspension.\n *
Returns the result of the coroutine or throws its exception if it does not suspend or [COROUTINE_SUSPENDED] if
it suspends.\n * In the later case, the [completion] continuation is invoked when coroutine completes with result or
exception.\n * The coroutine is started directly in the invoker's thread without going through the
[ContinuationInterceptor] that might\n * be present in the completion's [CoroutineContext]. It is invoker's
responsibility to ensure that the proper invocation\n * context is established.\n * This function is designed to be
used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the execution of suspended\n * coroutine
using a reference to the suspending function.\n *\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun
<T> (suspend () -> T).startCoroutineUninterceptedOrReturn(\n  completion: Continuation<T>)\n): Any? =
this.asDynamic()(completion, false)\n\n/*\n * Starts unintercepted coroutine with receiver type [R] and result type
[T] and executes it until its first suspension.\n * Returns the result of the coroutine or throws its exception if it
does not suspend or [COROUTINE_SUSPENDED] if it suspends.\n * In the later case, the [completion] continuation is
invoked when coroutine completes with result or exception.\n * The coroutine is started directly in the invoker's
thread without going through the [ContinuationInterceptor] that might\n * be present in the completion's
[CoroutineContext]. It is invoker's responsibility to ensure that the proper invocation\n * context is established.\n
*\n * This function is designed to be used from inside of [suspendCoroutineUninterceptedOrReturn] to resume the
execution of suspended\n * coroutine using a reference to the suspending function.\n
*\n@SinceKotlin("1.3")\n@InlineOnly\npublic actual inline fun <R, T> (suspend R.() ->
T).startCoroutineUninterceptedOrReturn(\n  receiver: R,\n  completion: Continuation<T>)\n): Any? =
this.asDynamic()(receiver, completion, false)\n\n\n/*\n * Creates unintercepted coroutine without receiver and with
result type [T].\n * This function creates a new, fresh instance of suspendable computation every time it is
invoked.\n * To start executing the created coroutine, invoke `resume(Unit)` on the returned [Continuation]
instance.\n * The [completion] continuation is invoked when coroutine completes with result or exception.\n *\n *
This function returns unintercepted continuation.\n * Invocation of `resume(Unit)` starts coroutine immediately in
the invoker's call stack without going through the\n * [ContinuationInterceptor] that might be present in the
completion's [CoroutineContext].\n * It is invoker's responsibility to ensure that the proper invocation context is
established.\n * Note that [completion] of this function may get invoked in an arbitrary context.\n *\n *
[Continuation.intercepted] can be used to acquire the intercepted continuation.\n * Invocation of `resume(Unit)` on
intercepted continuation guarantees that execution of\n * both the coroutine and [completion] happens in the
invocation context established by\n * [ContinuationInterceptor].\n *\n * Repeated invocation of any resume function
on the resulting continuation corrupts the\n * state machine of the coroutine and may result in arbitrary behaviour
or exception.\n *\n@SinceKotlin("1.3")\npublic actual fun <T> (suspend () -> T).createCoroutineUnintercepted(\n
completion: Continuation<T>)\n): Continuation<Unit> =\n  // Kotlin/JS suspend lambdas have an extra parameter
`suspended`\n  if (this.asDynamic().length == 2) {\n    // When `suspended` is true the continuation is created,
but not executed\n    this.asDynamic()(completion, true)\n  } else {\n
createCoroutineFromSuspendFunction(completion) {\n    this.asDynamic()(completion)\n  }\n}\n\n\n/*\n * Creates unintercepted coroutine with receiver type [R] and result type [T].\n * This function creates a new, fresh
instance of suspendable computation every time it is invoked.\n * To start executing the created coroutine,
invoke `resume(Unit)` on the returned [Continuation] instance.\n * The [completion] continuation is invoked when
coroutine completes with result or exception.\n *\n * This function returns unintercepted continuation.\n *
Invocation of `resume(Unit)` starts coroutine immediately in the invoker's call stack without going through the\n *
[ContinuationInterceptor] that might be present in the completion's [CoroutineContext].\n * It is invoker's
responsibility to ensure that the proper invocation\n * context is established.\n * Note that [completion] of this function

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may get invoked in an arbitrary context.

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 * [Continuation.intercepted] can be used to acquire the intercepted
 continuation.
 * Invocation of `resume(Unit)` on intercepted continuation guarantees that execution of
 * both the coroutine and [completion] happens in the invocation context established by
 * [ContinuationInterceptor].
 * Repeated invocation of any resume function on the resulting continuation corrupts the
 * state machine of the coroutine and may result in arbitrary behaviour or exception.
 * Since Kotlin("1.3")
 public actual fun <R, T>
 (suspend R.() -> T).createCoroutineUnintercepted(
 receiver: R,
 completion: Continuation<T>):
 Continuation<Unit> =
 // Kotlin/JS suspend lambdas have an extra parameter `suspended`
 if
 (this.asDynamic().length == 3) {
 // When `suspended` is true the continuation is created, but not executed
 this.asDynamic()(receiver, completion, true)
 } else {
 createCoroutineFromSuspendFunction(completion)
 {
 this.asDynamic()(receiver, completion)
 }
 }
 }
 * Intercepts this continuation with
 [ContinuationInterceptor].
 * This function shall be used on the immediate result of
 [createCoroutineUnintercepted] or [suspendCoroutineUninterceptedOrReturn],
 in which case it checks for
 [ContinuationInterceptor] in the continuation's [context][Continuation.context],
 invokes
 [ContinuationInterceptor.interceptContinuation], caches and returns result.
 * If this function is invoked on
 other [Continuation] instances it returns `this` continuation unchanged.
 * Since Kotlin("1.3")
 public actual
 fun <T> Continuation<T>.intercepted(): Continuation<T> =
 (this as? CoroutineImpl)?.intercepted() ?:
 this
 private inline fun <T> createCoroutineFromSuspendFunction(
 completion: Continuation<T>,
 crossinline block: () -> Any?): Continuation<Unit> {
 @Suppress("UNCHECKED_CAST")
 return object
 : CoroutineImpl(completion as Continuation<Any?>) {
 override fun doResume(): Any? {
 exception?.let { throw it }
 return block()
 }
 }
 }
 }
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 * that can be found in the license/LICENSE.txt
 file.
 package kotlin.coroutines.js.internal
 import kotlin.coroutines.Continuation
 import
 kotlin.coroutines.EmptyCoroutineContext
 @PublishedApi
 @SinceKotlin("1.3")
 internal val
 EmptyContinuation = Continuation<Any?>(EmptyCoroutineContext) { result ->
 result.getOrThrow()
 }
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 * that can be found in the license/LICENSE.txt file.
 package kotlin.js
 * Exposes the [Date
 API](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/Date) to Kotlin.
 * @Suppress("NOT_DOCUMENTED")
 public external class Date() {
 public constructor(milliseconds:
 Number)
 public constructor(dateString: String)
 public constructor(year: Int, month: Int)
 public
 constructor(year: Int, month: Int, day: Int)
 public constructor(year: Int, month: Int, day: Int, hour: Int)
 public
 constructor(year: Int, month: Int, day: Int, hour: Int, minute: Int)
 public constructor(year: Int, month:
 Int, day: Int, hour: Int, minute: Int, second: Int)
 public constructor(year: Int, month: Int, day: Int, hour: Int,
 minute: Int, second: Int, millisecond: Number)
 public fun getDate(): Int
 public fun getDay(): Int
 public
 fun getFullYear(): Int
 public fun getHours(): Int
 public fun getMilliseconds(): Int
 public fun
 getMinutes(): Int
 public fun getMonth(): Int
 public fun getSeconds(): Int
 public fun getTime():
 Double
 public fun getTimezoneOffset(): Int
 public fun getUTCDate(): Int
 public fun
 getUTCDay(): Int
 public fun getUTCFullYear(): Int
 public fun getUTCHours(): Int
 public fun
 getUTCMilliseconds(): Int
 public fun getUTCMinutes(): Int
 public fun getUTCMonth(): Int
 public
 fun getUTCSeconds(): Int
 public fun toDateString(): String
 public fun toISOString(): String
 public
 fun toJSON(): Json
 public fun toLocaleDateString(locales: Array<String> = definedExternally, options:
 LocaleOptions = definedExternally): String
 public fun toLocaleDateString(locales: String, options:
 LocaleOptions = definedExternally): String
 public fun toLocaleString(locales: Array<String> =
 definedExternally, options: LocaleOptions = definedExternally): String
 public fun toLocaleString(locales:
 String, options: LocaleOptions = definedExternally): String
 public fun toLocaleTimeString(locales:
 Array<String> = definedExternally, options: LocaleOptions = definedExternally): String
 public fun
 toLocaleTimeString(locales: String, options: LocaleOptions = definedExternally): String
 public fun
 toTimeString(): String
 public fun toUTCString(): String
 public companion object {
 public fun
 now(): Double
 public fun parse(dateString: String): Double
 public fun UTC(year: Int, month: Int):

```

```

Double\n\n    public fun UTC(year: Int, month: Int, day: Int): Double\n\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int): Double\n\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int): Double\n\n    public fun UTC(year: Int, month: Int, day: Int, hour: Int, minute: Int, second: Int, millisecond: Number): Double\n\n}\n\n    public interface LocaleOptions {\n        public var localeMatcher: String?\n        public var timeZone: String?\n        public var hour12: Boolean?\n        public var formatMatcher: String?\n        public var weekday: String?\n        public var era: String?\n        public var year: String?\n        public var month: String?\n        public var day: String?\n        public var hour: String?\n        public var minute: String?\n        public var second: String?\n        public var timeZoneName: String?    }\n}\n\n    public inline fun dateLocaleOptions(init: Date.LocaleOptions.() -> Unit): Date.LocaleOptions {\n        val result = js("new Object()).unsafeCast<Date.LocaleOptions>()\n        init(result)\n        return result\n    },"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n    package kotlin.dom\n    import org.w3c.dom.*\n\n    /**\n     * Creates a new element with the specified [name].\n     * The element is initialized with the specified [init] function.\n     */\n    public fun Document.createElement(name: String, init: Element.() -> Unit): Element = createElement(name).apply(init)\n\n    /**\n     * Appends a newly created element with the specified [name] to this element.\n     * The element is initialized with the specified [init] function.\n     */\n    public fun Element.appendChild(name: String, init: Element.() -> Unit): Element = ownerDocument!!.createElement(name, init).also { appendChild(it) }\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be found in the license/LICENSE.txt file.\n     */\n\n    package kotlin.dom\n    import org.w3c.dom.*\n\n    /**\n     * Returns true if the element has the given CSS class style in its 'class' attribute\n     */\n    fun Element.hasClass(cssClass: String): Boolean = className.matches("\\s*(^|\\s)*$cssClass(\\s+|\\s)*".toRegex())\n\n    /**\n     * Adds CSS class to element. Has no effect if all specified classes are already in class attribute of the element\n     * @return true if at least one class has been added\n     */\n    fun Element.addClass(vararg cssClasses: String): Boolean {\n        val missingClasses = cssClasses.filterNot { hasClass(it) }\n        if (missingClasses.isNotEmpty()) {\n            val presentClasses = className.trim()\n            className = buildString {\n                append(presentClasses)\n                if (!presentClasses.isEmpty()) {\n                    append(" ")\n                }\n                missingClasses.joinTo(this, " ")
            }\n            return true\n        }\n        return false\n    }\n\n    /**\n     * Removes all [cssClasses] from element. Has no effect if all specified classes are missing in class attribute of the element\n     * @return true if at least one class has been removed\n     */\n    fun Element.removeClass(vararg cssClasses: String): Boolean {\n        if (cssClasses.any { hasClass(it) }) {\n            val toBeRemoved = cssClasses.toSet()\n            className = className.trim().split("\\s+".toRegex()).filter { it !in toBeRemoved }.joinToString(" ")
        }\n        return false\n    }\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be found in the license/LICENSE.txt file.\n     */\n\n    @file:kotlin.jvm.JvmMultifileClass\n    @file:kotlin.jvm.JvmName("StringsKt")\n\n    package kotlin.text\n\n    /**\n     * Converts the string into a regular expression [Regex] with the default options.\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun String.toRegex(): Regex = Regex(this)\n\n    /**\n     * Converts the string into a regular expression [Regex] with the specified single [option].\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun String.toRegex(option: RegexOption): Regex = Regex(this, option)\n\n    /**\n     * Converts the string into a regular expression [Regex] with the specified set of [options].\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun String.toRegex(options: Set<RegexOption>): Regex = Regex(this, options)\n\n    /**\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n     * that can be found in the license/LICENSE.txt file.\n     */\n\n    @file:kotlin.jvm.JvmMultifileClass\n    @file:kotlin.jvm.JvmName("StringsKt")\n\n    package kotlin.text\n\n    /**\n     * Builds new string by populating newly created [StringBuilder] using provided [builderAction]\n     * and then converting it to [String].\n     */\n    @kotlin.internal.InlineOnly\n    public inline fun buildString(builderAction: StringBuilder.() -> Unit): String =\n
```

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StringBuilder().apply(builderAction).toString()\n\n/**\n * Builds new string by populating newly created
[StringBuilder] initialized with the given [capacity]\n * using provided [builderAction] and then converting it to
[String].\n */\n@SinceKotlin("1.1")\n@kotlin.internal.InlineOnly\npublic inline fun buildString(capacity: Int,
builderAction: StringBuilder.() -> Unit): String =\n
StringBuilder(capacity).apply(builderAction).toString()\n\n/**\n * Appends all arguments to the given
[Appendable].\n */\npublic fun <T : Appendable> T.append(vararg value: CharSequence?): T {\n for (item in
value)\n append(item)\n return this\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n
*/\npublic fun StringBuilder.append(vararg value: String?): StringBuilder {\n for (item in value)\n
append(item)\n return this\n}\n\n/**\n * Appends all arguments to the given StringBuilder.\n */\npublic fun
StringBuilder.append(vararg value: Any?): StringBuilder {\n for (item in value)\n append(item)\n return
this\n}\n\ninternal fun <T> Appendable.appendElement(element: T, transform: ((T) -> CharSequence?)) {\n
when {\n transform != null -> append(transform(element))\n element is CharSequence? ->
append(element)\n element is Char -> append(element)\n else -> append(element.toString())\n
}\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n
*/\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.dom\n\nimport org.w3c.dom.*\n\n/**\n * Gets a value indicating whether this node is a TEXT_NODE or a CDATA_SECTION_NODE.\n */\npublic val
Node.isText: Boolean\n get() = nodeType == Node.TEXT_NODE || nodeType ==
Node.CDATA_SECTION_NODE\n\n/**\n * Gets a value indicating whether this node is an [Element].\n */\npublic
val Node.isElement: Boolean\n get() = nodeType == Node.ELEMENT_NODE\n\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n */\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage org.w3c.dom.events\n\npublic fun EventListener(handler: (Event) ->
Unit): EventListener = EventListenerHandler(handler)\n\nprivate class EventListenerHandler(private val handler:
(Event) -> Unit) : EventListener {\n public override fun handleEvent(event: Event) {\n handler(event)\n
}\n\n public override fun toString(): String = "EventListenerHandler($handler)"\n}\n\n", /*\n * Copyright 2010-
2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n */\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage org.w3c.dom\n\npublic external interface ItemArrayLike<out T> {\n
val length: Int\n fun item(index: Int): T?\n}\n\n/**\n * Returns the view of this `ItemArrayLike<T>` collection as
`List<T>`\n */\npublic fun <T> ItemArrayLike<T>.asList(): List<T> = object : AbstractList<T>() {\n override val
size: Int get() = this@asList.length\n\n override fun get(index: Int): T = when (index) {\n in 0..lastIndex ->
this@asList.item(index).unsafeCast<T>()\n else -> throw IndexOutOfBoundsException("index $index is not in
range [0..$lastIndex]")\n }\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed
by the Apache 2.0 license\n */\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.dom\n\nimport org.w3c.dom.*\n\n/**\n * Removes all the children from this node.\n */\npublic fun Node.clear()
{\n while (hasChildNodes()) {\n removeChild(firstChild!)\n }\n}\n\n/**\n * Creates text node and append it
to the element.\n */\n * @return this element\n */\nfun Element.appendText(text: String): Element {\n
appendChild(ownerDocument!!.createTextNode(text))\n return this\n}\n\n", /*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n */\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n * Reinterprets this value as a value of the [dynamic
type](/docs/reference/dynamic-type.html).\n */\n@kotlin.internal.InlineOnly\npublic inline fun Any?.asDynamic():
dynamic = this\n\n/**\n * Reinterprets this value as a value of the specified type [T] without any actual type
checking.\n */\n@kotlin.internal.InlineOnly\npublic inline fun <T> Any?.unsafeCast(): @kotlin.internal.NoInfer T
= this.asDynamic()\n\n/**\n * Reinterprets this `dynamic` value as a value of the specified type [T] without any
actual type checking.\n
*/\n@kotlin.internal.DynamicExtension\n@JsName("unsafeCastDynamic")\n@kotlin.internal.InlineOnly\npublic
inline fun <T> dynamic.unsafeCast(): @kotlin.internal.NoInfer T = this\n\n/**\n * Allows to iterate this `dynamic`
object in the following cases:\n * - when it has an `iterator` function,\n * - when it is an array\n * - when it is an
instance of [kotlin.collections.Iterable]\n */\n@kotlin.internal.DynamicExtension\npublic operator fun
dynamic.iterator(): Iterator<dynamic> {\n val r: Any? = this\n\n return when {\n this["iterator"] != null -

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>\n      this["iterator"]()\n      js("Kotlin").isArrayish(r) ->\n      r.unsafeCast<Array<*>>().iterator()\n      else ->\n      (r as Iterable<*>).iterator()\n    }\n  }"/\n  /*\n  * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n  * that can be found in the license/LICENSE.txt file.\n  */\n  package
is omitted to get declarations directly under the module\n  @JsName("throwNPE")\n  internal fun
throwNPE(message: String) {\n    throw NullPointerException(message)\n  }\n  @JsName("throwCCE")\n  internal fun
throwCCE() {\n    throw ClassCastException("Illegal cast")\n  }\n  @JsName("throwISE")\n  internal fun
throwISE(message: String) {\n    throw IllegalStateException(message)\n  }\n  @JsName("throwUPAE")\n  internal fun
throwUPAE(propertyName: String) {\n    throw UninitializedPropertyAccessException("lateinit property
${propertyName} has not been initialized")\n  }\n  }"/\n  /*\n  * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n  * that can be found in the license/LICENSE.txt file.\n  */\n  package
kotlin\n  // NOTE: Do not author your exceptions as they are written in this file, instead use this
template:\n  /*\n  public open class MyException : Exception {\n    constructor() : super()\n    constructor(message:
String?) : super(message)\n    constructor(message: String?, cause: Throwable?) : super(message, cause)\n
constructor(cause: Throwable?) : super(cause)\n  }\n  */\n  // TODO: remove workarounds for KT-22053 from
direct Throwable inheritors\n  // TODO: remove primary constructors, make all secondary KT-
22055\n  @Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\n  public actual open class Error actual
constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n    actual constructor() :
this(null, null) {\n      Error::class.js.asDynamic().call(this, null, null)\n    }\n    actual constructor(message:
String?) : this(message, null) {\n      Error::class.js.asDynamic().call(this, message, null)\n    }\n    actual
constructor(cause: Throwable?) : this(undefiend, cause) {\n      Error::class.js.asDynamic().call(this, undefiend,
cause)\n    }\n  }\n  @Suppress("USELESS_ELVIS_RIGHT_IS_NULL")\n  public actual open class Exception
actual constructor(message: String?, cause: Throwable?) : Throwable(message, cause ?: null) {\n    actual
constructor() : this(null, null) {\n      Exception::class.js.asDynamic().call(this, null, null)\n    }\n    actual
constructor(message: String?) : this(message, null) {\n      Exception::class.js.asDynamic().call(this, message,
null)\n    }\n    actual constructor(cause: Throwable?) : this(undefiend, cause) {\n
Exception::class.js.asDynamic().call(this, undefiend, cause)\n    }\n  }\n  public actual open class RuntimeException
actual constructor(message: String?, cause: Throwable?) : Exception(message, cause) {\n    actual constructor() :
this(null, null)\n    actual constructor(message: String?) : this(message, null)\n    actual constructor(cause:
Throwable?) : this(undefiend, cause)\n  }\n  public actual open class IllegalArgumentException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n    actual constructor() :
this(null, null)\n    actual constructor(message: String?) : this(message, null)\n    actual constructor(cause:
Throwable?) : this(undefiend, cause)\n  }\n  public actual open class IllegalStateException actual
constructor(message: String?, cause: Throwable?) : RuntimeException(message, cause) {\n    actual constructor() :
this(null, null)\n    actual constructor(message: String?) : this(message, null)\n    actual constructor(cause:
Throwable?) : this(undefiend, cause)\n  }\n  public actual open class IndexOutOfBoundsException actual
constructor(message: String?) : RuntimeException(message) {\n    actual constructor() : this(null)\n  }\n  public
actual open class ConcurrentModificationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n    actual constructor() : this(null, null)\n    actual constructor(message:
String?) : this(message, null)\n    actual constructor(cause: Throwable?) : this(undefiend, cause)\n  }\n  public actual
open class UnsupportedOperationException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n    actual constructor() : this(null, null)\n    actual constructor(message:
String?) : this(message, null)\n    actual constructor(cause: Throwable?) : this(undefiend, cause)\n  }\n  public
actual open class NumberFormatException actual constructor(message: String?) :
IllegalArgumentException(message) {\n    actual constructor() : this(null)\n  }\n  public actual open class
NullPointerException actual constructor(message: String?) : RuntimeException(message) {\n    actual constructor() :
this(null)\n  }\n  public actual open class ClassCastException actual constructor(message: String?) :
RuntimeException(message) {\n    actual constructor() : this(null)\n  }\n  public actual open class AssertionError
private constructor(message: String?, cause: Throwable?) : Error(message, cause) {\n    actual constructor() :

```

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this(null)\n  constructor(message: String?) : this(message, null)\n  actual constructor(message: Any?) :
this(message.toString(), message as? Throwable)\n}\n\npublic actual open class NoSuchElementException actual
constructor(message: String?) : RuntimeException(message) {\n  actual constructor() :
this(null)\n}\n\n@SinceKotlin("1.3")\npublic actual open class ArithmeticException actual constructor(message:
String?) : RuntimeException(message) {\n  actual constructor() : this(null)\n}\n\npublic actual open class
NoWhenBranchMatchedException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual constructor(message:
String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend, cause)\n}\n\npublic actual
open class UninitializedPropertyAccessException actual constructor(message: String?, cause: Throwable?) :
RuntimeException(message, cause) {\n  actual constructor() : this(null, null)\n  actual constructor(message:
String?) : this(message, null)\n  actual constructor(cause: Throwable?) : this(undefiend, cause)\n}\n"/*\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("GroupingKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.collections\n\n/**\n * Represents a source of elements with a [keyOf] function, which can be applied to each
element to get its key.\n * A [Grouping] structure serves as an intermediate step in group-and-fold operations:\n
* they group elements by their keys and then fold each group with some aggregating operation.\n * It is created
by attaching `keySelector: (T) -> K` function to a source of elements.\n * To get an instance of [Grouping] use one
of `groupingBy` extension functions:\n * - [Iterable.groupingBy]\n * - [Sequence.groupingBy]\n * -
[Array.groupingBy]\n * - [CharSequence.groupingBy]\n * For the list of group-and-fold operations available,
see the [extension functions](#extension-functions) for `Grouping`.\n */\n\n@SinceKotlin("1.1")\npublic interface
Grouping<T, out K> {\n  /** Returns an [Iterator] over the elements of the source of this grouping. *\n  fun
sourceIterator(): Iterator<T>\n  /** Extracts the key of an [element]. *\n  fun keyOf(element: T): K\n}\n\n/**\n * Groups elements from the [Grouping] source by key and applies [operation] to the elements of each group
sequentially,\n * passing the previously accumulated value and the current element as arguments, and stores the
results in a new map.\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param operation function is invoked on each element with the following parameters:\n * - `key`: the key of the
group this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null`
if it's the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n
* - `first`: indicates whether it's the first `element` encountered in the group.\n *\n * @return a [Map] associating
the key of each group with the result of aggregation of the group elements.\n *\n * @sample
samples.collections.Grouping.aggregateByRadix\n */\n\n@SinceKotlin("1.1")\npublic inline fun <T, K, R>
Grouping<T, K>.aggregate(\n  operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): Map<K,
R> {\n  return aggregateTo(mutableMapOf<K, R>(), operation)\n}\n\n/**\n * Groups elements from the
[Grouping] source by key and applies [operation] to the elements of each group sequentially,\n * passing the
previously accumulated value and the current element as arguments,\n * and stores the results in the given
[destination] map.\n *\n * The key for each element is provided by the [Grouping.keyOf] function.\n *\n * @param
operation a function that is invoked on each element with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group, can be `null` if it's
the first `element` encountered in the group;\n * - `element`: the element from the source being aggregated;\n * -
`first`: indicates whether it's the first `element` encountered in the group.\n *\n * If the [destination] map already has
a value corresponding to some key,\n * then the elements being aggregated for that key are never considered as
`first`.\n *\n * @return the [destination] map associating the key of each group with the result of aggregation of the
group elements.\n *\n * @sample samples.collections.Grouping.aggregateByRadixTo\n
*/\n\n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T,
K>.aggregateTo(\n  destination: M,\n  operation: (key: K, accumulator: R?, element: T, first: Boolean) -> R\n): M
{\n  for (e in this.sourceIterator()) {\n    val key = keyOf(e)\n    val accumulator = destination[key]\n
destination[key] = operation(key, accumulator, e, accumulator == null && !destination.containsKey(key))\n  }\n
}

```

return destination

`groupByEvenLengthWithComputedInitialValue`

`groupByEvenLengthWithComputedInitialValueTo`

`groupByEvenLengthWithConstantInitialValue`

```

@SinceKotlin("1.1")
public inline fun <T, K, R> Grouping<T, K>.fold(
    initialValueSelector: (key: K,
    element: T) -> R,
    operation: (key: K, accumulator: R, element: T) -> R): Map<K, R> =
    @Suppress("UNCHECKED_CAST")
    aggregate { key, acc, e, first -> operation(key, if (first)
    initialValueSelector(key, e) else acc as R, e) }
}

@SinceKotlin("1.1")
public inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(
    destination: M,
    initialValueSelector: (key: K, element: T) -> R,
    operation: (key: K, accumulator: R, element: T) -> R): M =
    @Suppress("UNCHECKED_CAST")
    aggregateTo(destination) { key, acc, e, first -> operation(key, if (first)
    initialValueSelector(key, e) else acc as R, e) }
}

@SinceKotlin("1.1")
public inline fun <T, K, R> Grouping<T, K>.fold(
    initialValue: R,
    operation: (accumulator: R, element: T) -> R): Map<K, R> =
    @Suppress("UNCHECKED_CAST")
    aggregate { _, acc, e, first -> operation(if (first)
    initialValue else acc as R, e) }
}

@SinceKotlin("1.1")
public inline fun <T, K, R> Grouping<T, K>.foldTo(
    destination: M,
    initialValue: R,
    operation: (accumulator: R, element: T) -> R): M =
    @Suppress("UNCHECKED_CAST")
    aggregateTo(destination) { _, acc, e, first -> operation(if (first)
    initialValue else acc as R, e) }
}

```

`groupByEvenLengthWithConstantInitialValueTo`

```

*\n@SinceKotlin("1.1")\npublic inline fun <T, K, R, M : MutableMap<in K, R>> Grouping<T, K>.foldTo(\n
destination: M,\n initialValue: R,\n operation: (accumulator: R, element: T) -> R)\n): M =\n
@Suppress("UNCHECKED_CAST")\n aggregateTo(destination) { _, acc, e, first -> operation(if (first)
initialValue else acc as R, e) }\n\n/**\n * Groups elements from the [Grouping] source by key and applies the
reducing [operation] to the elements of each group\n * sequentially starting from the second element of the group,\n * passing the previously accumulated value and the current element as arguments,\n * and stores the results in a new
map.\n * An initial value of accumulator is the first element of the group.\n * @param operation a function that
is invoked on each subsequent element of the group with the following parameters:\n * - `key`: the key of the group
this element belongs to;\n * - `accumulator`: the current value of the accumulator of the group;\n * - `element`: the
element from the source being accumulated.\n * @return a [Map] associating the key of each group with the
result of accumulating the group elements.\n * @sample samples.collections.Grouping.reduceByMaxVowels\n
*\n@SinceKotlin("1.1")\npublic inline fun <S, T : S, K> Grouping<T, K>.reduce(\n operation: (key: K,
accumulator: S, element: T) -> S)\n): Map<K, S> =\n aggregate { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n } \n\n/**\n * Groups
elements from the [Grouping] source by key and applies the reducing [operation] to the elements of each group\n *
sequentially starting from the second element of the group,\n * passing the previously accumulated value and the
current element as arguments,\n * and stores the results in the given [destination] map.\n * An initial value of
accumulator is the first element of the group.\n * @param operation a function that is invoked on
each subsequent element of the group with the following parameters:\n * - `accumulator`: the current value of the
accumulator of the group;\n * - `element`: the element from the source being folded;\n * @return the
[destination] map associating the key of each group with the result of accumulating the group elements.\n *
@sample samples.collections.Grouping.reduceByMaxVowelsTo\n
*\n@SinceKotlin("1.1")\npublic inline fun <S,
T : S, K, M : MutableMap<in K, S>> Grouping<T, K>.reduceTo(\n destination: M,\n operation: (key: K,
accumulator: S, element: T) -> S)\n): M =\n aggregateTo(destination) { key, acc, e, first ->\n
@Suppress("UNCHECKED_CAST")\n if (first) e else operation(key, acc as S, e)\n } \n\n/**\n * Groups
elements from the [Grouping] source by key and counts elements in each group to the given [destination] map.\n *
If the [destination] map already has a value corresponding to the key of some group,\n * that value is used as an
initial value of the counter for that group.\n * @return the [destination] map associating the key of each group
with the count of elements in the group.\n * @sample samples.collections.Grouping.groupingByEachCount\n
*\n@SinceKotlin("1.1")\npublic fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachCountTo(destination: M): M =\n foldTo(destination, 0) { acc, _ -> acc + 1 }\n\n/**\n * Groups
elements from the [Grouping] source by key and sums values provided by the [valueSelector] function for elements
in each group\n * to the given [destination] map.\n * @param valueSelector a function that is invoked on each
subsequent element of the group with the following parameters:\n * - `element`: the element from the source being
folded;\n * @return the [destination] map associating the key of each group with the sum of elements in the group.\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, M : MutableMap<in K, Int>> Grouping<T,
K>.eachSumOfTo(destination: M, valueSelector: (T) -> Int): M =\n foldTo(destination, 0) { acc, e -> acc +
valueSelector(e) }\n\n/**\n * Groups elements from the [Grouping] source by key and sums values provided by the
[valueSelector] function for elements in each group\n * to the given [destination] map.\n * @param valueSelector a
function that is invoked on each subsequent element of the group with the following parameters:\n * - `element`:
the element from the source being folded;\n * @return the [destination] map associating the key of each group with
the sum of elements in the group.\n * @sample samples.collections.Grouping.sumEachByLong\n
*\n@SinceKotlin("1.1")\npublic inline fun <T, K, M : MutableMap<in K, Long>> Grouping<T, K>.sumEachByLongTo(destination: M, valueSelector: (T) -> Long): M
=\n foldTo(destination, 0L) { acc, e -> acc + valueSelector(e) }\n\npublic inline fun <T, K> Grouping<T,
K>.sumEachByLong(valueSelector: (T) -> Long): Map<K, Long> =\n fold(0L) { acc, e -> acc +
valueSelector(e) }\n\npublic inline fun <T, K, M : MutableMap<in K, Double>> Grouping<T,
K>.sumEachByDoubleTo(destination: M, valueSelector: (T) -> Double): M =\n foldTo(destination, 0.0) { acc, e
-> acc + valueSelector(e) }\n\npublic inline fun <T, K> Grouping<T, K>.sumEachByDouble(valueSelector: (T) ->
Double): Map<K, Double> =\n fold(0.0) { acc, e -> acc + valueSelector(e) }\n\n"/*\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the

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license/LICENSE.txt file.\n */\npackage kotlin.collections\n\n/**\n * Groups elements from the [Grouping] source
by key and counts elements in each group.\n *\n * @return a [Map] associating the key of each group with the count
of element in the group.\n */\n@SinceKotlin("1.1")\npublic actual fun <T, K> Grouping<T, K>.eachCount():
Map<K, Int> =\n    fold(0) { acc, _ -> acc + 1 }\n\n/**\n * Groups elements from the [Grouping] source by key
and sums values provided by the [valueSelector] function for elements in each group.\n *\n * @return a [Map]
associating the key of each group with the count of element in the group.\n */\n@SinceKotlin("1.1")\npublic inline
fun <T, K> Grouping<T, K>.eachSumOf(valueSelector: (T) -> Int): Map<K, Int> =\n    fold(0) { acc, e -> acc +
valueSelector(e) }\n*/\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the
Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.js\n\n/**\n *
Exposes the JavaScript [Math
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Math) to Kotlin.\n
*\n */\n@Deprecated("Use top-level functions from kotlin.math package instead.", level =
DeprecationLevel.WARNING)\npublic external object Math {\n    @Deprecated("Use kotlin.math.PI instead.",
ReplaceWith("PI", "kotlin.math.PI"), level = DeprecationLevel.ERROR)\n    public val PI: Double\n
    @Deprecated("Use Random.nextDouble instead", ReplaceWith("kotlin.random.Random.nextDouble()",
"kotlin.random.Random"), level = DeprecationLevel.WARNING)\n    public fun random(): Double\n
    @Deprecated("Use kotlin.math.abs instead.", ReplaceWith("abs(value)", "kotlin.math.abs"), level =
DeprecationLevel.ERROR)\n    public fun abs(value: Double): Double\n
    @Deprecated("Use kotlin.math.acos
instead.", ReplaceWith("acos(value)", "kotlin.math.acos"), level = DeprecationLevel.ERROR)\n    public fun
acos(value: Double): Double\n
    @Deprecated("Use kotlin.math.asin instead.", ReplaceWith("asin(value)",
"kotlin.math.asin"), level = DeprecationLevel.ERROR)\n    public fun asin(value: Double): Double\n
    @Deprecated("Use kotlin.math.atan instead.", ReplaceWith("atan(value)", "kotlin.math.atan"), level =
DeprecationLevel.ERROR)\n    public fun atan(value: Double): Double\n
    @Deprecated("Use kotlin.math.atan2
instead.", ReplaceWith("atan2(y, x)", "kotlin.math.atan2"), level = DeprecationLevel.ERROR)\n    public fun
atan2(y: Double, x: Double): Double\n
    @Deprecated("Use kotlin.math.cos instead.",
ReplaceWith("cos(value)", "kotlin.math.cos"), level = DeprecationLevel.ERROR)\n    public fun cos(value:
Double): Double\n
    @Deprecated("Use kotlin.math.sin instead.", ReplaceWith("sin(value)", "kotlin.math.sin"),
level = DeprecationLevel.ERROR)\n    public fun sin(value: Double): Double\n
    @Deprecated("Use
kotlin.math.exp instead.", ReplaceWith("exp(value)", "kotlin.math.exp"), level = DeprecationLevel.ERROR)\n
    public fun exp(value: Double): Double\n
    @Deprecated("Use maxOf or kotlin.math.max instead", level =
DeprecationLevel.ERROR)\n    public fun max(vararg values: Int): Int\n
    @Deprecated("Use maxOf or
kotlin.math.max instead", level = DeprecationLevel.ERROR)\n    public fun max(vararg values: Float): Float\n
    @Deprecated("Use maxOf or kotlin.math.max instead", level = DeprecationLevel.ERROR)\n    public fun
max(vararg values: Double): Double\n
    @Deprecated("Use minOf or kotlin.math.min instead", level =
DeprecationLevel.ERROR)\n    public fun min(vararg values: Int): Int\n
    @Deprecated("Use minOf or
kotlin.math.min instead", level = DeprecationLevel.ERROR)\n    public fun min(vararg values: Float): Float\n
    @Deprecated("Use minOf or kotlin.math.min instead", level = DeprecationLevel.ERROR)\n    public fun
min(vararg values: Double): Double\n
    @Deprecated("Use kotlin.math.sqrt instead.",
ReplaceWith("sqrt(value)", "kotlin.math.sqrt"), level = DeprecationLevel.ERROR)\n    public fun sqrt(value:
Double): Double\n
    @Deprecated("Use kotlin.math.tan instead.", ReplaceWith("tan(value)",
"kotlin.math.tan"), level = DeprecationLevel.ERROR)\n    public fun tan(value: Double): Double\n
    @Deprecated("Use kotlin.math.ln instead.", ReplaceWith("ln(value)", "kotlin.math.ln"), level =
DeprecationLevel.ERROR)\n    public fun log(value: Double): Double\n
    @Deprecated("Use kotlin.math.pow
instead.", ReplaceWith("pow(base, exp)", "kotlin.math.pow"), level = DeprecationLevel.ERROR)\n    public fun
pow(base: Double, exp: Double): Double\n
    @Deprecated("Use kotlin.math.round instead.",
ReplaceWith("round(value)", "kotlin.math.round"), level = DeprecationLevel.ERROR)\n    public fun
round(value: Number): Int\n
    @Deprecated("Use kotlin.math.floor instead.", ReplaceWith("floor(value)",
"kotlin.math.floor"), level = DeprecationLevel.ERROR)\n    public fun floor(value: Number): Int\n

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*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun sin(x: Double): Double =
nativeMath.sin(x)n/n/** Computes the cosine of the angle [x] given in radians.n * Special cases:n * -
`cos(NaN|+Inf|-Inf)` is `NaN`n *@SinceKotlin("1.2")@InlineOnlypublic actual inline fun cos(x: Double):
Double = nativeMath.cos(x)n/n/** Computes the tangent of the angle [x] given in radians.n * Special cases:n
* - `tan(NaN|+Inf|-Inf)` is `NaN`n *@SinceKotlin("1.2")@InlineOnlypublic actual inline fun tan(x:
Double): Double = nativeMath.tan(x)n/n/**n * Computes the arc sine of the value [x];n * the returned value is an
angle in the range from -PI/2` to PI/2` radians.n * Special cases:n * - `asin(x)` is `NaN`, when abs(x) > 1`
or x is `NaN`n *@SinceKotlin("1.2")@InlineOnlypublic actual inline fun asin(x: Double): Double =
nativeMath.asin(x)n/n/**n * Computes the arc cosine of the value [x];n * the returned value is an angle in the
range from 0.0` to PI` radians.n * Special cases:n * - `acos(x)` is `NaN`, when abs(x) > 1` or x is `NaN`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun acos(x: Double): Double =
nativeMath.acos(x)n/n/**n * Computes the arc tangent of the value [x];n * the returned value is an angle in the
range from -PI/2` to PI/2` radians.n * Special cases:n * - `atan(NaN)` is `NaN`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun atan(x: Double): Double =
nativeMath.atan(x)n/n/**n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspondn * to the
rectangular coordinates `(x, y)` by computing the arc tangent of the value y / [x];n * the returned value is an angle
in the range from -PI` to PI` radians.n * Special cases:n * - `atan2(0.0, 0.0)` is 0.0`n * - `atan2(0.0, x)` is
0.0` for x > 0` and PI` for x < 0`n * - `atan2(-0.0, x)` is -0.0` for x > 0` and -PI` for x < 0`n * - `atan2(y,
+Inf)` is 0.0` for 0 < y < +Inf` and -0.0` for -Inf < y < 0`n * - `atan2(y, -Inf)` is PI` for 0 < y < +Inf` and -PI`
for -Inf < y < 0`n * - `atan2(y, 0.0)` is PI/2` for y > 0` and -PI/2` for y < 0`n * - `atan2(+Inf, x)` is PI/2` for
finite x`y`n * - `atan2(-Inf, x)` is -PI/2` for finite x`n * - `atan2(NaN, x)` and atan2(y, NaN)` is `NaN`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun atan2(y: Double, x: Double): Double =
nativeMath.atan2(y, x)n/n/**n * Computes the hyperbolic sine of the value [x].n * Special cases:n * -
sinh(NaN)` is `NaN`n * - `sinh(+Inf)` is +Inf`n * - `sinh(-Inf)` is -Inf`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun sinh(x: Double): Double =
nativeMath.sinh(x)n/n/**n * Computes the hyperbolic cosine of the value [x].n * Special cases:n * -
cosh(NaN)` is `NaN`n * - `cosh(+Inf|-Inf)` is +Inf`n *@SinceKotlin("1.2")@InlineOnlypublic actual
inline fun cosh(x: Double): Double = nativeMath.cosh(x)n/n/**n * Computes the hyperbolic tangent of the value
[x].n * Special cases:n * - `tanh(NaN)` is `NaN`n * - `tanh(+Inf)` is 1.0`n * - `tanh(-Inf)` is -1.0`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun tanh(x: Double): Double =
nativeMath.tanh(x)n/n/**n * Computes the inverse hyperbolic sine of the value [x].n * Special cases:n * -
asinh(NaN)` is `NaN`n * - `asinh(+Inf)` is +Inf`n * -
asinh(-Inf)` is -Inf`n *@SinceKotlin("1.2")@InlineOnlypublic actual inline fun asinh(x: Double): Double =
nativeMath.asinh(x)n/n/**n * Computes the inverse hyperbolic cosine of the value [x].n * Special cases:n * -
acosh(NaN)` is `NaN`n * - `acosh(x)`
is `NaN` when x < 1`n * - `acosh(+Inf)` is +Inf`n *@SinceKotlin("1.2")@InlineOnlypublic actual inline
fun acosh(x: Double): Double = nativeMath.acosh(x)n/n/**n * Computes the inverse hyperbolic tangent of the
value [x].n * Special cases:n * - `tanh(NaN)` is
NaN`n * - `tanh(x)` is `NaN` when x > 1` or x < -1`n * - `tanh(1.0)` is +Inf`n * - `tanh(-1.0)` is -Inf`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun atanh(x: Double): Double =
nativeMath.atanh(x)n/n/**n * Computes sqrt(x^2 + y^2)` without intermediate overflow or underflow.n * Special cases:n * -
returns +Inf` if any of arguments is infiniten * - returns `NaN` if any of arguments is `NaN`
and the other is not infiniten *@SinceKotlin("1.2")@InlineOnlypublic actual inline fun hypot(x: Double, y:
Double): Double = nativeMath.hypot(x, y)n/n/**n * Computes the positive square root of the value [x].n * Special cases:n * -
sqrt(x)` is `NaN` when x < 0` or x` is `NaN`n
*@SinceKotlin("1.2")@InlineOnlypublic actual inline fun sqrt(x: Double): Double =
nativeMath.sqrt(x)n/n/**n * Computes Euler's number `e` raised to the power of the value [x].n * Special
cases:n * - `exp(NaN)` is `NaN`n * - `exp(+Inf)` is +Inf`n * - `exp(-Inf)` is 0.0`n

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*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun exp(x: Double): Double =
nativeMath.exp(x)\n\n/**\n * Computes `exp(x) - 1`.\n * This function can be implemented to produce more
precise result for [x] near zero.\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n
* - `expm1(-Inf)` is `-1.0`\n * @see [exp] function.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual
inline fun expm1(x: Double): Double = nativeMath.expm1(x)\n\n/**\n * Computes the logarithm of the value [x] to
the given [base].\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is
`NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b >
1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n * See also logarithm
functions for common fixed bases: [ln], [log10] and [log2].\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual fun log(x:
Double, base: Double): Double {\n    if (base <= 0.0 || base == 1.0) return Double.NaN\n    return nativeMath.log(x)
/ nativeMath.log(base)\n}\n\n/**\n * Computes the natural logarithm (base `E`) of the value [x].\n * Special
cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is
`-Inf`\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ln(x: Double): Double =
nativeMath.log(x)\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n * @see [ln] function
for special cases.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun log10(x: Double): Double =
nativeMath.log10(x)\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function
for special cases.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun log2(x: Double): Double =
nativeMath.log2(x)\n\n/**\n * Computes `ln(x + 1)`.\n * This function can be implemented to produce more
precise result for [x] near zero.\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x
< -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n * @see [ln] function\n * @see [expm1]
function\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ln1p(x: Double): Double =
nativeMath.log1p(x)\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity.\n * @return the
smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.\n *
Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun ceil(x: Double): Double =
nativeMath.ceil(x).unsafeCast<Double>() // TODO: Remove unsafe cast after removing public js.math\n\n/**\n *
Rounds the given value [x] to an integer towards negative infinity.\n * @return the largest double value that is
smaller than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - `floor(x)` is
`x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun floor(x: Double): Double =
nativeMath.floor(x).unsafeCast<Double>()\n\n/**\n * Rounds the given value [x] to an integer towards zero.\n *
@return the value [x] having its fractional part truncated.\n * Special cases:\n * - `truncate(x)` is `x` where `x`
is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n *^@SinceKotlin("1.2")@InlineOnly\npublic
actual inline fun truncate(x: Double): Double = nativeMath.trunc(x)\n\n/**\n * Rounds the given value [x] towards
the closest integer with ties rounded towards even integer.\n * Special cases:\n * - `round(x)` is `x` where `x` is
`NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual fun round(x:
Double): Double {\n    if (x % 0.5 != 0.0) {\n        return nativeMath.round(x).unsafeCast<Double>()\n    }\n    val
floor = floor(x)\n    return if (floor % 2 == 0) floor else ceil(x)\n}\n\n/**\n * Returns the absolute value of the
given value [x].\n * Special cases:\n * - `abs(NaN)` is `NaN`\n * @see absoluteValue extension property
for [Double]\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun abs(x: Double): Double =
nativeMath.abs(x)\n\n/**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero
if the value is zero,\n * - `1.0` if the value is positive\n * Special case:\n * - `sign(NaN)` is `NaN`\n
*^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun sign(x: Double): Double =
nativeMath.sign(x)\n\n/**\n * Returns the smaller of two values.\n * If either value is `NaN`, then the result is
`NaN`.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun min(a: Double, b: Double): Double =
nativeMath.min(a, b)\n\n/**\n * Returns the greater of two values.\n * If either value is `NaN`, then the result is
`NaN`.\n *^@SinceKotlin("1.2")@InlineOnly\npublic actual inline fun max(a: Double, b: Double): Double =
nativeMath.max(a, b)\n\n// extensions\n\n/**\n * Raises this value to the power [x].\n * Special cases:\n * -

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`b.pow(0.0)` is `1.0` \n * - `b.pow(1.0) == b` \n * - `b.pow(NaN)` is `NaN` \n * - `NaN.pow(x)` is `NaN` for `x !=
0.0` \n * - `b.pow(Inf)` is `NaN` for `abs(b) == 1.0` \n * - `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not
an integer \n * \n @SinceKotlin("1.2") \n @InlineOnly \n public actual inline fun Double.pow(x: Double): Double =
nativeMath.pow(this, x) \n \n /** \n * Raises this value to the integer power [n]. \n * \n * See the other overload of
[pow] for details. \n * \n @SinceKotlin("1.2") \n @InlineOnly \n public actual inline fun Double.pow(n: Int): Double =
nativeMath.pow(this, n.toDouble()) \n \n /** \n * Returns the absolute value of this value. \n * \n * Special cases: \n *
- `NaN.absoluteValue` is `NaN` \n * \n * @see abs function \n * \n @SinceKotlin("1.2") \n @InlineOnly \n public
actual inline val Double.absoluteValue: Double get() = nativeMath.abs(this) \n \n /** \n * Returns the sign of this
value: \n * - `-1.0` if the value is negative, \n * - zero if the value is zero, \n * - `1.0` if the value is positive \n * \n *
Special case: \n * - `NaN.sign` is `NaN` \n * \n @SinceKotlin("1.2") \n @InlineOnly \n public actual inline val
Double.sign: Double get() = nativeMath.sign(this) \n \n /** \n * Returns this value with the sign bit same as of the
[sign] value. \n * \n * If [sign] is `NaN` the sign of the result is undefined. \n * \n @SinceKotlin("1.2") \n public actual
fun Double.withSign(sign: Double): Double { \n     val thisSignBit =
js("Kotlin").doubleSignBit(this).unsafeCast<Int>() \n     val newSignBit =
js("Kotlin").doubleSignBit(sign).unsafeCast<Int>() \n     return if (thisSignBit == newSignBit) this else -
this \n } \n \n /** \n * Returns this value with the sign bit same as of the [sign] value. \n
* \n @SinceKotlin("1.2") \n @InlineOnly \n public actual inline fun Double.withSign(sign: Int): Double =
this.withSign(sign.toDouble()) \n \n /** \n * Returns the ulp (unit in the last place) of this value. \n * \n * An ulp is a
positive distance between this value and the next nearest [Double] value larger in magnitude. \n * \n * Special
Cases: \n * - `NaN.ulp` is `NaN` \n * - `x.ulp` is `+Inf` when `x` is `+Inf` or `-Inf` \n * - `0.0.ulp` is
`Double.MIN_VALUE` \n * \n @SinceKotlin("1.2") \n public actual val Double.ulp: Double get() = when { \n     this
< 0 -> (-this).ulp \n     this.isNaN() || this == Double.POSITIVE_INFINITY -> this \n     this ==
Double.MAX_VALUE -> this - this.nextDown() \n     else -> this.nextUp() - this \n } \n \n /** \n * Returns the [Double]
value nearest to this value in direction of positive infinity. \n * \n @SinceKotlin("1.2") \n public actual fun
Double.nextUp(): Double = when { \n     this.isNaN() || this == Double.POSITIVE_INFINITY -> this \n     this == 0.0
-> Double.MIN_VALUE \n     else -> Double.fromBits(this.toRawBits() + if (this > 0) 1 else -1) \n } \n \n /** \n *
Returns the [Double] value nearest to this value in direction of negative infinity. \n
* \n @SinceKotlin("1.2") \n public actual fun Double.nextDown(): Double = when { \n     this.isNaN() || this ==
Double.NEGATIVE_INFINITY -> this \n     this == 0.0 -> -Double.MIN_VALUE \n     else ->
Double.fromBits(this.toRawBits() + if (this > 0) -1 else 1) \n } \n \n /** \n * Returns the [Double] value nearest to this
value in direction from this value towards the value [to]. \n * \n * Special cases: \n * - `x.nextTowards(y)` is `NaN` if
either `x` or `y` are `NaN` \n * - `x.nextTowards(x) == x` \n * \n @SinceKotlin("1.2") \n public actual fun
Double.nextTowards(to: Double): Double = when { \n     this.isNaN() || to.isNaN() -> Double.NaN \n     to == this ->
to \n     to > this -> this.nextUp() \n     else /* to < this */ -> this.nextDown() \n } \n \n /** \n * Rounds this [Double]
value to the nearest integer and converts the result to [Int]. \n * \n * Ties are rounded towards positive infinity. \n * \n *
Special cases: \n * - `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE` \n * - `x.roundToInt()
== Int.MIN_VALUE` when `x < Int.MIN_VALUE` \n * \n * @throws IllegalArgumentException when this value is
`NaN` \n * \n @SinceKotlin("1.2") \n public actual fun Double.roundToInt(): Int = when { \n     isNaN() -> throw
IllegalArgumentException("Cannot round NaN value.") \n     this > Int.MAX_VALUE -> Int.MAX_VALUE \n     this <
Int.MIN_VALUE -> Int.MIN_VALUE \n     else ->
nativeMath.round(this).unsafeCast<Double>().toInt() \n } \n \n /** \n * Rounds this [Double] value to the nearest
integer and converts the result to [Long]. \n * \n * Ties are rounded towards positive infinity. \n * \n * Special cases: \n *
- `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE` \n * - `x.roundToLong() ==
Long.MIN_VALUE` when `x < Long.MIN_VALUE` \n * \n * @throws IllegalArgumentException when this value
is `NaN` \n * \n @SinceKotlin("1.2") \n public actual fun Double.roundToLong(): Long = when { \n     isNaN() ->
throw IllegalArgumentException("Cannot round NaN value.") \n     this > Long.MAX_VALUE ->
Long.MAX_VALUE \n     this < Long.MIN_VALUE -> Long.MIN_VALUE \n     else ->
nativeMath.round(this).unsafeCast<Double>().toLong() \n } \n \n // endregion \n \n // region =====

```

Float Math =====\n\n** Computes the sine of the angle [x] given in radians.\n * \n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sin(x: Float): Float = nativeMath.sin(x.toDouble()).toFloat()\n\n** Computes the cosine of the angle [x] given in radians.\n * \n * Special cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun cos(x: Float): Float = nativeMath.cos(x.toDouble()).toFloat()\n\n** Computes the tangent of the angle [x] given in radians.\n * \n * Special cases:\n * - `tan(NaN|+Inf|-Inf)` is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tan(x: Float): Float = nativeMath.tan(x.toDouble()).toFloat()\n\n**\n * Computes the arc sine of the value [x];\n * the returned value is an angle in the range from $-\pi/2$ to $\pi/2$ radians.\n * \n * Special cases:\n * - `asin(x)` is `NaN`, when $abs(x) > 1$ or x is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun asin(x: Float): Float = nativeMath.asin(x.toDouble()).toFloat()\n\n**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the range from 0.0 to π radians.\n * \n * Special cases:\n * - `acos(x)` is `NaN`, when $abs(x) > 1$ or x is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun acos(x: Float): Float = nativeMath.acos(x.toDouble()).toFloat()\n\n**\n * Computes the arc tangent of the value [x];\n * the returned value is an angle in the range from $-\pi/2$ to $\pi/2$ radians.\n * \n * Special cases:\n * - `atan(NaN)` is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan(x: Float): Float = nativeMath.atan(x.toDouble()).toFloat()\n\n**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value y / x ;\n * the returned value is an angle in the range from $-\pi$ to π radians.\n * \n * Special cases:\n * - `atan2(0.0, 0.0)` is 0.0 \n * - `atan2(0.0, x)` is 0.0 for $x > 0$ and π for $x < 0$ \n * - `atan2(-0.0, x)` is -0.0 for $x > 0$ and $-\pi$ for $x < 0$ \n * - `atan2(y, +Inf)` is 0.0 for $0 < y < +Inf$ and -0.0 for $-Inf < y < 0$ \n * - `atan2(y, -Inf)` is π for $0 < y < +Inf$ and $-\pi$ for $-Inf < y < 0$ \n * - `atan2(y, 0.0)` is $\pi/2$ for $y > 0$ and $-\pi/2$ for $y < 0$ \n * - `atan2(+Inf, x)` is $\pi/2$ for finite $x > y$ \n * - `atan2(-Inf, x)` is $-\pi/2$ for finite x \n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atan2(y: Float, x: Float): Float = nativeMath.atan2(y.toDouble(), x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic sine of the value [x].\n * \n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is $+Inf$ \n * - `sinh(-Inf)` is $-Inf$ \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sinh(x: Float): Float = nativeMath.sinh(x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic cosine of the value [x].\n * \n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is $+Inf$ \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun cosh(x: Float): Float = nativeMath.cosh(x.toDouble()).toFloat()\n\n**\n * Computes the hyperbolic tangent of the value [x].\n * \n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is 1.0 \n * - `tanh(-Inf)` is -1.0 \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun tanh(x: Float): Float = nativeMath.tanh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic sine of the value [x].\n * \n * The returned value is `y` such that $\sinh(y) == x$.\n * \n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is $+Inf$ \n * - `asinh(-Inf)` is $-Inf$ \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun asinh(x: Float): Float = nativeMath.asinh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic cosine of the value [x].\n * \n * The returned value is positive `y` such that $\cosh(y) == x$.\n * \n * Special cases:\n * - `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when $x < 1$ \n * - `acosh(+Inf)` is $+Inf$ \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun acosh(x: Float): Float = nativeMath.acosh(x.toDouble()).toFloat()\n\n**\n * Computes the inverse hyperbolic tangent of the value [x].\n * \n * The returned value is `y` such that $\tanh(y) == x$.\n * \n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when $x > 1$ or $x < -1$ \n * - `tanh(1.0)` is $+Inf$ \n * - `tanh(-1.0)` is $-Inf$ \n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun atanh(x: Float): Float = nativeMath.atanh(x.toDouble()).toFloat()\n\n**\n * Computes $\sqrt{x^2 + y^2}$ without intermediate overflow or underflow.\n * \n * Special cases:\n * - returns $+Inf$ if any of arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n\n*/\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun

hypot(x: Float, y: Float): Float = nativeMath.hypot(x.toDouble(), y.toDouble()).toFloat()\n\n**\n * Computes the positive square root of the value [x].\n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sqrt(x: Float): Float = nativeMath.sqrt(x.toDouble()).toFloat()\n\n**\n * Computes Euler's number `e` raised to the power of the value [x].\n * Special cases:\n * - `exp(NaN)` is `NaN`\n * - `exp(+Inf)` is `+Inf`\n * - `exp(-Inf)` is `0.0`\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun exp(x: Float): Float = nativeMath.exp(x.toDouble()).toFloat()\n\n**\n * Computes `exp(x) - 1`.\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n * - `expm1(-Inf)` is `-1.0`\n * @see [exp] function.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun expm1(x: Float): Float = nativeMath.expm1(x.toDouble()).toFloat()\n\n**\n * Computes the logarithm of the value [x] to the given [base].\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log(x: Float, base: Float): Float = log(x.toDouble(), base.toDouble()).toFloat()\n\n**\n * Computes the natural logarithm (base `E`) of the value [x].\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ln(x: Float): Float = nativeMath.log(x.toDouble()).toFloat()\n\n**\n * Computes the common logarithm (base 10) of the value [x].\n * @see [ln] function for special cases.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log10(x: Float): Float = nativeMath.log10(x.toDouble()).toFloat()\n\n**\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function for special cases.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun log2(x: Float): Float = nativeMath.log2(x.toDouble()).toFloat()\n\n**\n * Computes `ln(a + 1)`.\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x < -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n * @see [ln] function\n * @see [expm1] function\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ln1p(x: Float): Float = nativeMath.log1p(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards positive infinity.\n * @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun ceil(x: Float): Float = nativeMath.ceil(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards negative infinity.\n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun floor(x: Float): Float = nativeMath.floor(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] to an integer towards zero.\n * @return the value [x] having its fractional part truncated.\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun truncate(x: Float): Float = truncate(x.toDouble()).toFloat()\n\n**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun round(x: Float): Float = round(x.toDouble()).toFloat()\n\n**\n * Returns the absolute value of the given value [x].\n * Special cases:\n * - `abs(NaN)` is `NaN`\n * @see absoluteValue extension property for [Float]\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun abs(x: Float): Float = nativeMath.abs(x.toDouble()).toFloat()\n\n**\n * Returns the sign of the given value [x]:\n * - `-1.0` if the value is negative,\n * - zero if the value is zero,\n * - `1.0` if the value is positive\n * Special case:\n * - `sign(NaN)` is `NaN`\n * ^\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline fun sign(x: Float): Float =

`nativeMath.sign(x.toDouble()).toFloat()` Returns the smaller of two values. If either value is `NaN`, then the result is `NaN`.

`min(a: Float, b: Float): Float = nativeMath.min(a, b)` Returns the greater of two values. If either value is `NaN`, then the result is `NaN`.

`max(a: Float, b: Float): Float = nativeMath.max(a, b)` Raises this value to the power `[x]`. Special cases: `b.pow(0.0)` is `1.0`, `b.pow(1.0) == b`, `b.pow(NaN)` is `NaN`, `NaN.pow(x)` is `NaN` for `x != 0.0`, `b.pow(Inf)` is `NaN` for `abs(b) == 1.0`, `b.pow(x)` is `NaN` for `b < 0` and `x` is finite and not an integer.

`Float.pow(x: Float): Float = nativeMath.pow(this.toDouble(), x.toDouble()).toFloat()` Raises this value to the integer power `[n]`. See the other overload of `[pow]` for details.

`Float.pow(n: Int): Float = nativeMath.pow(this.toDouble(), n.toDouble()).toFloat()` Returns the absolute value of this value. Special cases: `NaN.absoluteValue` is `NaN`. @see `abs` function

`Float.absoluteValue: Float get() = nativeMath.abs(this.toDouble()).toFloat()` Returns the sign of this value: `-1.0` if the value is negative, `0` if the value is zero, `1.0` if the value is positive. Special case: `NaN.sign` is `NaN`.

`Float.sign: Float get() = nativeMath.sign(this.toDouble()).toFloat()` Returns this value with the sign bit same as of the `[sign]` value. If `[sign]` is `NaN` the sign of the result is undefined.

`Float.withSign(sign: Float): Float = this.toDouble().withSign(sign.toDouble()).toFloat()` Returns this value with the sign bit same as of the `[sign]` value.

`Float.withSign(sign: Int): Float = this.toDouble().withSign(sign.toDouble()).toFloat()` Rounds this `[Float]` value to the nearest integer and converts the result to `[Int]`. Ties are rounded towards positive infinity. Special cases: `x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`, `x.roundToInt() == Int.MIN_VALUE` when `x < Int.MIN_VALUE`. @throws `IllegalArgumentException` when this value is `NaN`.

`Float.roundToInt(): Int = toDouble().roundToInt()` Rounds this `[Float]` value to the nearest integer and converts the result to `[Long]`. Ties are rounded towards positive infinity. Special cases: `x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`, `x.roundToLong() == Long.MIN_VALUE` when `x < Long.MIN_VALUE`. @throws `IllegalArgumentException` when this value is `NaN`.

`Float.roundToLong(): Long = toDouble().roundToLong()` Returns the absolute value of the given value `[n]`. Special cases: `abs(Int.MIN_VALUE)` is `Int.MIN_VALUE` due to an overflow. @see `absoluteValue` extension property for `[Int]`.

`abs(n: Int): Int = if (n < 0) (-n or 0) else n` Returns the smaller of two values.

`min(a: Int, b: Int): Int = nativeMath.min(a, b)` Returns the greater of two values.

`max(a: Int, b: Int): Int = nativeMath.max(a, b)` Returns the absolute value of this value. Special cases: `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow. @see `abs` function

`Int.absoluteValue: Int get() = abs(this)` Returns the sign of this value: `-1` if the value is negative, `0` if the value is zero, `1` if the value is positive.

`Int.sign: Int get() = when { n this < 0 -> -1 n this > 0 -> 1 n else -> 0 }` Returns the absolute value of the given value `[n]`. Special cases: `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an overflow. @see `absoluteValue` extension property for `[Long]`.

`abs(n: Long): Long = if (n < 0) -n else n` Returns the smaller of two values.

```

*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun min(a: Long, b:
Long): Long = if (a <= b) a else b\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.2")\n@Suppress("NOTHING_TO_INLINE")\npublic actual inline fun max(a: Long, b:
Long): Long = if (a >= b) a else b\n\n/**\n * Returns the absolute value of this value.\n * \n * Special cases:\n * -
`Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * \n * @see abs function\n
*\n@SinceKotlin("1.2")\n@InlineOnly\npublic actual inline val Long.absoluteValue: Long get() =
abs(this)\n\n/**\n * Returns the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n
* - `1` if the value is positive\n *\n@SinceKotlin("1.2")\npublic actual val Long.sign: Int get() = when {\n this
< 0 -> -1\n this > 0 -> 1\n else -> 0\n}\n\n// endregion\n",/>\n * Copyright 2010-2018 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\npackage kotlin\n\n/**\n * Returns `true` if the specified number is a\n * Not-a-Number (NaN) value, `false`
otherwise.\n *\npublic actual fun Double.isNaN(): Boolean = this != this\n\n/**\n * Returns `true` if the specified
number is a\n * Not-a-Number (NaN) value, `false` otherwise.\n *\npublic actual fun Float.isNaN(): Boolean = this
!= this\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n *\npublic actual fun
Double.isInfinite(): Boolean = this == Double.POSITIVE_INFINITY || this ==
Double.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if this value is infinitely large in magnitude.\n *\npublic
actual fun Float.isInfinite(): Boolean = this == Float.POSITIVE_INFINITY || this ==
Float.NEGATIVE_INFINITY\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns
`false` otherwise (for `NaN` and infinity arguments).\n *\npublic actual fun Double.isFinite(): Boolean =
!isInfinite() && !isNaN()\n\n/**\n * Returns `true` if the argument is a finite floating-point value; returns `false`
otherwise (for `NaN` and infinity arguments).\n *\npublic actual fun Float.isFinite(): Boolean = !isInfinite() &&
!isNaN()\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n * according to the
IEEE 754 floating-point "double format" bit layout.\n
*\n@SinceKotlin("1.2")\n@library("doubleToBits")\npublic actual fun Double.toBits(): Long =
definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Long]\n *
according to the IEEE 754 floating-point "double format" bit layout,\n * preserving `NaN` values exact layout.\n
*\n@SinceKotlin("1.2")\n@library("doubleToRawBits")\npublic actual fun Double.toRawBits(): Long =
definedExternally\n\n/**\n * Returns the [Double] value corresponding to a given bit representation.\n
*\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Double.Companion.fromBits(bits:
Long): Double = js("Kotlin").doubleFromBits(bits).unsafeCast<Double>()\n\n/**\n * Returns a bit representation
of the specified floating-point value as [Int]\n * according to the IEEE 754 floating-point "single format" bit
layout.\n * \n * Note that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\n * so
some [Float] values may overflow, underflow or lose their accuracy after conversion to bits and back.\n
*\n@SinceKotlin("1.2")\n@library("floatToBits")\npublic actual fun Float.toBits(): Int =
definedExternally\n\n/**\n * Returns a bit representation of the specified floating-point value as [Int]\n * according
to the IEEE 754 floating-point "single format" bit layout,\n * preserving `NaN` values exact layout.\n * \n * Note
that in Kotlin/JS [Float] range is wider than "single format" bit layout can represent,\n * so some [Float] values
may overflow, underflow or lose their accuracy after conversion to bits and back.\n
*\n@SinceKotlin("1.2")\n@library("floatToRawBits")\npublic actual fun Float.toRawBits(): Int =
definedExternally\n\n/**\n * Returns the [Float] value corresponding to a given bit representation.\n
*\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual inline fun Float.Companion.fromBits(bits:
Int): Float = js("Kotlin").floatFromBits(bits).unsafeCast<Float>()",/>\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n *\n\npackage kotlin.text\n\n/**\n * Returns `true` if the contents of this string is equal to the word "true",
ignoring case, and `false` otherwise.\n *\npublic actual fun String.toBoolean(): Boolean = toLowerCase() ==
"true"\n\n/**\n * Parses the string as a signed [Byte] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n *\npublic actual fun
String.toByte(): Byte = toByteOrNull() ?: numberFormatException(this)\n\n/**\n * Parses the string as a signed [Byte]

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number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*/\npublic actual fun String.toByteArray(radix: Int): Byte = toByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n *
Parses the string as a [Short] number and returns the result.\n * @throws NumberFormatException if the string is
not a valid representation of a number.\n */\npublic actual fun String.toShort(): Short = toShortOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Short] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toShort(radix: Int): Short = toShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as
an [Int] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n */\npublic actual fun String.toInt(): Int = toIntOrNull() ?:
numberFormatError(this)\n\n/**\n * Parses the string as an [Int] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n */\npublic actual fun
String.toInt(radix: Int): Int = toIntOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [Long]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\npublic actual fun String.toLong(): Long = toLongOrNull() ?: numberFormatError(this)\n\n/**\n *
Parses the string as a [Long] number and returns the result.\n * @throws NumberFormatException if the string is not
a valid representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for
string to number conversion.\n */\npublic actual fun String.toLong(radix: Int): Long = toLongOrNull(radix) ?:
numberFormatError(this)\n\n/**\n * Parses the string as a [Double] number and returns the result.\n * @throws
NumberFormatException if the string is not a valid representation of a number.\n */\npublic actual fun
String.toDouble(): Double = +(this.asDynamic()).unsafeCast<Double>().also { \n    if (it.isNaN() && !this.isNaN())
|| it == 0.0 && this.isBlank())\n        numberFormatError(this)\n}\n\n/**\n * Parses the string as a [Float] number
and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun String.toFloat(): Float =
toDouble().unsafeCast<Float>()\n\n/**\n * Parses the string as a [Double] number and returns the result\n * or `null`
if the string is not a valid representation of a number.\n */\npublic actual fun String.toDoubleOrNull(): Double? =
+(this.asDynamic()).unsafeCast<Double>().takeIf { \n    !(it.isNaN() && !this.isNaN() || it == 0.0 &&
this.isBlank())\n}\n\n/**\n * Parses the string as a [Float] number and returns the result\n * or `null` if the string is
not a valid representation of a number.\n */\n@kotlin.internal.InlineOnly\npublic actual inline fun
String.toFloatOrNull(): Float? = toDoubleOrNull().unsafeCast<Float?>()\n\n/**\n * Returns a string representation
of this [Byte] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Byte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Short] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\n@kotlin.internal.InlineOnly\npublic actual
inline fun Short.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of
this [Long] value in the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid
radix for number to string conversion.\n */\n@SinceKotlin("1.2")\npublic actual fun Long.toString(radix: Int):
String = asDynamic().toString(checkRadix(radix))\n\n/**\n * Returns a string representation of this [Int] value in
the specified [radix].\n * \n * @throws IllegalArgumentException when [radix] is not a valid radix for number to
string conversion.\n */\n@SinceKotlin("1.2")\npublic actual fun Int.toString(radix: Int): String =
asDynamic().toString(checkRadix(radix))\n\nprivate fun String.isNaN(): Boolean = when (this.toLowerCase()) { \n
"nan", "+nan", "-nan" -> true\n    else -> false\n}\n\n/**\n * Checks whether the given [radix] is valid radix for
string to number and number to string conversion.\n */\n@PublishedApi\ninternal actual fun checkRadix(radix: Int):
Int { \n    if (radix !in 2..36) { \n        throw IllegalArgumentException("radix $radix was not in valid range 2..36")\n    }\n    return radix\n}\n\ninternal actual fun digitOf(char: Char, radix: Int): Int = when { \n    char >= '0' && char <=

```

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'9' -> char - '0'\n char >= 'A' && char <= 'Z' -> char - 'A' + 10\n char >= 'a' && char <= 'z' -> char - 'a' + 10\n
else -> -1\n}.let { if (it >= radix) -1 else it }\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\nimport kotlin.internal.LowPriorityInOverloadResolution\n\n/**\n * Exposes the JavaScript [Promise
object](https://developer.mozilla.org/en/docs/Web/JavaScript/Reference/Global_Objects/Promise) to Kotlin.\n
*/\n\n@Suppress("NOT_DOCUMENTED")\npublic open external class Promise<out T>(executor: (resolve: (T) ->
Unit, reject: (Throwable) -> Unit) -> Unit) {\n @LowPriorityInOverloadResolution\n public open fun <S>
then(onFulfilled: ((T) -> S)?): Promise<S>\n\n @LowPriorityInOverloadResolution\n public open fun <S>
then(onFulfilled: ((T) -> S)?, onRejected: ((Throwable) -> S)?): Promise<S>\n\n public open fun <S>
catch(onRejected: (Throwable) -> S): Promise<S>\n\n companion object {\n public fun <S> all(promise:
Array<out Promise<S>>): Promise<Array<out S>>\n\n public fun <S> race(promise: Array<out
Promise<S>>): Promise<S>\n\n public fun reject(e: Throwable): Promise<Nothing>\n\n public fun <S>
resolve(e: S): Promise<S>\n\n public fun <S> resolve(e: Promise<S>): Promise<S>\n\n }\n}\n\n// It's workaround
for KT-19672 since we can fix it properly until KT-11265 isn't fixed.\n\ninline fun <T, S>
Promise<Promise<T>>.then(\n noinline onFulfilled: ((T) -> S)?\n): Promise<S> {\n return
this.unsafeCast<Promise<T>>().then(onFulfilled)\n}\n\ninline fun <T, S> Promise<Promise<T>>.then(\n noinline
onFulfilled: ((T) -> S)?,\n noinline onRejected: ((Throwable) -> S)?\n): Promise<S> {\n return
this.unsafeCast<Promise<T>>().then(onFulfilled, onRejected)\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n */\n\npackage kotlin.random\n\nimport kotlin.math.pow\n\ninternal actual fun defaultPlatformRandom():
Random =\n Random(js("Math.random() * Math.pow(2, 32) | 0").unsafeCast<Int>())\n\ninternal actual fun
fastLog2(value: Int): Int {\n // TODO: not so fast, make faster\n var v = value\n var log = -1\n while (v != 0)
{\n v = v.ushr(1)\n log++\n }\n return log\n}\n\nprivate val INV_2_26: Double = 2.0.pow(-26)\nprivate
val INV_2_53: Double = 2.0.pow(-53)\n\ninternal actual fun doubleFromParts(hi26: Int, low27: Int): Double =\n
hi26 * INV_2_26 + low27 * INV_2_53", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.js\n\nimport getKClass\n\nimport kotlin.reflect.KClass\n\nimport kotlin.reflect.js.internal.KClassImpl\n\n/**\n *
Represents the constructor of a class. Instances of `JsClass` can be passed to JavaScript APIs that expect a
constructor reference.\n */\n\nexternal interface JsClass<T : Any> {\n /**\n * Returns the unqualified name of the
class represented by this instance.\n */\n val name: String\n}\n\n@Deprecated("Use class literal and extension
property `js` instead.", replaceWith = ReplaceWith("T::class.js"), level = DeprecationLevel.ERROR)\n\nexternal
fun <T : Any> jsClass(): JsClass<T>\n\n@Deprecated("Use class literal and extension property `js` instead.",
replaceWith = ReplaceWith("this::class.js"), level = DeprecationLevel.ERROR)\n\nval <T : Any> T.jsClass:
JsClass<T>\n\n get() = when (jsTypeOf(this)) {\n "string" -> js("String")\n "number" ->
js("Number")\n "boolean" -> js("Boolean")\n else -> js("Object").getPrototypeOf(this).constructor\n
}\n\n/**\n * Obtains a constructor reference for the given `KClass`.\n */\n\nval <T : Any> KClass<T>.js:
JsClass<T>\n\n get() = (this as KClassImpl<T>).jClass\n\n/**\n * Obtains a `KClass` instance for the given
constructor reference.\n */\n\nval <T : Any> JsClass<T>.kotlin: KClass<T>\n\n get() = getKClass(this)\n", "/*\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport kotlin.reflect.*\n\ninternal
abstract class KClassImpl<T : Any>(\n internal open val jClass: JsClass<T>\n): KClass<T> {\n override val
annotations: List<Annotation>\n\n get() = TODO()\n\n override val constructors: Collection<KFunction<T>>\n\n
get() = TODO()\n\n override val isAbstract: Boolean\n\n get() = TODO()\n\n override val isCompanion:
Boolean\n\n get() = TODO()\n\n override val isData: Boolean\n\n get() = TODO()\n\n override val isFinal:
Boolean\n\n get() = TODO()\n\n override val isInner: Boolean\n\n get() = TODO()\n\n override val isOpen:
Boolean\n\n get() = TODO()\n\n override val isSealed: Boolean\n\n get() = TODO()\n\n override val members:
Collection<KCallable<*>>\n\n get() = TODO()\n\n override val nestedClasses: Collection<KClass<*>>\n\n
get() = TODO()\n\n override val objectInstance: T?\n\n get() = TODO()\n\n override val qualifiedName: String?\n
}

```

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    get() = TODO()\n    override val supertypes: List<KType>\n        get() = TODO()\n    override val
typeParameters: List<KTypeParameter>\n        get() = TODO()\n    override val sealedSubclasses: List<KClass<out
T>>\n        get() = TODO()\n    override val visibility: KVisibility?\n        get() = TODO()\n\n    override fun
equals(other: Any?): Boolean {\n        return other is KClassImpl<*> && jClass == other.jClass\n    }\n\n    //
TODO: use FQN\n    override fun hashCode(): Int = simpleName?.hashCode() ?: 0\n\n    override fun toString():
String {\n        // TODO: use FQN\n        return \"class $simpleName\"\n    }\n\n\ninternal class
SimpleKClassImpl<T : Any>(jClass: JsClass<T>) : KClassImpl<T>(jClass) {\n    override val simpleName: String?
= jClass.asDynamic().`$metadata$`.simpleName.unsafeCast<String?>()\n\n    override fun isInstance(value: Any?):
Boolean {\n        return jsIsType(value, jClass)\n    }\n\n\ninternal class PrimitiveKClassImpl<T : Any>(
jClass: JsClass<T>,\n    private val givenSimpleName: String,\n    private val isInstanceFunction: (Any?) ->
Boolean)\n    : KClassImpl<T>(jClass) {\n    override fun equals(other: Any?): Boolean {\n        if (other !is
PrimitiveKClassImpl<*>) return false\n        return super.equals(other) && givenSimpleName ==
other.givenSimpleName\n    }\n\n    override val simpleName: String? get() = givenSimpleName\n\n    override fun
isInstance(value: Any?): Boolean {\n        return isInstanceFunction(value)\n    }\n\n\ninternal object
NothingKClassImpl : KClassImpl<Nothing>(js(\"Object\")) {\n    override val simpleName: String =
\"Nothing\"\n\n    override fun isInstance(value: Any?): Boolean = false\n\n    override val jClass:
JsClass<Nothing>\n        get() = throw UnsupportedOperationException(\"There's no native JS class for Nothing
type\")\n\n    override fun equals(other: Any?): Boolean = other === this\n\n    override fun hashCode(): Int =
0\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n *
that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.reflect.js.internal\n\nimport
kotlin.js.JsClass\n\n@JsName(\"PrimitiveClasses\")\n\ninternal object PrimitiveClasses {\n\n    @JsName(\"anyClass\")\n    val anyClass = PrimitiveKClassImpl(js(\"Object\").unsafeCast<JsClass<Any>>(),
\"Any\", { it is Any })\n\n    @JsName(\"numberClass\")\n    val numberClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Number>>(), \"Number\", { it is Number })\n\n    @JsName(\"nothingClass\")\n    val nothingClass = NothingKClassImpl\n\n    @JsName(\"booleanClass\")\n    val booleanClass = PrimitiveKClassImpl(js(\"Boolean\").unsafeCast<JsClass<Boolean>>(), \"Boolean\", { it is Boolean
})\n\n    @JsName(\"byteClass\")\n    val byteClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Byte>>(), \"Byte\", { it is Byte })\n\n    @JsName(\"shortClass\")\n    val shortClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Short>>(),
\"Short\", { it is Short })\n\n    @JsName(\"intClass\")\n    val intClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Int>>(), \"Int\", { it is Int })\n\n    @JsName(\"floatClass\")\n    val floatClass = PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Float>>(),
\"Float\", { it is Float })\n\n    @JsName(\"doubleClass\")\n    val doubleClass =
PrimitiveKClassImpl(js(\"Number\").unsafeCast<JsClass<Double>>(), \"Double\", { it is Double })\n\n    @JsName(\"arrayClass\")\n    val arrayClass =
PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<Array<*>>>(), \"Array\", { it is Array<*> })\n\n    @JsName(\"stringClass\")\n    val stringClass = PrimitiveKClassImpl(js(\"String\").unsafeCast<JsClass<String>>(),
\"String\", { it is String })\n\n    @JsName(\"throwableClass\")\n    val throwableClass =
PrimitiveKClassImpl(js(\"Error\").unsafeCast<JsClass<Throwable>>(), \"Throwable\", { it is Throwable })\n\n    @JsName(\"booleanArrayClass\")\n    val booleanArrayClass =
PrimitiveKClassImpl(js(\"Array\").unsafeCast<JsClass<BooleanArray>>(), \"BooleanArray\", { it is BooleanArray
})\n\n    @JsName(\"charArrayClass\")\n    val charArrayClass =
PrimitiveKClassImpl(js(\"Uint16Array\").unsafeCast<JsClass<CharArray>>(), \"CharArray\", { it is CharArray
})\n\n    @JsName(\"byteArrayClass\")\n    val byteArrayClass =
PrimitiveKClassImpl(js(\"Int8Array\").unsafeCast<JsClass<ByteArray>>(), \"ByteArray\", { it is ByteArray })\n\n    @JsName(\"shortArrayClass\")\n    val shortArrayClass =
PrimitiveKClassImpl(js(\"Int16Array\").unsafeCast<JsClass<ShortArray>>(), \"ShortArray\", { it is ShortArray
})\n\n    @JsName(\"intArrayClass\")\n    val intArrayClass =

```



```

[http://www.w3schools.com/jsref/jsref_obj_regexp.asp](https://www.w3schools.com/jsref/jsref_obj_regexp.asp).\n
*\n * @constructor Creates a regular expression from the specified [pattern] string and the specified set of
[options].\n *\n\n public actual class Regex actual constructor(pattern: String, options: Set<RegexOption>) {\n\n /**
Creates a regular expression from the specified [pattern] string and the specified single [option]. *\n\n public actual
constructor(pattern: String, option: RegexOption) : this(pattern, setOf(option))\n\n /** Creates a regular expression
from the specified [pattern] string and the default options. *\n\n public actual constructor(pattern: String) :
this(pattern, emptySet())\n\n\n /** The pattern string of this regular expression. *\n\n public actual val pattern:
String = pattern\n\n /** The set of options that were used to create this regular expression. *\n\n public actual val
options: Set<RegexOption> = options.toSet()\n\n private val nativePattern: RegExp = RegExp(pattern, options.map
{ it.value }.joinToString(separator = "\\") + "g")\n\n /** Indicates whether the regular expression matches the
entire [input]. *\n\n public actual infix fun matches(input: CharSequence): Boolean {\n\n nativePattern.reset()\n
val match = nativePattern.exec(input.toString())\n\n return match != null && match.index == 0 &&
nativePattern.lastIndex == input.length\n\n }\n\n /** Indicates whether the regular expression can find at least one
match in the specified [input]. *\n\n public actual fun containsMatchIn(input: CharSequence): Boolean {\n\n
nativePattern.reset()\n\n return nativePattern.test(input.toString())\n\n }\n\n\n /** Returns the first match of a
regular expression in the [input], beginning at the specified [startIndex].\n\n *\n\n * @param startIndex An index to
start search with, by default 0. Must be not less than zero and not greater than `input.length()`\n\n * @return An
instance of [MatchResult] if match was found or `null` otherwise.\n\n *\n\n\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\n public actual fun find(input:
CharSequence, startIndex: Int = 0): MatchResult? = nativePattern.findNext(input.toString(), startIndex)\n\n\n /***\n
* Returns a sequence of all occurrences of a regular expression within the [input] string, beginning at the specified
[startIndex].\n\n *\n\n * @sample samples.text.Regexps.findAll\n\n *\n\n\n @Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\n public actual fun findAll(input:
CharSequence, startIndex: Int = 0): Sequence<MatchResult> =\n\n generateSequence({ find(input, startIndex) },
{ match -> match.next() })\n\n\n /***\n
* Attempts to match the entire [input] CharSequence against the pattern.\n\n *\n\n * @return An instance of [MatchResult] if the entire input matches or `null` otherwise.\n\n *\n\n\n public
actual fun matchEntire(input: CharSequence): MatchResult? {\n\n if (pattern.startsWith('^') &&
pattern.endsWith('$'))\n\n return find(input)\n\n else\n\n return
Regex("\\^${pattern.trimStart('^').trimEnd('$')}\\$", options).find(input)\n\n }\n\n\n /***\n
* Replaces all occurrences of this regular expression in the specified [input] string with specified [replacement] expression.\n\n *\n\n
* @param replacement A replacement expression that can include substitutions. See
[String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n\n *\n\n\n public
actual fun replace(input: CharSequence, replacement: String): String = input.toString().nativeReplace(nativePattern,
replacement)\n\n\n /***\n
* Replaces all occurrences of this regular expression in the specified [input] string with
the result of\n\n * the given function [transform] that takes [MatchResult] and returns a string to be used as a\n\n *
replacement for that match.\n\n *\n\n\n public actual inline fun replace(input: CharSequence, transform:
(MatchResult) -> CharSequence): String {\n\n var match = find(input)\n\n if (match == null) return
input.toString()\n\n var lastStart = 0\n\n val length = input.length\n\n val sb = StringBuilder(length)\n\n do {\n\n val foundMatch = match!!\n\n sb.append(input, lastStart, foundMatch.range.start)\n
sb.append(transform(foundMatch))\n\n lastStart = foundMatch.range.endInclusive + 1\n\n match =
foundMatch.next()\n\n } while (lastStart < length && match != null)\n\n if (lastStart < length) {\n\n
sb.append(input, lastStart, length)\n\n }\n\n\n return sb.toString()\n\n }\n\n\n /***\n
* Replaces the first occurrence of this regular expression in the specified [input] string with specified [replacement] expression.\n\n *\n\n
* @param replacement A replacement expression that can include substitutions. See
[String.prototype.replace](https://developer.mozilla.org/en-US/docs/Web/JavaScript/Reference/Global_Objects/String/replace) function docs for details.\n\n *\n\n\n public
actual fun replaceFirst(input: CharSequence, replacement: String): String {\n\n val nonGlobalOptions =

```



```

expressions that specifies the index at which to start the next match.\n    */\n    public var lastIndex: Int\n\n    public
val global: Boolean\n    public val ignoreCase: Boolean\n    public val multiline: Boolean\n}\n\n/**\n * Resets the
regular expression so that subsequent [RegExp.test] and [RegExp.exec] calls will match starting with the beginning
of the input string.\n */\npublic fun RegExp.reset() {\n    lastIndex = 0\n}\n\n// TODO: Inherit from array or
introduce asArray() extension\n/**\n * Represents the return value of [RegExp.exec].\n
*/\n@Suppress("NOT_DOCUMENTED")\npublic external interface RegExpMatch {\n    public val index: Int\n
public val input: String\n    public val length: Int\n}\n\n/**\n * Returns the entire text matched by [RegExp.exec] if
the [index] parameter is 0, or the text matched by the capturing parenthesis\n * at the given index.\n */\npublic inline
operator fun RegExpMatch.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Converts the result of
[RegExp.exec] to an array where the first element contains the entire matched text and each subsequent\n * element
is the text matched by each capturing parenthesis.\n */\npublic inline fun RegExpMatch.asArray(): Array<out
String?> = unsafeCast<Array<out String?>>()\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.sequences\n\ninternal actual class ConstrainedOnceSequence<T> actual constructor(sequence: Sequence<T>)\n
: Sequence<T> {\n    private var sequenceRef: Sequence<T>? = sequence\n\n    actual override fun iterator():
Iterator<T> {\n        val sequence = sequenceRef ?: throw IllegalStateException("This sequence can be consumed
only once.")\n        sequenceRef = null\n        return sequence.iterator()\n    }\n}\n", /*\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\nimport
kotlin.js.RegExp\n\n@kotlin.internal.InlineOnly\n\ninternal actual inline fun String.nativeIndexOf(ch: Char,
fromIndex: Int): Int = nativeIndexOf(ch.toString(), fromIndex)\n\n@kotlin.internal.InlineOnly\n\ninternal actual
inline fun String.nativeLastIndexOf(ch: Char, fromIndex: Int): Int = nativeLastIndexOf(ch.toString(),
fromIndex)\n\n/**\n * Returns `true` if this string starts with the specified prefix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeStartsWith(prefix, 0)\n    else\n        return regionMatches(0, prefix, 0, prefix.length, ignoreCase)\n}\n\n/**\n
* Returns `true` if a substring of this string starting at the specified offset [startIndex] starts with the specified prefix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.startsWith(prefix: String, startIndex: Int, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n
return nativeStartsWith(prefix, startIndex)\n    else\n        return regionMatches(startIndex, prefix, 0, prefix.length,
ignoreCase)\n}\n\n/**\n * Returns `true` if this string ends with the specified suffix.\n
*/\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic actual fun
String.endsWith(suffix: String, ignoreCase: Boolean = false): Boolean {\n    if (!ignoreCase)\n        return
nativeEndsWith(suffix)\n    else\n        return regionMatches(length - suffix.length, suffix, 0, suffix.length,
ignoreCase)\n}\n\npublic fun String.matches(regex: String): Boolean {\n    val result = this.match(regex)\n
return result != null && result.size != 0\n}\n\npublic actual fun CharSequence.isBlank(): Boolean = length == 0 || (if
(this is String) this else
this.toString()).matches("^[\\s\\x{0-9}]+\$")\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGU
MENTS")\n\npublic actual fun String?.equals(other: String?, ignoreCase: Boolean = false): Boolean =\n    if (this ==
null)\n        other == null\n    else if (!ignoreCase)\n        this == other\n    else\n        other != null &&
this.toLowerCase() ==
other.toLowerCase()\n}\n\n@Suppress("ACTUAL_FUNCTION_WITH_DEFAULT_ARGUMENTS")\n\npublic
actual fun CharSequence.regionMatches(thisOffset: Int, other: CharSequence, otherOffset: Int, length: Int,
ignoreCase: Boolean = false): Boolean =\n    regionMatchesImpl(thisOffset, other, otherOffset, length,
ignoreCase)\n\n/**\n * Returns a copy of this string having its first letter uppercased, or the original string,\n * if
it's empty or already starts with an upper case letter.\n */\n * @sample samples.text.Strings.capitalize\n */\n\npublic
actual fun String.capitalize(): String {\n    return if (isEmpty()) substring(0, 1).toUpperCase() + substring(1) else
this\n}\n\n/**\n * Returns a copy of this string having its first letter lowercased, or the original string,\n * if it's

```



```

org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\npublic
external interface WebGLContextAttributes {\n    var alpha: Boolean? /* = true */\n        get() = definedExternally\n
        set(value) = definedExternally\n    var depth: Boolean? /* = true */\n        get() = definedExternally\n
        set(value) = definedExternally\n    var stencil: Boolean? /* = false */\n        get() = definedExternally\n
        set(value) = definedExternally\n    var antialias: Boolean? /* = true */\n        get() = definedExternally\n
        set(value) = definedExternally\n    var premultipliedAlpha: Boolean? /* = true */\n        get() = definedExternally\n
        set(value) = definedExternally\n    var preserveDrawingBuffer: Boolean? /* = false */\n        get() =
        definedExternally\n        set(value) = definedExternally\n    var preferLowPowerToHighPerformance: Boolean? /* =
        false */\n        get() = definedExternally\n        set(value) = definedExternally\n    var failIfMajorPerformanceCaveat:
        Boolean? /* = false */\n        get() = definedExternally\n        set(value) =
        definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WebGLContextAttributes(alpha: Boolean? =
        true, depth: Boolean? = true, stencil: Boolean? = false, antialias: Boolean? = true, premultipliedAlpha: Boolean? =
        true, preserveDrawingBuffer: Boolean? = false, preferLowPowerToHighPerformance: Boolean? = false,
        failIfMajorPerformanceCaveat: Boolean? = false): WebGLContextAttributes {\n    val o = js("{}")\n\n    o["alpha"] = alpha\n    o["depth"] = depth\n    o["stencil"] = stencil\n    o["antialias"] = antialias\n
    o["premultipliedAlpha"] = premultipliedAlpha\n    o["preserveDrawingBuffer"] = preserveDrawingBuffer\n
    o["preferLowPowerToHighPerformance"] = preferLowPowerToHighPerformance\n
    o["failIfMajorPerformanceCaveat"] = failIfMajorPerformanceCaveat\n\n    return o\n}\n\npublic external abstract
class WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLBuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLBuffer) to Kotlin\n */\npublic external
abstract class WebGLBuffer : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLFramebuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLFramebuffer) to Kotlin\n */\npublic
external abstract class WebGLFramebuffer : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLProgram](https://developer.mozilla.org/en/docs/Web/API/WebGLProgram) to Kotlin\n */\npublic external
abstract class WebGLProgram : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLRenderbuffer](https://developer.mozilla.org/en/docs/Web/API/WebGLRenderbuffer) to Kotlin\n */\npublic
external abstract class WebGLRenderbuffer : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLShader](https://developer.mozilla.org/en/docs/Web/API/WebGLShader) to Kotlin\n */\npublic external
abstract class WebGLShader : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLTexture](https://developer.mozilla.org/en/docs/Web/API/WebGLTexture) to Kotlin\n */\npublic external
abstract class WebGLTexture : WebGLObject {\n}\n\n/**\n * Exposes the JavaScript
[WebGLUniformLocation](https://developer.mozilla.org/en/docs/Web/API/WebGLUniformLocation) to Kotlin\n
*/\npublic external abstract class WebGLUniformLocation {\n}\n\n/**\n * Exposes the JavaScript
[WebGLActiveInfo](https://developer.mozilla.org/en/docs/Web/API/WebGLActiveInfo) to Kotlin\n */\npublic
external abstract class WebGLActiveInfo {\n    open val size: Int\n    open val type: Int\n    open val name:
String\n}\n\n/**\n * Exposes the JavaScript
[WebGLShaderPrecisionFormat](https://developer.mozilla.org/en/docs/Web/API/WebGLShaderPrecisionFormat) to
Kotlin\n */\npublic external abstract class WebGLShaderPrecisionFormat {\n    open val rangeMin: Int\n    open val
rangeMax: Int\n    open val precision: Int\n}\n\npublic external interface WebGLRenderingContextBase {\n    val
canvas: HTMLCanvasElement\n    val drawingBufferWidth: Int\n    val drawingBufferHeight: Int\n    fun
getContextAttributes(): WebGLContextAttributes?\n    fun isContextLost(): Boolean\n    fun
getSupportedExtensions(): Array<String>?\n    fun getExtension(name: String): dynamic\n    fun
activeTexture(texture: Int): Unit\n    fun attachShader(program: WebGLProgram?, shader: WebGLShader?): Unit\n
    fun bindAttribLocation(program: WebGLProgram?, index: Int, name: String): Unit\n    fun bindBuffer(target: Int,
buffer: WebGLBuffer?): Unit\n    fun bindFramebuffer(target: Int, framebuffer: WebGLFramebuffer?): Unit\n    fun

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bindRenderbuffer(target: Int, renderbuffer: WebGLRenderbuffer?): Unit\n
 fun bindTexture(target: Int, texture: WebGLTexture?): Unit\n
 fun blendColor(red: Float, green: Float, blue: Float, alpha: Float): Unit\n
 fun blendEquation(mode: Int): Unit\n
 fun blendEquationSeparate(modeRGB: Int, modeAlpha: Int): Unit\n
 fun blendFunc(sfactor: Int, dfactor: Int): Unit\n
 fun blendFuncSeparate(srcRGB: Int, dstRGB: Int, srcAlpha: Int, dstAlpha: Int): Unit\n
 fun bufferData(target: Int, size: Int, usage: Int): Unit\n
 fun bufferData(target: Int, data: BufferDataSource?, usage: Int): Unit\n
 fun bufferSubData(target: Int, offset: Int, data: BufferDataSource?): Unit\n
 fun checkFramebufferStatus(target: Int): Int\n
 fun clear(mask: Int): Unit\n
 fun clearColor(red: Float, green: Float, blue: Float, alpha: Float): Unit\n
 fun clearDepth(depth: Float): Unit\n
 fun clearStencil(s: Int): Unit\n
 fun colorMask(red: Boolean, green: Boolean, blue: Boolean, alpha: Boolean): Unit\n
 fun compileShader(shader: WebGLShader?): Unit\n
 fun compressedTexImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, data: ArrayBufferView): Unit\n
 fun compressedTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, width: Int, height: Int, format: Int, data: ArrayBufferView): Unit\n
 fun copyTexImage2D(target: Int, level: Int, internalformat: Int, x: Int, y: Int, width: Int, height: Int, border: Int): Unit\n
 fun copyTexSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, x: Int, y: Int, width: Int, height: Int): Unit\n
 fun createBuffer(): WebGLBuffer?\n
 fun createFramebuffer(): WebGLFramebuffer?\n
 fun createProgram(): WebGLProgram?\n
 fun createRenderbuffer(): WebGLRenderbuffer?\n
 fun createShader(type: Int): WebGLShader?\n
 fun createTexture(): WebGLTexture?\n
 fun cullFace(mode: Int): Unit\n
 fun deleteBuffer(buffer: WebGLBuffer?): Unit\n
 fun deleteFramebuffer(framebuffer: WebGLFramebuffer?): Unit\n
 fun deleteProgram(program: WebGLProgram?): Unit\n
 fun deleteRenderbuffer(renderbuffer: WebGLRenderbuffer?): Unit\n
 fun deleteShader(shader: WebGLShader?): Unit\n
 fun deleteTexture(texture: WebGLTexture?): Unit\n
 fun depthFunc(func: Int): Unit\n
 fun depthMask(flag: Boolean): Unit\n
 fun depthRange(zNear: Float, zFar: Float): Unit\n
 fun detachShader(program: WebGLProgram?, shader: WebGLShader?): Unit\n
 fun disable(cap: Int): Unit\n
 fun disableVertexAttribArray(index: Int): Unit\n
 fun drawArrays(mode: Int, first: Int, count: Int): Unit\n
 fun drawElements(mode: Int, count: Int, type: Int, offset: Int): Unit\n
 fun enable(cap: Int): Unit\n
 fun enableVertexAttribArray(index: Int): Unit\n
 fun finish(): Unit\n
 fun flush(): Unit\n
 fun framebufferRenderbuffer(target: Int, attachment: Int, renderbuffertarget: Int, renderbuffer: WebGLRenderbuffer?): Unit\n
 fun framebufferTexture2D(target: Int, attachment: Int, textarget: Int, texture: WebGLTexture?, level: Int): Unit\n
 fun frontFace(mode: Int): Unit\n
 fun generateMipmap(target: Int): Unit\n
 fun getActiveAttrib(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n
 fun getActiveUniform(program: WebGLProgram?, index: Int): WebGLActiveInfo?\n
 fun getAttachedShaders(program: WebGLProgram?): Array<WebGLShader>?\n
 fun getAttribLocation(program: WebGLProgram?, name: String): Int\n
 fun getBufferParameter(target: Int, pname: Int): Any?\n
 fun getParameter(pname: Int): Any?\n
 fun getError(): Int\n
 fun getFramebufferAttachmentParameter(target: Int, attachment: Int, pname: Int): Any?\n
 fun getProgramParameter(program: WebGLProgram?, pname: Int): Any?\n
 fun getProgramInfoLog(program: WebGLProgram?): String?\n
 fun getRenderbufferParameter(target: Int, pname: Int): Any?\n
 fun getShaderParameter(shader: WebGLShader?, pname: Int): Any?\n
 fun getShaderPrecisionFormat(shadertype: Int, precisiontype: Int): WebGLShaderPrecisionFormat?\n
 fun getShaderInfoLog(shader: WebGLShader?): String?\n
 fun getShaderSource(shader: WebGLShader?): String?\n
 fun getTexParameter(target: Int, pname: Int): Any?\n
 fun getUniform(program: WebGLProgram?, location: WebGLUniformLocation?): Any?\n
 fun getUniformLocation(program: WebGLProgram?, name: String): WebGLUniformLocation?\n
 fun getVertexAttrib(index: Int, pname: Int): Any?\n
 fun getVertexAttribOffset(index: Int, pname: Int): Int\n
 fun hint(target: Int, mode: Int): Unit\n
 fun isBuffer(buffer: WebGLBuffer?): Boolean\n
 fun isEnabled(cap: Int): Boolean\n
 fun isFramebuffer(framebuffer: WebGLFramebuffer?): Boolean\n
 fun isProgram(program: WebGLProgram?): Boolean\n
 fun isRenderbuffer(renderbuffer: WebGLRenderbuffer?): Boolean\n
 fun isShader(shader: WebGLShader?): Boolean\n
 fun isTexture(texture: WebGLTexture?): Boolean\n
 fun lineWidth(width: Float): Unit\n
 fun linkProgram(program: WebGLProgram?): Unit\n
 fun pixelStorei(pname: Int, param: Int): Unit\n
 fun polygonOffset(factor: Float, units: Float): Unit\n
 fun readPixels(x: Int, y: Int, width: Int, height: Int, format: Int,

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type: Int, pixels: ArrayBufferView?): Unit\n  fun renderbufferStorage(target: Int, internalformat: Int, width: Int,
height: Int): Unit\n  fun sampleCoverage(value: Float, invert: Boolean): Unit\n  fun scissor(x: Int, y: Int, width:
Int, height: Int): Unit\n  fun shaderSource(shader: WebGLShader?, source: String): Unit\n  fun stencilFunc(func:
Int, ref: Int, mask: Int): Unit\n  fun stencilFuncSeparate(face: Int, func: Int, ref: Int, mask: Int): Unit\n  fun
stencilMask(mask: Int): Unit\n  fun stencilMaskSeparate(face: Int, mask: Int): Unit\n  fun stencilOp(fail: Int, zfail:
Int, zpass: Int): Unit\n  fun stencilOpSeparate(face: Int, fail: Int, zfail: Int, zpass: Int): Unit\n  fun
texImage2D(target: Int, level: Int, internalformat: Int, width: Int, height: Int, border: Int, format: Int, type: Int, pixels:
ArrayBufferView?): Unit\n  fun texImage2D(target: Int, level: Int, internalformat: Int, format: Int, type: Int, source:
TexImageSource?): Unit\n  fun texParameterf(target: Int, pname: Int, param: Float): Unit\n  fun
texParameteri(target: Int, pname: Int, param: Int): Unit\n  fun texSubImage2D(target: Int, level: Int, xoffset: Int,
yoffset: Int, width: Int, height: Int, format: Int, type: Int, pixels: ArrayBufferView?): Unit\n  fun
texSubImage2D(target: Int, level: Int, xoffset: Int, yoffset: Int, format: Int, type: Int, source: TexImageSource?):
Unit\n  fun uniform1f(location: WebGLUniformLocation?, x: Float): Unit\n  fun uniform1fv(location:
WebGLUniformLocation?, v: Float32Array): Unit\n  fun uniform1fv(location: WebGLUniformLocation?, v:
Array<Float>): Unit\n  fun uniform1i(location: WebGLUniformLocation?, x: Int): Unit\n  fun
uniform1iv(location: WebGLUniformLocation?, v: Int32Array): Unit\n  fun uniform1iv(location:
WebGLUniformLocation?, v: Array<Int>): Unit\n  fun uniform2f(location: WebGLUniformLocation?, x: Float, y:
Float): Unit\n  fun uniform2fv(location: WebGLUniformLocation?, v: Float32Array): Unit\n  fun
uniform2fv(location: WebGLUniformLocation?, v: Array<Float>): Unit\n  fun uniform2i(location:
WebGLUniformLocation?, x: Int, y: Int): Unit\n  fun uniform2iv(location: WebGLUniformLocation?, v:
Int32Array): Unit\n  fun uniform2iv(location: WebGLUniformLocation?, v: Array<Int>): Unit\n  fun
uniform3f(location: WebGLUniformLocation?, x: Float, y: Float, z: Float): Unit\n  fun uniform3fv(location:
WebGLUniformLocation?, v: Float32Array): Unit\n  fun uniform3fv(location: WebGLUniformLocation?, v:
Array<Float>): Unit\n  fun uniform3i(location: WebGLUniformLocation?, x: Int, y: Int, z: Int): Unit\n  fun
uniform3iv(location: WebGLUniformLocation?, v: Int32Array): Unit\n  fun uniform3iv(location:
WebGLUniformLocation?, v: Array<Int>): Unit\n  fun uniform4f(location: WebGLUniformLocation?, x: Float, y:
Float, z: Float, w: Float): Unit\n  fun uniform4fv(location: WebGLUniformLocation?, v: Float32Array): Unit\n
fun uniform4fv(location: WebGLUniformLocation?, v: Array<Float>): Unit\n  fun uniform4i(location:
WebGLUniformLocation?, x: Int, y: Int, z: Int, w: Int): Unit\n  fun uniform4iv(location:
WebGLUniformLocation?, v: Int32Array): Unit\n  fun uniform4iv(location: WebGLUniformLocation?, v:
Array<Int>): Unit\n  fun uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Float32Array): Unit\n  fun uniformMatrix2fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Array<Float>): Unit\n  fun uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Float32Array): Unit\n  fun uniformMatrix3fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Array<Float>): Unit\n  fun uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Float32Array): Unit\n  fun uniformMatrix4fv(location: WebGLUniformLocation?, transpose: Boolean, value:
Array<Float>): Unit\n  fun useProgram(program: WebGLProgram?): Unit\n  fun validateProgram(program:
WebGLProgram?): Unit\n  fun vertexAttrib1f(index: Int, x: Float): Unit\n  fun vertexAttrib1fv(index: Int, values:
dynamic): Unit\n  fun vertexAttrib2f(index: Int, x: Float, y: Float): Unit\n  fun vertexAttrib2fv(index: Int, values:
dynamic): Unit\n  fun vertexAttrib3f(index: Int, x: Float, y: Float, z: Float): Unit\n  fun vertexAttrib3fv(index: Int,
values: dynamic): Unit\n  fun vertexAttrib4f(index: Int, x: Float, y: Float, z: Float, w: Float): Unit\n  fun
vertexAttrib4fv(index: Int, values: dynamic): Unit\n  fun vertexAttribPointer(index: Int, size: Int, type: Int,
normalized: Boolean, stride: Int, offset: Int): Unit\n  fun viewport(x: Int, y: Int, width: Int, height: Int): Unit\n\n
companion object {\n  val DEPTH_BUFFER_BIT: Int\n  val STENCIL_BUFFER_BIT: Int\n  val
COLOR_BUFFER_BIT: Int\n  val POINTS: Int\n  val LINES: Int\n  val LINE_LOOP: Int\n  val
LINE_STRIP: Int\n  val TRIANGLES: Int\n  val TRIANGLE_STRIP: Int\n  val TRIANGLE_FAN:
Int\n  val ZERO: Int\n  val ONE: Int\n  val SRC_COLOR: Int\n  val ONE_MINUS_SRC_COLOR:
Int\n  val SRC_ALPHA: Int\n  val ONE_MINUS_SRC_ALPHA: Int\n  val DST_ALPHA: Int\n  val

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ONE_MINUS_DST_ALPHA: Int\n val DST_COLOR: Int\n val ONE_MINUS_DST_COLOR: Int\n
 val SRC_ALPHA_SATURATE: Int\n val FUNC_ADD: Int\n val BLEND_EQUATION: Int\n val
 BLEND_EQUATION_RGB: Int\n val BLEND_EQUATION_ALPHA: Int\n val FUNC_SUBTRACT:
 Int\n val FUNC_REVERSE_SUBTRACT: Int\n val BLEND_DST_RGB: Int\n val
 BLEND_SRC_RGB: Int\n val BLEND_DST_ALPHA: Int\n val BLEND_SRC_ALPHA: Int\n val
 CONSTANT_COLOR: Int\n val ONE_MINUS_CONSTANT_COLOR: Int\n val CONSTANT_ALPHA:
 Int\n val ONE_MINUS_CONSTANT_ALPHA: Int\n val BLEND_COLOR: Int\n val
 ARRAY_BUFFER: Int\n val ELEMENT_ARRAY_BUFFER: Int\n val ARRAY_BUFFER_BINDING:
 Int\n val ELEMENT_ARRAY_BUFFER_BINDING: Int\n val STREAM_DRAW: Int\n val
 STATIC_DRAW: Int\n val DYNAMIC_DRAW: Int\n val BUFFER_SIZE: Int\n val
 BUFFER_USAGE: Int\n val CURRENT_VERTEX_ATTRIB: Int\n val FRONT: Int\n val BACK:
 Int\n val FRONT_AND_BACK: Int\n val CULL_FACE: Int\n val BLEND: Int\n val DITHER:
 Int\n val STENCIL_TEST: Int\n val DEPTH_TEST: Int\n val SCISSOR_TEST: Int\n val
 POLYGON_OFFSET_FILL: Int\n val SAMPLE_ALPHA_TO_COVERAGE: Int\n val
 SAMPLE_COVERAGE: Int\n val NO_ERROR: Int\n val INVALID_ENUM: Int\n val
 INVALID_VALUE: Int\n val INVALID_OPERATION: Int\n val OUT_OF_MEMORY: Int\n val CW:
 Int\n val CCW: Int\n val LINE_WIDTH: Int\n val ALIASED_POINT_SIZE_RANGE: Int\n val
 ALIASED_LINE_WIDTH_RANGE: Int\n val CULL_FACE_MODE: Int\n val FRONT_FACE: Int\n
 val DEPTH_RANGE: Int\n val DEPTH_WRITEMASK: Int\n val DEPTH_CLEAR_VALUE: Int\n val
 DEPTH_FUNC: Int\n val STENCIL_CLEAR_VALUE: Int\n val STENCIL_FUNC: Int\n val
 STENCIL_FAIL: Int\n val STENCIL_PASS_DEPTH_FAIL: Int\n val STENCIL_PASS_DEPTH_PASS:
 Int\n val STENCIL_REF: Int\n val STENCIL_VALUE_MASK: Int\n val STENCIL_WRITEMASK:
 Int\n val STENCIL_BACK_FUNC: Int\n val STENCIL_BACK_FAIL: Int\n val
 STENCIL_BACK_PASS_DEPTH_FAIL: Int\n val STENCIL_BACK_PASS_DEPTH_PASS: Int\n val
 STENCIL_BACK_REF: Int\n val STENCIL_BACK_VALUE_MASK: Int\n val
 STENCIL_BACK_WRITEMASK: Int\n val VIEWPORT: Int\n val SCISSOR_BOX: Int\n val
 COLOR_CLEAR_VALUE: Int\n val COLOR_WRITEMASK: Int\n val UNPACK_ALIGNMENT: Int\n
 val PACK_ALIGNMENT: Int\n val MAX_TEXTURE_SIZE: Int\n val MAX_VIEWPORT_DIMS: Int\n
 val SUBPIXEL_BITS: Int\n val RED_BITS: Int\n val GREEN_BITS: Int\n val BLUE_BITS: Int\n
 val ALPHA_BITS: Int\n val DEPTH_BITS: Int\n val STENCIL_BITS: Int\n val
 POLYGON_OFFSET_UNITS: Int\n val POLYGON_OFFSET_FACTOR: Int\n val
 TEXTURE_BINDING_2D: Int\n val SAMPLE_BUFFERS: Int\n val SAMPLES: Int\n val
 SAMPLE_COVERAGE_VALUE: Int\n val SAMPLE_COVERAGE_INVERT: Int\n val
 COMPRESSED_TEXTURE_FORMATS: Int\n val DONT_CARE: Int\n val FASTEST: Int\n val
 NICEST: Int\n val GENERATE_MIPMAP_HINT: Int\n val BYTE: Int\n val UNSIGNED_BYTE:
 Int\n val SHORT: Int\n val UNSIGNED_SHORT: Int\n val INT: Int\n val UNSIGNED_INT: Int\n
 val FLOAT: Int\n val DEPTH_COMPONENT: Int\n val ALPHA: Int\n val RGB: Int\n val
 RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val
 UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val
 UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n
 val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val
 MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS:
 Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n
 val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val
 SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n

val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n
 val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:
 Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val
 NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
 TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
 val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
 TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val
 MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val
 TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val
 TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val
 TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val
 TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n
 val CLAMP_TO_EDGE: Int\n val MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val
 FLOAT_VEC3: Int\n val FLOAT_VEC4: Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val
 INT_VEC4: Int\n val BOOL: Int\n val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val
 BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n
 val SAMPLER_2D: Int\n val SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED:
 Int\n val VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n
 val VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n
 val VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING:
 Int\n val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val
 IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val
 LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n
 val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:
 Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16:
 Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL: Int\n val
 RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val
 RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val
 RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val
 RENDERBUFFER_ALPHA_SIZE: Int\n val RENDERBUFFER_DEPTH_SIZE: Int\n val
 RENDERBUFFER_STENCIL_SIZE: Int\n val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
 val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n val
 FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n val
 FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n val COLOR_ATTACHMENT0:
 Int\n val DEPTH_ATTACHMENT: Int\n val STENCIL_ATTACHMENT: Int\n val
 DEPTH_STENCIL_ATTACHMENT: Int\n val NONE: Int\n val FRAMEBUFFER_COMPLETE: Int\n
 val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n val
 FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n val
 FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n val FRAMEBUFFER_UNSUPPORTED: Int\n
 val FRAMEBUFFER_BINDING: Int\n val RENDERBUFFER_BINDING: Int\n val

RGBA: Int\n val LUMINANCE: Int\n val LUMINANCE_ALPHA: Int\n val
 UNSIGNED_SHORT_4_4_4_4: Int\n val UNSIGNED_SHORT_5_5_5_1: Int\n val
 UNSIGNED_SHORT_5_6_5: Int\n val FRAGMENT_SHADER: Int\n val VERTEX_SHADER: Int\n
 val MAX_VERTEX_ATTRIBS: Int\n val MAX_VERTEX_UNIFORM_VECTORS: Int\n val
 MAX_VARYING_VECTORS: Int\n val MAX_COMBINED_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_VERTEX_TEXTURE_IMAGE_UNITS: Int\n val MAX_TEXTURE_IMAGE_UNITS: Int\n val
 MAX_FRAGMENT_UNIFORM_VECTORS: Int\n val SHADER_TYPE: Int\n val DELETE_STATUS:
 Int\n val LINK_STATUS: Int\n val VALIDATE_STATUS: Int\n val ATTACHED_SHADERS: Int\n
 val ACTIVE_UNIFORMS: Int\n val ACTIVE_ATTRIBUTES: Int\n val
 SHADING_LANGUAGE_VERSION: Int\n val CURRENT_PROGRAM: Int\n val NEVER: Int\n val
 LESS: Int\n val EQUAL: Int\n val LEQUAL: Int\n val GREATER: Int\n val NOTEQUAL: Int\n
 val GEQUAL: Int\n val ALWAYS: Int\n val KEEP: Int\n val REPLACE: Int\n val INCR: Int\n
 val DECR: Int\n val INVERT: Int\n val INCR_WRAP: Int\n val DECR_WRAP: Int\n val
 VENDOR: Int\n val RENDERER: Int\n val VERSION: Int\n val NEAREST: Int\n val LINEAR:
 Int\n val NEAREST_MIPMAP_NEAREST: Int\n val LINEAR_MIPMAP_NEAREST: Int\n val
 NEAREST_MIPMAP_LINEAR: Int\n val LINEAR_MIPMAP_LINEAR: Int\n val
 TEXTURE_MAG_FILTER: Int\n val TEXTURE_MIN_FILTER: Int\n val TEXTURE_WRAP_S: Int\n
 val TEXTURE_WRAP_T: Int\n val TEXTURE_2D: Int\n val TEXTURE: Int\n val
 TEXTURE_CUBE_MAP: Int\n val TEXTURE_BINDING_CUBE_MAP: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_X: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_X: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Y: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Y: Int\n val
 TEXTURE_CUBE_MAP_POSITIVE_Z: Int\n val TEXTURE_CUBE_MAP_NEGATIVE_Z: Int\n val
 MAX_CUBE_MAP_TEXTURE_SIZE: Int\n val TEXTURE0: Int\n val TEXTURE1: Int\n val
 TEXTURE2: Int\n val TEXTURE3: Int\n val TEXTURE4: Int\n val TEXTURE5: Int\n val
 TEXTURE6: Int\n val TEXTURE7: Int\n val TEXTURE8: Int\n val TEXTURE9: Int\n val
 TEXTURE10: Int\n val TEXTURE11: Int\n val TEXTURE12: Int\n val TEXTURE13: Int\n val
 TEXTURE14: Int\n val TEXTURE15: Int\n val TEXTURE16: Int\n val TEXTURE17: Int\n val
 TEXTURE18: Int\n val TEXTURE19: Int\n val TEXTURE20: Int\n val TEXTURE21: Int\n val
 TEXTURE22: Int\n val TEXTURE23: Int\n val TEXTURE24: Int\n val TEXTURE25: Int\n val
 TEXTURE26: Int\n val TEXTURE27: Int\n val TEXTURE28: Int\n val TEXTURE29: Int\n val
 TEXTURE30: Int\n val TEXTURE31: Int\n val ACTIVE_TEXTURE: Int\n val REPEAT: Int\n
 val CLAMP_TO_EDGE: Int\n val MIRRORED_REPEAT: Int\n val FLOAT_VEC2: Int\n val
 FLOAT_VEC3: Int\n val FLOAT_VEC4: Int\n val INT_VEC2: Int\n val INT_VEC3: Int\n val
 INT_VEC4: Int\n val BOOL: Int\n val BOOL_VEC2: Int\n val BOOL_VEC3: Int\n val
 BOOL_VEC4: Int\n val FLOAT_MAT2: Int\n val FLOAT_MAT3: Int\n val FLOAT_MAT4: Int\n
 val SAMPLER_2D: Int\n val SAMPLER_CUBE: Int\n val VERTEX_ATTRIB_ARRAY_ENABLED:
 Int\n val VERTEX_ATTRIB_ARRAY_SIZE: Int\n val VERTEX_ATTRIB_ARRAY_STRIDE: Int\n
 val VERTEX_ATTRIB_ARRAY_TYPE: Int\n val VERTEX_ATTRIB_ARRAY_NORMALIZED: Int\n
 val VERTEX_ATTRIB_ARRAY_POINTER: Int\n val VERTEX_ATTRIB_ARRAY_BUFFER_BINDING:
 Int\n val IMPLEMENTATION_COLOR_READ_TYPE: Int\n val
 IMPLEMENTATION_COLOR_READ_FORMAT: Int\n val COMPILE_STATUS: Int\n val
 LOW_FLOAT: Int\n val MEDIUM_FLOAT: Int\n val HIGH_FLOAT: Int\n val LOW_INT: Int\n
 val MEDIUM_INT: Int\n val HIGH_INT: Int\n val FRAMEBUFFER: Int\n val RENDERBUFFER:
 Int\n val RGBA4: Int\n val RGB5_A1: Int\n val RGB565: Int\n val DEPTH_COMPONENT16:
 Int\n val STENCIL_INDEX: Int\n val STENCIL_INDEX8: Int\n val DEPTH_STENCIL: Int\n val
 RENDERBUFFER_WIDTH: Int\n val RENDERBUFFER_HEIGHT: Int\n val
 RENDERBUFFER_INTERNAL_FORMAT: Int\n val RENDERBUFFER_RED_SIZE: Int\n val
 RENDERBUFFER_GREEN_SIZE: Int\n val RENDERBUFFER_BLUE_SIZE: Int\n val

```

RENDERBUFFER_ALPHA_SIZE: Int\n    val RENDERBUFFER_DEPTH_SIZE: Int\n    val
RENDERBUFFER_STENCIL_SIZE: Int\n    val FRAMEBUFFER_ATTACHMENT_OBJECT_TYPE: Int\n
val FRAMEBUFFER_ATTACHMENT_OBJECT_NAME: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_LEVEL: Int\n    val
FRAMEBUFFER_ATTACHMENT_TEXTURE_CUBE_MAP_FACE: Int\n    val COLOR_ATTACHMENT0:
Int\n    val DEPTH_ATTACHMENT: Int\n    val STENCIL_ATTACHMENT: Int\n    val
DEPTH_STENCIL_ATTACHMENT: Int\n    val NONE: Int\n    val FRAMEBUFFER_COMPLETE: Int\n
val FRAMEBUFFER_INCOMPLETE_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_MISSING_ATTACHMENT: Int\n    val
FRAMEBUFFER_INCOMPLETE_DIMENSIONS: Int\n    val FRAMEBUFFER_UNSUPPORTED: Int\n
val FRAMEBUFFER_BINDING: Int\n    val RENDERBUFFER_BINDING: Int\n    val
MAX_RENDERBUFFER_SIZE: Int\n    val INVALID_FRAMEBUFFER_OPERATION: Int\n    val
UNPACK_FLIP_Y_WEBGL: Int\n    val UNPACK_PREMULTIPLY_ALPHA_WEBGL: Int\n    val
CONTEXT_LOST_WEBGL: Int\n    val UNPACK_COLORSPACE_CONVERSION_WEBGL: Int\n    val
BROWSER_DEFAULT_WEBGL: Int\n    }\n}\n\n/**\n * Exposes the JavaScript
[WebGLContextEvent](https://developer.mozilla.org/en/docs/Web/API/WebGLContextEvent) to Kotlin\n
*/\npublic external open class WebGLContextEvent(type: String, eventInit: WebGLContextEventInit =
definedExternally) : Event {\n    open val statusMessage: String\n}\n\npublic external interface
WebGLContextEventInit : EventInit {\n    var statusMessage: String? /* = \"\" */\n    get() = definedExternally\n
    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
WebGLContextEventInit(statusMessage: String? = \"\", bubbles: Boolean? = false, cancelable: Boolean? = false,
composed: Boolean? = false): WebGLContextEventInit {\n    val o = js(\"({})\")\n    o[\"statusMessage\"] =
statusMessage\n    o[\"bubbles\"] = bubbles\n    o[\"cancelable\"] = cancelable\n    o[\"composed\"] = composed\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ArrayBuffer](https://developer.mozilla.org/en/docs/Web/API/ArrayBuffer) to Kotlin\n
*/\npublic external open
class ArrayBuffer(length: Int) : BufferDataSource {\n    open val byteLength: Int\n    fun slice(begin: Int, end: Int =
definedExternally): ArrayBuffer\n\n    companion object {\n        fun isView(value: Any?): Boolean\n
    }\n}\n\n/**\n * Exposes the JavaScript
[ArrayBufferView](https://developer.mozilla.org/en/docs/Web/API/ArrayBufferView) to Kotlin\n
*/\npublic
external interface ArrayBufferView : BufferDataSource {\n    val buffer: ArrayBuffer\n    val byteOffset: Int\n    val
byteLength: Int\n}\n\n/**\n * Exposes the JavaScript
[Int8Array](https://developer.mozilla.org/en/docs/Web/API/Int8Array) to Kotlin\n
*/\npublic external open class
Int8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Int8Array)\n    constructor(array:
Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int =
definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset: Int\n
override val byteLength: Int\n    fun set(array: Int8Array, offset: Int = definedExternally): Unit\n    fun set(array:
Array<Byte>, offset: Int = definedExternally): Unit\n    fun subarray(start: Int, end: Int): Int8Array\n\n    companion
object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@kotlin.internal.InlineOnly inline operator fun
Int8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun
Int8Array.set(index: Int, value: Byte): Unit { asDynamic()[index] = value; }\n\n/**\n * Exposes the JavaScript
[Uint8Array](https://developer.mozilla.org/en/docs/Web/API/Uint8Array) to Kotlin\n
*/\npublic external open class
Uint8Array : ArrayBufferView {\n    constructor(length: Int)\n    constructor(array: Uint8Array)\n
constructor(array: Array<Byte>)\n    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length:
Int = definedExternally)\n    open val length: Int\n    override val buffer: ArrayBuffer\n    override val byteOffset:
Int\n    override val byteLength: Int\n    fun set(array: Uint8Array, offset: Int = definedExternally): Unit\n    fun
set(array: Array<Byte>, offset: Int = definedExternally): Unit\n    fun subarray(start: Int, end: Int): Uint8Array\n\n
companion object {\n        val BYTES_PER_ELEMENT: Int\n    }\n}\n\n@kotlin.internal.InlineOnly inline operator
fun Uint8Array.get(index: Int): Byte = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun

```

```

    Uint8Array.set(index: Int, value: Byte): Unit { asDynamic()[index] = value; }
}

/** Exposes the JavaScript [Uint8ClampedArray](https://developer.mozilla.org/en/docs/Web/API/Uint8ClampedArray) to Kotlin
public external open class Uint8ClampedArray : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Uint8ClampedArray)
    constructor(array: Array<Byte>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Uint8ClampedArray, offset: Int = definedExternally): Unit
    fun set(array: Array<Byte>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Uint8ClampedArray

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}

@kotlin.internal.InlineOnly inline operator fun Uint8ClampedArray.get(index: Int): Byte = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Uint8ClampedArray.set(index: Int, value: Byte): Unit { asDynamic()[index] = value; }

/** Exposes the JavaScript [Int16Array](https://developer.mozilla.org/en/docs/Web/API/Int16Array) to Kotlin
public external open class Int16Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Int16Array)
    constructor(array: Array<Short>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Int16Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Short>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Int16Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}

@kotlin.internal.InlineOnly inline operator fun Int16Array.get(index: Int): Short = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Int16Array.set(index: Int, value: Short): Unit { asDynamic()[index] = value; }

/** Exposes the JavaScript [Uint16Array](https://developer.mozilla.org/en/docs/Web/API/Uint16Array) to Kotlin
public external open class Uint16Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Uint16Array)
    constructor(array: Array<Short>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Uint16Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Short>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Uint16Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}

@kotlin.internal.InlineOnly inline operator fun Uint16Array.get(index: Int): Short = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Uint16Array.set(index: Int, value: Short): Unit { asDynamic()[index] = value; }

/** Exposes the JavaScript [Int32Array](https://developer.mozilla.org/en/docs/Web/API/Int32Array) to Kotlin
public external open class Int32Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Int32Array)
    constructor(array: Array<Int>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Int32Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Int>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Int32Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}

@kotlin.internal.InlineOnly inline operator fun Int32Array.get(index: Int): Int = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Int32Array.set(index: Int, value: Int): Unit { asDynamic()[index] = value; }

/** Exposes the JavaScript [Uint32Array](https://developer.mozilla.org/en/docs/Web/API/Uint32Array) to Kotlin
public external open class Uint32Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Uint32Array)
    constructor(array: Array<Int>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Uint32Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Int>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Uint32Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}

@kotlin.internal.InlineOnly inline operator fun Uint32Array.get(index: Int): Int = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Uint32Array.set(index: Int, value: Int): Unit { asDynamic()[index] = value; }

/** Exposes the JavaScript [Float32Array](https://developer.mozilla.org/en/docs/Web/API/Float32Array) to Kotlin
public external open

```

```

class Float32Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Float32Array)
    constructor(array: Array<Float>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Float32Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Float>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Float32Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}
@kotlin.internal.InlineOnly inline operator fun Float32Array.get(index: Int): Float = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Float32Array.set(index: Int, value: Float): Unit { asDynamic()[index] = value; }

/**
 * Exposes the JavaScript [Float64Array](https://developer.mozilla.org/en/docs/Web/API/Float64Array) to Kotlin
 */
public external open class Float64Array : ArrayBufferView {
    constructor(length: Int)
    constructor(array: Float64Array)
    constructor(array: Array<Double>)
    constructor(buffer: ArrayBuffer, byteOffset: Int = definedExternally, length: Int = definedExternally)
    open val length: Int
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun set(array: Float64Array, offset: Int = definedExternally): Unit
    fun set(array: Array<Double>, offset: Int = definedExternally): Unit
    fun subarray(start: Int, end: Int): Float64Array

    companion object {
        val BYTES_PER_ELEMENT: Int
    }
}
@kotlin.internal.InlineOnly inline operator fun Float64Array.get(index: Int): Double = asDynamic()[index]
@kotlin.internal.InlineOnly inline operator fun Float64Array.set(index: Int, value: Double): Unit { asDynamic()[index] = value; }

/**
 * Exposes the JavaScript [DataView](https://developer.mozilla.org/en/docs/Web/API/DataView) to Kotlin
 */
public external open class DataView(buffer: ArrayBuffer, byteOffset: Int = definedExternally, byteLength: Int = definedExternally) :
    ArrayBufferView {
    override val buffer: ArrayBuffer
    override val byteOffset: Int
    override val byteLength: Int
    fun getInt8(byteOffset: Int): Byte
    fun getUint8(byteOffset: Int): Byte
    fun getInt16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short
    fun getUint16(byteOffset: Int, littleEndian: Boolean = definedExternally): Short
    fun getInt32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int
    fun getUint32(byteOffset: Int, littleEndian: Boolean = definedExternally): Int
    fun getFloat32(byteOffset: Int, littleEndian: Boolean = definedExternally): Float
    fun getFloat64(byteOffset: Int, littleEndian: Boolean = definedExternally): Double
    fun setInt8(byteOffset: Int, value: Byte): Unit
    fun setUint8(byteOffset: Int, value: Byte): Unit
    fun setInt16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally): Unit
    fun setUint16(byteOffset: Int, value: Short, littleEndian: Boolean = definedExternally): Unit
    fun setInt32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally): Unit
    fun setUint32(byteOffset: Int, value: Int, littleEndian: Boolean = definedExternally): Unit
    fun setFloat32(byteOffset: Int, value: Float, littleEndian: Boolean = definedExternally): Unit
    fun setFloat64(byteOffset: Int, value: Double, littleEndian: Boolean = definedExternally): Unit
}

public external @marker interface BufferDataSource {
}

public external @marker interface TexImageSource {
}

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 */
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See libraries/tools/idl2k for details

@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")
package org.w3c.dom.clipboard

import kotlin.js.*
import org.khronos.webgl.*
import org.w3c.css.masking.*
import org.w3c.dom.*
import org.w3c.dom.css.*
import org.w3c.dom.events.*
import org.w3c.dom.mediacapture.*
import org.w3c.dom.parsing.*
import org.w3c.dom.pointerevents.*
import org.w3c.dom.svg.*
import org.w3c.dom.url.*
import org.w3c.fetch.*
import org.w3c.files.*
import org.w3c.notifications.*
import org.w3c.performance.*
import org.w3c.workers.*
import org.w3c.xhr.*

public external interface ClipboardEventInit : EventInit {
    var clipboardData: DataTransfer? /* = null */
    get() = definedExternally
    set(value) = definedExternally
}

@kotlin.internal.InlineOnly
public inline fun ClipboardEventInit(clipboardData: DataTransfer? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ClipboardEventInit {
    val o = js("{}")
    o["clipboardData"] = clipboardData
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}

/**
 * Exposes the JavaScript
 */

```

```

[ClipboardEvent](https://developer.mozilla.org/en/docs/Web/API/ClipboardEvent) to Kotlin\n */\npublic external
open class ClipboardEvent(type: String, eventInitDict: ClipboardEventInit = definedExternally) : Event {\n  open
val clipboardData: DataTransfer?\n}\n\n/**\n * Exposes the JavaScript
[Clipboard](https://developer.mozilla.org/en/docs/Web/API/Clipboard) to Kotlin\n */\npublic external abstract class
Clipboard : EventTarget {\n  fun read(): Promise<DataTransfer>\n  fun readText(): Promise<String>\n  fun
write(data: DataTransfer): Promise<Unit>\n  fun writeText(data: String): Promise<Unit>\n}\n\n\npublic external
interface ClipboardPermissionDescriptor {\n  var allowWithoutGesture: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ClipboardPermissionDescriptor(allowWithoutGesture: Boolean? = false): ClipboardPermissionDescriptor {\n  val
o = js("{}")\n  o["allowWithoutGesture"] = allowWithoutGesture\n  return o\n}\n\n"/*\n * Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in
the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See
libraries/tools/idl2k for details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage
org.w3c.dom.css\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n
* Exposes the JavaScript
[CSSStyleDeclaration](https://developer.mozilla.org/en/docs/Web/API/CSSStyleDeclaration) to Kotlin\n */\npublic
external abstract class CSSStyleDeclaration : ItemArrayLike<String> {\n  open var cssText: String\n  override val
length: Int\n  open val parentRule: CSSRule?\n  open var cssFloat: String\n  open var _dashed_attribute: String\n
  open var _camel_cased_attribute: String\n  open var _webkit_cased_attribute: String\n  open var alignContent:
String\n  open var alignItems: String\n  open var alignSelf: String\n  open var animation: String\n  open var
animationDelay: String\n  open var animationDirection: String\n  open var animationDuration: String\n  open
var animationFillMode: String\n  open var animationIterationCount: String\n  open var animationName: String\n
  open var animationPlayState: String\n  open var animationTimingFunction: String\n  open var backfaceVisibility:
String\n  open var background: String\n  open var backgroundAttachment: String\n  open var backgroundClip:
String\n  open var backgroundColor: String\n  open var backgroundImage: String\n  open var backgroundOrigin:
String\n  open var backgroundPosition: String\n  open var backgroundRepeat: String\n  open var
backgroundSize: String\n  open var border: String\n  open var borderBottom: String\n  open var
borderBottomColor: String\n  open var borderBottomLeftRadius: String\n  open var borderBottomRightRadius:
String\n  open var borderBottomStyle: String\n  open var borderBottomWidth: String\n  open var
borderCollapse: String\n  open var borderColor: String\n  open var borderImage: String\n  open var
borderImageOutset: String\n  open var borderImageRepeat: String\n  open var borderImageSlice: String\n  open
var borderImageSource: String\n  open var borderImageWidth: String\n  open var borderLeft: String\n  open var
borderLeftColor: String\n  open var borderLeftStyle: String\n  open var borderLeftWidth: String\n  open var
borderRadius: String\n  open var borderRight: String\n  open var borderRightColor: String\n  open var
borderRightStyle: String\n  open var borderRightWidth: String\n  open var borderSpacing: String\n  open var
borderStyle: String\n  open var borderTop: String\n  open var borderTopColor: String\n  open var
borderTopLeftRadius: String\n  open var borderTopRightRadius: String\n  open var borderTopStyle: String\n
  open var borderTopWidth: String\n  open var borderWidth: String\n  open var bottom: String\n  open var
boxDecorationBreak: String\n  open var boxShadow: String\n  open var boxSizing: String\n  open var
breakAfter: String\n  open var breakBefore: String\n  open var breakInside: String\n  open var captionSide:
String\n  open var clear: String\n  open var clip: String\n  open var color: String\n  open var columnCount:
String\n  open var columnFill: String\n  open var columnGap: String\n  open var columnRule: String\n  open
var columnRuleColor: String\n  open var columnRuleStyle: String\n  open var columnRuleWidth: String\n  open
var columnSpan: String\n  open var columnWidth: String\n  open var columns: String\n  open var content:

```

```

String\n open var counterIncrement: String\n open var counterReset: String\n open var cursor: String\n open
var direction: String\n open var display: String\n open var emptyCells: String\n open var filter: String\n open
var flex: String\n open var flexBasis: String\n open var flexDirection: String\n open var flexFlow: String\n
open var flexGrow: String\n open var flexShrink: String\n open var flexWrap: String\n open var font: String\n
open var fontFamily: String\n open var fontFeatureSettings: String\n open var fontKerning: String\n open var
fontLanguageOverride: String\n open var fontSize: String\n open var fontSizeAdjust: String\n open var
fontStretch: String\n open var fontStyle: String\n open var fontSynthesis: String\n open var fontVariant:
String\n open var fontVariantAlternates: String\n open var fontVariantCaps: String\n open var
fontVariantEastAsian: String\n open var fontVariantLigatures: String\n open var fontVariantNumeric: String\n
open var fontVariantPosition: String\n open var fontWeight: String\n open var hangingPunctuation: String\n
open var height: String\n open var hyphens: String\n open var imageOrientation: String\n open var
imageRendering: String\n open var imageResolution: String\n open var imeMode: String\n open var
justifyContent: String\n open var left: String\n open var letterSpacing: String\n open var lineBreak: String\n
open var lineHeight: String\n open var listStyle: String\n open var listStyleImage: String\n open var
listStylePosition: String\n open var listStyleType: String\n open var margin: String\n open var marginBottom:
String\n open var marginLeft: String\n open var marginRight: String\n open var marginTop: String\n open
var mark: String\n open var markAfter: String\n open var markBefore: String\n open var marks: String\n
open var marqueeDirection: String\n open var marqueePlayCount: String\n open var marqueeSpeed: String\n
open var marqueeStyle: String\n open var mask: String\n open var maskType: String\n open var maxHeight:
String\n open var maxWidth: String\n open var minHeight: String\n open var minWidth: String\n open var
navDown: String\n open var navIndex: String\n open var navLeft: String\n open var navRight: String\n open
var navUp: String\n open var objectFit: String\n open var objectPosition: String\n open var opacity: String\n
open var order: String\n open var orphans: String\n open var outline: String\n open var outlineColor: String\n
open var outlineOffset: String\n open var outlineStyle: String\n open var outlineWidth: String\n open var
overflowWrap: String\n open var overflowX: String\n open var overflowY: String\n open var padding:
String\n open var paddingBottom: String\n open var paddingLeft: String\n open var paddingRight: String\n
open var paddingTop: String\n open var pageBreakAfter: String\n open var pageBreakBefore: String\n open
var pageBreakInside: String\n open var perspective: String\n open var perspectiveOrigin: String\n open var
phonemes: String\n open var position: String\n open var quotes: String\n open var resize: String\n open var
rest: String\n open var restAfter: String\n open var restBefore: String\n open var right: String\n open var
tabSize: String\n open var tableLayout: String\n open var textAlign: String\n open var textAlignLast: String\n
open var textCombineUpright: String\n open var textDecoration: String\n open var textDecorationColor:
String\n open var textDecorationLine: String\n open var textDecorationStyle: String\n open var textIndent:
String\n open var textJustify: String\n open var textOrientation: String\n open var textOverflow: String\n
open var textShadow: String\n open var textTransform: String\n open var textUnderlinePosition: String\n open
var top: String\n open var transform: String\n open var transformOrigin: String\n open var transformStyle:
String\n open var transition: String\n open var transitionDelay: String\n open var transitionDuration: String\n
open var transitionProperty: String\n open var transitionTimingFunction: String\n open var unicodeBidi:
String\n open var verticalAlign: String\n open var visibility: String\n open var voiceBalance: String\n open
var voiceDuration: String\n open var voicePitch: String\n open var voicePitchRange: String\n open var
voiceRate: String\n open var voiceStress: String\n open var voiceVolume: String\n open var whiteSpace:
String\n open var widows: String\n open var width: String\n open var wordBreak: String\n open var
wordSpacing: String\n open var wordWrap: String\n open var writingMode: String\n open var zIndex: String\n
override fun item(index: Int): String\n fun getPropertyValue(property: String): String\n fun
getPropertyPriority(property: String): String\n fun setProperty(property: String, value: String, priority: String =
definedExternally): Unit\n fun setPropertyValue(property: String, value: String): Unit\n fun
setPropertyPriority(property: String, priority: String): Unit\n fun removeProperty(property: String):
String\n}\n@kotlin.internal.InlineOnly inline operator fun CSSStyleDeclaration.get(index: Int): String? =

```

```

asDynamic()[index]\n\npublic external abstract class MediaList : ItemArrayLike<String> {\n  open var mediaText:
String\n  override val length: Int\n  override fun item(index: Int): String?\n  fun appendMedium(medium:
String): Unit\n  fun deleteMedium(medium: String): Unit\n}\n\n@kotlin.internal.InlineOnly inline operator fun
MediaList.get(index: Int): String? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[StyleSheet](https://developer.mozilla.org/en/docs/Web/API/StyleSheet) to Kotlin\n */\n\npublic external abstract
class StyleSheet {\n  open val type: String\n  open val href: String?\n  open val ownerNode:
UnionElementOrProcessingInstruction?\n  open val parentStyleSheet: StyleSheet?\n  open val title: String?\n
open val media: MediaList\n  open var disabled: Boolean\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleSheet](https://developer.mozilla.org/en/docs/Web/API/CSSStyleSheet) to Kotlin\n */\n\npublic external
abstract class CSSStyleSheet : StyleSheet {\n  open val ownerRule: CSSRule?\n  open val cssRules:
CSSRuleList\n  fun insertRule(rule: String, index: Int): Int\n  fun deleteRule(index: Int): Unit\n}\n\n/**\n *
Exposes the JavaScript [StyleSheetList](https://developer.mozilla.org/en/docs/Web/API/StyleSheetList) to Kotlin\n
*/\n\npublic external abstract class StyleSheetList : ItemArrayLike<StyleSheet> {\n  override val length: Int\n
override fun item(index: Int): StyleSheet?\n}\n\n@kotlin.internal.InlineOnly inline operator fun
StyleSheetList.get(index: Int): StyleSheet? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[LinkStyle](https://developer.mozilla.org/en/docs/Web/API/LinkStyle) to Kotlin\n */\n\npublic external interface
LinkStyle {\n  val sheet: StyleSheet?\n}\n\n/**\n * Exposes the JavaScript
[CSSRuleList](https://developer.mozilla.org/en/docs/Web/API/CSSRuleList) to Kotlin\n */\n\npublic external abstract
class CSSRuleList : ItemArrayLike<CSSRule> {\n  override val length: Int\n  override fun item(index: Int):
CSSRule?\n}\n\n@kotlin.internal.InlineOnly inline operator fun CSSRuleList.get(index: Int): CSSRule? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[CSSRule](https://developer.mozilla.org/en/docs/Web/API/CSSRule) to Kotlin\n */\n\npublic external abstract class
CSSRule {\n  open val type: Short\n  open var cssText: String\n  open val parentRule: CSSRule?\n  open val
parentStyleSheet: CSSStyleSheet?\n\n  companion object {\n    val STYLE_RULE: Short\n    val
CHARSET_RULE: Short\n    val IMPORT_RULE: Short\n    val MEDIA_RULE: Short\n    val
FONT_FACE_RULE: Short\n    val PAGE_RULE: Short\n    val MARGIN_RULE: Short\n    val
NAMESPACE_RULE: Short\n  }\n}\n\n/**\n * Exposes the JavaScript
[CSSStyleRule](https://developer.mozilla.org/en/docs/Web/API/CSSStyleRule) to Kotlin\n */\n\npublic external
abstract class CSSStyleRule : CSSRule {\n  open var selectorText: String\n  open val style:
CSSStyleDeclaration\n}\n\npublic external abstract class CSSImportRule : CSSRule {\n  open val href: String\n
open val media: MediaList\n  open val styleSheet: CSSStyleSheet\n}\n\n/**\n * Exposes the JavaScript
[CSSGroupingRule](https://developer.mozilla.org/en/docs/Web/API/CSSGroupingRule) to Kotlin\n */\n\npublic
external abstract class CSSGroupingRule : CSSRule {\n  open val cssRules: CSSRuleList\n  fun insertRule(rule:
String, index: Int): Int\n  fun deleteRule(index: Int): Unit\n}\n\n/**\n * Exposes the JavaScript
[CSSMediaRule](https://developer.mozilla.org/en/docs/Web/API/CSSMediaRule) to Kotlin\n */\n\npublic external
abstract class CSSMediaRule : CSSGroupingRule {\n  open val media: MediaList\n}\n\n/**\n * Exposes the
JavaScript [CSSPageRule](https://developer.mozilla.org/en/docs/Web/API/CSSPageRule) to Kotlin\n */\n\npublic
external abstract class CSSPageRule : CSSGroupingRule {\n  open var selectorText: String\n  open val style:
CSSStyleDeclaration\n}\n\npublic external abstract class CSSMarginRule : CSSRule {\n  open val name: String\n
open val style: CSSStyleDeclaration\n}\n\n/**\n * Exposes the JavaScript
[CSSNamespaceRule](https://developer.mozilla.org/en/docs/Web/API/CSSNamespaceRule) to Kotlin\n */\n\npublic
external abstract class CSSNamespaceRule : CSSRule {\n  open val namespaceURI: String\n  open val prefix:
String\n}\n\npublic external interface ElementCSSInlineStyle {\n  val style: CSSStyleDeclaration\n}\n\n/**\n *
Exposes the JavaScript [CSS](https://developer.mozilla.org/en/docs/Web/API/CSS) to Kotlin\n */\n\npublic external
abstract class CSS {\n\n  companion object {\n    fun escape(ident: String): String\n  }\n}\n\n"/*\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n//
See libraries/tools/idl2k for

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details\n\n@file:Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npackage
org.w3c.dom.events\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [UIEvent](https://developer.mozilla.org/en/docs/Web/API/UIEvent) to Kotlin\n */\npublic
external open class UIEvent(type: String, eventInitDict: UIEventInit = definedExternally) : Event {\n    open val
view: Window?\n    open val detail: Int?\n\n    public external interface UIEventInit : EventInit {\n        var view:
Window? /* = null */\n        get() = definedExternally\n        set(value) = definedExternally\n        var detail: Int? /* = 0
*/\n        get() = definedExternally\n        set(value) = definedExternally\n    }\n\n    @kotlin.internal.InlineOnly\n    public
inline fun UIEventInit(view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): UIEventInit {\n        val o = js(\"({})\")\n\n        o[\"view\"] = view\n        o[\"detail\"] =
detail\n        o[\"bubbles\"] = bubbles\n        o[\"cancelable\"] = cancelable\n        o[\"composed\"] = composed\n\n        return
o\n    }\n\n    /**\n     * Exposes the JavaScript [FocusEvent](https://developer.mozilla.org/en/docs/Web/API/FocusEvent)
to Kotlin\n     */\n    public external open class FocusEvent(type: String, eventInitDict: FocusEventInit =
definedExternally) : UIEvent {\n        open val relatedTarget: EventTarget?\n\n        public external interface
FocusEventInit : UIEventInit {\n            var relatedTarget: EventTarget? /* = null */\n            get() = definedExternally\n
set(value) = definedExternally\n        }\n\n        @kotlin.internal.InlineOnly\n        public inline fun FocusEventInit(relatedTarget:
EventTarget? = null, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): FocusEventInit {\n            val o = js(\"({})\")\n\n            o[\"relatedTarget\"] =
relatedTarget\n            o[\"view\"] = view\n            o[\"detail\"] = detail\n            o[\"bubbles\"] = bubbles\n            o[\"cancelable\"] =
cancelable\n            o[\"composed\"] = composed\n\n            return o\n        }\n\n        /**\n         * Exposes the JavaScript
[MouseEvent](https://developer.mozilla.org/en/docs/Web/API/MouseEvent) to Kotlin\n         */\n        public external open
class MouseEvent(type: String, eventInitDict: MouseEventInit = definedExternally) : UIEvent,
UnionElementOrMouseEvent {\n            open val region: String?\n            open val screenX: Int\n            open val screenY: Int\n
open val pageX: Double\n            open val pageY: Double\n            open val clientX: Int\n            open val clientY: Int\n            open val
offsetX: Double\n            open val offsetY: Double\n            open val ctrlKey: Boolean\n            open val shiftKey: Boolean\n
open val altKey: Boolean\n            open val metaKey: Boolean\n            open val button: Short\n            open val buttons: Short\n
open val relatedTarget: EventTarget?\n            fun getModifierState(keyArg: String): Boolean\n        }\n\n        public external
interface MouseEventInit : EventModifierInit {\n            var screenX: Int? /* = 0 */\n            get() = definedExternally\n
set(value) = definedExternally\n            var screenY: Int? /* = 0 */\n            get() = definedExternally\n            set(value) =
definedExternally\n            var clientX: Int? /* = 0 */\n            get() = definedExternally\n            set(value) =
definedExternally\n            var clientY: Int? /* = 0 */\n            get() = definedExternally\n            set(value) =
definedExternally\n            var button: Short? /* = 0 */\n            get() = definedExternally\n            set(value) =
definedExternally\n            var buttons: Short? /* = 0 */\n            get() = definedExternally\n            set(value) =
definedExternally\n            var relatedTarget: EventTarget? /* = null */\n            get() = definedExternally\n            set(value)
= definedExternally\n        }\n\n        @kotlin.internal.InlineOnly\n        public inline fun MouseEventInit(screenX: Int? = 0,
screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget:
EventTarget? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey:
Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? =
false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false,
modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false,
modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): MouseEventInit {\n            val o = js(\"({})\")\n\n            o[\"screenX\"] = screenX\n            o[\"screenY\"] = screenY\n            o[\"clientX\"] = clientX\n            o[\"clientY\"] = clientY\n
o[\"button\"] = button\n            o[\"buttons\"] = buttons\n            o[\"relatedTarget\"] = relatedTarget\n            o[\"ctrlKey\"] =
ctrlKey\n            o[\"shiftKey\"] = shiftKey\n            o[\"altKey\"] = altKey\n            o[\"metaKey\"] = metaKey\n

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o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n  o["modifierHyper"] =
modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n  o["modifierScrollLock"] =
modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n  o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] = view\n  o["detail"] = detail\n
o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n\n return
o\n}\n\npublic external interface EventModifierInit : UIEventInit {\n  var ctrlKey: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var shiftKey: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var altKey: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var metaKey: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var modifierAltGraph: Boolean? /* = false */\n  get()
= definedExternally\n  set(value) = definedExternally\n  var modifierCapsLock: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierFn: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierFnLock: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierHyper: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierNumLock: Boolean? /* = false */\n
get() = definedExternally\n  set(value) = definedExternally\n  var modifierScrollLock: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSuper: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSymbol: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n  var modifierSymbolLock: Boolean? /* =
false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun EventModifierInit(ctrlKey: Boolean? =
false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false, modifierAltGraph:
Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false, modifierFnLock: Boolean? =
false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false,
modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view:
Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): EventModifierInit {\n  val o = js("{}")\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n
o["altKey"] = altKey\n  o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] =
modifierFnLock\n  o["modifierHyper"] = modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] =
view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[WheelEvent](https://developer.mozilla.org/en/docs/Web/API/WheelEvent) to Kotlin\n */\npublic external open
class WheelEvent(type: String, eventInitDict: WheelEventInit = definedExternally) : MouseEvent {\n  open val
deltaX: Double\n  open val deltaY: Double\n  open val deltaZ: Double\n  open val deltaMode: Int\n\n
companion object {\n  val DOM_DELTA_PIXEL: Int\n  val DOM_DELTA_LINE: Int\n  val
DOM_DELTA_PAGE: Int\n  }\n}\n\npublic external interface WheelEventInit : MouseEventInit {\n  var deltaX:
Double? /* = 0.0 */\n  get() = definedExternally\n  set(value) = definedExternally\n  var deltaY: Double? /*
= 0.0 */\n  get() = definedExternally\n  set(value) = definedExternally\n  var deltaZ: Double? /* = 0.0 */\n
get() = definedExternally\n  set(value) = definedExternally\n  var deltaMode: Int? /* = 0 */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
WheelEventInit(deltaX: Double? = 0.0, deltaY: Double? = 0.0, deltaZ: Double? = 0.0, deltaMode: Int? = 0,
screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short?
= 0, relatedTarget: EventTarget? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean?
= false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false,
modifierFn: Boolean?

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= false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false,
modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false,
modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): WheelEventInit {\n  val o = js(\("{ }\}")\n\n
o["deltaX"] = deltaX\n  o["deltaY"] = deltaY\n  o["deltaZ"] = deltaZ\n  o["deltaMode"] = deltaMode\n
o["screenX"] = screenX\n  o["screenY"] = screenY\n  o["clientX"] = clientX\n  o["clientY"] = clientY\n
o["button"] = button\n  o["buttons"] = buttons\n  o["relatedTarget"] = relatedTarget\n  o["ctrlKey"] =
ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] = altKey\n  o["metaKey"] = metaKey\n
o["modifierAltGraph"] = modifierAltGraph\n  o["modifierCapsLock"] = modifierCapsLock\n
o["modifierFn"] = modifierFn\n  o["modifierFnLock"] = modifierFnLock\n  o["modifierHyper"] =
modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n  o["modifierScrollLock"] =
modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n  o["modifierSymbol"] = modifierSymbol\n
o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] = view\n  o["detail"] = detail\n
o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return
o\n}\n\n/**\n * Exposes the JavaScript [InputEvent](https://developer.mozilla.org/en/docs/Web/API/InputEvent) to
Kotlin\n */\npublic external open class InputEvent(type: String, eventInitDict: InputEventInit = definedExternally) :
UIEvent {\n  open val data: String\n  open val isComposing: Boolean\n}\n\npublic external interface
InputEventInit : UIEventInit {\n  var data: String? /* = "" */\n    get() = definedExternally\n    set(value) =
definedExternally\n  var isComposing: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun InputEventInit(data: String? = "",
isComposing: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): InputEventInit {\n  val o = js(\("{ }\}")\n\n  o["data"] = data\n
o["isComposing"] = isComposing\n  o["view"] = view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n
o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\n/**\n * Exposes the JavaScript
[KeyboardEvent](https://developer.mozilla.org/en/docs/Web/API/KeyboardEvent) to Kotlin\n */\npublic external
open class KeyboardEvent(type: String, eventInitDict: KeyboardEventInit = definedExternally) : UIEvent {\n
  open val key: String\n  open val code: String\n  open val location: Int\n  open val ctrlKey: Boolean\n  open val
  shiftKey: Boolean\n  open val altKey: Boolean\n  open val metaKey: Boolean\n  open val repeat: Boolean\n
  open val isComposing: Boolean\n  open val charCode: Int\n  open val keyCode: Int\n  open val which: Int\n
  fun getModifierState(keyArg: String): Boolean\n\n  companion object {\n    val
DOM_KEY_LOCATION_STANDARD: Int\n    val DOM_KEY_LOCATION_LEFT: Int\n    val
DOM_KEY_LOCATION_RIGHT: Int\n    val DOM_KEY_LOCATION_NUMPAD: Int\n  }\n}\n\npublic
external interface KeyboardEventInit : EventModifierInit {\n  var key: String? /* = "" */\n    get() =
definedExternally\n    set(value) = definedExternally\n  var code: String? /* = "" */\n    get() =
definedExternally\n    set(value) = definedExternally\n  var location: Int? /* = 0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n  var repeat: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n  var isComposing: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
KeyboardEventInit(key: String? = "", code: String? = "", location: Int? = 0, repeat: Boolean? = false,
isComposing: Boolean? = false, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false,
metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn:
Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock:
Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol:
Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles:
Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): KeyboardEventInit {\n  val o =
js(\("{ }\}")\n\n  o["key"] = key\n  o["code"] = code\n  o["location"] = location\n  o["repeat"] = repeat\n
o["isComposing"] = isComposing\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] =
altKey\n  o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n

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o["modifierCapsLock"] = modifierCapsLock\n o["modifierFn"] = modifierFn\n o["modifierFnLock"] =
modifierFnLock\n o["modifierHyper"] = modifierHyper\n o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n o["modifierSymbolLock"] = modifierSymbolLock\n o["view"] =
view\n o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[CompositionEvent](https://developer.mozilla.org/en/docs/Web/API/CompositionEvent) to Kotlin\n *\npublic
external open class CompositionEvent(type: String, eventInitDict: CompositionEventInit = definedExternally) :
UIEvent {\n open val data: String\n}\n\npublic external interface CompositionEventInit : UIEventInit {\n var
data: String? /* = "" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CompositionEventInit(data: String? = "",
view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): CompositionEventInit {\n val o = js("{}")\n o["data"] = data\n o["view"] = view\n
o["detail"] = detail\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] =
composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[Event](https://developer.mozilla.org/en/docs/Web/API/Event) to Kotlin\n *\npublic external open class
Event(type: String, eventInitDict: EventInit = definedExternally) {\n open val type: String\n open val target:
EventTarget?\n open val currentTarget: EventTarget?\n open val eventPhase: Short\n open val bubbles:
Boolean\n open val cancelable: Boolean\n open val defaultPrevented: Boolean\n open val composed:
Boolean\n open val isTrusted: Boolean\n open val timeStamp: Number\n fun composedPath():
Array<EventTarget>\n fun stopPropagation(): Unit\n fun stopImmediatePropagation(): Unit\n fun
preventDefault(): Unit\n fun initEvent(type: String, bubbles: Boolean, cancelable: Boolean): Unit\n\n companion
object {\n val NONE: Short\n val CAPTURING_PHASE: Short\n val AT_TARGET: Short\n val
BUBBLING_PHASE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[EventTarget](https://developer.mozilla.org/en/docs/Web/API/EventTarget) to Kotlin\n *\npublic external abstract
class EventTarget {\n fun addEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally): Unit\n fun addEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally): Unit\n fun removeEventListener(type: String, callback: EventListener?, options: dynamic =
definedExternally): Unit\n fun removeEventListener(type: String, callback: ((Event) -> Unit)?, options: dynamic =
definedExternally): Unit\n fun dispatchEvent(event: Event): Boolean\n}\n\n/**\n * Exposes the JavaScript
[EventListener](https://developer.mozilla.org/en/docs/Web/API/EventListener) to Kotlin\n *\npublic external
interface EventListener {\n fun handleEvent(event: Event): Unit\n}\n\n", "/*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See
libraries/tools/idl2k for details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage
org.w3c.dom\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport
org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport
org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n
* Exposes the JavaScript [Navigator](https://developer.mozilla.org/en/docs/Web/API/Navigator) to Kotlin\n
*\npublic external abstract class Navigator : NavigatorID, NavigatorLanguage, NavigatorOnLine,
NavigatorContentUtils, NavigatorCookies, NavigatorPlugins, NavigatorConcurrentHardware {\n open val
serviceWorker: ServiceWorkerContainer\n open val maxTouchPoints: Int\n open val mediaDevices:
MediaDevices\n open val clipboard: Clipboard\n fun vibrate(pattern: dynamic): Boolean\n fun
getUserMedia(constraints: MediaStreamConstraints, successCallback: (MediaStream) -> Unit, errorCallback:
(dynamic) -> Unit): Unit\n}\n\n/**\n * Exposes the JavaScript
[Document](https://developer.mozilla.org/en/docs/Web/API/Document) to Kotlin\n *\npublic external open class

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Document : Node, GlobalEventHandlers, DocumentAndElementEventHandlers, NonElementParentNode, DocumentOrShadowRoot, ParentNode, GeometryUtils {\n open val fullscreenEnabled: Boolean\n open val fullscreen: Boolean\n var onfullscreenchange: ((Event) -> dynamic)?\n var onfullscreenerror: ((Event) -> dynamic)?\n open val rootElement: SVGSVGElement?\n var title: String\n open val referrer: String\n var domain: String\n open val activeElement: Element?\n open val location: Location?\n var cookie: String\n open val lastModified: String\n open val readyState: DocumentReadyState\n var dir: String\n var body: HTMLElement?\n open val head: HTMLHeadElement?\n open val images: HTMLCollection\n open val embeds: HTMLCollection\n open val plugins: HTMLCollection\n open val links: HTMLCollection\n open val forms: HTMLCollection\n open val scripts: HTMLCollection\n open val currentScript: HTMLScriptElement?\n open val defaultView: Window?\n var designMode: String\n var onreadystatechange: ((Event) -> dynamic)?\n var fgColor: String\n var linkColor: String\n var vlinkColor: String\n var alinkColor: String\n var bgColor: String\n open val anchors: HTMLCollection\n open val applets: HTMLCollection\n open val all: HTMLAllCollection\n open val implementation: DOMImplementation\n open val URL: String\n open val documentURI: String\n open val origin: String\n open val compatMode: String\n open val characterSet: String\n open val charset: String\n open val inputEncoding: String\n open val contentType: String\n open val doctype: DocumentType?\n open val documentElement: Element?\n open val scrollingElement: Element?\n open val styleSheets: StyleSheetList\n override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n override var onpointerdown: ((PointerEvent) -> dynamic)?\n override var onpointermove: ((PointerEvent) -> dynamic)?\n override var onpointerup: ((PointerEvent) -> dynamic)?\n override var onpointercancel: ((PointerEvent) -> dynamic)?\n override var onpointerover: ((PointerEvent) -> dynamic)?\n override var onpointerout: ((PointerEvent) -> dynamic)?\n override var onpointerenter: ((PointerEvent) -> dynamic)?\n override var onpointerleave: ((PointerEvent) -> dynamic)?\n override var onabort: ((Event) -> dynamic)?\n override var onblur: ((FocusEvent) -> dynamic)?\n override var oncancel: ((Event) -> dynamic)?\n override var oncanplay: ((Event) -> dynamic)?\n override var oncanplaythrough: ((Event) -> dynamic)?\n override var onchange: ((Event) -> dynamic)?\n override var onclick: ((MouseEvent) -> dynamic)?\n override var onclose: ((Event) -> dynamic)?\n override var oncontextmenu: ((MouseEvent) -> dynamic)?\n override var oncuechange: ((Event) -> dynamic)?\n override var ondblclick: ((MouseEvent) -> dynamic)?\n override var ondrag: ((DragEvent) -> dynamic)?\n override var ondragend: ((DragEvent) -> dynamic)?\n override var ondragenter: ((DragEvent) -> dynamic)?\n override var ondragexit: ((DragEvent) -> dynamic)?\n override var ondragleave: ((DragEvent) -> dynamic)?\n override var ondragover: ((DragEvent) -> dynamic)?\n override var ondragstart: ((DragEvent) -> dynamic)?\n override var ondrop: ((DragEvent) -> dynamic)?\n override var ondurationchange: ((Event) -> dynamic)?\n override var onemptied: ((Event) -> dynamic)?\n override var onended: ((Event) -> dynamic)?\n override var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n override var onfocus: ((FocusEvent) -> dynamic)?\n override var oninput: ((InputEvent) -> dynamic)?\n override var oninvalid: ((Event) -> dynamic)?\n override var onkeydown: ((KeyboardEvent) -> dynamic)?\n override var onkeypress: ((KeyboardEvent) -> dynamic)?\n override var onkeyup: ((KeyboardEvent) -> dynamic)?\n override var onload: ((Event) -> dynamic)?\n override var onloadeddata: ((Event) -> dynamic)?\n override var onloadedmetadata: ((Event) -> dynamic)?\n override var onloadend: ((Event) -> dynamic)?\n override var onloadstart: ((ProgressEvent) -> dynamic)?\n override var onmousedown: ((MouseEvent) -> dynamic)?\n override var onmouseenter: ((MouseEvent) -> dynamic)?\n override var onmouseleave: ((MouseEvent) -> dynamic)?\n override var onmousemove: ((MouseEvent) -> dynamic)?\n override var onmouseout: ((MouseEvent) -> dynamic)?\n override var onmouseover: ((MouseEvent) -> dynamic)?\n override var onmouseup: ((MouseEvent) -> dynamic)?\n override var onwheel: ((WheelEvent) -> dynamic)?\n override var onpause: ((Event) -> dynamic)?\n override var onplay: ((Event) -> dynamic)?\n override var onplaying: ((Event) -> dynamic)?\n override var onprogress: ((ProgressEvent) -> dynamic)?\n override var onratechange: ((Event) -> dynamic)?\n override var onreset: ((Event) -> dynamic)?\n override var onresize: ((Event) -> dynamic)?\n override var onscroll: ((Event) -> dynamic)?\n override var onseeked:

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((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) ->
dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var
ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override val fullscreenElement: Element?\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  fun exitFullscreen(): Promise<Unit>\n  fun
getElementsByName(elementName: String): NodeList\n  fun open(type: String = definedExternally, replace:
String = definedExternally): Document\n  fun open(url: String, name: String, features: String): Window\n  fun
close(): Unit\n  fun write(vararg text: String): Unit\n  fun writeln(vararg text: String): Unit\n  fun hasFocus():
Boolean\n  fun execCommand(commandId: String, showUI: Boolean = definedExternally, value: String =
definedExternally): Boolean\n  fun queryCommandEnabled(commandId: String): Boolean\n  fun
queryCommandIndeterm(commandId: String): Boolean\n  fun queryCommandState(commandId: String):
Boolean\n  fun queryCommandSupported(commandId: String): Boolean\n  fun
queryCommandValue(commandId: String): String\n  fun clear(): Unit\n  fun captureEvents(): Unit\n  fun
releaseEvents(): Unit\n  fun getElementsByTagName(qualifiedName: String): HTMLCollection\n  fun
getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n  fun
getElementsByTagName(className: String): HTMLCollection\n  fun createElement(localName: String,
options: ElementCreationOptions = definedExternally): Element\n  fun createElementNS(namespace: String?,
qualifiedName: String, options: ElementCreationOptions = definedExternally): Element\n  fun
createDocumentFragment(): DocumentFragment\n  fun createTextNode(data: String): Text\n  fun
createCDATASection(data: String): CDATASection\n  fun createComment(data: String): Comment\n  fun
createProcessingInstruction(target: String, data: String): ProcessingInstruction\n  fun importNode(node: Node,
deep: Boolean = definedExternally): Node\n  fun adoptNode(node: Node): Node\n  fun
createAttribute(localName: String): Attr\n  fun createAttributeNS(namespace: String?, qualifiedName: String):
Attr\n  fun createEvent(interface_: String): Event\n  fun createRange(): Range\n  fun createNodeIterator(root:
Node, whatToShow: Int = definedExternally, filter: NodeFilter? = definedExternally): NodeIterator\n  fun
createNodeIterator(root: Node, whatToShow: Int = definedExternally, filter: ((Node) -> Short)? =
definedExternally): NodeIterator\n  fun createTreeWalker(root: Node, whatToShow: Int = definedExternally, filter:
NodeFilter? = definedExternally): TreeWalker\n  fun createTreeWalker(root: Node, whatToShow: Int =
definedExternally, filter: ((Node) -> Short)? = definedExternally): TreeWalker\n  fun elementFromPoint(x:
Double, y: Double): Element?\n  fun elementsFromPoint(x: Double, y: Double): Array<Element>\n  fun
caretPositionFromPoint(x: Double, y: Double): CaretPosition?\n  override fun getElementById(elementId: String):
Element?\n  override fun prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes: dynamic):
Unit\n  override fun querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors:
String): NodeList\n  override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */):
Array<DOMQuad>\n  override fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n
override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n}\n@kotlin.internal.InlineOnly inline operator fun Document.get(name: String):
dynamic = asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[Window](https://developer.mozilla.org/en/docs/Web/API/Window) to Kotlin\n */\npublic external abstract class
Window : EventTarget, GlobalEventHandlers, WindowEventHandlers, WindowOrWorkerGlobalScope,
WindowSessionStorage, WindowLocalStorage, GlobalPerformance, UnionMessagePortOrWindow {\n  override
val performance: Performance\n  open val window: Window\n  open val self: Window\n  open val document:

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Document\n open var name: String\n open val location: Location\n open val history: History\n open val
customElements: CustomElementRegistry\n open val locationbar: BarProp\n open val menubar: BarProp\n
open val personalbar: BarProp\n open val scrollbars: BarProp\n open val statusbar: BarProp\n open val
toolbar: BarProp\n open var status: String\n open val closed: Boolean\n open val frames: Window\n open val
length: Int\n open val top: Window\n open var opener: Any?\n open val parent: Window\n open val
frameElement: Element?\n open val navigator: Navigator\n open val applicationCache: ApplicationCache\n
open val external: External\n open val screen: Screen\n open val innerWidth: Int\n open val innerHeight: Int\n
open val scrollX: Double\n open val pageXOffset: Double\n open val scrollY: Double\n open val
pageYOffset: Double\n open val screenX: Int\n open val screenY: Int\n open val outerWidth: Int\n open val
outerHeight: Int\n open val devicePixelRatio: Double\n fun close(): Unit\n fun stop(): Unit\n fun focus():
Unit\n fun blur(): Unit\n fun open(url: String = definedExternally, target: String = definedExternally, features:
String = definedExternally): Window?\n fun alert(): Unit\n fun alert(message: String): Unit\n fun
confirm(message: String = definedExternally): Boolean\n fun prompt(message: String = definedExternally,
default: String = definedExternally): String?\n fun print(): Unit\n fun requestAnimationFrame(callback:
(Double) -> Unit): Int\n fun cancelAnimationFrame(handle: Int): Unit\n fun postMessage(message: Any?,
targetOrigin: String, transfer: Array<dynamic> = definedExternally): Unit\n fun captureEvents(): Unit\n fun
releaseEvents(): Unit\n fun matchMedia(query: String): MediaQueryList\n fun moveTo(x: Int, y: Int): Unit\n
fun moveBy(x: Int, y: Int): Unit\n fun resizeTo(x: Int, y: Int): Unit\n fun resizeBy(x: Int, y: Int): Unit\n fun
scroll(options: ScrollToOptions = definedExternally): Unit\n fun scroll(x: Double, y: Double): Unit\n fun
scrollTo(options: ScrollToOptions = definedExternally): Unit\n fun scrollTo(x: Double, y: Double): Unit\n fun
scrollBy(options: ScrollToOptions = definedExternally): Unit\n fun scrollBy(x: Double, y: Double): Unit\n fun
getComputedStyle(elt: Element, pseudoElt: String? = definedExternally):
CSSStyleDeclaration\n}\n@kotlin.internal.InlineOnly inline operator fun Window.get(name: String): dynamic =
asDynamic()[name]\n\npublic external abstract class HTMLAllCollection {\n open val length: Int\n// fun
namedItem(name: String): UnionElementOrHTMLCollection?\n fun item(nameOrIndex: String =
definedExternally): UnionElementOrHTMLCollection?}\n}\n//@kotlin.internal.InlineOnly inline operator fun
HTMLAllCollection.get(index: Int): Element? = asDynamic()[index]\n//@kotlin.internal.InlineOnly inline operator
fun HTMLAllCollection.get(name: String): UnionElementOrHTMLCollection? = asDynamic()[name]\n\n/**\n *
Exposes the JavaScript
[HTMLFormControlsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLFormControlsCollection)
to Kotlin\n *\n\npublic external abstract class HTMLFormControlsCollection : HTMLCollection {\n// override fun
namedItem(name: String): UnionElementOrRadioNodeList?}\n}\n//@kotlin.internal.InlineOnly override inline
operator fun HTMLFormControlsCollection.get(name: String): UnionElementOrRadioNodeList? =
asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[RadioNodeList](https://developer.mozilla.org/en/docs/Web/API/RadioNodeList) to Kotlin\n *\n\npublic external
abstract class RadioNodeList : NodeList, UnionElementOrRadioNodeList {\n open var value: String\n}\n\n/**\n *
Exposes the JavaScript
[HTMLOptionsCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionsCollection) to Kotlin\n
*\n\npublic external abstract class HTMLOptionsCollection : HTMLCollection {\n override var length: Int\n open
var selectedIndex: Int\n fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before:
dynamic = definedExternally): Unit\n fun remove(index: Int): Unit\n}\n\n@kotlin.internal.InlineOnly inline operator
fun HTMLOptionsCollection.set(index: Int, option: HTMLOptionElement?): Unit { asDynamic()[index] = option;
}\n\n/**\n * Exposes the JavaScript
[HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n *\n\npublic external
abstract class HTMLInputElement : Element, ElementCSSInlineStyle, GlobalEventHandlers,
DocumentAndElementEventHandlers, ElementContentEditable {\n open var title: String\n open var lang:
String\n open var translate: Boolean\n open var dir: String\n open val dataset: DOMStringMap\n open var
hidden: Boolean\n open var tabIndex: Int\n open var accessKey: String\n open val accessKeyLabel: String\n

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open var draggable: Boolean\n open val dropzone: DOMTokenList\n open var contextMenu:
 HTMLMenuElement?\n open var spellcheck: Boolean\n open var innerText: String\n open val offsetParent:
 Element?\n open val offsetTop: Int\n open val offsetLeft: Int\n open val offsetWidth: Int\n open val
 offsetHeight: Int\n fun click(): Unit\n fun focus(): Unit\n fun blur(): Unit\n fun forceSpellCheck():
 Unit\n}\n\n**\n * Exposes the JavaScript
 [HTMLUnknownElement](https://developer.mozilla.org/en/docs/Web/API/HTMLUnknownElement) to Kotlin\n
 *\npublic external abstract class HTMLUnknownElement : HTMLElement {\n}\n\n**\n * Exposes the JavaScript
 [DOMStringMap](https://developer.mozilla.org/en/docs/Web/API/DOMStringMap) to Kotlin\n *\npublic external
 abstract class DOMStringMap {\n}\n\n@kotlin.internal.InlineOnly inline operator fun DOMStringMap.get(name:
 String): String? = asDynamic()[name]\n\n@kotlin.internal.InlineOnly inline operator fun DOMStringMap.set(name:
 String, value: String): Unit { asDynamic()[name] = value; }\n\n**\n * Exposes the JavaScript
 [HTMLHtmlElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHtmlElement) to Kotlin\n *\npublic
 external abstract class HTMLHtmlElement : HTMLElement {\n open var version: String\n}\n\n**\n * Exposes
 the JavaScript [HTMLHeadElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadElement) to
 Kotlin\n *\npublic external abstract class HTMLHeadElement : HTMLElement {\n}\n\n**\n * Exposes the
 JavaScript [HTMLTitleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTitleElement) to Kotlin\n
 *\npublic external abstract class HTMLTitleElement : HTMLElement {\n open var text: String\n}\n\n**\n *
 Exposes the JavaScript [HTMLBaseElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBaseElement)
 to Kotlin\n *\npublic external abstract class HTMLBaseElement : HTMLElement {\n open var href: String\n
 open var target: String\n}\n\n**\n * Exposes the JavaScript
 [HTMLLinkElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLinkElement) to Kotlin\n *\npublic
 external abstract class HTMLLinkElement : HTMLElement, LinkStyle {\n open var scope: String\n open var
 workerType: WorkerType\n open var href: String\n open var crossOrigin: String?\n open var rel: String\n
 @JsName("\nas") open var as_: RequestDestination\n open val relList: DOMTokenList\n open var media:
 String\n open var nonce: String\n open var hreflang: String\n open var type: String\n open val sizes:
 DOMTokenList\n open var referrerPolicy: String\n open var charset: String\n open var rev: String\n open var
 target: String\n}\n\n**\n * Exposes the JavaScript
 [HTMLMetaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMetaElement) to Kotlin\n *\npublic
 external abstract class HTMLMetaElement : HTMLElement {\n open var name: String\n open var httpEquiv:
 String\n open var content: String\n open var scheme: String\n}\n\n**\n * Exposes the JavaScript
 [HTMLStyleElement](https://developer.mozilla.org/en/docs/Web/API/HTMLStyleElement) to Kotlin\n *\npublic
 external abstract class HTMLStyleElement : HTMLElement, LinkStyle {\n open var media: String\n open var
 nonce: String\n open var type: String\n}\n\n**\n * Exposes the JavaScript
 [HTMLBodyElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBodyElement) to Kotlin\n *\npublic
 external abstract class HTMLBodyElement : HTMLElement, WindowEventHandlers {\n open var text: String\n
 open var link: String\n open var vLink: String\n open var aLink: String\n open var bgColor: String\n open
 var background: String\n}\n\n**\n * Exposes the JavaScript
 [HTMLHeadingElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHeadingElement) to Kotlin\n
 *\npublic external abstract class HTMLHeadingElement : HTMLElement {\n open var align: String\n}\n\n**\n *
 Exposes the JavaScript
 [HTMLParagraphElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParagraphElement) to Kotlin\n
 *\npublic external abstract class HTMLParagraphElement : HTMLElement {\n open var align: String\n}\n\n**\n *
 Exposes the JavaScript [HTMLHRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLHRElement)
 to Kotlin\n *\npublic external abstract class HTMLHRElement : HTMLElement {\n open var align: String\n
 open var color: String\n open var noShade: Boolean\n open var size: String\n open var width:
 String\n}\n\n**\n * Exposes the JavaScript
 [HTMLPreElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPreElement) to Kotlin\n *\npublic
 external abstract class HTMLPreElement : HTMLElement {\n open var width: Int\n}\n\n**\n * Exposes the

JavaScript [HTMLQuoteElement](https://developer.mozilla.org/en/docs/Web/API/HTMLQuoteElement) to Kotlin\n *\\npublic external abstract class HTMLQuoteElement : HTMLInputElement {\n open var cite: String\n}\n\n**\n * Exposes the JavaScript

[HTMLLOListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLOListElement) to Kotlin\n *\\npublic external abstract class HTMLLOListElement : HTMLInputElement {\n open var reversed: Boolean\n open var start: Int\n open var type: String\n open var compact: Boolean\n}\n\n**\n * Exposes the JavaScript

[HTMLULListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLULListElement) to Kotlin\n *\\npublic external abstract class HTMLULListElement : HTMLInputElement {\n open var compact: Boolean\n open var type: String\n}\n\n**\n * Exposes the JavaScript

[HTMLLIElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLIElement) to Kotlin\n *\\npublic external abstract class HTMLLIElement : HTMLInputElement {\n open var value: Int\n open var type: String\n}\n\n**\n * Exposes the JavaScript

[HTMLDListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDListElement) to Kotlin\n *\\npublic external abstract class HTMLDListElement : HTMLInputElement {\n open var compact: Boolean\n}\n\n**\n * Exposes the JavaScript

[HTMLDivElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDivElement) to Kotlin\n *\\npublic external abstract class HTMLDivElement : HTMLInputElement {\n open var align: String\n}\n\n**\n * Exposes the JavaScript

[HTMLAnchorElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAnchorElement) to Kotlin\n *\\npublic external abstract class HTMLAnchorElement : HTMLInputElement, HTMLHyperlinkElementUtils {\n open var target: String\n open var download: String\n open var ping: String\n open var rel: String\n open var relList: DOMTokenList\n open var hreflang: String\n open var type: String\n open var text: String\n open var referrerPolicy: String\n open var coords: String\n open var charset: String\n open var name: String\n open var rev: String\n open var shape: String\n}\n\n**\n * Exposes the JavaScript

[HTMLDataElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataElement) to Kotlin\n *\\npublic external abstract class HTMLDataElement : HTMLInputElement {\n open var value: String\n}\n\n**\n * Exposes the JavaScript

[HTMLTimeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTimeElement) to Kotlin\n *\\npublic external abstract class HTMLTimeElement : HTMLInputElement {\n open var dateTime: String\n}\n\n**\n * Exposes the JavaScript

[HTMLSpanElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSpanElement) to Kotlin\n *\\npublic external abstract class HTMLSpanElement : HTMLInputElement {\n}\n\n**\n * Exposes the JavaScript

[HTMLBRElement](https://developer.mozilla.org/en/docs/Web/API/HTMLBRElement) to Kotlin\n *\\npublic external abstract class HTMLBRElement : HTMLInputElement {\n open var clear: String\n}\n\n**\n * Exposes the JavaScript

[HTMLHyperlinkElementUtils](https://developer.mozilla.org/en/docs/Web/API/HTMLHyperlinkElementUtils) to Kotlin\n *\\npublic external interface HTMLHyperlinkElementUtils {\n var href: String\n val origin: String\n var protocol: String\n var username: String\n var password: String\n var host: String\n var hostname: String\n var port: String\n var pathname: String\n var search: String\n var hash: String\n}\n\n**\n * Exposes the JavaScript

[HTMLModElement](https://developer.mozilla.org/en/docs/Web/API/HTMLModElement) to Kotlin\n *\\npublic external abstract class HTMLModElement : HTMLInputElement {\n open var cite: String\n open var dateTime: String\n}\n\n**\n * Exposes the JavaScript

[HTMLPictureElement](https://developer.mozilla.org/en/docs/Web/API/HTMLPictureElement) to Kotlin\n *\\npublic external abstract class HTMLPictureElement : HTMLInputElement {\n}\n\n**\n * Exposes the JavaScript

[HTMLSourceElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSourceElement) to Kotlin\n *\\npublic external abstract class HTMLSourceElement : HTMLInputElement {\n open var src: String\n open var type: String\n open var srcset: String\n open var sizes: String\n open var media: String\n}\n\n**\n * Exposes the JavaScript

[HTMLImageElement](https://developer.mozilla.org/en/docs/Web/API/HTMLImageElement) to Kotlin\n *\\npublic external abstract class HTMLImageElement : HTMLInputElement, TexImageSource, HTMLImageElement {\n open var alt: String\n open var src: String\n open var srcset: String\n open

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var sizes: String\n  open var crossOrigin: String?\n  open var useMap: String\n  open var isMap: Boolean\n
open var width: Int\n  open var height: Int\n  open val naturalWidth: Int\n  open val naturalHeight: Int\n  open
val complete: Boolean\n  open val currentSrc: String\n  open varreferrerPolicy: String\n  open var name:
String\n  open var lowsrc: String\n  open var align: String\n  open var hspace: Int\n  open var vspace: Int\n
open var longDesc: String\n  open var border: String\n  open val x: Int\n  open val y: Int\n}\n\n/*\n * Exposes
the JavaScript [Image](https://developer.mozilla.org/en/docs/Web/API/Image) to Kotlin\n *\n\npublic external open
class Image(width: Int = definedExternally, height: Int = definedExternally) : HTMLImageElement {\n  override
val children: HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild:
Element?\n  override val childElementCount: Int\n  override val previousElementSibling: Element?\n  override
val nextElementSibling: Element?\n  override val assignedSlot: HTMLSlotElement?\n  override val style:
CSSStyleDeclaration\n  override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var
onlostpointercapture: ((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n
  override var onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) ->
dynamic)?\n  override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover:
((PointerEvent) -> dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var
onpointerenter: ((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n
  override var onabort: ((Event) -> dynamic)?\n  override var onblur: ((FocusEvent) -> dynamic)?\n  override var
oncancel: ((Event) -> dynamic)?\n  override var oncanplay: ((Event) -> dynamic)?\n  override var
oncanplaythrough: ((Event) -> dynamic)?\n  override var onchange: ((Event) -> dynamic)?\n  override var
onclick: ((MouseEvent) -> dynamic)?\n  override var onclose: ((Event) -> dynamic)?\n  override var
oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n  override var
ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n  override var
ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter: ((DragEvent) -> dynamic)?\n  override var
ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave: ((DragEvent) -> dynamic)?\n  override var
ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart: ((DragEvent) -> dynamic)?\n  override var
ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange: ((Event) -> dynamic)?\n  override var
onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) -> dynamic)?\n  override var onerror:
((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus: ((FocusEvent) -> dynamic)?\n  override
var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n  override var
onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress: ((KeyboardEvent) -> dynamic)?\n
  override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) -> dynamic)?\n  override
var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var
onloadend: ((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var
onmousedown: ((MouseEvent) -> dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n
  override var onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) ->
dynamic)?\n  override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover:
((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel:
((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) ->
dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) ->
dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n
  override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var
onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect:
((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) ->
dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n
  override var ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable:

```

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Boolean\n  override fun prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes: dynamic):
Unit\n  override fun querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors:
String): NodeList\n  override fun before(vararg nodes: dynamic): Unit\n  override fun after(vararg nodes:
dynamic): Unit\n  override fun replaceWith(vararg nodes: dynamic): Unit\n  override fun remove(): Unit\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[HTMLIFrameElement](https://developer.mozilla.org/en/docs/Web/API/HTMLIFrameElement) to Kotlin\n
*\n\npublic external abstract class HTMLIFrameElement : HTMLInputElement {\n  open var src: String\n  open var
srcdoc: String\n  open var name: String\n  open val sandbox: DOMTokenList\n  open var allowFullscreen:
Boolean\n  open var allowUserMedia: Boolean\n  open var width: String\n  open var height: String\n  open var
referrerPolicy: String\n  open val contentDocument: Document?\n  open val contentWindow: Window?\n  open
var align: String\n  open var scrolling: String\n  open var frameBorder: String\n  open var longDesc: String\n
open var marginHeight: String\n  open var marginWidth: String\n  fun getSVGDocument():
Document?\n}\n\n/**\n * Exposes the JavaScript
[HTMLEmbedElement](https://developer.mozilla.org/en/docs/Web/API/HTMLEmbedElement) to Kotlin\n
*\n\npublic external abstract class HTMLEmbedElement : HTMLInputElement {\n  open var src: String\n  open var
type: String\n  open var width: String\n  open var height: String\n  open var align: String\n  open var name:
String\n  fun getSVGDocument(): Document?\n}\n\n/**\n * Exposes the JavaScript
[HTMLObjectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLObjectElement) to Kotlin\n
*\n\npublic external abstract class HTMLObjectElement : HTMLInputElement {\n  open var data: String\n  open var
type: String\n  open var typeMustMatch: Boolean\n  open var name: String\n  open var useMap: String\n  open
val form: HTMLFormElement?\n  open var width: String\n  open var height: String\n  open val
contentDocument: Document?\n  open val contentWindow: Window?\n  open val willValidate: Boolean\n  open
val validity: ValidityState\n  open val validationMessage: String\n  open var align: String\n  open var archive:
String\n  open var code: String\n  open var declare: Boolean\n  open var hspace: Int\n  open var standby:
String\n  open var vspace: Int\n  open var codeBase: String\n  open var codeType: String\n  open var border:
String\n  fun getSVGDocument(): Document?\n  fun checkValidity(): Boolean\n  fun reportValidity():
Boolean\n  fun setCustomValidity(error: String): Unit\n}\n\n/**\n * Exposes the JavaScript
[HTMLParamElement](https://developer.mozilla.org/en/docs/Web/API/HTMLParamElement) to Kotlin\n
*\n\npublic external abstract class HTMLParamElement : HTMLInputElement {\n  open var name: String\n  open var
value: String\n  open var type: String\n  open var valueType: String\n}\n\n/**\n * Exposes the JavaScript
[HTMLVideoElement](https://developer.mozilla.org/en/docs/Web/API/HTMLVideoElement) to Kotlin\n
*\n\npublic external abstract class HTMLVideoElement : HTMLMediaElement, TexImageSource {\n  open var width: Int\n
open var height: Int\n  open val videoWidth: Int\n  open val videoHeight: Int\n  open var poster: String\n  open
var playsInline: Boolean\n}\n\n/**\n * Exposes the JavaScript
[HTMLAudioElement](https://developer.mozilla.org/en/docs/Web/API/HTMLAudioElement) to Kotlin\n
*\n\npublic external abstract class HTMLAudioElement : HTMLMediaElement {\n}\n\n\npublic external open class
Audio(src: String = definedExternally) : HTMLAudioElement {\n  override val children: HTMLCollection\n
override val firstElementChild: Element?\n  override val lastElementChild: Element?\n  override val
childElementCount: Int\n  override val previousElementSibling: Element?\n  override val nextElementSibling:
Element?\n  override val assignedSlot: HTMLSlotElement?\n  override val style: CSSStyleDeclaration\n
override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n  override var onlostpointercapture:
((PointerEvent) -> dynamic)?\n  override var onpointerdown: ((PointerEvent) -> dynamic)?\n  override var
onpointermove: ((PointerEvent) -> dynamic)?\n  override var onpointerup: ((PointerEvent) -> dynamic)?\n

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override var onpointercancel: ((PointerEvent) -> dynamic)?\n  override var onpointerover: ((PointerEvent) ->
dynamic)?\n  override var onpointerout: ((PointerEvent) -> dynamic)?\n  override var onpointerenter:
((PointerEvent) -> dynamic)?\n  override var onpointerleave: ((PointerEvent) -> dynamic)?\n  override var
onabort: ((Event) -> dynamic)?\n  override var onblur: ((FocusEvent) -> dynamic)?\n  override var onCancel:
((Event) -> dynamic)?\n  override var oncanplay: ((Event) -> dynamic)?\n  override var oncanplaythrough:
((Event) -> dynamic)?\n  override var onChange: ((Event) -> dynamic)?\n  override var onclick: ((MouseEvent) ->
dynamic)?\n  override var onClose: ((Event) -> dynamic)?\n  override var oncontextmenu: ((MouseEvent) ->
dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n  override var ondblclick: ((MouseEvent) ->
dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n  override var ondragend: ((DragEvent) ->
dynamic)?\n  override var ondragenter: ((DragEvent) -> dynamic)?\n  override var ondragexit: ((DragEvent) ->
dynamic)?\n  override var ondragleave: ((DragEvent) -> dynamic)?\n  override var ondragover: ((DragEvent) ->
dynamic)?\n  override var ondragstart: ((DragEvent) -> dynamic)?\n  override var ondrop: ((DragEvent) ->
dynamic)?\n  override var ondurationchange: ((Event) -> dynamic)?\n  override var onemptied: ((Event) ->
dynamic)?\n  override var onended: ((Event) -> dynamic)?\n  override var onerror: ((dynamic, String, Int, Int,
Any?) -> dynamic)?\n  override var onfocus: ((FocusEvent) -> dynamic)?\n  override var oninput: ((InputEvent) ->
dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n  override var onkeydown: ((KeyboardEvent) ->
dynamic)?\n  override var onkeypress: ((KeyboardEvent) -> dynamic)?\n  override var onkeyup:
((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) -> dynamic)?\n  override var onloadeddata:
((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var onloadend:
((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var onmousedown:
((MouseEvent) -> dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n  override var
onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) -> dynamic)?\n
override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover: ((MouseEvent) ->
dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel: ((WheelEvent) ->
dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) -> dynamic)?\n
override var onplaying: ((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) -> dynamic)?\n
override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n  override var
onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var onseeked:
((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect: ((Event) ->
dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) -> dynamic)?\n
override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n  override var
ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable:
Boolean\n  override fun prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes: dynamic):
Unit\n  override fun querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors:
String): NodeList\n  override fun before(vararg nodes: dynamic): Unit\n  override fun after(vararg nodes:
dynamic): Unit\n  override fun replaceWith(vararg nodes: dynamic): Unit\n  override fun remove(): Unit\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[HTMLTrackElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTrackElement) to Kotlin\n */\npublic
external abstract class HTMLTrackElement : HTMLMLElement {\n  open var kind: String\n  open var src: String\n
open var srclang: String\n  open var label: String\n  open var default: Boolean\n  open val readyState: Short\n

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HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n fun insertRow(index: Int = definedExternally): HTMLInputElement\n fun deleteRow(index: Int): Unit\n}\n\n/**\n * Exposes the JavaScript

[HTMLTableRowElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableRowElement) to Kotlin\n */\npublic external abstract class HTMLTableRowElement : HTMLInputElement {\n open val rowIndex: Int\n open val sectionRowIndex: Int\n open val cells: HTMLCollection\n open var align: String\n open var ch: String\n open var chOff: String\n open var vAlign: String\n open var bgColor: String\n fun insertCell(index: Int = definedExternally): HTMLInputElement\n fun deleteCell(index: Int): Unit\n}\n\n/**\n * Exposes the JavaScript

[HTMLTableCellElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTableCellElement) to Kotlin\n */\npublic external abstract class HTMLTableCellElement : HTMLInputElement {\n open var colSpan: Int\n open var rowSpan: Int\n open var headers: String\n open val cellIndex: Int\n open var scope: String\n open var abbr: String\n open var align: String\n open var axis: String\n open var height: String\n open var width: String\n open var ch: String\n open var chOff: String\n open var noWrap: Boolean\n open var vAlign: String\n open var bgColor: String\n}\n\n/**\n * Exposes the JavaScript

[HTMLFormElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFormElement) to Kotlin\n */\npublic external abstract class HTMLFormElement : HTMLInputElement {\n open var acceptCharset: String\n open var action: String\n open var autocomplete: String\n open var enctype: String\n open var encoding: String\n open var method: String\n open var name: String\n open var noValidate: Boolean\n open var target: String\n open val elements: HTMLFormControlsCollection\n open val length: Int\n fun submit(): Unit\n fun reset(): Unit\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n}\n@kotlin.internal.InlineOnly inline operator fun HTMLFormElement.get(index: Int): Element? = asDynamic()[index]\n@kotlin.internal.InlineOnly inline operator fun HTMLFormElement.get(name: String): UnionElementOrRadioNodeList? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript

[HTMLLabelElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLabelElement) to Kotlin\n */\npublic external abstract class HTMLLabelElement : HTMLInputElement {\n open val form: HTMLFormElement?\n open var htmlFor: String\n open val control: HTMLInputElement?\n}\n\n/**\n * Exposes the JavaScript

[HTMLInputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLInputElement) to Kotlin\n */\npublic external abstract class HTMLInputElement : HTMLInputElement {\n open var accept: String\n open var alt: String\n open var autocomplete: String\n open var autofocus: Boolean\n open var defaultChecked: Boolean\n open var checked: Boolean\n open var dirName: String\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open val files: FileList?\n open var formAction: String\n open var formEnctype: String\n open var formMethod: String\n open var formNoValidate: Boolean\n open var formTarget: String\n open var height: Int\n open var indeterminate: Boolean\n open var inputMode: String\n open val list: HTMLInputElement?\n open var max: String\n open var maxLength: Int\n open var min: String\n open var minLength: Int\n open var multiple: Boolean\n open var name: String\n open var pattern: String\n open var placeholder: String\n open var readOnly: Boolean\n open var required: Boolean\n open var size: Int\n open var src: String\n open var step: String\n open var type: String\n open var defaultValue: String\n open var value: String\n open var valueAsDate: dynamic\n open var valueAsNumber: Double\n open var width: Int\n open val willValidate: Boolean\n open val validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n open var selectionStart: Int?\n open var selectionEnd: Int?\n open var selectionDirection: String?\n open var align: String\n open var useMap: String\n fun stepUp(n: Int = definedExternally): Unit\n fun stepDown(n: Int = definedExternally): Unit\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String): Unit\n fun select(): Unit\n fun setRangeText(replacement: String): Unit\n fun setRangeText(replacement: String, start: Int, end: Int, selectionMode: SelectionMode = definedExternally): Unit\n fun setSelectionRange(start: Int, end: Int, direction: String = definedExternally): Unit\n}\n\n/**\n * Exposes the JavaScript

[HTMLButtonElement](https://developer.mozilla.org/en/docs/Web/API/HTMLButtonElement) to Kotlin\n */\npublic external abstract class HTMLButtonElement : HTMLInputElement {\n open var autofocus: Boolean\n

open var disabled: Boolean\n
 open val form: HTMLFormElement?\n
 open var formAction: String\n
 open var formEnctype: String\n
 open var formMethod: String\n
 open var formNoValidate: Boolean\n
 open var formTarget: String\n
 open var name: String\n
 open var type: String\n
 open var value: String\n
 open var menu: HTMLMenuElement?\n
 open val willValidate: Boolean\n
 open val validity: ValidityState\n
 open val validationMessage: String\n
 open val labels: NodeList\n
 fun checkValidity(): Boolean\n
 fun reportValidity(): Boolean\n
 fun setCustomValidity(error: String): Unit\n
 }\n\n/**\n
 * Exposes the JavaScript [HTMLSelectElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSelectElement) to Kotlin\n
 *\n
 * public external abstract class HTMLSelectElement : HTMLInputElement, ItemArrayLike<Element> {\n
 * open var autocomplete: String\n
 * open var autofocus: Boolean\n
 * open var disabled: Boolean\n
 * open val form: HTMLFormElement?\n
 * open var multiple: Boolean\n
 * open var name: String\n
 * open var required: Boolean\n
 * open var size: Int\n
 * open val type: String\n
 * open val options: HTMLOptionsCollection\n
 * override var length: Int\n
 * open val selectedOptions: HTMLCollection\n
 * open var selectedIndex: Int\n
 * open var value: String\n
 * open val willValidate: Boolean\n
 * open val validity: ValidityState\n
 * open val validationMessage: String\n
 * open val labels: NodeList\n
 * override fun item(index: Int): Element?\n
 * fun namedItem(name: String): HTMLOptionElement?\n
 * fun add(element: UnionHTMLOptGroupElementOrHTMLOptionElement, before: dynamic = definedExternally): Unit\n
 * fun remove(index: Int): Unit\n
 * fun checkValidity(): Boolean\n
 * fun reportValidity(): Boolean\n
 * fun setCustomValidity(error: String): Unit\n
 * }\n
 * @kotlin.internal.InlineOnly inline operator fun HTMLSelectElement.get(index: Int): Element? = asDynamic()[index]\n
 * @kotlin.internal.InlineOnly inline operator fun HTMLSelectElement.set(index: Int, option: HTMLOptionElement?): Unit { asDynamic()[index] = option; }\n
 }\n\n/**\n
 * Exposes the JavaScript [HTMLDataListElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDataListElement) to Kotlin\n
 *\n
 * public external abstract class HTMLDataListElement : HTMLInputElement {\n
 * open val options: HTMLCollection\n
 * }\n
 }\n\n/**\n
 * Exposes the JavaScript [HTMLOptGroupElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptGroupElement) to Kotlin\n
 *\n
 * public external abstract class HTMLOptGroupElement : HTMLInputElement, UnionHTMLOptGroupElementOrHTMLOptionElement {\n
 * open var disabled: Boolean\n
 * open var label: String\n
 * }\n
 }\n\n/**\n
 * Exposes the JavaScript [HTMLOptionElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOptionElement) to Kotlin\n
 *\n
 * public external abstract class HTMLOptionElement : HTMLInputElement, UnionHTMLOptGroupElementOrHTMLOptionElement {\n
 * open var disabled: Boolean\n
 * open val form: HTMLFormElement?\n
 * open var label: String\n
 * open var defaultSelected: Boolean\n
 * open var selected: Boolean\n
 * open var value: String\n
 * open var text: String\n
 * open val index: Int\n
 * }\n
 }\n\n/**\n
 * Exposes the JavaScript [Option](https://developer.mozilla.org/en/docs/Web/API/Option) to Kotlin\n
 *\n
 * public external open class Option(text: String = definedExternally, value: String = definedExternally, defaultSelected: Boolean = definedExternally, selected: Boolean = definedExternally) : HTMLOptionElement {\n
 * override val children: HTMLCollection\n
 * override val firstElementChild: Element?\n
 * override val lastElementChild: Element?\n
 * override val childElementCount: Int\n
 * override val previousElementSibling: Element?\n
 * override val nextElementSibling: Element?\n
 * override val assignedSlot: HTMLSlotElement?\n
 * override val style: CSSStyleDeclaration\n
 * override var ongotpointercapture: ((PointerEvent) -> dynamic)?\n
 * override var onlostpointercapture: ((PointerEvent) -> dynamic)?\n
 * override var onpointerdown: ((PointerEvent) -> dynamic)?\n
 * override var onpointermove: ((PointerEvent) -> dynamic)?\n
 * override var onpointerup: ((PointerEvent) -> dynamic)?\n
 * override var onpointerover: ((PointerEvent) -> dynamic)?\n
 * override var onpointercancel: ((PointerEvent) -> dynamic)?\n
 * override var onpointerout: ((PointerEvent) -> dynamic)?\n
 * override var onpointerenter: ((PointerEvent) -> dynamic)?\n
 * override var onpointerleave: ((PointerEvent) -> dynamic)?\n
 * override var onabort: ((Event) -> dynamic)?\n
 * override var onblur: ((FocusEvent) -> dynamic)?\n
 * override var oncancel: ((Event) -> dynamic)?\n
 * override var oncanplay: ((Event) -> dynamic)?\n
 * override var oncanplaythrough: ((Event) -> dynamic)?\n
 * override var onchange: ((Event) -> dynamic)?\n
 * override var onclick: ((MouseEvent) -> dynamic)?\n
 * override var onclose: ((Event) -> dynamic)?\n
 * override var

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oncontextmenu: ((MouseEvent) -> dynamic)?\n  override var oncuechange: ((Event) -> dynamic)?\n  override var
ondblclick: ((MouseEvent) -> dynamic)?\n  override var ondrag: ((DragEvent) -> dynamic)?\n  override var
ondragend: ((DragEvent) -> dynamic)?\n  override var ondragenter: ((DragEvent) -> dynamic)?\n  override var
ondragexit: ((DragEvent) -> dynamic)?\n  override var ondragleave: ((DragEvent) -> dynamic)?\n  override var
ondragover: ((DragEvent) -> dynamic)?\n  override var ondragstart: ((DragEvent) -> dynamic)?\n  override var
ondrop: ((DragEvent) -> dynamic)?\n  override var ondurationchange: ((Event) -> dynamic)?\n  override var
onemptied: ((Event) -> dynamic)?\n  override var onended: ((Event) -> dynamic)?\n  override var onerror:
((dynamic, String, Int, Int, Any?) -> dynamic)?\n  override var onfocus: ((FocusEvent) -> dynamic)?\n  override
var oninput: ((InputEvent) -> dynamic)?\n  override var oninvalid: ((Event) -> dynamic)?\n  override var
onkeydown: ((KeyboardEvent) -> dynamic)?\n  override var onkeypress: ((KeyboardEvent) -> dynamic)?\n
override var onkeyup: ((KeyboardEvent) -> dynamic)?\n  override var onload: ((Event) -> dynamic)?\n  override
var onloadeddata: ((Event) -> dynamic)?\n  override var onloadedmetadata: ((Event) -> dynamic)?\n  override var
onloadend: ((Event) -> dynamic)?\n  override var onloadstart: ((ProgressEvent) -> dynamic)?\n  override var
onmousedown: ((MouseEvent) -> dynamic)?\n  override var onmouseenter: ((MouseEvent) -> dynamic)?\n
override var onmouseleave: ((MouseEvent) -> dynamic)?\n  override var onmousemove: ((MouseEvent) ->
dynamic)?\n  override var onmouseout: ((MouseEvent) -> dynamic)?\n  override var onmouseover:
((MouseEvent) -> dynamic)?\n  override var onmouseup: ((MouseEvent) -> dynamic)?\n  override var onwheel:
((WheelEvent) -> dynamic)?\n  override var onpause: ((Event) -> dynamic)?\n  override var onplay: ((Event) ->
dynamic)?\n  override var onplaying: ((Event) -> dynamic)?\n  override var onprogress: ((ProgressEvent) ->
dynamic)?\n  override var onratechange: ((Event) -> dynamic)?\n  override var onreset: ((Event) -> dynamic)?\n
override var onresize: ((Event) -> dynamic)?\n  override var onscroll: ((Event) -> dynamic)?\n  override var
onseeked: ((Event) -> dynamic)?\n  override var onseeking: ((Event) -> dynamic)?\n  override var onselect:
((Event) -> dynamic)?\n  override var onshow: ((Event) -> dynamic)?\n  override var onstalled: ((Event) ->
dynamic)?\n  override var onsubmit: ((Event) -> dynamic)?\n  override var onsuspend: ((Event) -> dynamic)?\n
override var ontimeupdate: ((Event) -> dynamic)?\n  override var ontoggle: ((Event) -> dynamic)?\n  override var
onvolumechange: ((Event) -> dynamic)?\n  override var onwaiting: ((Event) -> dynamic)?\n  override var oncopy:
((ClipboardEvent) -> dynamic)?\n  override var oncut: ((ClipboardEvent) -> dynamic)?\n  override var onpaste:
((ClipboardEvent) -> dynamic)?\n  override var contentEditable: String\n  override val isContentEditable:
Boolean\n  override fun prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes: dynamic):
Unit\n  override fun querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors:
String): NodeList\n  override fun before(vararg nodes: dynamic): Unit\n  override fun after(vararg nodes:
dynamic): Unit\n  override fun replaceWith(vararg nodes: dynamic): Unit\n  override fun remove(): Unit\n
override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n  override
fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMQuad\n  override fun convertRectFromNode(rect: DOMRectReadOnly, from:
dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n  override fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* =
definedExternally */): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[HTMLTextAreaElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTextAreaElement) to Kotlin\n
*/\npublic external abstract class HTMLTextAreaElement : HTMLInputElement {\n  open var autocomplete: String\n
open var autofocus: Boolean\n  open var cols: Int\n  open var dirName: String\n  open var disabled: Boolean\n
open val form: HTMLFormElement?\n  open var inputMode: String\n  open var maxLength: Int\n  open var
minLength: Int\n  open var name: String\n  open var placeholder: String\n  open var readOnly: Boolean\n  open
var required: Boolean\n  open var rows: Int\n  open var wrap: String\n  open val type: String\n  open var
defaultValue: String\n  open var value: String\n  open val textLength: Int\n  open val willValidate: Boolean\n
open val validity: ValidityState\n  open val validationMessage: String\n  open val labels: NodeList\n  open var
selectionStart: Int?\n  open var selectionEnd: Int?\n  open var selectionDirection: String?\n  fun checkValidity():
Boolean\n  fun reportValidity(): Boolean\n  fun setCustomValidity(error: String): Unit\n  fun select(): Unit\n

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fun setRangeText(replacement: String): Unit\n fun setRangeText(replacement: String, start: Int, end: Int,
selectionMode: SelectionMode = definedExternally): Unit\n fun setSelectedRange(start: Int, end: Int, direction:
String = definedExternally): Unit\n}\n\n/**\n * Exposes the JavaScript
[HTMLKeygenElement](https://developer.mozilla.org/en/docs/Web/API/HTMLKeygenElement) to Kotlin\n
*\npublic external abstract class HTMLKeygenElement : HTMLInputElement {\n open var autofocus: Boolean\n
open var challenge: String\n open var disabled: Boolean\n open val form: HTMLFormElement?\n open var
keytype: String\n open var name: String\n open val type: String\n open val willValidate: Boolean\n open val
validity: ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity():
Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String): Unit\n}\n\n/**\n * Exposes the
JavaScript [HTMLOutputElement](https://developer.mozilla.org/en/docs/Web/API/HTMLOutputElement) to
Kotlin\n
*\npublic external abstract class HTMLOutputElement : HTMLInputElement {\n open val htmlFor:
DOMTokenList\n open val form: HTMLFormElement?\n open var name: String\n open val type: String\n
open var defaultValue: String\n open var value: String\n open val willValidate: Boolean\n open val validity:
ValidityState\n open val validationMessage: String\n open val labels: NodeList\n fun checkValidity():
Boolean\n fun reportValidity(): Boolean\n fun setCustomValidity(error: String): Unit\n}\n\n/**\n * Exposes the
JavaScript [HTMLProgressElement](https://developer.mozilla.org/en/docs/Web/API/HTMLProgressElement) to
Kotlin\n
*\npublic external abstract class HTMLProgressElement : HTMLInputElement {\n open var value: Double\n
open var max: Double\n open val position: Double\n open val labels: NodeList\n}\n\n/**\n * Exposes the
JavaScript [HTMLMeterElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMeterElement) to Kotlin\n
*\npublic external abstract class HTMLMeterElement : HTMLInputElement {\n open var value: Double\n open var
min: Double\n open var max: Double\n open var low: Double\n open var high: Double\n open var optimum:
Double\n open val labels: NodeList\n}\n\n/**\n * Exposes the JavaScript
[HTMLFieldSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFieldSetElement) to Kotlin\n
*\npublic external abstract class HTMLFieldSetElement : HTMLInputElement {\n open var disabled: Boolean\n
open val form: HTMLFormElement?\n open var name: String\n open val type: String\n open val elements:
HTMLCollection\n open val willValidate: Boolean\n open val validity: ValidityState\n open val
validationMessage: String\n fun checkValidity(): Boolean\n fun reportValidity(): Boolean\n fun
setCustomValidity(error: String): Unit\n}\n\n/**\n * Exposes the JavaScript
[HTMLLegendElement](https://developer.mozilla.org/en/docs/Web/API/HTMLLegendElement) to Kotlin\n
*\npublic external abstract class HTMLLegendElement : HTMLInputElement {\n open val form:
HTMLFormElement?\n open var align: String\n}\n\n/**\n * Exposes the JavaScript
[ValidityState](https://developer.mozilla.org/en/docs/Web/API/ValidityState) to Kotlin\n
*\npublic external
abstract class ValidityState {\n open val valueMissing: Boolean\n open val typeMismatch: Boolean\n open val
patternMismatch: Boolean\n open val tooLong: Boolean\n open val tooShort: Boolean\n open val
rangeUnderflow: Boolean\n open val rangeOverflow: Boolean\n open val stepMismatch: Boolean\n open val
badInput: Boolean\n open val customError: Boolean\n open val valid: Boolean\n}\n\n/**\n * Exposes the
JavaScript [HTMLDetailsElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDetailsElement) to
Kotlin\n
*\npublic external abstract class HTMLDetailsElement : HTMLInputElement {\n open var open:
Boolean\n}\n\npublic external abstract class HTMLMenuElement : HTMLInputElement {\n open var type: String\n
open var label: String\n open var compact: Boolean\n}\n\npublic external abstract class HTMLMenuItemElement
: HTMLInputElement {\n open var type: String\n open var label: String\n open var icon: String\n open var
disabled: Boolean\n open var checked: Boolean\n open var radiogroup: String\n open var default:
Boolean\n}\n\npublic external open class RelatedEvent(type: String, eventInitDict: RelatedEventInit =
definedExternally) : Event {\n open val relatedTarget: EventTarget?\n}\n\npublic external interface
RelatedEventInit : EventInit {\n var relatedTarget: EventTarget? /* = null */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RelatedEventInit(relatedTarget:
EventTarget? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
RelatedEventInit {\n val o = js("{}")\n o["relatedTarget"] = relatedTarget\n o["bubbles"] = bubbles\n

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o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\n/**\n * Exposes the JavaScript
[HTMLDialogElement](https://developer.mozilla.org/en/docs/Web/API/HTMLDialogElement) to Kotlin\n
*\npublic external abstract class HTMLDialogElement : HTMLInputElement {\n  open var open: Boolean\n  open var
returnValue: String\n  fun show(anchor: UnionElementOrMouseEvent = definedExternally): Unit\n  fun
showModal(anchor: UnionElementOrMouseEvent = definedExternally): Unit\n  fun close(returnValue: String =
definedExternally): Unit\n}\n\n/**\n * Exposes the JavaScript
[HTMLScriptElement](https://developer.mozilla.org/en/docs/Web/API/HTMLScriptElement) to Kotlin\n
*\npublic external abstract class HTMLScriptElement : HTMLInputElement, HTMLScriptElement {\n  open var src:
String\n  open var type: String\n  open var charset: String\n  open var async: Boolean\n  open var defer:
Boolean\n  open var crossOrigin: String?\n  open var text: String\n  open var nonce: String\n  open var event:
String\n  open var htmlFor: String\n}\n\n/**\n * Exposes the JavaScript
[HTMLTemplateElement](https://developer.mozilla.org/en/docs/Web/API/HTMLTemplateElement) to Kotlin\n
*\npublic external abstract class HTMLTemplateElement : HTMLInputElement {\n  open val content:
DocumentFragment\n}\n\n/**\n * Exposes the JavaScript
[HTMLSlotElement](https://developer.mozilla.org/en/docs/Web/API/HTMLSlotElement) to Kotlin\n
*\npublic external abstract class HTMLSlotElement : HTMLInputElement {\n  open var name: String\n  fun
assignedNodes(options: AssignedNodesOptions = definedExternally): Array<Node>\n}\n\npublic external interface
AssignedNodesOptions {\n  var flatten: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun AssignedNodesOptions(flatten: Boolean? =
false): AssignedNodesOptions {\n  val o = js("{}")\n  o["flatten"] = flatten\n\n  return o\n}\n\n/**\n *
Exposes the JavaScript
[HTMLCanvasElement](https://developer.mozilla.org/en/docs/Web/API/HTMLCanvasElement) to Kotlin\n
*\npublic external abstract class HTMLCanvasElement : HTMLInputElement, TexImageSource {\n  open var width:
Int\n  open var height: Int\n  fun getContext(contextId: String, vararg arguments: Any?): RenderingContext?\n
fun toDataURL(type: String = definedExternally, quality: Any? = definedExternally): String\n  fun
toBlob(_callback: (Blob?) -> Unit, type: String = definedExternally, quality: Any? = definedExternally):
Unit\n}\n\npublic external interface CanvasRenderingContext2DSettings {\n  var alpha: Boolean? /* = true */\n
get() = definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
CanvasRenderingContext2DSettings(alpha: Boolean? = true): CanvasRenderingContext2DSettings {\n  val o =
js("{}")\n  o["alpha"] = alpha\n\n  return o\n}\n\n/**\n * Exposes the JavaScript
[CanvasRenderingContext2D](https://developer.mozilla.org/en/docs/Web/API/CanvasRenderingContext2D) to
Kotlin\n
*\npublic external abstract class CanvasRenderingContext2D : CanvasState, CanvasTransform,
CanvasCompositing, CanvasImageSmoothing, CanvasFillStrokeStyles, CanvasShadowStyles, CanvasFilters,
CanvasRect, CanvasDrawPath, CanvasUserInterface, CanvasText, CanvasDrawImage, CanvasHitRegion,
CanvasImageData, CanvasPathDrawingStyles, CanvasTextDrawingStyles, CanvasPath, RenderingContext {\n
open val canvas: HTMLCanvasElement\n}\n\npublic external interface CanvasState {\n  fun save(): Unit\n  fun
restore(): Unit\n}\n\npublic external interface CanvasTransform {\n  fun scale(x: Double, y: Double): Unit\n
fun rotate(angle: Double): Unit\n  fun translate(x: Double, y: Double): Unit\n  fun transform(a: Double, b:
Double, c: Double, d: Double, e: Double, f: Double): Unit\n  fun getTransform(): DOMMatrix\n  fun
setTransform(a: Double, b: Double, c: Double, d: Double, e: Double, f: Double): Unit\n  fun
setTransform(transform: dynamic = definedExternally): Unit\n  fun resetTransform(): Unit\n}\n\npublic external interface CanvasCompositing {\n
var globalAlpha: Double\n  var globalCompositeOperation: String\n}\n\npublic external interface
CanvasImageSmoothing {\n  var imageSmoothingEnabled: Boolean\n  var imageSmoothingQuality:
ImageSmoothingQuality\n}\n\npublic external interface CanvasFillStrokeStyles {\n  var strokeStyle: dynamic\n
var fillStyle: dynamic\n  fun createLinearGradient(x0: Double, y0: Double, x1: Double, y1: Double):
CanvasGradient\n  fun createRadialGradient(x0: Double, y0: Double, r0: Double, x1: Double, y1: Double, r1:
Double): CanvasGradient\n  fun createPattern(image: dynamic, repetition: String): CanvasPattern?\n}\n\npublic
external interface CanvasShadowStyles {\n  var shadowOffsetX: Double\n  var shadowOffsetY: Double\n  var

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shadowBlur: Double\n  var shadowColor: String\n}\n\npublic external interface CanvasFilters {\n  var filter:
String\n}\n\npublic external interface CanvasRect {\n  fun clearRect(x: Double, y: Double, w: Double, h: Double):
Unit\n  fun fillRect(x: Double, y: Double, w: Double, h: Double): Unit\n  fun strokeRect(x: Double, y: Double, w:
Double, h: Double): Unit\n}\n\npublic external interface CanvasDrawPath {\n  fun beginPath(): Unit\n  fun
fill(fillRule: CanvasFillRule = definedExternally): Unit\n  fun fill(path: Path2D, fillRule: CanvasFillRule =
definedExternally): Unit\n  fun stroke(): Unit\n  fun stroke(path: Path2D): Unit\n  fun clip(fillRule:
CanvasFillRule = definedExternally): Unit\n  fun clip(path: Path2D, fillRule: CanvasFillRule = definedExternally):
Unit\n  fun resetClip(): Unit\n  fun isPointInPath(x: Double, y: Double, fillRule: CanvasFillRule =
definedExternally): Boolean\n  fun isPointInPath(path: Path2D, x: Double, y: Double, fillRule: CanvasFillRule =
definedExternally): Boolean\n  fun isPointInStroke(x: Double, y: Double): Boolean\n  fun isPointInStroke(path:
Path2D, x: Double, y: Double): Boolean\n}\n\npublic external interface CanvasUserInterface {\n  fun
drawFocusIfNeeded(element: Element): Unit\n  fun drawFocusIfNeeded(path: Path2D, element: Element): Unit\n
fun scrollPathIntoView(): Unit\n  fun scrollPathIntoView(path: Path2D): Unit\n}\n\npublic external interface
CanvasText {\n  fun fillText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally): Unit\n
fun strokeText(text: String, x: Double, y: Double, maxWidth: Double = definedExternally): Unit\n  fun
measureText(text: String): TextMetrics\n}\n\npublic external interface CanvasDrawImage {\n  fun
drawImage(image: dynamic, dx: Double, dy: Double): Unit\n  fun drawImage(image: dynamic, dx: Double, dy:
Double, dw: Double, dh: Double): Unit\n  fun drawImage(image: dynamic, sx: Double, sy: Double, sw: Double,
sh: Double, dx: Double, dy: Double, dw: Double, dh: Double): Unit\n}\n\npublic external interface
CanvasHitRegion {\n  fun addHitRegion(options: HitRegionOptions = definedExternally): Unit\n  fun
removeHitRegion(id: String): Unit\n  fun clearHitRegions(): Unit\n}\n\npublic external interface
CanvasImageData {\n  fun createImageData(sw: Double, sh: Double): ImageData\n  fun
createImageData(imagedata: ImageData): ImageData\n  fun getImageData(sx: Double, sy: Double, sw: Double, sh:
Double): ImageData\n  fun putImageData(imagedata: ImageData, dx: Double, dy: Double): Unit\n  fun
putImageData(imagedata: ImageData, dx: Double, dy: Double, dirtyX: Double, dirtyY: Double, dirtyWidth: Double,
dirtyHeight: Double): Unit\n}\n\npublic external interface CanvasPathDrawingStyles {\n  var lineWidth: Double\n
var lineCap: CanvasLineCap\n  var lineJoin: CanvasLineJoin\n  var miterLimit: Double\n  var lineDashOffset:
Double\n  fun setLineDash(segments: Array<Double>): Unit\n  fun getLineDash(): Array<Double>\n}\n\npublic
external interface CanvasTextDrawingStyles {\n  var font: String\n  var textAlign: CanvasTextAlign\n  var
textBaseline: CanvasTextBaseline\n  var direction: CanvasDirection\n}\n\npublic external interface CanvasPath
{\n  fun closePath(): Unit\n  fun moveTo(x: Double, y: Double): Unit\n  fun lineTo(x: Double, y: Double):
Unit\n  fun quadraticCurveTo(cpx: Double, cpy: Double, x: Double, y: Double): Unit\n  fun bezierCurveTo(cp1x:
Double, cp1y: Double, cp2x: Double, cp2y: Double, x: Double, y: Double): Unit\n  fun arcTo(x1: Double, y1:
Double, x2: Double, y2: Double, radius: Double): Unit\n  fun arcTo(x1: Double, y1: Double, x2: Double, y2:
Double, radiusX: Double, radiusY: Double, rotation: Double): Unit\n  fun rect(x: Double, y: Double, w: Double, h:
Double): Unit\n  fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double,
anticlockwise: Boolean = definedExternally): Unit\n  fun ellipse(x: Double, y: Double, radiusX: Double, radiusY:
Double, rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean = definedExternally):
Unit\n}\n\n/**\n * Exposes the JavaScript
[CanvasGradient](https://developer.mozilla.org/en/docs/Web/API/CanvasGradient) to Kotlin\n */\n\npublic external
abstract class CanvasGradient {\n  fun addColorStop(offset: Double, color: String): Unit\n}\n\n/**\n * Exposes the
JavaScript [CanvasPattern](https://developer.mozilla.org/en/docs/Web/API/CanvasPattern) to Kotlin\n */\n\npublic
external abstract class CanvasPattern {\n  fun setTransform(transform: dynamic = definedExternally):
Unit\n}\n\n/**\n * Exposes the JavaScript
[TextMetrics](https://developer.mozilla.org/en/docs/Web/API/TextMetrics) to Kotlin\n */\n\npublic external abstract
class TextMetrics {\n  open val width: Double\n  open val actualBoundingBoxLeft: Double\n  open val
actualBoundingBoxRight: Double\n  open val fontBoundingBoxAscent: Double\n  open val
fontBoundingBoxDescent: Double\n  open val actualBoundingBoxAscent: Double\n  open val

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actualBoundingBoxDescent: Double\n open val emHeightAscent: Double\n open val emHeightDescent:
Double\n open val hangingBaseline: Double\n open val alphabeticBaseline: Double\n open val
ideographicBaseline: Double\n}\n\npublic external interface HitRegionOptions {\n var path: Path2D? /* = null
*/\n get() = definedExternally\n set(value) = definedExternally\n var fillRule: CanvasFillRule? /* =
CanvasFillRule.NONZERO */\n get() = definedExternally\n set(value) = definedExternally\n var id:
String? /* = \"\" */\n get() = definedExternally\n set(value) = definedExternally\n var parentID: String? /*
= null */\n get() = definedExternally\n set(value) = definedExternally\n var cursor: String? /* = \"inherit\"
*/\n get() = definedExternally\n set(value) = definedExternally\n var control: Element? /* = null */\n
get() = definedExternally\n set(value) = definedExternally\n var label: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n var role: String? /* = null */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
HitRegionOptions(path: Path2D? = null, fillRule: CanvasFillRule? = CanvasFillRule.NONZERO, id: String? = \"\",
parentID: String? = null, cursor: String? = \"inherit\", control: Element? = null, label: String? = null, role: String? =
null): HitRegionOptions {\n val o = js(\"({})\")\n o[\"path\"] = path\n o[\"fillRule\"] = fillRule\n o[\"id\"] =
id\n o[\"parentID\"] = parentID\n o[\"cursor\"] = cursor\n o[\"control\"] = control\n o[\"label\"] = label\n
o[\"role\"] = role\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[ImageData](https://developer.mozilla.org/en/docs/Web/API/ImageData) to Kotlin\n */\npublic external open class
ImageData : TexImageSource {\n constructor(sw: Int, sh: Int)\n constructor(data: Uint8ClampedArray, sw: Int,
sh: Int = definedExternally)\n open val width: Int\n open val height: Int\n open val data:
Uint8ClampedArray\n}\n\n/**\n * Exposes the JavaScript
[Path2D](https://developer.mozilla.org/en/docs/Web/API/Path2D) to Kotlin\n */\npublic external open class
Path2D() : CanvasPath {\n constructor(path: Path2D)\n constructor(paths: Array<Path2D>, fillRule:
CanvasFillRule = definedExternally)\n constructor(d: String)\n fun addPath(path: Path2D, transform: dynamic =
definedExternally): Unit\n override fun closePath(): Unit\n override fun moveTo(x: Double, y: Double): Unit\n
override fun lineTo(x: Double, y: Double): Unit\n override fun quadraticCurveTo(cpx: Double, cpy: Double, x:
Double, y: Double): Unit\n override fun bezierCurveTo(cp1x: Double, cp1y: Double, cp2x: Double, cp2y: Double,
x: Double, y: Double): Unit\n override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radius:
Double): Unit\n override fun arcTo(x1: Double, y1: Double, x2: Double, y2: Double, radiusX: Double, radiusY:
Double, rotation: Double): Unit\n override fun rect(x: Double, y: Double, w: Double, h: Double): Unit\n override
fun arc(x: Double, y: Double, radius: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean /* =
definedExternally */): Unit\n override fun ellipse(x: Double, y: Double, radiusX: Double, radiusY: Double,
rotation: Double, startAngle: Double, endAngle: Double, anticlockwise: Boolean /* = definedExternally */):
Unit\n}\n\n/**\n * Exposes the JavaScript [Touch](https://developer.mozilla.org/en/docs/Web/API/Touch) to
Kotlin\n */\npublic external abstract class Touch {\n open val region: String?\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmapRenderingContext](https://developer.mozilla.org/en/docs/Web/API/ImageBitmapRenderingContext)
to Kotlin\n */\npublic external abstract class ImageBitmapRenderingContext {\n open val canvas:
HTMLCanvasElement\n fun transferFromImageBitmap(bitmap: ImageBitmap?): Unit\n}\n\npublic external
interface ImageBitmapRenderingContextSettings {\n var alpha: Boolean? /* = true */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ImageBitmapRenderingContextSettings(alpha: Boolean? = true): ImageBitmapRenderingContextSettings {\n val o
= js(\"({})\")\n o[\"alpha\"] = alpha\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[CustomElementRegistry](https://developer.mozilla.org/en/docs/Web/API/CustomElementRegistry) to Kotlin\n
*/\npublic external abstract class CustomElementRegistry {\n fun define(name: String, constructor: () -> dynamic,
options: ElementDefinitionOptions = definedExternally): Unit\n fun get(name: String): Any?\n fun
whenDefined(name: String): Promise<Unit>\n}\n\npublic external interface ElementDefinitionOptions {\n var
extends: String?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ElementDefinitionOptions(extends: String?
= undefined): ElementDefinitionOptions {\n val o = js(\"({})\")\n o[\"extends\"] = extends\n\n return

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o\n}\n\npublic external interface ElementContentEditable {\n  var contentEditable: String\n  val
isContentEditable: Boolean\n}\n\n/**\n * Exposes the JavaScript
[DataTransfer](https://developer.mozilla.org/en/docs/Web/API/DataTransfer) to Kotlin\n *\npublic external
abstract class DataTransfer {\n  open var dropEffect: String\n  open var effectAllowed: String\n  open val items:
DataTransferItemList\n  open val types: Array<out String>\n  open val files: FileList\n  fun
setDragImage(image: Element, x: Int, y: Int): Unit\n  fun getData(format: String): String\n  fun setData(format:
String, data: String): Unit\n  fun clearData(format: String = definedExternally): Unit\n}\n\n/**\n * Exposes the
JavaScript [DataTransferItemList](https://developer.mozilla.org/en/docs/Web/API/DataTransferItemList) to
Kotlin\n *\npublic external abstract class DataTransferItemList {\n  open val length: Int\n  fun add(data: String,
type: String): DataTransferItem?\n  fun add(data: File): DataTransferItem?\n  fun remove(index: Int): Unit\n  fun
clear(): Unit\n}\n\n@kotlin.internal.InlineOnly inline operator fun DataTransferItemList.get(index: Int):
DataTransferItem? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DataTransferItem](https://developer.mozilla.org/en/docs/Web/API/DataTransferItem) to Kotlin\n *\npublic
external abstract class DataTransferItem {\n  open val kind: String\n  open val type: String\n  fun
getAsString(_callback: ((String) -> Unit)?): Unit\n  fun getAsFile(): File?\n}\n\n/**\n * Exposes the JavaScript
[DragEvent](https://developer.mozilla.org/en/docs/Web/API/TouchEvent) to Kotlin\n *\npublic external open class
DragEvent(type: String, eventInitDict: DragEventInit = definedExternally) : MouseEvent {\n  open val
dataTransfer: DataTransfer?\n}\n\npublic external interface DragEventInit : MouseEventInit {\n  var dataTransfer:
DataTransfer? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DragEventInit(dataTransfer: DataTransfer?
= null, screenX: Int? = 0, screenY: Int? = 0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? =
0, relatedTarget: EventTarget? = null, ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? =
false, metaKey: Boolean? = false, modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false,
modifierFn: Boolean? = false, modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false,
modifierNumLock: Boolean? = false, modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false,
modifierSymbol: Boolean? = false, modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0,
bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): DragEventInit {\n  val o =
js("{}")\n  o["dataTransfer"] = dataTransfer\n  o["screenX"] = screenX\n  o["screenY"] = screenY\n
o["clientX"] = clientX\n  o["clientY"] = clientY\n  o["button"] = button\n  o["buttons"] = buttons\n
o["relatedTarget"] = relatedTarget\n  o["ctrlKey"] = ctrlKey\n  o["shiftKey"] = shiftKey\n  o["altKey"] =
altKey\n  o["metaKey"] = metaKey\n  o["modifierAltGraph"] = modifierAltGraph\n
o["modifierCapsLock"] = modifierCapsLock\n  o["modifierFn"] = modifierFn\n  o["modifierFnLock"] =
modifierFnLock\n  o["modifierHyper"] = modifierHyper\n  o["modifierNumLock"] = modifierNumLock\n
o["modifierScrollLock"] = modifierScrollLock\n  o["modifierSuper"] = modifierSuper\n
o["modifierSymbol"] = modifierSymbol\n  o["modifierSymbolLock"] = modifierSymbolLock\n  o["view"] =
view\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n\n  return o\n}\n\npublic external abstract class BarProp {\n  open val visible: Boolean\n}\n\n/**\n *
Exposes the JavaScript [History](https://developer.mozilla.org/en/docs/Web/API/History) to Kotlin\n *\npublic
external abstract class History {\n  open val length: Int\n  open var scrollRestoration: ScrollRestoration\n  open
val state: Any?\n  fun go(delta: Int = definedExternally): Unit\n  fun back(): Unit\n  fun forward(): Unit\n  fun
pushState(data: Any?, title: String, url: String? = definedExternally): Unit\n  fun replaceState(data: Any?, title:
String, url: String? = definedExternally): Unit\n}\n\n/**\n * Exposes the JavaScript
[Location](https://developer.mozilla.org/en/docs/Web/API/Location) to Kotlin\n *\npublic external abstract class
Location {\n  open var href: String\n  open val origin: String\n  open var protocol: String\n  open var host:
String\n  open var hostname: String\n  open var port: String\n  open var pathname: String\n  open var search:
String\n  open var hash: String\n  open val ancestorOrigins: Array<out String>\n  fun assign(url: String): Unit\n
fun replace(url: String): Unit\n  fun reload(): Unit\n}\n\n/**\n * Exposes the JavaScript
[PopStateEvent](https://developer.mozilla.org/en/docs/Web/API/PopStateEvent) to Kotlin\n *\npublic external

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open class PopStateEvent(type: String, eventInitDict: PopStateEventInit = definedExternally) : Event {
    open val state: Any?
    public external interface PopStateEventInit : EventInit {
        var state: Any? /* = null */
        get() = definedExternally
        set(value) = definedExternally
    }
    @kotlin.internal.InlineOnly
    public inline fun PopStateEventInit(state: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PopStateEventInit {
        val o = js("{}")
        o["state"] = state
        o["bubbles"] = bubbles
        o["cancelable"] = cancelable
        o["composed"] = composed
        return o
    }
    /** Exposes the JavaScript [HashChangeEvent](https://developer.mozilla.org/en/docs/Web/API/HashChangeEvent) to Kotlin */
    public external open class HashChangeEvent(type: String, eventInitDict: HashChangeEventInit = definedExternally) : Event {
        open val oldURL: String
        open val newURL: String
        public external interface HashChangeEventInit : EventInit {
            var oldURL: String? /* = "" */
            get() = definedExternally
            set(value) = definedExternally
            var newURL: String? /* = "" */
            get() = definedExternally
            set(value) = definedExternally
        }
        @kotlin.internal.InlineOnly
        public inline fun HashChangeEventInit(oldURL: String? = "", newURL: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): HashChangeEventInit {
            val o = js("{}")
            o["oldURL"] = oldURL
            o["newURL"] = newURL
            o["bubbles"] = bubbles
            o["cancelable"] = cancelable
            o["composed"] = composed
            return o
        }
        /** Exposes the JavaScript [PageTransitionEvent](https://developer.mozilla.org/en/docs/Web/API/PageTransitionEvent) to Kotlin */
        public external open class PageTransitionEvent(type: String, eventInitDict: PageTransitionEventInit = definedExternally) : Event {
            open val persisted: Boolean
            public external interface PageTransitionEventInit : EventInit {
                var persisted: Boolean? /* = false */
                get() = definedExternally
                set(value) = definedExternally
            }
            @kotlin.internal.InlineOnly
            public inline fun PageTransitionEventInit(persisted: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): PageTransitionEventInit {
                val o = js("{}")
                o["persisted"] = persisted
                o["bubbles"] = bubbles
                o["cancelable"] = cancelable
                o["composed"] = composed
                return o
            }
            /** Exposes the JavaScript [BeforeUnloadEvent](https://developer.mozilla.org/en/docs/Web/API/BeforeUnloadEvent) to Kotlin */
            public external open class BeforeUnloadEvent : Event {
                var returnValue: String
            }
            public external abstract class ApplicationCache : EventTarget {
                open val status: Short
                open var onchecking: ((Event) -> dynamic)?
                open var onerror: ((Event) -> dynamic)?
                open var onnoupdate: ((Event) -> dynamic)?
                open var ondownloading: ((Event) -> dynamic)?
                open var onprogress: ((ProgressEvent) -> dynamic)?
                open var onupdateready: ((Event) -> dynamic)?
                open var oncached: ((Event) -> dynamic)?
                open var onobsolete: ((Event) -> dynamic)?
                fun update(): Unit
                fun abort(): Unit
                fun swapCache(): Unit
            }
            companion object {
                val UNCACHED: Short
                val IDLE: Short
                val CHECKING: Short
                val DOWNLOADING: Short
                val UPDATEREADY: Short
                val OBSOLETE: Short
            }
            /** Exposes the JavaScript [NavigatorOnLine](https://developer.mozilla.org/en/docs/Web/API/NavigatorOnLine) to Kotlin */
            public external interface NavigatorOnLine {
                val onLine: Boolean
            }
            /** Exposes the JavaScript [ErrorEvent](https://developer.mozilla.org/en/docs/Web/API/ErrorEvent) to Kotlin */
            public external open class ErrorEvent(type: String, eventInitDict: ErrorEventInit = definedExternally) : Event {
                open val message: String
                open val filename: String
                open val lineno: Int
                open val colno: Int
                open val error: Any?
            }
            public external interface ErrorEventInit : EventInit {
                var message: String? /* = "" */
                get() = definedExternally
                set(value) = definedExternally
                var filename: String? /* = "" */
                get() = definedExternally
                set(value) = definedExternally
                var lineno: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var colno: Int? /* = 0 */
                get() = definedExternally
                set(value) = definedExternally
                var error: Any? /* = null */
                get() = definedExternally
                set(value) = definedExternally
            }
            @kotlin.internal.InlineOnly
            public inline fun ErrorEventInit(message: String? = "", filename: String? = "", lineno: Int? = 0, colno: Int? = 0, error: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ErrorEventInit {
                val o = js("{}")
                o["message"] = message
                o["filename"] = filename
                o["lineno"] = lineno
                o["colno"] = colno
                o["error"] = error
                o["bubbles"] = bubbles
                o["cancelable"] = cancelable
                o["composed"] = composed
            }

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= composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[PromiseRejectionEvent](https://developer.mozilla.org/en/docs/Web/API/PromiseRejectionEvent) to Kotlin\n
*\npublic external open class PromiseRejectionEvent(type: String, eventInitDict: PromiseRejectionEventInit) :
Event {\n open val promise: Promise<Any?>\n open val reason: Any?\n}\n\npublic external interface
PromiseRejectionEventInit : EventInit {\n var promise: Promise<Any?>\n get() = definedExternally\n
set(value) = definedExternally\n var reason: Any?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PromiseRejectionEventInit(promise:
Promise<Any?>?, reason: Any? = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed:
Boolean? = false): PromiseRejectionEventInit {\n val o = js(\"({})\")\n o[\"promise\"] = promise\n
o[\"reason\"] = reason\n o[\"bubbles\"] = bubbles\n o[\"cancelable\"] = cancelable\n o[\"composed\"] =
composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[GlobalEventHandlers](https://developer.mozilla.org/en/docs/Web/API/GlobalEventHandlers) to Kotlin\n
*\npublic external interface GlobalEventHandlers {\n var ongotpointercapture: ((PointerEvent) -> dynamic)?\n
var onlostpointercapture: ((PointerEvent) -> dynamic)?\n var onpointerdown: ((PointerEvent) -> dynamic)?\n
var onpointermove: ((PointerEvent) -> dynamic)?\n var onpointerup: ((PointerEvent) -> dynamic)?\n var
onpointercancel: ((PointerEvent) -> dynamic)?\n var onpointerover: ((PointerEvent) -> dynamic)?\n var
onpointerout: ((PointerEvent) -> dynamic)?\n var onpointerenter: ((PointerEvent) -> dynamic)?\n var
onpointerleave: ((PointerEvent) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onblur: ((FocusEvent)
-> dynamic)?\n var oncancel: ((Event) -> dynamic)?\n var oncanplay: ((Event) -> dynamic)?\n var
oncanplaythrough: ((Event) -> dynamic)?\n var onchange: ((Event) -> dynamic)?\n var onclick: ((MouseEvent) -
> dynamic)?\n var onclose: ((Event) -> dynamic)?\n var oncontextmenu: ((MouseEvent) -> dynamic)?\n var
oncuechange: ((Event) -> dynamic)?\n var ondblclick: ((MouseEvent) -> dynamic)?\n var ondrag: ((DragEvent)
-> dynamic)?\n var ondragend: ((DragEvent) -> dynamic)?\n var ondragenter: ((DragEvent) -> dynamic)?\n
var ondragexit: ((DragEvent) -> dynamic)?\n var ondragleave: ((DragEvent) -> dynamic)?\n var ondragover:
((DragEvent) -> dynamic)?\n var ondragstart: ((DragEvent) -> dynamic)?\n var ondrop: ((DragEvent) ->
dynamic)?\n var ondurationchange: ((Event) -> dynamic)?\n var onemptied: ((Event) -> dynamic)?\n var
onended: ((Event) -> dynamic)?\n var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n var onfocus:
((FocusEvent) -> dynamic)?\n var oninput: ((InputEvent) -> dynamic)?\n var oninvalid: ((Event) -> dynamic)?\n
var onkeydown: ((KeyboardEvent) -> dynamic)?\n var onkeypress: ((KeyboardEvent) -> dynamic)?\n var
onkeyup: ((KeyboardEvent) -> dynamic)?\n var onload: ((Event) -> dynamic)?\n var onloadeddata: ((Event) ->
dynamic)?\n var onloadedmetadata: ((Event) -> dynamic)?\n var onloadend: ((Event) -> dynamic)?\n var
onloadstart: ((ProgressEvent) -> dynamic)?\n var onmousedown: ((MouseEvent) -> dynamic)?\n var
onmouseenter: ((MouseEvent) -> dynamic)?\n var onmouseleave: ((MouseEvent) -> dynamic)?\n var
onmousemove: ((MouseEvent) -> dynamic)?\n var onmouseout: ((MouseEvent) -> dynamic)?\n var
onmouseover: ((MouseEvent) -> dynamic)?\n var onmouseup: ((MouseEvent) -> dynamic)?\n var onwheel:
((WheelEvent) -> dynamic)?\n var onpause: ((Event) -> dynamic)?\n var onplay: ((Event) -> dynamic)?\n var
onplaying: ((Event) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n var onratechange: ((Event)
-> dynamic)?\n var onreset: ((Event) -> dynamic)?\n var onresize: ((Event) -> dynamic)?\n var onscroll:
((Event) -> dynamic)?\n var onseeked: ((Event) -> dynamic)?\n var onseeking: ((Event) -> dynamic)?\n var
onselect: ((Event) -> dynamic)?\n var onshow: ((Event) -> dynamic)?\n var onstalled: ((Event) -> dynamic)?\n
var onsubmit: ((Event) -> dynamic)?\n var onsuspend: ((Event) -> dynamic)?\n var ontimeupdate: ((Event) ->
dynamic)?\n var ontoggle: ((Event) -> dynamic)?\n var onvolumechange: ((Event) -> dynamic)?\n var
onwaiting: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[WindowEventHandlers](https://developer.mozilla.org/en/docs/Web/API/WindowEventHandlers) to Kotlin\n
*\npublic external interface WindowEventHandlers {\n var onafterprint: ((Event) -> dynamic)?\n var
onbeforeprint: ((Event) -> dynamic)?\n var onbeforeunload: ((BeforeUnloadEvent) -> String)?\n var
onhashchange: ((HashChangeEvent) -> dynamic)?\n var onlanguagechange: ((Event) -> dynamic)?\n var
onmessage: ((MessageEvent) -> dynamic)?\n var onoffline: ((Event) -> dynamic)?\n var online: ((Event) ->

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dynamic)?\n var onpagehide: ((PageTransitionEvent) -> dynamic)?\n var onpageshow: ((PageTransitionEvent) -> dynamic)?\n var onpopstate: ((PopStateEvent) -> dynamic)?\n var onrejectionhandled: ((Event) -> dynamic)?\n var onstorage: ((StorageEvent) -> dynamic)?\n var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n var onunload: ((Event) -> dynamic)?\n}\n\npublic external interface DocumentAndElementEventHandlers {\n var oncopy: ((ClipboardEvent) -> dynamic)?\n var oncut: ((ClipboardEvent) -> dynamic)?\n var onpaste: ((ClipboardEvent) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript

[WindowOrWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WindowOrWorkerGlobalScope) to Kotlin\n */\n\npublic external interface WindowOrWorkerGlobalScope {\n val caches: CacheStorage\n val origin: String\n fun fetch(input: dynamic, init: RequestInit = definedExternally): Promise<Response>\n fun btoa(data: String): String\n fun atob(data: String): String\n fun setTimeout(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n fun clearTimeout(handle: Int = definedExternally): Unit\n fun setInterval(handler: dynamic, timeout: Int = definedExternally, vararg arguments: Any?): Int\n fun clearInterval(handle: Int = definedExternally): Unit\n fun createImageBitmap(image: dynamic, options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n fun createImageBitmap(image: dynamic, sx: Int, sy: Int, sw: Int, sh: Int, options: ImageBitmapOptions = definedExternally): Promise<ImageBitmap>\n}\n\n/**\n * Exposes the JavaScript

[NavigatorID](https://developer.mozilla.org/en/docs/Web/API/NavigatorID) to Kotlin\n */\n\npublic external interface NavigatorID {\n val appCodeName: String\n val appName: String\n val appVersion: String\n val platform: String\n val product: String\n val productSub: String\n val userAgent: String\n val vendor: String\n val vendorSub: String\n val oscpu: String\n fun taintEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript

[NavigatorLanguage](https://developer.mozilla.org/en/docs/Web/API/NavigatorLanguage) to Kotlin\n */\n\npublic external interface NavigatorLanguage {\n val language: String\n val languages: Array<out String>\n}\n\npublic external interface NavigatorContentUtils {\n fun registerProtocolHandler(scheme: String, url: String, title: String): Unit\n fun registerContentHandler(mimeType: String, url: String, title: String): Unit\n fun isProtocolHandlerRegistered(scheme: String, url: String): String\n fun isContentHandlerRegistered(mimeType: String, url: String): String\n fun unregisterProtocolHandler(scheme: String, url: String): Unit\n fun unregisterContentHandler(mimeType: String, url: String): Unit\n}\n\npublic external interface NavigatorCookies {\n val cookieEnabled: Boolean\n}\n\n/**\n * Exposes the JavaScript

[NavigatorPlugins](https://developer.mozilla.org/en/docs/Web/API/NavigatorPlugins) to Kotlin\n */\n\npublic external interface NavigatorPlugins {\n val plugins: PluginArray\n val mimeTypeArray: MimeTypeErrorArray\n fun javaEnabled(): Boolean\n}\n\n/**\n * Exposes the JavaScript

[PluginArray](https://developer.mozilla.org/en/docs/Web/API/PluginArray) to Kotlin\n */\n\npublic external abstract class PluginArray : ItemArrayLike<Plugin> {\n override val length: Int\n fun refresh(reload: Boolean = definedExternally): Unit\n override fun item(index: Int): Plugin?\n fun namedItem(name: String): Plugin?\n}\n\n@kotlin.internal.InlineOnly inline operator fun PluginArray.get(index: Int): Plugin? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun PluginArray.get(name: String): Plugin? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript

[MimeTypeArray](https://developer.mozilla.org/en/docs/Web/API/MimeTypeArray) to Kotlin\n */\n\npublic external abstract class MimeTypeArray : ItemArrayLike<MimeType> {\n override val length: Int\n override fun item(index: Int): MimeType?\n fun namedItem(name: String): MimeType?\n}\n\n@kotlin.internal.InlineOnly inline operator fun MimeTypeArray.get(index: Int): MimeType? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun MimeTypeArray.get(name: String): MimeType? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript

[Plugin](https://developer.mozilla.org/en/docs/Web/API/Plugin) to Kotlin\n */\n\npublic external abstract class Plugin : ItemArrayLike<MimeType> {\n open val name: String\n open val description: String\n open val filename: String\n override val length: Int\n override fun item(index: Int): MimeType?\n fun namedItem(name: String): MimeType?\n}\n\n@kotlin.internal.InlineOnly inline operator fun Plugin.get(index: Int): MimeType? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun Plugin.get(name: String): MimeType? =

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asDynamic()[name]\n\n/**\n * Exposes the JavaScript
[MimeType](https://developer.mozilla.org/en/docs/Web/API/MimeType) to Kotlin\n *\npublic external abstract
class MimeType {\n  open val type: String\n  open val description: String\n  open val suffixes: String\n  open
val enabledPlugin: Plugin\n}\n\n/**\n * Exposes the JavaScript
[ImageBitmap](https://developer.mozilla.org/en/docs/Web/API/ImageBitmap) to Kotlin\n *\npublic external
abstract class ImageBitmap : TexImageSource {\n  open val width: Int\n  open val height: Int\n  fun close():
Unit\n}\n\npublic external interface ImageBitmapOptions {\n  var imageOrientation: ImageOrientation? /* =
ImageOrientation.NONE */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
premultiplyAlpha: PremultiplyAlpha? /* = PremultiplyAlpha.DEFAULT */\n  get() = definedExternally\n
set(value) = definedExternally\n  var colorSpaceConversion: ColorSpaceConversion? /* =
ColorSpaceConversion.DEFAULT */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
resizeWidth: Int?\n  get() = definedExternally\n  set(value) = definedExternally\n  var resizeHeight: Int?\n
  get() = definedExternally\n  set(value) = definedExternally\n  var resizeMode: ResizeQuality? /* =
ResizeQuality.LOW */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ImageBitmapOptions(imageOrientation:
ImageOrientation? = ImageOrientation.NONE, premultiplyAlpha: PremultiplyAlpha? =
PremultiplyAlpha.DEFAULT, colorSpaceConversion: ColorSpaceConversion? =
ColorSpaceConversion.DEFAULT, resizeWidth: Int? = undefined, resizeHeight: Int? = undefined, resizeMode:
ResizeQuality? = ResizeQuality.LOW): ImageBitmapOptions {\n  val o = js("{}")\n  o["imageOrientation"] =
imageOrientation\n  o["premultiplyAlpha"] = premultiplyAlpha\n  o["colorSpaceConversion"] = colorSpaceConversion\n
  o["resizeWidth"] = resizeWidth\n  o["resizeHeight"] =
resizeHeight\n  o["resizeQuality"] = resizeMode\n  return o\n}\n\n/**\n * Exposes the JavaScript
[MessageEvent](https://developer.mozilla.org/en/docs/Web/API/MessageEvent) to Kotlin\n *\npublic external open
class MessageEvent(type: String, eventInitDict: MessageEventInit = definedExternally) : Event {\n  open val data:
Any?\n  open val origin: String\n  open val lastEventId: String\n  open val source:
UnionMessagePortOrWindow?\n  open val ports: Array<out MessagePort>\n  fun initMessageEvent(type: String,
bubbles: Boolean, cancelable: Boolean, data: Any?, origin: String, lastEventId: String, source:
UnionMessagePortOrWindow?, ports: Array<MessagePort>): Unit\n}\n\npublic external interface
MessageEventInit : EventInit {\n  var data: Any? /* = null */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var origin: String? /* = "" */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var lastEventId: String? /* = "" */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var source: UnionMessagePortOrWindow? /* = null */\n  get() = definedExternally\n
set(value) = definedExternally\n  var ports: Array<MessagePort>? /* = arrayOf() */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MessageEventInit(data: Any? = null, origin: String? = "", lastEventId: String? = "", source:
UnionMessagePortOrWindow? = null, ports: Array<MessagePort>? = arrayOf(), bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): MessageEventInit {\n  val o = js("{}")\n  o["data"] =
data\n  o["origin"] = origin\n  o["lastEventId"] = lastEventId\n  o["source"] = source\n  o["ports"] =
ports\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] =
composed\n  return o\n}\n\n/**\n * Exposes the JavaScript
[EventSource](https://developer.mozilla.org/en/docs/Web/API/EventSource) to Kotlin\n *\npublic external open
class EventSource(url: String, eventSourceInitDict: EventSourceInit = definedExternally) : EventTarget {\n  open
val url: String\n  open val withCredentials: Boolean\n  open val readyState: Short\n  var onopen: ((Event) ->
dynamic)?\n  var onmessage: ((MessageEvent) -> dynamic)?\n  var onerror: ((Event) -> dynamic)?\n  fun
close(): Unit\n  companion object {\n    val CONNECTING: Short\n    val OPEN: Short\n    val
CLOSED: Short\n  }\n}\n\npublic external interface EventSourceInit {\n  var withCredentials: Boolean? /* = false
*/\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic
inline fun EventSourceInit(withCredentials: Boolean? = false): EventSourceInit {\n  val o = js("{}")\n

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o["withCredentials"] = withCredentials\n\n return o\n}\n\n/**\n * Exposes the JavaScript [WebSocket](https://developer.mozilla.org/en/docs/Web/API/WebSocket) to Kotlin\n */\npublic external open class WebSocket(url: String, protocols: dynamic = definedExternally) : EventTarget {\n open val url: String\n open val readyState: Short\n open val bufferedAmount: Int\n var onopen: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n var onclose: ((Event) -> dynamic)?\n open val extensions: String\n open val protocol: String\n var onmessage: ((MessageEvent) -> dynamic)?\n var binaryType: BinaryType\n fun close(code: Short = definedExternally, reason: String = definedExternally): Unit\n fun send(data: String): Unit\n fun send(data: Blob): Unit\n fun send(data: ArrayBuffer): Unit\n fun send(data: ArrayBufferView): Unit\n\n companion object {\n val CONNECTING: Short\n val OPEN: Short\n val CLOSING: Short\n val CLOSED: Short\n }\n}\n\n/**\n * Exposes the JavaScript [CloseEvent](https://developer.mozilla.org/en/docs/Web/API/CloseEvent) to Kotlin\n */\npublic external open class CloseEvent(type: String, eventInitDict: CloseEventInit = definedExternally) : Event {\n open val wasClean: Boolean\n open val code: Short\n open val reason: String\n}\n\npublic external interface CloseEventInit : EventInit {\n var wasClean: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var code: Short? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var reason: String? /* = "" */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CloseEventInit(wasClean: Boolean? = false, code: Short? = 0, reason: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): CloseEventInit {\n val o = js("{}")\n o["wasClean"] = wasClean\n o["code"] = code\n o["reason"] = reason\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript [MessageChannel](https://developer.mozilla.org/en/docs/Web/API/MessageChannel) to Kotlin\n */\npublic external open class MessageChannel {\n open val port1: MessagePort\n open val port2: MessagePort\n}\n\n/**\n * Exposes the JavaScript [MessagePort](https://developer.mozilla.org/en/docs/Web/API/MessagePort) to Kotlin\n */\npublic external abstract class MessagePort : EventTarget, UnionMessagePortOrWindow, UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally): Unit\n fun start(): Unit\n fun close(): Unit\n}\n\n/**\n * Exposes the JavaScript [BroadcastChannel](https://developer.mozilla.org/en/docs/Web/API/BroadcastChannel) to Kotlin\n */\npublic external open class BroadcastChannel(name: String) : EventTarget {\n open val name: String\n var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?): Unit\n fun close(): Unit\n}\n\n/**\n * Exposes the JavaScript [WorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/WorkerGlobalScope) to Kotlin\n */\npublic external abstract class WorkerGlobalScope : EventTarget, WindowOrWorkerGlobalScope, GlobalPerformance {\n open val self: WorkerGlobalScope\n open val location: WorkerLocation\n open val navigator: WorkerNavigator\n open var onerror: ((dynamic, String, Int, Int, Any?) -> dynamic)?\n open var onlanguagechange: ((Event) -> dynamic)?\n open var onoffline: ((Event) -> dynamic)?\n open var ononline: ((Event) -> dynamic)?\n open var onrejectionhandled: ((Event) -> dynamic)?\n open var onunhandledrejection: ((PromiseRejectionEvent) -> dynamic)?\n fun importScripts(vararg urls: String): Unit\n}\n\n/**\n * Exposes the JavaScript [DedicatedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/DedicatedWorkerGlobalScope) to Kotlin\n */\npublic external abstract class DedicatedWorkerGlobalScope : WorkerGlobalScope {\n open var onmessage: ((MessageEvent) -> dynamic)?\n fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally): Unit\n fun close(): Unit\n}\n\n/**\n * Exposes the JavaScript [SharedWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/SharedWorkerGlobalScope) to Kotlin\n */\npublic external abstract class SharedWorkerGlobalScope : WorkerGlobalScope {\n open val name: String\n open val applicationCache: ApplicationCache\n open var onconnect: ((Event) -> dynamic)?\n fun close(): Unit\n}\n\n/**\n * Exposes the JavaScript [AbstractWorker](https://developer.mozilla.org/en/docs/Web/API/AbstractWorker) to Kotlin\n */\npublic external

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interface AbstractWorker {\n  var onerror: ((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[Worker](https://developer.mozilla.org/en/docs/Web/API/Worker) to Kotlin\n */\n\npublic external open class
Worker(scriptURL: String, options: WorkerOptions = definedExternally) : EventTarget, AbstractWorker {\n  var
onmessage: ((MessageEvent) -> dynamic)?\n  override var onerror: ((Event) -> dynamic)?\n  fun terminate():
Unit\n  fun postMessage(message: Any?, transfer: Array<dynamic> = definedExternally): Unit\n}\n\npublic
external interface WorkerOptions {\n  var type: WorkerType? /* = WorkerType.CLASSIC */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var credentials: RequestCredentials? /* =
RequestCredentials.OMIT */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun WorkerOptions(type: WorkerType? =
WorkerType.CLASSIC, credentials: RequestCredentials? = RequestCredentials.OMIT): WorkerOptions {\n  val o
= js("{}")\n  o["type"] = type\n  o["credentials"] = credentials\n  return o\n}\n\n/**\n * Exposes the
JavaScript [SharedWorker](https://developer.mozilla.org/en/docs/Web/API/SharedWorker) to Kotlin\n */\n\npublic
external open class SharedWorker(scriptURL: String, name: String = definedExternally, options: WorkerOptions =
definedExternally) : EventTarget, AbstractWorker {\n  open val port: MessagePort\n  override var onerror:
((Event) -> dynamic)?\n}\n\n/**\n * Exposes the JavaScript
[NavigatorConcurrentHardware](https://developer.mozilla.org/en/docs/Web/API/NavigatorConcurrentHardware) to
Kotlin\n */\n\npublic external interface NavigatorConcurrentHardware {\n  val hardwareConcurrency:
Int\n}\n\n/**\n * Exposes the JavaScript
[WorkerNavigator](https://developer.mozilla.org/en/docs/Web/API/WorkerNavigator) to Kotlin\n */\n\npublic
external abstract class WorkerNavigator : NavigatorID, NavigatorLanguage, NavigatorOnLine,
NavigatorConcurrentHardware {\n  open val serviceWorker: ServiceWorkerContainer\n}\n\n/**\n * Exposes the
JavaScript [WorkerLocation](https://developer.mozilla.org/en/docs/Web/API/WorkerLocation) to Kotlin\n */\n\npublic
external abstract class WorkerLocation {\n  open var href: String\n  open val origin: String\n  open val
protocol: String\n  open val host: String\n  open val hostname: String\n  open val port: String\n  open val
pathname: String\n  open val search: String\n  open val hash: String\n}\n\n/**\n * Exposes the JavaScript
[Storage](https://developer.mozilla.org/en/docs/Web/API/Storage) to Kotlin\n */\n\npublic external abstract class
Storage {\n  open val length: Int\n  fun key(index: Int): String?\n  fun getItem(key: String): String?\n  fun
setItem(key: String, value: String): Unit\n  fun removeItem(key: String): Unit\n  fun clear():
Unit\n}\n\n@kotlin.internal.InlineOnly inline operator fun Storage.get(key: String): String? =
asDynamic()[key]\n\n@kotlin.internal.InlineOnly inline operator fun Storage.set(key: String, value: String): Unit {
asDynamic()[key] = value; }\n\n/**\n * Exposes the JavaScript
[WindowSessionStorage](https://developer.mozilla.org/en/docs/Web/API/WindowSessionStorage) to Kotlin\n */\n\npublic
external interface WindowSessionStorage {\n  val sessionStorage: Storage\n}\n\n/**\n * Exposes the
JavaScript [WindowLocalStorage](https://developer.mozilla.org/en/docs/Web/API/WindowLocalStorage) to
Kotlin\n */\n\npublic external interface WindowLocalStorage {\n  val localStorage: Storage\n}\n\n/**\n * Exposes
the JavaScript [StorageEvent](https://developer.mozilla.org/en/docs/Web/API/StorageEvent) to Kotlin\n */\n\npublic
external open class StorageEvent(type: String, eventInitDict: StorageEventInit = definedExternally) : Event {\n
  open val key: String?\n  open val oldValue: String?\n  open val newValue: String?\n  open val url: String\n
  open val storageArea: Storage?\n}\n\npublic external interface StorageEventInit : EventInit {\n  var key: String? /*
= null */\n  get() = definedExternally\n  set(value) = definedExternally\n  var oldValue: String? /* = null */\n
  get() = definedExternally\n  set(value) = definedExternally\n  var newValue: String? /* = null */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var url: String? /* = \"\" */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var storageArea: Storage? /* = null */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
StorageEventInit(key: String? = null, oldValue: String? = null, newValue: String? = null, url: String? = \"\",
storageArea: Storage? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
StorageEventInit {\n  val o = js("{}")\n  o["key"] = key\n  o["oldValue"] = oldValue\n  o["newValue"]
= newValue\n  o["url"] = url\n  o["storageArea"] = storageArea\n  o["bubbles"] = bubbles\n

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o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\npublic external abstract class
HTMLAppletElement : HTMLInputElement {\n  open var align: String\n  open var alt: String\n  open var archive:
String\n  open var code: String\n  open var codeBase: String\n  open var height: String\n  open var hspace: Int\n
  open var name: String\n  open var _object: String\n  open var vspace: Int\n  open var width: String\n}\n\n/**\n
* Exposes the JavaScript
[HTMLMarqueeElement](https://developer.mozilla.org/en/docs/Web/API/HTMLMarqueeElement) to Kotlin\n
*/\n\npublic external abstract class HTMLMarqueeElement : HTMLInputElement {\n  open var behavior: String\n  open
var bgColor: String\n  open var direction: String\n  open var height: String\n  open var hspace: Int\n  open var
loop: Int\n  open var scrollAmount: Int\n  open var scrollDelay: Int\n  open var trueSpeed: Boolean\n  open var
vspace: Int\n  open var width: String\n  open var onbounce: ((Event) -> dynamic)?\n  open var onfinish: ((Event)
-> dynamic)?\n  open var onstart: ((Event) -> dynamic)?\n  fun start(): Unit\n  fun stop(): Unit\n}\n\n/**\n
* Exposes the JavaScript
[HTMLFrameSetElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFrameSetElement) to Kotlin\n
*/\n\npublic external abstract class HTMLFrameSetElement : HTMLInputElement, WindowEventHandlers {\n  open var
cols: String\n  open var rows: String\n}\n\npublic external abstract class HTMLFrameElement : HTMLInputElement {\n
  open var name: String\n  open var scrolling: String\n  open var src: String\n  open var frameBorder: String\n
  open var longDesc: String\n  open var noResize: Boolean\n  open val contentDocument: Document?\n  open val
contentWindow: Window?\n  open var marginHeight: String\n  open var marginWidth: String\n}\n\npublic
external abstract class HTMLDirectoryElement : HTMLInputElement {\n  open var compact: Boolean\n}\n\n/**\n
* Exposes the JavaScript [HTMLFontElement](https://developer.mozilla.org/en/docs/Web/API/HTMLFontElement)
to Kotlin\n
*/\n\npublic external abstract class HTMLFontElement : HTMLInputElement {\n  open var color: String\n
  open var face: String\n  open var size: String\n}\n\npublic external interface External {\n  fun
AddSearchProvider(): Unit\n  fun IsSearchProviderInstalled(): Unit\n}\n\npublic external interface EventInit {\n
  var bubbles: Boolean? /* = false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
cancelable: Boolean? /* = false */\n  get() = definedExternally\n  set(value) = definedExternally\n  var
composed: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventInit(bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): EventInit {\n  val o = js("{}")\n\n  o["bubbles"] =
bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\n/**\n
* Exposes the
JavaScript [CustomEvent](https://developer.mozilla.org/en/docs/Web/API/CustomEvent) to Kotlin\n
*/\n\npublic external open class CustomEvent(type: String, eventInitDict: CustomEventInit = definedExternally) : Event {\n
  open val detail: Any?\n  fun initCustomEvent(type: String, bubbles: Boolean, cancelable: Boolean, detail: Any?):
Unit\n}\n\npublic external interface CustomEventInit : EventInit {\n  var detail: Any? /* = null */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
CustomEventInit(detail: Any? = null, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean?
= false): CustomEventInit {\n  val o = js("{}")\n\n  o["detail"] = detail\n  o["bubbles"] = bubbles\n
  o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\npublic external interface
EventListenerOptions {\n  var capture: Boolean? /* = false */\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun EventListenerOptions(capture: Boolean?
= false): EventListenerOptions {\n  val o = js("{}")\n\n  o["capture"] = capture\n\n  return o\n}\n\npublic
external interface AddEventListenerOptions : EventListenerOptions {\n  var passive: Boolean? /* = false */\n
  get() = definedExternally\n  set(value) = definedExternally\n  var once: Boolean? /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun
AddEventListenerOptions(passive: Boolean? = false, once: Boolean? = false, capture: Boolean? = false):
AddEventListenerOptions {\n  val o = js("{}")\n\n  o["passive"] = passive\n  o["once"] = once\n
  o["capture"] = capture\n\n  return o\n}\n\npublic external interface NonElementParentNode {\n  fun
getElementById(elementId: String): Element?\n}\n\n/**\n
* Exposes the JavaScript
[DocumentOrShadowRoot](https://developer.mozilla.org/en/docs/Web/API/DocumentOrShadowRoot) to Kotlin\n

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*\npublic external interface DocumentOrShadowRoot {\n  val fullscreenElement: Element?\n}\n\n/**\n * Exposes the JavaScript [ParentNode](https://developer.mozilla.org/en/docs/Web/API/ParentNode) to Kotlin\n */\npublic external interface ParentNode {\n  val children: HTMLCollection\n  val firstElementChild: Element?\n  val lastElementChild: Element?\n  val childElementCount: Int\n  fun prepend(vararg nodes: dynamic): Unit\n  fun append(vararg nodes: dynamic): Unit\n  fun querySelector(selectors: String): Element?\n  fun querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript [NonDocumentTypeChildNode](https://developer.mozilla.org/en/docs/Web/API/NonDocumentTypeChildNode) to Kotlin\n */\npublic external interface NonDocumentTypeChildNode {\n  val previousElementSibling: Element?\n  val nextElementSibling: Element?\n}\n\n/**\n * Exposes the JavaScript [ChildNode](https://developer.mozilla.org/en/docs/Web/API/ChildNode) to Kotlin\n */\npublic external interface ChildNode {\n  fun before(vararg nodes: dynamic): Unit\n  fun after(vararg nodes: dynamic): Unit\n  fun replaceWith(vararg nodes: dynamic): Unit\n  fun remove(): Unit\n}\n\n/**\n * Exposes the JavaScript [Slotable](https://developer.mozilla.org/en/docs/Web/API/Slotable) to Kotlin\n */\npublic external interface Slotable {\n  val assignedSlot: HTMLSlotElement?\n}\n\n/**\n * Exposes the JavaScript [NodeList](https://developer.mozilla.org/en/docs/Web/API/NodeList) to Kotlin\n */\npublic external abstract class NodeList : ItemArrayLike<Node> {\n  override val length: Int\n  override fun item(index: Int): Node?\n}\n\n@kotlin.internal.InlineOnly inline operator fun NodeList.get(index: Int): Node? = asDynamic()[index]\n\n/**\n * Exposes the JavaScript [HTMLCollection](https://developer.mozilla.org/en/docs/Web/API/HTMLCollection) to Kotlin\n */\npublic external abstract class HTMLCollection : UnionElementOrHTMLCollection, ItemArrayLike<Element> {\n  override val length: Int\n  override fun item(index: Int): Element?\n  fun namedItem(name: String): Element?\n}\n\n@kotlin.internal.InlineOnly inline operator fun HTMLCollection.get(index: Int): Element? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun HTMLCollection.get(name: String): Element? = asDynamic()[name]\n\n/**\n * Exposes the JavaScript [MutationObserver](https://developer.mozilla.org/en/docs/Web/API/MutationObserver) to Kotlin\n */\npublic external open class MutationObserver(callback: (Array<MutationRecord>, MutationObserver) -> Unit) {\n  fun observe(target: Node, options: MutationObserverInit = definedExternally): Unit\n  fun disconnect(): Unit\n  fun takeRecords(): Array<MutationRecord>\n}\n\n/**\n * Exposes the JavaScript [MutationObserverInit](https://developer.mozilla.org/en/docs/Web/API/MutationObserverInit) to Kotlin\n */\npublic external interface MutationObserverInit {\n  var childList: Boolean? /* = false */\n  fun get() = definedExternally\n  var attributes: Boolean?\n  fun get() = definedExternally\n  var characterData: Boolean?\n  fun get() = definedExternally\n  var subtree: Boolean? /* = false */\n  fun get() = definedExternally\n  var attributeOldValue: Boolean?\n  fun get() = definedExternally\n  var characterDataOldValue: Boolean?\n  fun get() = definedExternally\n  var attributeFilter: Array<String>?\n  fun get() = definedExternally\n  fun set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MutationObserverInit(childList: Boolean? = false, attributes: Boolean? = undefined, characterData: Boolean? = undefined, subtree: Boolean? = false, attributeOldValue: Boolean? = undefined, characterDataOldValue: Boolean? = undefined, attributeFilter: Array<String>? = undefined): MutationObserverInit {\n  val o = js("{}")\n  o["childList"] = childList\n  o["attributes"] = attributes\n  o["characterData"] = characterData\n  o["subtree"] = subtree\n  o["attributeOldValue"] = attributeOldValue\n  o["characterDataOldValue"] = characterDataOldValue\n  o["attributeFilter"] = attributeFilter\n  return o\n}\n\n/**\n * Exposes the JavaScript [MutationRecord](https://developer.mozilla.org/en/docs/Web/API/MutationRecord) to Kotlin\n */\npublic external abstract class MutationRecord {\n  open val type: String\n  open val target: Node\n  open val addedNodes: NodeList\n  open val removedNodes: NodeList\n  open val previousSibling: Node?\n  open val nextSibling: Node?\n  open val attributeName: String?\n  open val attributeNamespace: String?\n  open val oldValue: String?\n}\n\n/**\n * Exposes the JavaScript [Node](https://developer.mozilla.org/en/docs/Web/API/Node) to

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Kotlin\n */\npublic external abstract class Node : EventTarget {\n    open val nodeType: Short\n    open val nodeName: String\n    open val baseURI: String\n    open val isConnected: Boolean\n    open val ownerDocument: Document?\n    open val parentNode: Node?\n    open val parentElement: Element?\n    open val childNodes: NodeList\n    open val firstChild: Node?\n    open val lastChild: Node?\n    open val previousSibling: Node?\n    open val nextSibling: Node?\n    open var nodeValue: String?\n    open var textContent: String?\n    fun getRootNode(options: GetRootNodeOptions = definedExternally): Node\n    fun hasChildNodes(): Boolean\n    fun normalize(): Unit\n    fun cloneNode(deep: Boolean = definedExternally): Node\n    fun isEqualNode(otherNode: Node?): Boolean\n    fun isSameNode(otherNode: Node?): Boolean\n    fun compareDocumentPosition(other: Node): Short\n    fun contains(other: Node?): Boolean\n    fun lookupPrefix(namespace: String?): String?\n    fun lookupNamespaceURI(prefix: String?): String?\n    fun isDefaultNamespace(namespace: String?): Boolean\n    fun insertBefore(node: Node, child: Node?): Node\n    fun appendChild(node: Node): Node\n    fun replaceChild(node: Node, child: Node): Node\n    fun removeChild(child: Node): Node\n\n    companion object {\n        val ELEMENT_NODE: Short\n        val ATTRIBUTE_NODE: Short\n        val TEXT_NODE: Short\n        val CDATA_SECTION_NODE: Short\n        val ENTITY_REFERENCE_NODE: Short\n        val ENTITY_NODE: Short\n        val PROCESSING_INSTRUCTION_NODE: Short\n        val COMMENT_NODE: Short\n        val DOCUMENT_NODE: Short\n        val DOCUMENT_TYPE_NODE: Short\n        val DOCUMENT_FRAGMENT_NODE: Short\n        val NOTATION_NODE: Short\n        val DOCUMENT_POSITION_DISCONNECTED: Short\n        val DOCUMENT_POSITION_PRECEDING: Short\n        val DOCUMENT_POSITION_FOLLOWING: Short\n        val DOCUMENT_POSITION_CONTAINS: Short\n        val DOCUMENT_POSITION_CONTAINED_BY: Short\n        val DOCUMENT_POSITION_IMPLEMENTATION_SPECIFIC: Short\n    }\n}\n\npublic external interface GetRootNodeOptions {\n    var composed: Boolean? /* = false */\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun GetRootNodeOptions(composed: Boolean? = false): GetRootNodeOptions {\n    val o = js("{}")\n    o["composed"] = composed\n    return o\n}\n\n/**\n * Exposes the JavaScript [XMLDocument](https://developer.mozilla.org/en/docs/Web/API/XMLDocument) to Kotlin\n */\npublic external open class XMLDocument : Document {\n    override fun getElementById(elementId: String): Element?\n    override fun prepend(vararg nodes: dynamic): Unit\n    override fun append(vararg nodes: dynamic): Unit\n    override fun querySelector(selectors: String): Element?\n    override fun querySelectorAll(selectors: String): NodeList\n    override fun getBoxQuads(options: BoxQuadOptions /* = definedExternally */): Array<DOMQuad>\n    override fun convertQuadFromNode(quad: dynamic, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n    override fun convertRectFromNode(rect: DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMQuad\n    override fun convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions /* = definedExternally */): DOMPoint\n}\n\npublic external interface ElementCreationOptions {\n    @JsName("is")\n    var is_: String?\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ElementCreationOptions(is_: String? = undefined): ElementCreationOptions {\n    val o = js("{}")\n    o["is"] = is_\n    return o\n}\n\n/**\n * Exposes the JavaScript [DOMImplementation](https://developer.mozilla.org/en/docs/Web/API/DOMImplementation) to Kotlin\n */\npublic external abstract class DOMImplementation {\n    fun createDocumentType(qualifiedName: String, publicId: String, systemId: String): DocumentType\n    fun createDocument(namespace: String?, qualifiedName: String, doctype: DocumentType? = definedExternally): XMLDocument\n    fun createHTMLDocument(title: String = definedExternally): Document\n    fun hasFeature(): Boolean\n}\n\n/**\n * Exposes the JavaScript [DocumentType](https://developer.mozilla.org/en/docs/Web/API/DocumentType) to Kotlin\n */\npublic external abstract class DocumentType : Node, ChildNode {\n    open val name: String\n    open val publicId: String\n    open val systemId: String\n}\n\n/**\n * Exposes the JavaScript [DocumentFragment](https://developer.mozilla.org/en/docs/Web/API/DocumentFragment) to Kotlin\n */\npublic

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external open class DocumentFragment : Node, NonElementParentNode, ParentNode {\n  override val children:
HTMLCollection\n  override val firstElementChild: Element?\n  override val lastElementChild: Element?\n
override val childElementCount: Int\n  override fun getElementById(elementId: String): Element?\n  override fun
prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes: dynamic): Unit\n  override fun
querySelector(selectors: String): Element?\n  override fun querySelectorAll(selectors: String):
NodeList\n}\n\n/**\n * Exposes the JavaScript
[ShadowRoot](https://developer.mozilla.org/en/docs/Web/API/ShadowRoot) to Kotlin\n *\npublic external open
class ShadowRoot : DocumentFragment, DocumentOrShadowRoot {\n  open val mode: ShadowRootMode\n
open val host: Element\n  override val fullscreenElement: Element?\n  override fun getElementById(elementId:
String): Element?\n  override fun prepend(vararg nodes: dynamic): Unit\n  override fun append(vararg nodes:
dynamic): Unit\n  override fun querySelector(selectors: String): Element?\n  override fun
querySelectorAll(selectors: String): NodeList\n}\n\n/**\n * Exposes the JavaScript
[Element](https://developer.mozilla.org/en/docs/Web/API/Element) to Kotlin\n *\npublic external abstract class
Element : Node, ParentNode, NonDocumentTypeChildNode, ChildNode, Slotable, GeometryUtils,
UnionElementOrProcessingInstruction, UnionElementOrHTMLCollection, UnionElementOrRadioNodeList,
UnionElementOrMouseEvent {\n  open var innerHTML: String\n  open var outerHTML: String\n  open val
namespaceURI: String?\n  open val prefix: String?\n  open val localName: String\n  open val tagName: String\n
open var id: String\n  open var className: String\n  open val classList: DOMTokenList\n  open var slot:
String\n  open val attributes: NamedNodeMap\n  open val shadowRoot: ShadowRoot?\n  open var scrollTop:
Double\n  open var scrollLeft: Double\n  open val scrollWidth: Int\n  open val scrollHeight: Int\n  open val
clientTop: Int\n  open val clientLeft: Int\n  open val clientWidth: Int\n  open val clientHeight: Int\n  fun
requestFullscreen(): Promise<Unit>\n  fun setPointerCapture(pointerId: Int): Unit\n  fun
releasePointerCapture(pointerId: Int): Unit\n  fun hasPointerCapture(pointerId: Int): Boolean\n  fun
insertAdjacentHTML(position: String, text: String): Unit\n  fun hasAttributes(): Boolean\n  fun
getAttributeNames(): Array<String>\n  fun getAttribute(qualifiedName: String): String?\n  fun
getAttributeNS(namespace: String?, localName: String): String?\n  fun setAttribute(qualifiedName: String, value:
String): Unit\n  fun setAttributeNS(namespace: String?, qualifiedName: String, value: String): Unit\n  fun
removeAttribute(qualifiedName: String): Unit\n  fun removeAttributeNS(namespace: String?, localName: String):
Unit\n  fun hasAttribute(qualifiedName: String): Boolean\n  fun hasAttributeNS(namespace: String?, localName:
String): Boolean\n  fun getAttributeNode(qualifiedName: String): Attr?\n  fun getAttributeNodeNS(namespace:
String?, localName: String): Attr?\n  fun setAttributeNode(attr: Attr): Attr?\n  fun setAttributeNodeNS(attr: Attr):
Attr?\n  fun removeAttributeNode(attr: Attr): Attr\n  fun attachShadow(init: ShadowRootInit): ShadowRoot\n
fun closest(selectors: String): Element?\n  fun matches(selectors: String): Boolean\n  fun
webkitMatchesSelector(selectors: String): Boolean\n  fun getElementsByTagName(qualifiedName: String):
HTMLCollection\n  fun getElementsByTagNameNS(namespace: String?, localName: String): HTMLCollection\n
fun getElementsByClassName(classNames: String): HTMLCollection\n  fun insertAdjacentElement(when: String,
element: Element): Element?\n  fun insertAdjacentText(when: String, data: String): Unit\n  fun getClientRects():
Array<DOMRect>\n  fun getBoundingClientRect(): DOMRect\n  fun scrollIntoView(): Unit\n  fun
scrollIntoView(arg: dynamic): Unit\n  fun scroll(options: ScrollToOptions = definedExternally): Unit\n  fun
scroll(x: Double, y: Double): Unit\n  fun scrollTo(options: ScrollToOptions = definedExternally): Unit\n  fun
scrollTo(x: Double, y: Double): Unit\n  fun scrollBy(options: ScrollToOptions = definedExternally): Unit\n  fun
scrollBy(x: Double, y: Double): Unit\n}\n\npublic external interface ShadowRootInit {\n  var mode:
ShadowRootMode?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ShadowRootInit(mode:
ShadowRootMode?): ShadowRootInit {\n  val o = js("{}")\n  o["mode"] = mode\n  return o\n}\n\n/**\n * Exposes the JavaScript [NamedNodeMap](https://developer.mozilla.org/en/docs/Web/API/NamedNodeMap) to
Kotlin\n *\npublic external abstract class NamedNodeMap : ItemArrayLike<Attr> {\n  override val length: Int\n
override fun item(index: Int): Attr?\n  fun getNamedItem(qualifiedName: String): Attr?\n  fun

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collapse(toStart: Boolean = definedExternally): Unit\n fun selectNode(node: Node): Unit\n fun
selectNodeContents(node: Node): Unit\n fun compareBoundaryPoints(how: Short, sourceRange: Range): Short\n
fun deleteContents(): Unit\n fun extractContents(): DocumentFragment\n fun cloneContents():
DocumentFragment\n fun insertNode(node: Node): Unit\n fun surroundContents(newParent: Node): Unit\n
fun cloneRange(): Range\n fun detach(): Unit\n fun isPointInRange(node: Node, offset: Int): Boolean\n fun
comparePoint(node: Node, offset: Int): Short\n fun intersectsNode(node: Node): Boolean\n fun getClientRects():
Array<DOMRect>\n fun getBoundingClientRect(): DOMRect\n\n companion object {\n val
START_TO_START: Short\n val START_TO_END: Short\n val END_TO_END: Short\n val
END_TO_START: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[NodeIterator](https://developer.mozilla.org/en/docs/Web/API/NodeIterator) to Kotlin\n */\n\npublic external abstract
class NodeIterator {\n open val root: Node\n open val referenceNode: Node\n open val
pointerBeforeReferenceNode: Boolean\n open val whatToShow: Int\n open val filter: NodeFilter?\n fun
nextNode(): Node?\n fun previousNode(): Node?\n fun detach(): Unit\n}\n\n/**\n * Exposes the JavaScript
[TreeWalker](https://developer.mozilla.org/en/docs/Web/API/TreeWalker) to Kotlin\n */\n\npublic external abstract
class TreeWalker {\n open val root: Node\n open val whatToShow: Int\n open val filter: NodeFilter?\n open
var currentNode: Node\n fun parentNode(): Node?\n fun firstChild(): Node?\n fun lastChild(): Node?\n fun
previousSibling(): Node?\n fun nextSibling(): Node?\n fun previousNode(): Node?\n fun nextNode():
Node?\n}\n\n/**\n * Exposes the JavaScript
[NodeFilter](https://developer.mozilla.org/en/docs/Web/API/NodeFilter) to Kotlin\n */\n\npublic external interface
NodeFilter {\n fun acceptNode(node: Node): Short\n\n companion object {\n val FILTER_ACCEPT:
Short\n val FILTER_REJECT: Short\n val FILTER_SKIP: Short\n val SHOW_ALL: Int\n val
SHOW_ELEMENT: Int\n val SHOW_ATTRIBUTE: Int\n val SHOW_TEXT: Int\n val
SHOW_CDATA_SECTION: Int\n val SHOW_ENTITY_REFERENCE: Int\n val SHOW_ENTITY: Int\n
val SHOW_PROCESSING_INSTRUCTION: Int\n val SHOW_COMMENT: Int\n val
SHOW_DOCUMENT: Int\n val SHOW_DOCUMENT_TYPE: Int\n val
SHOW_DOCUMENT_FRAGMENT: Int\n val SHOW_NOTATION: Int\n }\n}\n\n/**\n * Exposes the
JavaScript [DOMTokenList](https://developer.mozilla.org/en/docs/Web/API/DOMTokenList) to Kotlin\n */\n\npublic
external abstract class DOMTokenList : ItemArrayLike<String> {\n override val length: Int\n open var value:
String\n override fun item(index: Int): String?\n fun contains(token: String): Boolean\n fun add(vararg tokens:
String): Unit\n fun remove(vararg tokens: String): Unit\n fun toggle(token: String, force: Boolean =
definedExternally): Boolean\n fun replace(token: String, newToken: String): Unit\n fun supports(token: String):
Boolean\n}\n\n@kotlin.internal.InlineOnly inline operator fun DOMTokenList.get(index: Int): String? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMPointReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMPointReadOnly) to Kotlin\n */\n\npublic
external open class DOMPointReadOnly(x: Double, y: Double, z: Double, w: Double) {\n open val x: Double\n
open val y: Double\n open val z: Double\n open val w: Double\n fun matrixTransform(matrix:
DOMMatrixReadOnly): DOMPoint\n}\n\n/**\n * Exposes the JavaScript
[DOMPoint](https://developer.mozilla.org/en/docs/Web/API/DOMPoint) to Kotlin\n */\n\npublic external open class
DOMPoint : DOMPointReadOnly {\n constructor(point: DOMPointInit)\n constructor(x: Double =
definedExternally, y: Double = definedExternally, z: Double = definedExternally, w: Double = definedExternally)\n
override var x: Double\n override var y: Double\n override var z: Double\n override var w:
Double\n}\n\n/**\n * Exposes the JavaScript
[DOMPointInit](https://developer.mozilla.org/en/docs/Web/API/DOMPointInit) to Kotlin\n */\n\npublic external
interface DOMPointInit {\n var x: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var y: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var z: Double? /* = 0.0 */\n get() = definedExternally\n set(value) =
definedExternally\n var w: Double? /* = 1.0 */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\n\npublic inline fun DOMPointInit(x: Double? = 0.0, y: Double?

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= 0.0, z: Double? = 0.0, w: Double? = 1.0): DOMPointInit {\n  val o = js("{}")\n\n  o["x"] = x\n  o["y"] = y\n  o["z"] = z\n  o["w"] = w\n\n  return o}\n\n/**\n * Exposes the JavaScript
[DOMRect](https://developer.mozilla.org/en/docs/Web/API/DOMRect) to Kotlin\n *\npublic external open class
DOMRect(x: Double = definedExternally, y: Double = definedExternally, width: Double = definedExternally,
height: Double = definedExternally) : DOMRectReadOnly {\n  override var x: Double\n  override var y: Double\n
  override var width: Double\n  override var height: Double}\n\n/**\n * Exposes the JavaScript
[DOMRectReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMRectReadOnly) to Kotlin\n *\npublic
external open class DOMRectReadOnly(x: Double, y: Double, width: Double, height: Double) {\n  open val x:
Double\n  open val y: Double\n  open val width: Double\n  open val height: Double\n  open val top: Double\n
  open val right: Double\n  open val bottom: Double\n  open val left: Double}\n\npublic external interface
DOMRectInit {\n  var x: Double? /* = 0.0 */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var y: Double? /* = 0.0 */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var width: Double? /* = 0.0 */\n  get() = definedExternally\n  set(value) =
definedExternally\n  var height: Double? /* = 0.0 */\n  get() = definedExternally\n  set(value) =
definedExternally}\n\n@kotlin.internal.InlineOnly\npublic inline fun DOMRectInit(x: Double? = 0.0, y: Double?
= 0.0, width: Double? = 0.0, height: Double? = 0.0): DOMRectInit {\n  val o = js("{}")\n\n  o["x"] = x\n
  o["y"] = y\n  o["width"] = width\n  o["height"] = height\n\n  return o}\n\npublic external interface
DOMRectList : ItemArrayLike<DOMRect> {\n  override fun item(index: Int):
DOMRect?\n}\n\n@kotlin.internal.InlineOnly inline operator fun DOMRectList.get(index: Int): DOMRect? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[DOMQuad](https://developer.mozilla.org/en/docs/Web/API/DOMQuad) to Kotlin\n *\npublic external open class
DOMQuad {\n  constructor(p1: DOMPointInit = definedExternally, p2: DOMPointInit = definedExternally, p3:
DOMPointInit = definedExternally, p4: DOMPointInit = definedExternally)\n  constructor(rect: DOMRectInit)\n
  open val p1: DOMPoint\n  open val p2: DOMPoint\n  open val p3: DOMPoint\n  open val p4: DOMPoint\n
  open val bounds: DOMRectReadOnly}\n\n/**\n * Exposes the JavaScript
[DOMMatrixReadOnly](https://developer.mozilla.org/en/docs/Web/API/DOMMatrixReadOnly) to Kotlin\n
*\npublic external open class DOMMatrixReadOnly(numberSequence: Array<Double>) {\n  open val a: Double\n
  open val b: Double\n  open val c: Double\n  open val d: Double\n  open val e: Double\n  open val f: Double\n
  open val m11: Double\n  open val m12: Double\n  open val m13: Double\n  open val m14: Double\n  open val
m21: Double\n  open val m22: Double\n  open val m23: Double\n  open val m24: Double\n  open val m31:
Double\n  open val m32: Double\n  open val m33: Double\n  open val m34: Double\n  open val m41: Double\n
  open val m42: Double\n  open val m43: Double\n  open val m44: Double\n  open val is2D: Boolean\n  open
val isIdentity: Boolean\n  fun translate(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n
  fun scale(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
  fun scale3d(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally, originZ:
Double = definedExternally): DOMMatrix\n  fun scaleNonUniform(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n  fun rotate(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n  fun rotateFromVector(x:
Double, y: Double): DOMMatrix\n  fun rotateAxisAngle(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n  fun skewX(sx: Double): DOMMatrix\n  fun skewY(sy: Double): DOMMatrix\n  fun
multiply(other: DOMMatrix): DOMMatrix\n  fun flipX(): DOMMatrix\n  fun flipY(): DOMMatrix\n  fun
inverse(): DOMMatrix\n  fun transformPoint(point: DOMPointInit = definedExternally): DOMPoint\n  fun
toFloat32Array(): Float32Array\n  fun toFloat64Array(): Float64Array}\n\n/**\n * Exposes the JavaScript
[DOMMatrix](https://developer.mozilla.org/en/docs/Web/API/DOMMatrix) to Kotlin\n *\npublic external open
class DOMMatrix() : DOMMatrixReadOnly {\n  constructor(transformList: String)\n  constructor(other:
DOMMatrixReadOnly)\n  constructor(array32: Float32Array)\n  constructor(array64: Float64Array)\n
  constructor(numberSequence: Array<Double>)\n  override var a: Double\n  override var b: Double\n  override

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var c: Double\n override var d: Double\n override var e: Double\n override var f: Double\n override var m11:
Double\n override var m12: Double\n override var m13: Double\n override var m14: Double\n override var
m21: Double\n override var m22: Double\n override var m23: Double\n override var m24: Double\n override
var m31: Double\n override var m32: Double\n override var m33: Double\n override var m34: Double\n
override var m41: Double\n override var m42: Double\n override var m43: Double\n override var m44:
Double\n fun multiplySelf(other: DOMMatrix): DOMMatrix\n fun preMultiplySelf(other: DOMMatrix):
DOMMatrix\n fun translateSelf(tx: Double, ty: Double, tz: Double = definedExternally): DOMMatrix\n fun
scaleSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n
fun scale3dSelf(scale: Double, originX: Double = definedExternally, originY: Double = definedExternally,
originZ: Double = definedExternally): DOMMatrix\n fun scaleNonUniformSelf(scaleX: Double, scaleY: Double =
definedExternally, scaleZ: Double = definedExternally, originX: Double = definedExternally, originY: Double =
definedExternally, originZ: Double = definedExternally): DOMMatrix\n fun rotateSelf(angle: Double, originX:
Double = definedExternally, originY: Double = definedExternally): DOMMatrix\n fun rotateFromVectorSelf(x:
Double, y: Double): DOMMatrix\n fun rotateAxisAngleSelf(x: Double, y: Double, z: Double, angle: Double):
DOMMatrix\n fun skewXSelf(sx: Double): DOMMatrix\n fun skewYSelf(sy: Double): DOMMatrix\n fun
invertSelf(): DOMMatrix\n fun setMatrixValue(transformList: String): DOMMatrix\n}\n\npublic external
interface ScrollOptions {\n var behavior: ScrollBehavior? /* = ScrollBehavior.AUTO */\n get() =
definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ScrollOptions(behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollOptions {\n val o = js("{}")\n\n
o["behavior"] = behavior\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[ScrollToOptions](https://developer.mozilla.org/en/docs/Web/API/ScrollToOptions) to Kotlin\n */\npublic external
interface ScrollToOptions : ScrollOptions {\n var left: Double?\n get() = definedExternally\n set(value) =
definedExternally\n var top: Double?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ScrollToOptions(left: Double? = undefined,
top: Double? = undefined, behavior: ScrollBehavior? = ScrollBehavior.AUTO): ScrollToOptions {\n val o =
js("{}")\n\n o["left"] = left\n o["top"] = top\n o["behavior"] = behavior\n\n return o\n}\n\n/**\n * Exposes the JavaScript [MediaQueryList](https://developer.mozilla.org/en/docs/Web/API/MediaQueryList) to
Kotlin\n */\npublic external abstract class MediaQueryList : EventTarget {\n open val media: String\n open val
matches: Boolean\n open var onchange: ((Event) -> dynamic)?\n fun addListener(listener: EventListener?):
Unit\n fun addListener(listener: ((Event) -> Unit)?): Unit\n fun removeListener(listener: EventListener?): Unit\n
fun removeListener(listener: ((Event) -> Unit)?): Unit\n}\n\n/**\n * Exposes the JavaScript
[MediaQueryListEvent](https://developer.mozilla.org/en/docs/Web/API/MediaQueryListEvent) to Kotlin\n */\npublic external open class MediaQueryListEvent(type: String, eventInitDict: MediaQueryListEventInit =
definedExternally) : Event {\n open val media: String\n open val matches: Boolean\n}\n\npublic external
interface MediaQueryListEventInit : EventInit {\n var media: String? /* = "" */\n get() = definedExternally\n
set(value) = definedExternally\n var matches: Boolean? /* = false */\n get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaQueryListEventInit(media: String? = "", matches: Boolean? = false, bubbles: Boolean? = false, cancelable:
Boolean? = false, composed: Boolean? = false): MediaQueryListEventInit {\n val o = js("{}")\n\n
o["media"] = media\n o["matches"] = matches\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n
o["composed"] = composed\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[Screen](https://developer.mozilla.org/en/docs/Web/API/Screen) to Kotlin\n */\npublic external abstract class
Screen {\n open val availWidth: Int\n open val availHeight: Int\n open val width: Int\n open val height: Int\n
open val colorDepth: Int\n open val pixelDepth: Int\n}\n\n/**\n * Exposes the JavaScript
[CaretPosition](https://developer.mozilla.org/en/docs/Web/API/CaretPosition) to Kotlin\n */\npublic external
abstract class CaretPosition {\n open val offsetNode: Node\n open val offset: Int\n fun getClientRect():
DOMRect?\n}\n\npublic external interface ScrollIntoViewOptions : ScrollOptions {\n var block:
ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n get() = definedExternally\n set(value) =

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definedExternally\n    var inline: ScrollLogicalPosition? /* = ScrollLogicalPosition.CENTER */\n        get() =
definedExternally\n        set(value) = definedExternally\n    }\n\n@kotlin.internal.InlineOnly\npublic inline fun
ScrollIntoViewOptions(block: ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, inline:
ScrollLogicalPosition? = ScrollLogicalPosition.CENTER, behavior: ScrollBehavior? = ScrollBehavior.AUTO):
ScrollIntoViewOptions {\n    val o = js("{}")\n    o["block"] = block\n    o["inline"] = inline\n
o["behavior"] = behavior\n\n    return o\n}\n\npublic external interface BoxQuadOptions {\n    var box:
CSSBoxType? /* = CSSBoxType.BORDER */\n        get() = definedExternally\n        set(value) =
definedExternally\n    var relativeTo: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    }\n\n@kotlin.internal.InlineOnly\npublic inline fun BoxQuadOptions(box: CSSBoxType? =
CSSBoxType.BORDER, relativeTo: dynamic = undefined): BoxQuadOptions {\n    val o = js("{}")\n    o["box"] = box\n    o["relativeTo"] = relativeTo\n\n    return o\n}\n\npublic external interface
ConvertCoordinateOptions {\n    var fromBox: CSSBoxType? /* = CSSBoxType.BORDER */\n        get() =
definedExternally\n        set(value) = definedExternally\n    var toBox: CSSBoxType? /* = CSSBoxType.BORDER
*/\n        get() = definedExternally\n        set(value) = definedExternally\n    }\n\n@kotlin.internal.InlineOnly\npublic
inline fun ConvertCoordinateOptions(fromBox: CSSBoxType? = CSSBoxType.BORDER, toBox: CSSBoxType? =
CSSBoxType.BORDER): ConvertCoordinateOptions {\n    val o = js("{}")\n    o["fromBox"] = fromBox\n
o["toBox"] = toBox\n\n    return o\n}\n\n/**\n * Exposes the JavaScript
[GeometryUtils](https://developer.mozilla.org/en/docs/Web/API/GeometryUtils) to Kotlin\n */\n\npublic external
interface GeometryUtils {\n    fun getBoxQuads(options: BoxQuadOptions = definedExternally):
Array<DOMQuad>\n    fun convertQuadFromNode(quad: dynamic, from: dynamic, options:
ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun convertRectFromNode(rect:
DOMRectReadOnly, from: dynamic, options: ConvertCoordinateOptions = definedExternally): DOMQuad\n    fun
convertPointFromNode(point: DOMPointInit, from: dynamic, options: ConvertCoordinateOptions =
definedExternally): DOMPoint\n}\n\npublic external @marker interface UnionElementOrProcessingInstruction
{\n}\n\npublic external @marker interface UnionElementOrHTMLCollection {\n}\n\npublic external @marker
interface UnionElementOrRadioNodeList {\n}\n\npublic external @marker interface
UnionHTMLOptGroupElementOrHTMLOptionElement {\n}\n\npublic external @marker interface
UnionAudioTrackOrTextTrackOrVideoTrack {\n}\n\npublic external @marker interface
UnionElementOrMouseEvent {\n}\n\npublic external @marker interface UnionMessagePortOrWindow
{\n}\n\npublic external @marker interface UnionMessagePortOrServiceWorker {\n}\n\npublic external @marker
interface HTMLOrSVGScriptElement {\n}\n\npublic external @marker interface RenderingContext {\n}\n\npublic
external @marker interface HTMLOrSVGImageElement {\n}\n\n/* please, don't implement this interface!
*/\n\npublic external interface DocumentReadyState {\n    companion object\n}\n\npublic inline val
DocumentReadyState.Companion.LOADING: DocumentReadyState get() =
"loading".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.INTERACTIVE: DocumentReadyState get() =
"interactive".asDynamic().unsafeCast<DocumentReadyState>()\n\npublic inline val
DocumentReadyState.Companion.COMPLETE: DocumentReadyState get() =
"complete".asDynamic().unsafeCast<DocumentReadyState>()\n\n/* please, don't implement this interface!
*/\n\npublic external interface CanPlayTypeResult {\n    companion object\n}\n\npublic inline val
CanPlayTypeResult.Companion.EMPTY: CanPlayTypeResult get() =
"".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.MAYBE: CanPlayTypeResult get() = "maybe".asDynamic().unsafeCast<CanPlayTypeResult>()\n\npublic inline val
CanPlayTypeResult.Companion.PROBABLY: CanPlayTypeResult get() =
"probably".asDynamic().unsafeCast<CanPlayTypeResult>()\n\n/* please, don't implement this interface!
*/\n\npublic external interface TextTrackMode {\n    companion object\n}\n\npublic inline val
TextTrackMode.Companion.DISABLED: TextTrackMode get() =
"disabled".asDynamic().unsafeCast<TextTrackMode>()\n\npublic inline val TextTrackMode.Companion.HIDDEN:

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TextTrackMode get() = \"hidden\".asDynamic().unsafeCast<TextTrackMode>()\npublic inline val
TextTrackMode.Companion.SHOWING: TextTrackMode get() =
\"showing\".asDynamic().unsafeCast<TextTrackMode>()\n\n/* please, don't implement this interface! */\npublic
external interface TextTrackKind {\n  companion object\n}\npublic inline val
TextTrackKind.Companion.SUBTITLES: TextTrackKind get() =
\"subtitles\".asDynamic().unsafeCast<TextTrackKind>()\npublic inline val TextTrackKind.Companion.CAPTIONS:
TextTrackKind get() = \"captions\".asDynamic().unsafeCast<TextTrackKind>()\npublic inline val
TextTrackKind.Companion.DESCRPTIONS: TextTrackKind get() =
\"descriptions\".asDynamic().unsafeCast<TextTrackKind>()\npublic inline val
TextTrackKind.Companion.CHAPTERS: TextTrackKind get() =
\"chapters\".asDynamic().unsafeCast<TextTrackKind>()\npublic inline val
TextTrackKind.Companion.METADATA: TextTrackKind get() =
\"metadata\".asDynamic().unsafeCast<TextTrackKind>()\n\n/* please, don't implement this interface! */\npublic
external interface SelectionMode {\n  companion object\n}\npublic inline val
SelectionMode.Companion.SELECT: SelectionMode get() =
\"select\".asDynamic().unsafeCast<SelectionMode>()\npublic inline val SelectionMode.Companion.START:
SelectionMode get() = \"start\".asDynamic().unsafeCast<SelectionMode>()\npublic inline val
SelectionMode.Companion.END: SelectionMode get() =
\"end\".asDynamic().unsafeCast<SelectionMode>()\npublic inline val SelectionMode.Companion.PRESERVE:
SelectionMode get() = \"preserve\".asDynamic().unsafeCast<SelectionMode>()\n\n/* please, don't implement this
interface! */\npublic external interface CanvasFillRule {\n  companion object\n}\npublic inline val
CanvasFillRule.Companion.NONZERO: CanvasFillRule get() =
\"nonzero\".asDynamic().unsafeCast<CanvasFillRule>()\npublic inline val CanvasFillRule.Companion.EVENODD:
CanvasFillRule get() = \"evenodd\".asDynamic().unsafeCast<CanvasFillRule>()\n\n/* please, don't implement this
interface! */\npublic external interface ImageSmoothingQuality {\n  companion object\n}\npublic inline val
ImageSmoothingQuality.Companion.LOW: ImageSmoothingQuality get() =
\"low\".asDynamic().unsafeCast<ImageSmoothingQuality>()\npublic inline val
ImageSmoothingQuality.Companion.MEDIUM: ImageSmoothingQuality get() =
\"medium\".asDynamic().unsafeCast<ImageSmoothingQuality>()\npublic inline val
ImageSmoothingQuality.Companion.HIGH: ImageSmoothingQuality get() =
\"high\".asDynamic().unsafeCast<ImageSmoothingQuality>()\n\n/* please, don't implement this interface!
*/\npublic external interface CanvasLineCap {\n  companion object\n}\npublic inline val
CanvasLineCap.Companion.BUTT: CanvasLineCap get() =
\"butt\".asDynamic().unsafeCast<CanvasLineCap>()\npublic inline val CanvasLineCap.Companion.ROUND:
CanvasLineCap get() = \"round\".asDynamic().unsafeCast<CanvasLineCap>()\npublic inline val
CanvasLineCap.Companion.SQUARE: CanvasLineCap get() =
\"square\".asDynamic().unsafeCast<CanvasLineCap>()\n\n/* please, don't implement this interface! */\npublic
external interface CanvasLineJoin {\n  companion object\n}\npublic inline val
CanvasLineJoin.Companion.ROUND: CanvasLineJoin get() =
\"round\".asDynamic().unsafeCast<CanvasLineJoin>()\npublic inline val CanvasLineJoin.Companion.BEVEL:
CanvasLineJoin get() = \"bevel\".asDynamic().unsafeCast<CanvasLineJoin>()\npublic inline val
CanvasLineJoin.Companion.MITER: CanvasLineJoin get() =
\"miter\".asDynamic().unsafeCast<CanvasLineJoin>()\n\n/* please, don't implement this interface! */\npublic
external interface CanvasTextAlign {\n  companion object\n}\npublic inline val
CanvasTextAlign.Companion.START: CanvasTextAlign get() =
\"start\".asDynamic().unsafeCast<CanvasTextAlign>()\npublic inline val CanvasTextAlign.Companion.END:
CanvasTextAlign get() = \"end\".asDynamic().unsafeCast<CanvasTextAlign>()\npublic inline val
CanvasTextAlign.Companion.LEFT: CanvasTextAlign get() =

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\left\".asDynamic().unsafeCast<CanvasTextAlign>()\npublic inline val CanvasTextAlign.Companion.RIGHT:
CanvasTextAlign get() = \right\".asDynamic().unsafeCast<CanvasTextAlign>()\npublic inline val
CanvasTextAlign.Companion.CENTER: CanvasTextAlign get() =
\center\".asDynamic().unsafeCast<CanvasTextAlign>()\n\n/* please, don't implement this interface! */\npublic
external interface CanvasTextBaseline {\n  companion object\n}\npublic inline val
CanvasTextBaseline.Companion.TOP: CanvasTextBaseline get() =
\top\".asDynamic().unsafeCast<CanvasTextBaseline>()\npublic inline val
CanvasTextBaseline.Companion.HANGING: CanvasTextBaseline get() =
\hanging\".asDynamic().unsafeCast<CanvasTextBaseline>()\npublic inline val
CanvasTextBaseline.Companion.MIDDLE: CanvasTextBaseline get() =
\middle\".asDynamic().unsafeCast<CanvasTextBaseline>()\npublic inline val
CanvasTextBaseline.Companion.ALPHABETIC: CanvasTextBaseline get() =
\alphabetic\".asDynamic().unsafeCast<CanvasTextBaseline>()\npublic inline val
CanvasTextBaseline.Companion.IDEOGRAPHIC: CanvasTextBaseline get() =
\ideographic\".asDynamic().unsafeCast<CanvasTextBaseline>()\npublic inline val
CanvasTextBaseline.Companion.BOTTOM: CanvasTextBaseline get() =
\bottom\".asDynamic().unsafeCast<CanvasTextBaseline>()\n\n/* please, don't implement this interface! */\npublic
external interface CanvasDirection {\n  companion object\n}\npublic inline val CanvasDirection.Companion.LTR:
CanvasDirection get() = \ltr\".asDynamic().unsafeCast<CanvasDirection>()\npublic inline val
CanvasDirection.Companion.RTL: CanvasDirection get() =
\rtl\".asDynamic().unsafeCast<CanvasDirection>()\npublic inline val CanvasDirection.Companion.INHERIT:
CanvasDirection get() = \inherit\".asDynamic().unsafeCast<CanvasDirection>()\n\n/* please, don't implement this
interface! */\npublic external interface ScrollRestoration {\n  companion object\n}\npublic inline val
ScrollRestoration.Companion.AUTO: ScrollRestoration get() =
\auto\".asDynamic().unsafeCast<ScrollRestoration>()\npublic inline val ScrollRestoration.Companion.MANUAL:
ScrollRestoration get() = \manual\".asDynamic().unsafeCast<ScrollRestoration>()\n\n/* please, don't implement
this interface! */\npublic external interface ImageOrientation {\n  companion object\n}\npublic inline val
ImageOrientation.Companion.NONE: ImageOrientation get() =
\none\".asDynamic().unsafeCast<ImageOrientation>()\npublic inline val ImageOrientation.Companion.FLIPY:
ImageOrientation get() = \flipY\".asDynamic().unsafeCast<ImageOrientation>()\n\n/* please, don't implement this
interface! */\npublic external interface PremultiplyAlpha {\n  companion object\n}\npublic inline val
PremultiplyAlpha.Companion.NONE: PremultiplyAlpha get() =
\none\".asDynamic().unsafeCast<PremultiplyAlpha>()\npublic inline val
PremultiplyAlpha.Companion.PREMULTIPLY: PremultiplyAlpha get() =
\premultiply\".asDynamic().unsafeCast<PremultiplyAlpha>()\npublic inline val
PremultiplyAlpha.Companion.DEFAULT: PremultiplyAlpha get() =
\default\".asDynamic().unsafeCast<PremultiplyAlpha>()\n\n/* please, don't implement this interface! */\npublic
external interface ColorSpaceConversion {\n  companion object\n}\npublic inline val
ColorSpaceConversion.Companion.NONE: ColorSpaceConversion get() =
\none\".asDynamic().unsafeCast<ColorSpaceConversion>()\npublic inline val
ColorSpaceConversion.Companion.DEFAULT: ColorSpaceConversion get() =
\default\".asDynamic().unsafeCast<ColorSpaceConversion>()\n\n/* please, don't implement this interface!
*/\npublic external interface ResizeQuality {\n  companion object\n}\npublic inline val
ResizeQuality.Companion.PIXELATED: ResizeQuality get() =
\pixelated\".asDynamic().unsafeCast<ResizeQuality>()\npublic inline val ResizeQuality.Companion.LOW:
ResizeQuality get() = \low\".asDynamic().unsafeCast<ResizeQuality>()\npublic inline val
ResizeQuality.Companion.MEDIUM: ResizeQuality get() =
\medium\".asDynamic().unsafeCast<ResizeQuality>()\npublic inline val ResizeQuality.Companion.HIGH:

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ResizeQuality get() = "high".asDynamic().unsafeCast<ResizeQuality>()\n\n/* please, don't implement this
interface! *\npublic external interface BinaryType {\n  companion object\n}\npublic inline val
BinaryType.Companion.BLOB: BinaryType get() = "blob".asDynamic().unsafeCast<BinaryType>()\npublic inline
val BinaryType.Companion.ARRAYBUFFER: BinaryType get() =
"arraybuffer".asDynamic().unsafeCast<BinaryType>()\n\n/* please, don't implement this interface! *\npublic
external interface WorkerType {\n  companion object\n}\npublic inline val WorkerType.Companion.CLASSIC:
WorkerType get() = "classic".asDynamic().unsafeCast<WorkerType>()\npublic inline val
WorkerType.Companion.MODULE: WorkerType get() =
"module".asDynamic().unsafeCast<WorkerType>()\n\n/* please, don't implement this interface! *\npublic
external interface ShadowRootMode {\n  companion object\n}\npublic inline val
ShadowRootMode.Companion.OPEN: ShadowRootMode get() =
"open".asDynamic().unsafeCast<ShadowRootMode>()\npublic inline val
ShadowRootMode.Companion.CLOSED: ShadowRootMode get() =
"closed".asDynamic().unsafeCast<ShadowRootMode>()\n\n/* please, don't implement this interface! *\npublic
external interface ScrollBehavior {\n  companion object\n}\npublic inline val ScrollBehavior.Companion.AUTO:
ScrollBehavior get() = "auto".asDynamic().unsafeCast<ScrollBehavior>()\npublic inline val
ScrollBehavior.Companion.INSTANT: ScrollBehavior get() =
"instant".asDynamic().unsafeCast<ScrollBehavior>()\npublic inline val ScrollBehavior.Companion.SMOOTH:
ScrollBehavior get() = "smooth".asDynamic().unsafeCast<ScrollBehavior>()\n\n/* please, don't implement this
interface! *\npublic external interface ScrollLogicalPosition {\n  companion object\n}\npublic inline val
ScrollLogicalPosition.Companion.START: ScrollLogicalPosition get() =
"start".asDynamic().unsafeCast<ScrollLogicalPosition>()\npublic inline val
ScrollLogicalPosition.Companion.CENTER: ScrollLogicalPosition get() =
"center".asDynamic().unsafeCast<ScrollLogicalPosition>()\npublic inline val
ScrollLogicalPosition.Companion.END: ScrollLogicalPosition get() =
"end".asDynamic().unsafeCast<ScrollLogicalPosition>()\npublic inline val
ScrollLogicalPosition.Companion.NEAREST: ScrollLogicalPosition get() =
"nearest".asDynamic().unsafeCast<ScrollLogicalPosition>()\n\n/* please, don't implement this interface!
*\npublic external interface CSSBoxType {\n  companion object\n}\npublic inline val
CSSBoxType.Companion.MARGIN: CSSBoxType get() =
"margin".asDynamic().unsafeCast<CSSBoxType>()\npublic inline val CSSBoxType.Companion.BORDER:
CSSBoxType get() = "border".asDynamic().unsafeCast<CSSBoxType>()\npublic inline val
CSSBoxType.Companion.PADDING: CSSBoxType get() =
"padding".asDynamic().unsafeCast<CSSBoxType>()\npublic inline val CSSBoxType.Companion.CONTENT:
CSSBoxType get() = "content".asDynamic().unsafeCast<CSSBoxType>()\n\n"/**\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license \n * that can be found in the
license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
libraries/tools/idl2k for details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage
org.w3c.fetch\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport
org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Headers](https://developer.mozilla.org/en/docs/Web/API/Headers)
to Kotlin\n */\npublic external open class Headers(init: dynamic = definedExternally) {\n  fun append(name:
String, value: String): Unit\n  fun delete(name: String): Unit\n  fun get(name: String): String?\n  fun has(name:
String): Boolean\n  fun set(name: String, value: String): Unit\n}\n\n/**\n * Exposes the JavaScript
[Body](https://developer.mozilla.org/en/docs/Web/API/Body) to Kotlin\n */\npublic external interface Body {\n

```



```

\"audio\".asDynamic().unsafeCast<RequestType>()\npublic inline val RequestType.Companion.FONT:
RequestType get() = \"font\".asDynamic().unsafeCast<RequestType>()\npublic inline val
RequestType.Companion.IMAGE: RequestType get() =
\"image\".asDynamic().unsafeCast<RequestType>()\npublic inline val RequestType.Companion.SCRIPT:
RequestType get() = \"script\".asDynamic().unsafeCast<RequestType>()\npublic inline val
RequestType.Companion.STYLE: RequestType get() = \"style\".asDynamic().unsafeCast<RequestType>()\npublic
inline val RequestType.Companion.TRACK: RequestType get() =
\"track\".asDynamic().unsafeCast<RequestType>()\npublic inline val RequestType.Companion.VIDEO:
RequestType get() = \"video\".asDynamic().unsafeCast<RequestType>()\n\n/* please, don't implement this
interface! */\npublic external interface RequestDestination {\n  companion object\n}\npublic inline val
RequestDestination.Companion.EMPTY: RequestDestination get() =
\"\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.DOCUMENT: RequestDestination get() =
\"document\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.EMBED: RequestDestination get() =
\"embed\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.FONT: RequestDestination get() =
\"font\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val RequestDestination.Companion.IMAGE:
RequestDestination get() = \"image\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.MANIFEST: RequestDestination get() =
\"manifest\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.MEDIA: RequestDestination get() =
\"media\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.OBJECT: RequestDestination get() =
\"object\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.REPORT: RequestDestination get() =
\"report\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.SCRIPT: RequestDestination get() =
\"script\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.SERVICEWORKER: RequestDestination get() =
\"serviceworker\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.SHAREDWORKER: RequestDestination get() =
\"sharedworker\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.STYLE: RequestDestination get() =
\"style\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.WORKER: RequestDestination get() =
\"worker\".asDynamic().unsafeCast<RequestDestination>()\npublic inline val
RequestDestination.Companion.XSLT: RequestDestination get() =
\"xslt\".asDynamic().unsafeCast<RequestDestination>()\n\n/* please, don't implement this interface! */\npublic
external interface RequestMode {\n  companion object\n}\npublic inline val
RequestMode.Companion.NAVIGATE: RequestMode get() =
\"navigate\".asDynamic().unsafeCast<RequestMode>()\npublic inline val
RequestMode.Companion.SAME_ORIGIN: RequestMode get() = \"same-
origin\".asDynamic().unsafeCast<RequestMode>()\npublic inline val RequestMode.Companion.NO_CORS:
RequestMode get() = \"no-cors\".asDynamic().unsafeCast<RequestMode>()\npublic inline val
RequestMode.Companion.CORS: RequestMode get() = \"cors\".asDynamic().unsafeCast<RequestMode>()\n\n/*
please, don't implement this interface! */\npublic external interface RequestCredentials {\n  companion
object\n}\npublic inline val RequestCredentials.Companion.OMIT: RequestCredentials get() =

```

```

\omit\".asDynamic().unsafeCast<RequestCredentials>()\npublic inline val
RequestCredentials.Companion.SAME_ORIGIN: RequestCredentials get() = \"same-
origin\".asDynamic().unsafeCast<RequestCredentials>()\npublic inline val
RequestCredentials.Companion.INCLUDE: RequestCredentials get() =
\include\".asDynamic().unsafeCast<RequestCredentials>()\n\n/* please, don't implement this interface! */\npublic
external interface RequestCache {\n  companion object\n}\npublic inline val
RequestCache.Companion.DEFAULT: RequestCache get() =
\default\".asDynamic().unsafeCast<RequestCache>()\npublic inline val RequestCache.Companion.NO_STORE:
RequestCache get() = \"no-store\".asDynamic().unsafeCast<RequestCache>()\npublic inline val
RequestCache.Companion.RELOAD: RequestCache get() =
\reload\".asDynamic().unsafeCast<RequestCache>()\npublic inline val RequestCache.Companion.NO_CACHE:
RequestCache get() = \"no-cache\".asDynamic().unsafeCast<RequestCache>()\npublic inline val
RequestCache.Companion.FORCE_CACHE: RequestCache get() = \"force-
cache\".asDynamic().unsafeCast<RequestCache>()\npublic inline val
RequestCache.Companion.ONLY_IF_CACHED: RequestCache get() = \"only-if-
cached\".asDynamic().unsafeCast<RequestCache>()\n\n/* please, don't implement this interface! */\npublic external
interface RequestRedirect {\n  companion object\n}\npublic inline val RequestRedirect.Companion.FOLLOW:
RequestRedirect get() = \"follow\".asDynamic().unsafeCast<RequestRedirect>()\npublic inline val
RequestRedirect.Companion.ERROR: RequestRedirect get() =
\error\".asDynamic().unsafeCast<RequestRedirect>()\npublic inline val RequestRedirect.Companion.MANUAL:
RequestRedirect get() = \"manual\".asDynamic().unsafeCast<RequestRedirect>()\n\n/* please, don't implement this
interface! */\npublic external interface ResponseType {\n  companion object\n}\npublic inline val
ResponseType.Companion.BASIC: ResponseType get() =
\basic\".asDynamic().unsafeCast<ResponseType>()\npublic inline val ResponseType.Companion.CORS:
ResponseType get() = \"cors\".asDynamic().unsafeCast<ResponseType>()\npublic inline val
ResponseType.Companion.DEFAULT: ResponseType get() =
\default\".asDynamic().unsafeCast<ResponseType>()\npublic inline val ResponseType.Companion.ERROR:
ResponseType get() = \"error\".asDynamic().unsafeCast<ResponseType>()\npublic inline val
ResponseType.Companion.OPAQUE: ResponseType get() =
\opaque\".asDynamic().unsafeCast<ResponseType>()\npublic inline val
ResponseType.Companion.OPAQUEREDIRECT: ResponseType get() =
\opaqueredirect\".asDynamic().unsafeCast<ResponseType>()\n\n\"/*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt
file.\n *^\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See libraries/tools/idl2k for
details\n\n@file:Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npackage
org.w3c.dom.mediacapture\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport
org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport
org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport
org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport
org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[MediaStream](https://developer.mozilla.org/en/docs/Web/API/MediaStream) to Kotlin\n */\npublic external open
class MediaStream() : EventTarget {\n  constructor(stream: MediaStream)\n  constructor(tracks:
Array<MediaStreamTrack>)\n  open val id: String\n  open val active: Boolean\n  var onaddtrack:
((MediaStreamTrackEvent) -> dynamic)?\n  var onremovetrack: ((MediaStreamTrackEvent) -> dynamic)?\n  fun
getAudioTracks(): Array<MediaStreamTrack>\n  fun getVideoTracks(): Array<MediaStreamTrack>\n  fun
getTracks(): Array<MediaStreamTrack>\n  fun getTrackById(trackId: String): MediaStreamTrack?\n  fun
addTrack(track: MediaStreamTrack): Unit\n  fun removeTrack(track: MediaStreamTrack): Unit\n  fun clone():

```

```

MediaStream\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrack](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrack) to Kotlin\n *\npublic
external abstract class MediaStreamTrack : EventTarget {\n  open val kind: String\n  open val id: String\n  open
val label: String\n  open var enabled: Boolean\n  open val muted: Boolean\n  open var onmute: ((Event) ->
dynamic)?\n  open var onunmute: ((Event) -> dynamic)?\n  open val readyState: MediaStreamTrackState\n
open var onended: ((Event) -> dynamic)?\n  open var onoverconstrained: ((Event) -> dynamic)?\n  fun clone():
MediaStreamTrack\n  fun stop(): Unit\n  fun getCapabilities(): MediaTrackCapabilities\n  fun getConstraints():
MediaTrackConstraints\n  fun getSettings(): MediaTrackSettings\n  fun applyConstraints(constraints:
MediaTrackConstraints = definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSupportedConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSupportedConstrain
ts) to Kotlin\n *\npublic external interface MediaTrackSupportedConstraints {\n  var width: Boolean? /* = true
*\n  get() = definedExternally\n  set(value) = definedExternally\n  var height: Boolean? /* = true *\n
get() = definedExternally\n  set(value) = definedExternally\n  var aspectRatio: Boolean? /* = true *\n  get()
= definedExternally\n  set(value) = definedExternally\n  var frameRate: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var facingMode: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var resizeMode: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var volume: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var sampleRate: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var sampleSize: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var echoCancellation: Boolean? /* = true *\n  get()
= definedExternally\n  set(value) = definedExternally\n  var autoGainControl: Boolean? /* = true *\n  get()
= definedExternally\n  set(value) = definedExternally\n  var noiseSuppression: Boolean? /* = true *\n
get() = definedExternally\n  set(value) = definedExternally\n  var latency: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var channelCount: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var deviceId: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n  var groupId: Boolean? /* = true *\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaTrackSupportedConstraints(width: Boolean? = true, height: Boolean? = true, aspectRatio: Boolean? = true,
frameRate: Boolean? = true, facingMode: Boolean? = true, resizeMode: Boolean? = true, volume: Boolean? = true,
sampleRate: Boolean? = true, sampleSize: Boolean? = true, echoCancellation: Boolean? = true, autoGainControl:
Boolean? = true, noiseSuppression: Boolean? = true, latency: Boolean? = true, channelCount: Boolean? = true,
deviceId: Boolean? = true, groupId: Boolean? = true): MediaTrackSupportedConstraints {\n  val o =
js("{}")\n  o["width"] = width\n  o["height"] = height\n  o["aspectRatio"] = aspectRatio\n
o["frameRate"] = frameRate\n  o["facingMode"] = facingMode\n  o["resizeMode"] = resizeMode\n
o["volume"] = volume\n  o["sampleRate"] = sampleRate\n  o["sampleSize"] = sampleSize\n
o["echoCancellation"] = echoCancellation\n  o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n  o["latency"] = latency\n  o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n  o["groupId"] = groupId\n  return o\n}\n\npublic external interface
MediaTrackCapabilities {\n  var width: ULongRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var height: ULongRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var aspectRatio: DoubleRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var frameRate: DoubleRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var facingMode: Array<String>?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var resizeMode: Array<String>?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var volume: DoubleRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var sampleRate: ULongRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var sampleSize: ULongRange?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var echoCancellation: Array<Boolean>?\n  get() = definedExternally\n  set(value) =

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definedExternally\n    var autoGainControl: Array<Boolean>?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var noiseSuppression: Array<Boolean>?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var latency: DoubleRange?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var channelCount: ULongRange?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var deviceId: String?\n        get() = definedExternally\n        set(value) = definedExternally\n
var groupId: String?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackCapabilities(width:
ULongRange? = undefined, height: ULongRange? = undefined, aspectRatio: DoubleRange? = undefined,
frameRate: DoubleRange? = undefined, facingMode: Array<String>? = undefined, resizeMode: Array<String>? =
undefined, volume: DoubleRange? = undefined, sampleRate: ULongRange? = undefined, sampleSize:
ULongRange? = undefined, echoCancellation: Array<Boolean>? = undefined, autoGainControl: Array<Boolean>?
= undefined, noiseSuppression: Array<Boolean>? = undefined, latency: DoubleRange? = undefined, channelCount:
ULongRange? = undefined, deviceId: String? = undefined, groupId: String? = undefined): MediaTrackCapabilities
{\n    val o = js("{}")\n    o["width"] = width\n    o["height"] = height\n    o["aspectRatio"] = aspectRatio\n
o["frameRate"] = frameRate\n    o["facingMode"] = facingMode\n    o["resizeMode"] = resizeMode\n
o["volume"] = volume\n    o["sampleRate"] = sampleRate\n    o["sampleSize"] = sampleSize\n
o["echoCancellation"] = echoCancellation\n    o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n    o["latency"] = latency\n    o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n    o["groupId"] = groupId\n\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaTrackConstraints) to Kotlin\n
*/\npublic external interface MediaTrackConstraints : MediaTrackConstraintSet {\n    var advanced:
Array<MediaTrackConstraintSet>?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraints(advanced:
Array<MediaTrackConstraintSet>? = undefined, width: dynamic = undefined, height: dynamic = undefined,
aspectRatio: dynamic = undefined, frameRate: dynamic = undefined, facingMode: dynamic = undefined,
resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate: dynamic = undefined, sampleSize:
dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl: dynamic = undefined,
noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount: dynamic = undefined,
deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraints {\n    val o =
js("{}")\n    o["advanced"] = advanced\n    o["width"] = width\n    o["height"] = height\n
o["aspectRatio"] = aspectRatio\n    o["frameRate"] = frameRate\n    o["facingMode"] = facingMode\n
o["resizeMode"] = resizeMode\n    o["volume"] = volume\n    o["sampleRate"] = sampleRate\n
o["sampleSize"] = sampleSize\n    o["echoCancellation"] = echoCancellation\n    o["autoGainControl"] =
autoGainControl\n    o["noiseSuppression"] = noiseSuppression\n    o["latency"] = latency\n
o["channelCount"] = channelCount\n    o["deviceId"] = deviceId\n    o["groupId"] = groupId\n\n    return
o\n}\n\npublic external interface MediaTrackConstraintSet {\n    var width: dynamic\n        get() =
definedExternally\n        set(value) = definedExternally\n    var height: dynamic\n        get() = definedExternally\n
set(value) = definedExternally\n    var aspectRatio: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var frameRate: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var facingMode: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var resizeMode: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n    var volume: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n
var sampleRate: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var sampleSize:
dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var echoCancellation: dynamic\n
get() = definedExternally\n        set(value) = definedExternally\n    var autoGainControl: dynamic\n        get() =
definedExternally\n        set(value) = definedExternally\n    var noiseSuppression: dynamic\n        get() =
definedExternally\n        set(value) = definedExternally\n    var latency: dynamic\n        get() = definedExternally\n
set(value) = definedExternally\n    var channelCount: dynamic\n        get() = definedExternally\n        set(value) =

```

```

definedExternally\n    var deviceId: dynamic\n        get() = definedExternally\n        set(value) = definedExternally\n    var groupId: dynamic\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackConstraintSet(width: dynamic =
undefined, height: dynamic = undefined, aspectRatio: dynamic = undefined, frameRate: dynamic = undefined,
facingMode: dynamic = undefined, resizeMode: dynamic = undefined, volume: dynamic = undefined, sampleRate:
dynamic = undefined, sampleSize: dynamic = undefined, echoCancellation: dynamic = undefined, autoGainControl:
dynamic = undefined, noiseSuppression: dynamic = undefined, latency: dynamic = undefined, channelCount:
dynamic = undefined, deviceId: dynamic = undefined, groupId: dynamic = undefined): MediaTrackConstraintSet
{\n    val o = js("{}")\n    o["width"] = width\n    o["height"] = height\n    o["aspectRatio"] = aspectRatio\n
o["frameRate"] = frameRate\n    o["facingMode"] = facingMode\n    o["resizeMode"] = resizeMode\n
o["volume"] = volume\n    o["sampleRate"] = sampleRate\n    o["sampleSize"] = sampleSize\n
o["echoCancellation"] = echoCancellation\n    o["autoGainControl"] = autoGainControl\n
o["noiseSuppression"] = noiseSuppression\n    o["latency"] = latency\n    o["channelCount"] = channelCount\n
o["deviceId"] = deviceId\n    o["groupId"] = groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaTrackSettings](https://developer.mozilla.org/en/docs/Web/API/MediaTrackSettings) to Kotlin\n */\npublic
external interface MediaTrackSettings {\n    var width: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var height: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
aspectRatio: Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var frameRate:
Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var facingMode: String?\n
get() = definedExternally\n        set(value) = definedExternally\n    var resizeMode: String?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var volume: Double?\n        get() = definedExternally\n
set(value) = definedExternally\n    var sampleRate: Int?\n        get() = definedExternally\n        set(value) =
definedExternally\n    var sampleSize: Int?\n        get() = definedExternally\n        set(value) = definedExternally\n
var echoCancellation: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
autoGainControl: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var
noiseSuppression: Boolean?\n        get() = definedExternally\n        set(value) = definedExternally\n    var latency:
Double?\n        get() = definedExternally\n        set(value) = definedExternally\n    var channelCount: Int?\n
get() = definedExternally\n        set(value) = definedExternally\n    var deviceId: String?\n        get() =
definedExternally\n        set(value) = definedExternally\n    var groupId: String?\n        get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaTrackSettings(width:
Int? = undefined, height: Int? = undefined, aspectRatio: Double? = undefined, frameRate: Double? = undefined,
facingMode: String? = undefined, resizeMode: String? = undefined, volume: Double? = undefined, sampleRate: Int?
= undefined, sampleSize: Int? = undefined, echoCancellation: Boolean? = undefined, autoGainControl: Boolean? =
undefined, noiseSuppression: Boolean? = undefined, latency: Double? = undefined, channelCount: Int? = undefined,
deviceId: String? = undefined, groupId: String? = undefined): MediaTrackSettings {\n    val o = js("{}")\n
o["width"] = width\n    o["height"] = height\n    o["aspectRatio"] = aspectRatio\n    o["frameRate"] =
frameRate\n    o["facingMode"] = facingMode\n    o["resizeMode"] = resizeMode\n    o["volume"] = volume\n
o["sampleRate"] = sampleRate\n    o["sampleSize"] = sampleSize\n    o["echoCancellation"] =
echoCancellation\n    o["autoGainControl"] = autoGainControl\n    o["noiseSuppression"] = noiseSuppression\n
o["latency"] = latency\n    o["channelCount"] = channelCount\n    o["deviceId"] = deviceId\n    o["groupId"] =
groupId\n    return o\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamTrackEvent](https://developer.mozilla.org/en/docs/Web/API/MediaStreamTrackEvent) to Kotlin\n */\npublic
external open class MediaStreamTrackEvent(type: String, eventInitDict: MediaStreamTrackEventInit) :
Event {\n    open val track: MediaStreamTrack\n}\n\npublic external interface MediaStreamTrackEventInit :
EventInit {\n    var track: MediaStreamTrack?\n        get() = definedExternally\n        set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun MediaStreamTrackEventInit(track:
MediaStreamTrack?, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false):
MediaStreamTrackEventInit {\n    val o = js("{}")\n    o["track"] = track\n    o["bubbles"] = bubbles\n

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o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return o\n}\n\npublic external open class
OverconstrainedErrorEvent(type: String, eventInitDict: OverconstrainedErrorEventInit) : Event {\n  open val error:
dynamic\n}\n\npublic external interface OverconstrainedErrorEventInit : EventInit {\n  var error: dynamic /* = null
*/\n  get() = definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic
inline fun OverconstrainedErrorEventInit(error: dynamic = null, bubbles: Boolean? = false, cancelable: Boolean? =
false, composed: Boolean? = false): OverconstrainedErrorEventInit {\n  val o = js("{}")\n\n  o["error"] =
error\n  o["bubbles"] = bubbles\n  o["cancelable"] = cancelable\n  o["composed"] = composed\n\n  return
o\n}\n\n/**\n * Exposes the JavaScript
[MediaDevices](https://developer.mozilla.org/en/docs/Web/API/MediaDevices) to Kotlin\n */\npublic external
abstract class MediaDevices : EventTarget {\n  open var ondevicechange: ((Event) -> dynamic)?\n  fun
enumerateDevices(): Promise<dynamic>\n  fun getSupportedConstraints(): MediaTrackSupportedConstraints\n  fun
getUserMedia(constraints: MediaStreamConstraints = definedExternally): Promise<MediaStream>\n}\n\n/**\n
* Exposes the JavaScript [MediaDeviceInfo](https://developer.mozilla.org/en/docs/Web/API/MediaDeviceInfo) to
Kotlin\n */\npublic external abstract class MediaDeviceInfo {\n  open val deviceId: String\n  open val kind:
MediaDeviceKind\n  open val label: String\n  open val groupId: String\n  fun toJSON(): dynamic\n}\n\npublic
external abstract class InputDeviceInfo : MediaDeviceInfo {\n  fun getCapabilities():
MediaTrackCapabilities\n}\n\n/**\n * Exposes the JavaScript
[MediaStreamConstraints](https://developer.mozilla.org/en/docs/Web/API/MediaStreamConstraints) to Kotlin\n
*/\npublic external interface MediaStreamConstraints {\n  var video: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n  var audio: dynamic /* = false */\n  get() =
definedExternally\n  set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
MediaStreamConstraints(video: dynamic = false, audio: dynamic = false): MediaStreamConstraints {\n  val o =
js("{}")\n\n  o["video"] = video\n  o["audio"] = audio\n\n  return o\n}\n\npublic external interface
ConstrainablePattern {\n  var onoverconstrained: ((Event) -> dynamic)?\n  fun getCapabilities(): Capabilities\n
fun getConstraints(): Constraints\n  fun getSettings(): Settings\n  fun applyConstraints(constraints: Constraints =
definedExternally): Promise<Unit>\n}\n\n/**\n * Exposes the JavaScript
[DoubleRange](https://developer.mozilla.org/en/docs/Web/API/DoubleRange) to Kotlin\n */\npublic external
interface DoubleRange {\n  var max: Double?\n  get() = definedExternally\n  set(value) =
definedExternally\n  var min: Double?\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun DoubleRange(max: Double? = undefined,
min: Double? = undefined): DoubleRange {\n  val o = js("{}")\n\n  o["max"] = max\n  o["min"] = min\n\n
return o\n}\n\npublic external interface ConstrainDoubleRange : DoubleRange {\n  var exact: Double?\n  get()
= definedExternally\n  set(value) = definedExternally\n  var ideal: Double?\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainDoubleRange(exact:
Double? = undefined, ideal: Double? = undefined, max: Double? = undefined, min: Double? = undefined):
ConstrainDoubleRange {\n  val o = js("{}")\n\n  o["exact"] = exact\n  o["ideal"] = ideal\n  o["max"] =
max\n  o["min"] = min\n\n  return o\n}\n\npublic external interface ULongRange {\n  var max: Int?\n  get()
= definedExternally\n  set(value) = definedExternally\n  var min: Int?\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ULongRange(max: Int? =
undefined, min: Int? = undefined): ULongRange {\n  val o = js("{}")\n\n  o["max"] = max\n  o["min"] =
min\n\n  return o\n}\n\npublic external interface ConstrainULongRange : ULongRange {\n  var exact: Int?\n
get() = definedExternally\n  set(value) = definedExternally\n  var ideal: Int?\n  get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ConstrainULongRange(exact:
Int? = undefined, ideal: Int? = undefined, max: Int? = undefined, min: Int? = undefined): ConstrainULongRange {\n
val o = js("{}")\n\n  o["exact"] = exact\n  o["ideal"] = ideal\n  o["max"] = max\n  o["min"] = min\n\n
return o\n}\n\n/**\n * Exposes the JavaScript
[ConstrainBooleanParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainBooleanParameters) to
Kotlin\n */\npublic external interface ConstrainBooleanParameters {\n  var exact: Boolean?\n  get() =

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definedExternally\n    set(value) = definedExternally\n    var ideal: Boolean?\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ConstrainBooleanParameters(exact: Boolean? = undefined, ideal: Boolean? = undefined):
ConstrainBooleanParameters {\n    val o = js("{}")\n    o["exact"] = exact\n    o["ideal"] = ideal\n    return
o\n}\n\n/**\n * Exposes the JavaScript
[ConstrainDOMStringParameters](https://developer.mozilla.org/en/docs/Web/API/ConstrainDOMStringParameters)
to Kotlin\n */\npublic external interface ConstrainDOMStringParameters {\n    var exact: dynamic\n    get() =
definedExternally\n    set(value) = definedExternally\n    var ideal: dynamic\n    get() = definedExternally\n
set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ConstrainDOMStringParameters(exact: dynamic = undefined, ideal: dynamic = undefined):
ConstrainDOMStringParameters {\n    val o = js("{}")\n    o["exact"] = exact\n    o["ideal"] = ideal\n    return
o\n}\n\npublic external interface Capabilities {\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
Capabilities(): Capabilities {\n    val o = js("{}")\n    return o\n}\n\npublic external interface Settings
{\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun Settings(): Settings {\n    val o = js("{}")\n    return
o\n}\n\npublic external interface ConstraintSet {\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
ConstraintSet(): ConstraintSet {\n    val o = js("{}")\n    return o\n}\n\npublic external interface Constraints :
ConstraintSet {\n    var advanced: Array<ConstraintSet>?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun Constraints(advanced:
Array<ConstraintSet>? = undefined): Constraints {\n    val o = js("{}")\n    o["advanced"] = advanced\n    return
o\n}\n\n/* please, don't implement this interface! */\npublic external interface MediaStreamTrackState {\n
companion object\n}\n\npublic inline val MediaStreamTrackState.Companion.LIVE: MediaStreamTrackState get() =
"live".asDynamic().unsafeCast<MediaStreamTrackState>()\n\npublic inline val
MediaStreamTrackState.Companion.ENDED: MediaStreamTrackState get() =
"ended".asDynamic().unsafeCast<MediaStreamTrackState>()\n\n/* please, don't implement this interface!
*/\n\npublic external interface VideoFacingModeEnum {\n    companion object\n}\n\npublic inline val
VideoFacingModeEnum.Companion.USER: VideoFacingModeEnum get() =
"user".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.ENVIRONMENT: VideoFacingModeEnum get() =
"environment".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.LEFT: VideoFacingModeEnum get() =
"left".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\npublic inline val
VideoFacingModeEnum.Companion.RIGHT: VideoFacingModeEnum get() =
"right".asDynamic().unsafeCast<VideoFacingModeEnum>()\n\n/* please, don't implement this interface!
*/\n\npublic external interface VideoResizeModeEnum {\n    companion object\n}\n\npublic inline val
VideoResizeModeEnum.Companion.NONE: VideoResizeModeEnum get() =
"none".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\npublic inline val
VideoResizeModeEnum.Companion.CROP_AND_SCALE: VideoResizeModeEnum get() = "crop-and-
scale".asDynamic().unsafeCast<VideoResizeModeEnum>()\n\n/* please, don't implement this interface! */\n\npublic
external interface MediaDeviceKind {\n    companion object\n}\n\npublic inline val
MediaDeviceKind.Companion.AUDIOINPUT: MediaDeviceKind get() =
"audioinput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.AUDIOOUTPUT: MediaDeviceKind get() =
"audiooutput".asDynamic().unsafeCast<MediaDeviceKind>()\n\npublic inline val
MediaDeviceKind.Companion.VIDEOINPUT: MediaDeviceKind get() =
"videoinput".asDynamic().unsafeCast<MediaDeviceKind>()\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use
of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See libraries/tools/idl2k for
details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage

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org.w3c.dom.pointerevents\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport
org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport
org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport
org.w3c.dom.parsing.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport
org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport
org.w3c.xhr.*\n\npublic external interface PointerEventInit : MouseEventInit {\n    var pointerId: Int? /* = 0 */\n    get() = definedExternally\n    set(value) = definedExternally\n    var width: Double? /* = 1.0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var height: Double? /* = 1.0 */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var pressure: Float? /* = 0f */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var tangentialPressure: Float? /* = 0f */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var tiltX: Int? /* = 0 */\n    get() = definedExternally\n
    set(value) = definedExternally\n    var tiltY: Int? /* = 0 */\n    get() = definedExternally\n    set(value) =
definedExternally\n    var twist: Int? /* = 0 */\n    get() = definedExternally\n    set(value) = definedExternally\n
    var pointerType: String? /* = "" */\n    get() = definedExternally\n    set(value) = definedExternally\n    var
isPrimary: Boolean? /* = false */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun PointerEventInit(pointerId: Int? = 0, width:
Double? = 1.0, height: Double? = 1.0, pressure: Float? = 0f, tangentialPressure: Float? = 0f, tiltX: Int? = 0, tiltY:
Int? = 0, twist: Int? = 0, pointerType: String? = "", isPrimary: Boolean? = false, screenX: Int? = 0, screenY: Int? =
0, clientX: Int? = 0, clientY: Int? = 0, button: Short? = 0, buttons: Short? = 0, relatedTarget: EventTarget? = null,
ctrlKey: Boolean? = false, shiftKey: Boolean? = false, altKey: Boolean? = false, metaKey: Boolean? = false,
modifierAltGraph: Boolean? = false, modifierCapsLock: Boolean? = false, modifierFn: Boolean? = false,
modifierFnLock: Boolean? = false, modifierHyper: Boolean? = false, modifierNumLock: Boolean? = false,
modifierScrollLock: Boolean? = false, modifierSuper: Boolean? = false, modifierSymbol: Boolean? = false,
modifierSymbolLock: Boolean? = false, view: Window? = null, detail: Int? = 0, bubbles: Boolean? = false,
cancelable: Boolean? = false, composed: Boolean? = false): PointerEventInit {\n    val o = js("{}")\n\n    o["pointerId"] = pointerId\n    o["width"] = width\n    o["height"] = height\n    o["pressure"] = pressure\n
    o["tangentialPressure"] = tangentialPressure\n    o["tiltX"] = tiltX\n    o["tiltY"] = tiltY\n    o["twist"] = twist\n
    o["pointerType"] = pointerType\n    o["isPrimary"] = isPrimary\n    o["screenX"] = screenX\n    o["screenY"]
= screenY\n    o["clientX"] = clientX\n    o["clientY"] = clientY\n    o["button"] = button\n    o["buttons"] =
buttons\n    o["relatedTarget"] = relatedTarget\n    o["ctrlKey"] = ctrlKey\n    o["shiftKey"] = shiftKey\n
    o["altKey"] = altKey\n    o["metaKey"] = metaKey\n    o["modifierAltGraph"] = modifierAltGraph\n
    o["modifierCapsLock"] = modifierCapsLock\n    o["modifierFn"] = modifierFn\n    o["modifierFnLock"] =
modifierFnLock\n    o["modifierHyper"] = modifierHyper\n    o["modifierNumLock"] = modifierNumLock\n
    o["modifierScrollLock"] = modifierScrollLock\n    o["modifierSuper"] = modifierSuper\n
    o["modifierSymbol"] = modifierSymbol\n    o["modifierSymbolLock"] = modifierSymbolLock\n    o["view"] =
view\n    o["detail"] = detail\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] =
composed\n\n    return o\n}\n\n/**\n * Exposes the JavaScript
[PointerEvent](https://developer.mozilla.org/en/docs/Web/API/PointerEvent) to Kotlin\n */\n\npublic external open
class PointerEvent(type: String, eventInitDict: PointerEventInit = definedExternally) : MouseEvent {\n    open val
pointerId: Int\n    open val width: Double\n    open val height: Double\n    open val pressure: Float\n    open val
tangentialPressure: Float\n    open val tiltX: Int\n    open val tiltY: Int\n    open val twist: Int\n    open val
pointerType: String\n    open val isPrimary: Boolean\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n// See libraries/tools/idl2k for
details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage
org.w3c.dom.svg\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport

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org.w3c.dom.pointerevents.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport
org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport org.w3c.xhr.*\n\n/**\n
* Exposes the JavaScript [SVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGElement) to Kotlin\n
*\n\npublic external abstract class SVGElement : Element, ElementCSSInlineStyle, GlobalEventHandlers,
SVGElementInstance {\n    open val dataset: DOMStringMap\n    open val ownerSVGElement:
SVGSVGElement?\n    open val viewportElement: SVGElement?\n    open var tabIndex: Int\n    fun focus(): Unit\n
fun blur(): Unit\n}\n\npublic external interface SVGBoundingBoxOptions {\n    var fill: Boolean? /* = true */\n
get() = definedExternally\n    set(value) = definedExternally\n    var stroke: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var markers: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var clipped: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun
SVGBoundingBoxOptions(fill: Boolean? = true, stroke: Boolean? = false, markers: Boolean? = false, clipped:
Boolean? = false): SVGBoundingBoxOptions {\n    val o = js("{}")\n    o["fill"] = fill\n    o["stroke"] =
stroke\n    o["markers"] = markers\n    o["clipped"] = clipped\n    return o\n}\n\n/**\n
* Exposes the JavaScript [SVGGraphicsElement](https://developer.mozilla.org/en/docs/Web/API/SVGGraphicsElement) to Kotlin\n
*\n\npublic external abstract class SVGGraphicsElement : SVGElement, SVGTests {\n    open val transform:
SVGAnimatedTransformList\n    fun getBBox(options: SVGBoundingBoxOptions = definedExternally):
DOMRect\n    fun getCTM(): DOMMatrix?\n    fun getScreenCTM(): DOMMatrix?\n}\n\n/**\n
* Exposes the JavaScript [SVGGeometryElement](https://developer.mozilla.org/en/docs/Web/API/SVGGeometryElement) to
Kotlin\n
*\n\npublic external abstract class SVGGeometryElement : SVGGraphicsElement {\n    open val
pathLength: SVGAnimatedNumber\n    fun isPointInFill(point: DOMPoint): Boolean\n    fun isPointInStroke(point:
DOMPoint): Boolean\n    fun getTotalLength(): Float\n    fun getPointAtLength(distance: Float):
DOMPoint\n}\n\n/**\n
* Exposes the JavaScript [SVGNumber](https://developer.mozilla.org/en/docs/Web/API/SVGNumber) to Kotlin\n
*\n\npublic external
abstract class SVGNumber {\n    open var value: Float\n}\n\n/**\n
* Exposes the JavaScript [SVGLength](https://developer.mozilla.org/en/docs/Web/API/SVGLength) to Kotlin\n
*\n\npublic external abstract
class SVGLength {\n    open val unitType: Short\n    open var value: Float\n    open var valueInSpecifiedUnits:
Float\n    open var valueAsString: String\n    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float): Unit\n    fun convertToSpecifiedUnits(unitType: Short): Unit\n\n    companion object {\n        val
SVG_LENGTHTYPE_UNKNOWN: Short\n        val SVG_LENGTHTYPE_NUMBER: Short\n        val
SVG_LENGTHTYPE_PERCENTAGE: Short\n        val SVG_LENGTHTYPE_EMS: Short\n        val
SVG_LENGTHTYPE_EXS: Short\n        val SVG_LENGTHTYPE_PX: Short\n        val
SVG_LENGTHTYPE_CM: Short\n        val SVG_LENGTHTYPE_MM: Short\n        val
SVG_LENGTHTYPE_IN: Short\n        val SVG_LENGTHTYPE_PT: Short\n        val SVG_LENGTHTYPE_PC:
Short\n    }\n}\n\n/**\n
* Exposes the JavaScript [SVGAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAngle) to Kotlin\n
*\n\npublic external abstract
class SVGAngle {\n    open val unitType: Short\n    open var value: Float\n    open var valueInSpecifiedUnits:
Float\n    open var valueAsString: String\n    fun newValueSpecifiedUnits(unitType: Short, valueInSpecifiedUnits:
Float): Unit\n    fun convertToSpecifiedUnits(unitType: Short): Unit\n\n    companion object {\n        val
SVG_ANGLETYPE_UNKNOWN: Short\n        val SVG_ANGLETYPE_UNSPECIFIED: Short\n        val
SVG_ANGLETYPE_DEG: Short\n        val SVG_ANGLETYPE_RAD: Short\n        val
SVG_ANGLETYPE_GRAD: Short\n    }\n}\n\npublic external abstract class SVGNameList {\n    open val length:
Int\n    open val numberOfItems: Int\n    fun clear(): Unit\n    fun initialize(newItem: dynamic): dynamic\n    fun
getItem(index: Int): dynamic\n    fun insertItemBefore(newItem: dynamic, index: Int): dynamic\n    fun
replaceItem(newItem: dynamic, index: Int): dynamic\n    fun removeItem(index: Int): dynamic\n    fun
appendItem(newItem: dynamic): dynamic\n}\n\n@kotlin.internal.InlineOnly inline operator fun
SVGNameList.get(index: Int): dynamic = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun
SVGNameList.set(index: Int, newItem: dynamic): Unit { asDynamic()[index] = newItem; }\n\n/**\n
* Exposes the

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JavaScript [SVGNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGNumberList) to Kotlin\n
 *\\npublic external abstract class SVGNumberList {\\n open val length: Int\\n open val numberOfItems: Int\\n fun clear(): Unit\\n fun initialize(newItem: SVGNumber): SVGNumber\\n fun getItem(index: Int): SVGNumber\\n fun insertItemBefore(newItem: SVGNumber, index: Int): SVGNumber\\n fun replaceItem(newItem: SVGNumber, index: Int): SVGNumber\\n fun removeItem(index: Int): SVGNumber\\n fun appendItem(newItem: SVGNumber): SVGNumber\\n}\\n@kotlin.internal.InlineOnly inline operator fun SVGNumberList.get(index: Int): SVGNumber? = asDynamic()[index]\\n@kotlin.internal.InlineOnly inline operator fun SVGNumberList.set(index: Int, newItem: SVGNumber): Unit { asDynamic()[index] = newItem; }\\n\\n/**\\n * Exposes the JavaScript

[SVGLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGLengthList) to Kotlin\n
 *\\npublic external abstract class SVGLengthList {\\n open val length: Int\\n open val numberOfItems: Int\\n fun clear(): Unit\\n fun initialize(newItem: SVGLength): SVGLength\\n fun getItem(index: Int): SVGLength\\n fun insertItemBefore(newItem: SVGLength, index: Int): SVGLength\\n fun replaceItem(newItem: SVGLength, index: Int): SVGLength\\n fun removeItem(index: Int): SVGLength\\n fun appendItem(newItem: SVGLength): SVGLength\\n}\\n@kotlin.internal.InlineOnly inline operator fun SVGLengthList.get(index: Int): SVGLength? = asDynamic()[index]\\n@kotlin.internal.InlineOnly inline operator fun SVGLengthList.set(index: Int, newItem: SVGLength): Unit { asDynamic()[index] = newItem; }\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedBoolean](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedBoolean) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedBoolean {\\n open var baseVal: Boolean\\n open val animVal: Boolean\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedEnumeration](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedEnumeration) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedEnumeration {\\n open var baseVal: Short\\n open val animVal: Short\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedInteger](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedInteger) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedInteger {\\n open var baseVal: Int\\n open val animVal: Int\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedNumber](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumber) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedNumber {\\n open var baseVal: Float\\n open val animVal: Float\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedLength](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLength) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedLength {\\n open val baseVal: SVGLength\\n open val animVal: SVGLength\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedAngle](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedAngle) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedAngle {\\n open val baseVal: SVGAngle\\n open val animVal: SVGAngle\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedString](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedString) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedString {\\n open var baseVal: String\\n open val animVal: String\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedRect](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedRect) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedRect {\\n open val baseVal: DOMRect\\n open val animVal: DOMRectReadOnly\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedNumberList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedNumberList) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedNumberList {\\n open val baseVal: SVGNumberList\\n open val animVal: SVGNumberList\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGAnimatedLengthList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedLengthList) to Kotlin\n
 *\\npublic external abstract class SVGAnimatedLengthList {\\n open val baseVal: SVGLengthList\\n open val animVal: SVGLengthList\\n}\\n\\n/**\\n * Exposes the JavaScript

[SVGStringList](https://developer.mozilla.org/en/docs/Web/API/SVGStringList) to Kotlin\n
 *\\npublic external abstract class SVGStringList {\\n open val length: Int\\n open val numberOfItems: Int\\n fun clear(): Unit\\n fun initialize(newItem: String): String\\n fun getItem(index: Int): String\\n fun insertItemBefore(newItem: String,

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index: Int): String\n fun replaceItem(newItem: String, index: Int): String\n fun removeItem(index: Int): String\n
fun appendItem(newItem: String): String\n}\n@kotlin.internal.InlineOnly inline operator fun
SVGStringList.get(index: Int): String? = asDynamic()[index]\n@kotlin.internal.InlineOnly inline operator fun
SVGStringList.set(index: Int, newItem: String): Unit { asDynamic()[index] = newItem; }\n\n/**\n * Exposes the
JavaScript [SVGUnitTypes](https://developer.mozilla.org/en/docs/Web/API/SVGUnitTypes) to Kotlin\n */\npublic
external interface SVGUnitTypes {\n\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN: Short\n
val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX:
Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGTests](https://developer.mozilla.org/en/docs/Web/API/SVGTests) to Kotlin\n */\npublic external interface
SVGTests {\n val requiredExtensions: SVGStringList\n val systemLanguage: SVGStringList\n}\n\npublic
external interface SVGFitToViewBox {\n val viewBox: SVGAnimatedRect\n val preserveAspectRatio:
SVGAnimatedPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript
[SVGZoomAndPan](https://developer.mozilla.org/en/docs/Web/API/SVGZoomAndPan) to Kotlin\n */\npublic
external interface SVGZoomAndPan {\n var zoomAndPan: Short\n\n companion object {\n val
SVG_ZOOMANDPAN_UNKNOWN: Short\n val SVG_ZOOMANDPAN_DISABLE: Short\n val
SVG_ZOOMANDPAN_MAGNIFY: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[SVGURIReference](https://developer.mozilla.org/en/docs/Web/API/SVGURIReference) to Kotlin\n */\npublic
external interface SVGURIReference {\n val href: SVGAnimatedString\n}\n\n/**\n * Exposes the JavaScript
[SVGSVGElement](https://developer.mozilla.org/en/docs/Web/API/SVGSVGElement) to Kotlin\n */\npublic
external abstract class SVGSVGElement : SVGGraphicsElement, SVGFitToViewBox, SVGZoomAndPan,
WindowEventHandlers {\n open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val
width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n open var currentScale: Float\n open
val currentTranslate: DOMPointReadOnly\n fun getIntersectionList(rect: DOMRectReadOnly, referenceElement:
SVGElement?): NodeList\n fun getEnclosureList(rect: DOMRectReadOnly, referenceElement: SVGElement?):
NodeList\n fun checkIntersection(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun
checkEnclosure(element: SVGElement, rect: DOMRectReadOnly): Boolean\n fun deselectAll(): Unit\n fun
createSVGNumber(): SVGNumber\n fun createSVGLength(): SVGLength\n fun createSVGAngle():
SVGAngle\n fun createSVGPoint(): DOMPoint\n fun createSVGMatrix(): DOMMatrix\n fun
createSVGRect(): DOMRect\n fun createSVGTransform(): SVGTransform\n fun
createSVGTransformFromMatrix(matrix: DOMMatrixReadOnly): SVGTransform\n fun
getElementById(elementId: String): Element\n fun suspendRedraw(maxWaitMilliseconds: Int): Int\n fun
unsuspendRedraw(suspendHandleID: Int): Unit\n fun unsuspendRedrawAll(): Unit\n fun forceRedraw():
Unit\n\n companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val
SVG_ZOOMANDPAN_DISABLE: Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n }\n}\n\n/**\n *
Exposes the JavaScript [SVGGElement](https://developer.mozilla.org/en/docs/Web/API/SVGGElement) to Kotlin\n
*/\npublic external abstract class SVGGElement : SVGGraphicsElement {\n}\n\npublic external abstract class
SVGUnknownElement : SVGGraphicsElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGDefsElement](https://developer.mozilla.org/en/docs/Web/API/SVGDefsElement) to Kotlin\n */\npublic
external abstract class SVGDefsElement : SVGGraphicsElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGDescElement](https://developer.mozilla.org/en/docs/Web/API/SVGDescElement) to Kotlin\n */\npublic
external abstract class SVGDescElement : SVGElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGMetadataElement](https://developer.mozilla.org/en/docs/Web/API/SVGMetadataElement) to Kotlin\n
*/\npublic external abstract class SVGMetadataElement : SVGElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGTITLEElement](https://developer.mozilla.org/en/docs/Web/API/SVGTITLEElement) to Kotlin\n */\npublic
external abstract class SVGTITLEElement : SVGElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGSymbolElement](https://developer.mozilla.org/en/docs/Web/API/SVGSymbolElement) to Kotlin\n */\npublic
external abstract class SVGSymbolElement : SVGGraphicsElement, SVGFitToViewBox {\n}\n\n/**\n * Exposes
the JavaScript [SVGUseElement](https://developer.mozilla.org/en/docs/Web/API/SVGUseElement) to Kotlin\n

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*\npublic external abstract class SVGUseElement : SVGGraphicsElement, SVGURIReference {\n  open val x:
SVGAnimatedLength\n  open val y: SVGAnimatedLength\n  open val width: SVGAnimatedLength\n  open val
height: SVGAnimatedLength\n  open val instanceRoot: SVGElement?\n  open val animatedInstanceRoot:
SVGElement?\n}\n\npublic external open class SVGUseElementShadowRoot : ShadowRoot {\n  override fun
getElementById(elementId: String): Element?\n  override fun prepend(vararg nodes: dynamic): Unit\n  override
fun append(vararg nodes: dynamic): Unit\n  override fun querySelector(selectors: String): Element?\n  override
fun querySelectorAll(selectors: String): NodeList\n}\n\npublic external interface SVGElementInstance {\n  val
correspondingElement: SVGElement?\n  val correspondingUseElement: SVGUseElement?\n}\n\npublic external
open class ShadowAnimation(source: dynamic, newTarget: dynamic) {\n  open val sourceAnimation:
dynamic\n}\n\n**\n * Exposes the JavaScript
[SVGSwitchElement](https://developer.mozilla.org/en/docs/Web/API/SVGSwitchElement) to Kotlin\n *\npublic
external abstract class SVGSwitchElement : SVGGraphicsElement {\n}\n\npublic external interface
GetSVGDocument {\n  fun getSVGDocument(): Document\n}\n\n**\n * Exposes the JavaScript
[SVGStyleElement](https://developer.mozilla.org/en/docs/Web/API/SVGStyleElement) to Kotlin\n *\npublic
external abstract class SVGStyleElement : SVGElement, LinkStyle {\n  open var type: String\n  open var media:
String\n  open var title: String\n}\n\n**\n * Exposes the JavaScript
[SVGTransform](https://developer.mozilla.org/en/docs/Web/API/SVGTransform) to Kotlin\n *\npublic external
abstract class SVGTransform {\n  open val type: Short\n  open val matrix: DOMMatrix\n  open val angle:
Float\n  fun setMatrix(matrix: DOMMatrixReadOnly): Unit\n  fun setTranslate(tx: Float, ty: Float): Unit\n  fun
setScale(sx: Float, sy: Float): Unit\n  fun setRotate(angle: Float, cx: Float, cy: Float): Unit\n  fun
setSkewX(angle:
Float): Unit\n  fun setSkewY(angle: Float): Unit\n\n  companion object {\n    val
SVG_TRANSFORM_UNKNOWN: Short\n    val SVG_TRANSFORM_MATRIX: Short\n    val
SVG_TRANSFORM_TRANSLATE: Short\n    val SVG_TRANSFORM_SCALE: Short\n    val
SVG_TRANSFORM_ROTATE: Short\n    val SVG_TRANSFORM_SKEWX: Short\n    val
SVG_TRANSFORM_SKEWY: Short\n  }\n}\n\n**\n * Exposes the JavaScript
[SVGTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGTransformList) to Kotlin\n *\npublic
external abstract class SVGTransformList {\n  open val length: Int\n  open val numberOfItems: Int\n  fun clear():
Unit\n  fun initialize(newItem: SVGTransform): SVGTransform\n  fun getItem(index: Int): SVGTransform\n
fun insertItemBefore(newItem: SVGTransform, index: Int): SVGTransform\n  fun replaceItem(newItem:
SVGTransform, index: Int): SVGTransform\n  fun removeItem(index: Int): SVGTransform\n  fun
appendItem(newItem: SVGTransform): SVGTransform\n  fun createSVGTransformFromMatrix(matrix:
DOMMatrixReadOnly): SVGTransform\n  fun consolidate(): SVGTransform?\n}\n\n@kotlin.internal.InlineOnly
inline operator fun SVGTransformList.get(index: Int): SVGTransform? =
asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun SVGTransformList.set(index: Int, newItem:
SVGTransform): Unit { asDynamic()[index] = newItem; }\n\n**\n * Exposes the JavaScript
[SVGAnimatedTransformList](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedTransformList) to
Kotlin\n *\npublic external abstract class SVGAnimatedTransformList {\n  open val baseVal:
SVGTransformList\n  open val animVal: SVGTransformList\n}\n\n**\n * Exposes the JavaScript
[SVGPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGPreserveAspectRatio) to Kotlin\n
*\npublic external abstract class SVGPreserveAspectRatio {\n  open var align: Short\n  open var meetOrSlice:
Short\n\n  companion object {\n    val SVG_PRESERVEASPECTRATIO_UNKNOWN: Short\n    val
SVG_PRESERVEASPECTRATIO_NONE: Short\n    val SVG_PRESERVEASPECTRATIO_XMINYMIN:
Short\n    val SVG_PRESERVEASPECTRATIO_XMIDYMIN: Short\n    val
SVG_PRESERVEASPECTRATIO_XMAXYMIN: Short\n    val
SVG_PRESERVEASPECTRATIO_XMINYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMIDYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMAXYMID: Short\n    val
SVG_PRESERVEASPECTRATIO_XMINYMAX: Short\n    val

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SVG_PRESERVEASPECTRATIO_XMIDYMAX: Short\n val
SVG_PRESERVEASPECTRATIO_XMAXYMAX: Short\n val SVG_MEETORSLICE_UNKNOWN: Short\n
val SVG_MEETORSLICE_MEET: Short\n val SVG_MEETORSLICE_SLICE: Short\n }\n}\n\n/**\n *
Exposes the JavaScript
[SVGAnimatedPreserveAspectRatio](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPreserveAspect
Ratio) to Kotlin\n */\npublic external abstract class SVGAnimatedPreserveAspectRatio {\n open val baseVal:
SVGPreserveAspectRatio\n open val animVal: SVGPreserveAspectRatio\n}\n\n/**\n * Exposes the JavaScript
[SVGPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGPathElement) to Kotlin\n */\npublic
external abstract class SVGPathElement : SVGGeometryElement {\n}\n\n/**\n * Exposes the JavaScript
[SVGRectElement](https://developer.mozilla.org/en/docs/Web/API/SVGRectElement) to Kotlin\n */\npublic
external abstract class SVGRectElement : SVGGeometryElement {\n open val x: SVGAnimatedLength\n open
val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n open val height: SVGAnimatedLength\n
open val rx: SVGAnimatedLength\n open val ry: SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGCircleElement](https://developer.mozilla.org/en/docs/Web/API/SVGCircleElement) to Kotlin\n */\npublic
external abstract class SVGCircleElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGEllipseElement](https://developer.mozilla.org/en/docs/Web/API/SVGEllipseElement) to Kotlin\n */\npublic
external abstract class SVGEllipseElement : SVGGeometryElement {\n open val cx: SVGAnimatedLength\n
open val cy: SVGAnimatedLength\n open val rx: SVGAnimatedLength\n open val ry:
SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGLineElement](https://developer.mozilla.org/en/docs/Web/API/SVGLineElement) to Kotlin\n */\npublic
external abstract class SVGLineElement : SVGGeometryElement {\n open val x1: SVGAnimatedLength\n open
val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val y2:
SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGMeshElement](https://developer.mozilla.org/en/docs/Web/API/SVGMeshElement) to Kotlin\n */\npublic
external abstract class SVGMeshElement : SVGGeometryElement, SVGURIReference {\n}\n\n/**\n * Exposes the
JavaScript [SVGAnimatedPoints](https://developer.mozilla.org/en/docs/Web/API/SVGAnimatedPoints) to Kotlin\n
*/\npublic external interface SVGAnimatedPoints {\n val points: SVGPointList\n val animatedPoints:
SVGPointList\n}\n\npublic external abstract class SVGPointList {\n open val length: Int\n open val
numberOfItems: Int\n fun clear(): Unit\n fun initialize(newItem: DOMPoint): DOMPoint\n fun getItem(index:
Int): DOMPoint\n fun insertItemBefore(newItem: DOMPoint, index: Int): DOMPoint\n fun
replaceItem(newItem: DOMPoint, index: Int): DOMPoint\n fun removeItem(index: Int): DOMPoint\n fun
appendItem(newItem: DOMPoint): DOMPoint\n}\n\n@kotlin.internal.InlineOnly inline operator fun
SVGPointList.get(index: Int): DOMPoint? = asDynamic()[index]\n\n@kotlin.internal.InlineOnly inline operator fun
SVGPointList.set(index: Int, newItem: DOMPoint): Unit { asDynamic()[index] = newItem; }\n\n/**\n * Exposes
the JavaScript [SVGPolylineElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolylineElement) to
Kotlin\n */\npublic external abstract class SVGPolylineElement : SVGGeometryElement, SVGAnimatedPoints
{\n}\n\n/**\n * Exposes the JavaScript
[SVGPolygonElement](https://developer.mozilla.org/en/docs/Web/API/SVGPolygonElement) to Kotlin\n
*/\npublic external abstract class SVGPolygonElement : SVGGeometryElement, SVGAnimatedPoints {\n}\n\n/**\n *
Exposes the JavaScript
[SVGTextContentElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextContentElement) to Kotlin\n
*/\npublic external abstract class SVGTextContentElement : SVGGraphicsElement {\n open val textLength:
SVGAnimatedLength\n open val lengthAdjust: SVGAnimatedEnumeration\n fun getNumberOfChars(): Int\n
fun getComputedTextLength(): Float\n fun getSubStringLength(charnum: Int, nchars: Int): Float\n fun
getStartPositionOfChar(charnum: Int): DOMPoint\n fun getEndPositionOfChar(charnum: Int): DOMPoint\n fun
getExtentOfChar(charnum: Int): DOMRect\n fun getRotationOfChar(charnum: Int): Float\n fun
getCharNumAtPosition(point: DOMPoint): Int\n fun selectSubString(charnum: Int, nchars: Int): Unit\n}\n

companion object {
 val LENGTHADJUST_UNKNOWN: Short
 val LENGTHADJUST_SPACING: Short
 val LENGTHADJUST_SPACINGANDGLYPHS: Short }
 * Exposes the JavaScript [SVGTextPositioningElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPositioningElement) to Kotlin
 * public external abstract class SVGTextPositioningElement : SVGTextContentElement {
 open val x: SVGAnimatedLengthList
 open val y: SVGAnimatedLengthList
 open val dx: SVGAnimatedLengthList
 open val dy: SVGAnimatedLengthList
 open val rotate: SVGAnimatedNumberList }
 * Exposes the JavaScript [SVGTextElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextElement) to Kotlin
 * public external abstract class SVGTextElement : SVGTextPositioningElement {
 * Exposes the JavaScript [SVGTSpanElement](https://developer.mozilla.org/en/docs/Web/API/SVGTSpanElement) to Kotlin
 * public external abstract class SVGTSpanElement : SVGTextPositioningElement {
 * Exposes the JavaScript [SVGTextPathElement](https://developer.mozilla.org/en/docs/Web/API/SVGTextPathElement) to Kotlin
 * public external abstract class SVGTextPathElement : SVGTextContentElement, SVGURIReference {
 open val startOffset: SVGAnimatedLength
 open val method: SVGAnimatedEnumeration
 open val spacing: SVGAnimatedEnumeration }
 companion object {
 val TEXTPATH_METHODTYPE_UNKNOWN: Short
 val TEXTPATH_METHODTYPE_ALIGN: Short
 val TEXTPATH_METHODTYPE_STRETCH: Short
 val TEXTPATH_SPACINGTYPE_UNKNOWN: Short
 val TEXTPATH_SPACINGTYPE_AUTO: Short
 val TEXTPATH_SPACINGTYPE_EXACT: Short }
 * Exposes the JavaScript [SVGImageElement](https://developer.mozilla.org/en/docs/Web/API/SVGImageElement) to Kotlin
 * public external abstract class SVGImageElement : SVGGraphicsElement, SVGURIReference, HTMLorSVGImageElement {
 open val x: SVGAnimatedLength
 open val y: SVGAnimatedLength
 open val width: SVGAnimatedLength
 open val height: SVGAnimatedLength
 open val preserveAspectRatio: SVGAnimatedPreserveAspectRatio
 open var crossOrigin: String? }
 * Exposes the JavaScript [SVGForeignObjectElement](https://developer.mozilla.org/en/docs/Web/API/SVGForeignObjectElement) to Kotlin
 * public external abstract class SVGForeignObjectElement : SVGGraphicsElement {
 open val x: SVGAnimatedLength
 open val y: SVGAnimatedLength
 open val width: SVGAnimatedLength
 open val height: SVGAnimatedLength }
 * public external abstract class SVGMarkerElement : SVGElement, SVGFitToViewBox {
 open val refX: SVGAnimatedLength
 open val refY: SVGAnimatedLength
 open val markerUnits: SVGAnimatedEnumeration
 open val markerWidth: SVGAnimatedLength
 open val markerHeight: SVGAnimatedLength
 open val orientType: SVGAnimatedEnumeration
 open val orientAngle: SVGAnimatedAngle
 open var orient: String
 fun setOrientToAuto(): Unit
 fun setOrientToAngle(angle: SVGAngle): Unit }
 companion object {
 val SVG_MARKERUNITS_UNKNOWN: Short
 val SVG_MARKERUNITS_USERSPACEONUSE: Short
 val SVG_MARKERUNITS_STROKEWIDTH: Short
 val SVG_MARKER_ORIENT_UNKNOWN: Short
 val SVG_MARKER_ORIENT_AUTO: Short
 val SVG_MARKER_ORIENT_ANGLE: Short }
 * Exposes the JavaScript [SVGSolidcolorElement](https://developer.mozilla.org/en/docs/Web/API/SVGSolidcolorElement) to Kotlin
 * public external abstract class SVGSolidcolorElement : SVGElement {
 * Exposes the JavaScript [SVGGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGGradientElement) to Kotlin
 * public external abstract class SVGGradientElement : SVGElement, SVGURIReference, SVGUnitTypes {
 open val gradientUnits: SVGAnimatedEnumeration
 open val gradientTransform: SVGAnimatedTransformList
 open val spreadMethod: SVGAnimatedEnumeration }
 companion object {
 val SVG_SPREADMETHOD_UNKNOWN: Short
 val SVG_SPREADMETHOD_PAD: Short
 val SVG_SPREADMETHOD_REFLECT: Short
 val SVG_SPREADMETHOD_REPEAT: Short
 val SVG_UNIT_TYPE_UNKNOWN: Short
 val SVG_UNIT_TYPE_USERSPACEONUSE: Short
 val SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short }
 * Exposes the JavaScript [SVGLinearGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGLinearGradientElement) to Kotlin
 * public external abstract class SVGLinearGradientElement : SVGGradientElement {
 open val x1:

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SVGAnimatedLength\n open val y1: SVGAnimatedLength\n open val x2: SVGAnimatedLength\n open val
y2: SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGRadialGradientElement](https://developer.mozilla.org/en/docs/Web/API/SVGRadialGradientElement) to
Kotlin\n */\npublic external abstract class SVGRadialGradientElement : SVGGradientElement {\n open val cx:
SVGAnimatedLength\n open val cy: SVGAnimatedLength\n open val r: SVGAnimatedLength\n open val fx:
SVGAnimatedLength\n open val fy: SVGAnimatedLength\n open val fr: SVGAnimatedLength\n}\n\npublic
external abstract class SVGMeshGradientElement : SVGGradientElement {\n}\n\npublic external abstract class
SVGMeshrowElement : SVGElement {\n}\n\npublic external abstract class SVGMeshpatchElement : SVGElement
{\n}\n\n/**\n * Exposes the JavaScript
[SVGStopElement](https://developer.mozilla.org/en/docs/Web/API/SVGStopElement) to Kotlin\n */\npublic
external abstract class SVGStopElement : SVGElement {\n open val offset: SVGAnimatedNumber\n}\n\n/**\n *
Exposes the JavaScript [SVGPatternElement](https://developer.mozilla.org/en/docs/Web/API/SVGPatternElement)
to Kotlin\n */\npublic external abstract class SVGPatternElement : SVGElement, SVGFitToViewBox,
SVGURIReference, SVGUnitTypes {\n open val patternUnits: SVGAnimatedEnumeration\n open val
patternContentUnits: SVGAnimatedEnumeration\n open val patternTransform: SVGAnimatedTransformList\n
open val x: SVGAnimatedLength\n open val y: SVGAnimatedLength\n open val width: SVGAnimatedLength\n
open val height: SVGAnimatedLength\n\n companion object {\n val SVG_UNIT_TYPE_UNKNOWN:
Short\n val SVG_UNIT_TYPE_USERSPACEONUSE: Short\n val
SVG_UNIT_TYPE_OBJECTBOUNDINGBOX: Short\n }\n}\n\npublic external abstract class SVGHatchElement
: SVGElement {\n}\n\npublic external abstract class SVGHatchpathElement : SVGElement {\n}\n\n/**\n * Exposes
the JavaScript [SVGCursorElement](https://developer.mozilla.org/en/docs/Web/API/SVGCursorElement) to
Kotlin\n */\npublic external abstract class SVGCursorElement : SVGElement, SVGURIReference {\n open val x:
SVGAnimatedLength\n open val y: SVGAnimatedLength\n}\n\n/**\n * Exposes the JavaScript
[SVGScriptElement](https://developer.mozilla.org/en/docs/Web/API/SVGScriptElement) to Kotlin\n */\npublic
external abstract class SVGScriptElement : SVGElement, SVGURIReference, HTMLorSVGScriptElement {\n
open var type: String\n open var crossOrigin: String?\n}\n\n/**\n * Exposes the JavaScript
[SVGAEElement](https://developer.mozilla.org/en/docs/Web/API/SVGAEElement) to Kotlin\n */\npublic external
abstract class SVGAEElement : SVGGraphicsElement, SVGURIReference {\n open val target:
SVGAnimatedString\n open val download: SVGAnimatedString\n open val rel: SVGAnimatedString\n open
val relList: SVGAnimatedString\n open val hreflang: SVGAnimatedString\n open val type:
SVGAnimatedString\n}\n\n/**\n * Exposes the JavaScript
[SVGViewElement](https://developer.mozilla.org/en/docs/Web/API/SVGViewElement) to Kotlin\n */\npublic
external abstract class SVGViewElement : SVGElement, SVGFitToViewBox, SVGZoomAndPan {\n\n
companion object {\n val SVG_ZOOMANDPAN_UNKNOWN: Short\n val
SVG_ZOOMANDPAN_DISABLE: Short\n val SVG_ZOOMANDPAN_MAGNIFY: Short\n }\n}\n\n"/\n
* Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can
be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT
EDIT!\n\n// See libraries/tools/idl2k for
details\n\n@file:Suppress("NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage
org.w3c.files\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport
org.w3c.fetch.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript [Blob](https://developer.mozilla.org/en/docs/Web/API/Blob) to
Kotlin\n */\npublic external open class Blob(blobParts: Array<dynamic> = definedExternally, options:
BlobPropertyBag = definedExternally) {\n open val size: Int\n open val type: String\n open val isClosed:
Boolean\n fun slice(start: Int = definedExternally, end: Int = definedExternally, contentType: String =

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definedExternally): Blob\n fun close(): Unit\n\n\npublic external interface BlobPropertyBag {\n var type:
String? /* = \"\" */\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun BlobPropertyBag(type: String? = \"\"):
BlobPropertyBag {\n val o = js(\"({})\")\n o[\"type\"] = type\n\n return o\n}\n\n/**\n * Exposes the
JavaScript [File](https://developer.mozilla.org/en/docs/Web/API/File) to Kotlin\n */\npublic external open class
File(fileBits: Array<dynamic>, fileName: String, options: FilePropertyBag = definedExternally) : Blob {\n open
val name: String\n open val lastModified: Int\n}\n\n\npublic external interface FilePropertyBag : BlobPropertyBag
{\n var lastModified: Int?\n get() = definedExternally\n set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun FilePropertyBag(lastModified: Int? =
undefined, type: String? = \"\"): FilePropertyBag {\n val o = js(\"({})\")\n o[\"lastModified\"] = lastModified\n
o[\"type\"] = type\n\n return o\n}\n\n/**\n * Exposes the JavaScript
[FileList](https://developer.mozilla.org/en/docs/Web/API/FileList) to Kotlin\n */\npublic external abstract class
FileList : ItemArrayLike<File> {\n override val length: Int\n override fun item(index: Int):
File?\n}\n\n@kotlin.internal.InlineOnly inline operator fun FileList.get(index: Int): File? =
asDynamic()[index]\n\n/**\n * Exposes the JavaScript
[FileReader](https://developer.mozilla.org/en/docs/Web/API/FileReader) to Kotlin\n */\npublic external open class
FileReader : EventTarget {\n open val readyState: Short\n open val result: dynamic\n open val error:
dynamic\n var onloadstart: ((ProgressEvent) -> dynamic)?\n var onprogress: ((ProgressEvent) -> dynamic)?\n
var onload: ((Event) -> dynamic)?\n var onabort: ((Event) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n
var onloadend: ((Event) -> dynamic)?\n fun readAsArrayBuffer(blob: Blob): Unit\n fun
readAsBinaryString(blob: Blob): Unit\n fun readAsText(blob: Blob, label: String = definedExternally): Unit\n
fun readAsDataURL(blob: Blob): Unit\n fun abort(): Unit\n\n companion object {\n val EMPTY: Short\n
val LOADING: Short\n val DONE: Short\n }\n}\n\n/**\n * Exposes the JavaScript
[FileReaderSync](https://developer.mozilla.org/en/docs/Web/API/FileReaderSync) to Kotlin\n */\npublic external
open class FileReaderSync {\n fun readAsArrayBuffer(blob: Blob): ArrayBuffer\n fun readAsBinaryString(blob:
Blob): String\n fun readAsText(blob: Blob, label: String = definedExternally): String\n fun
readAsDataURL(blob: Blob): String\n}\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n// NOTE: THIS
FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See libraries/tools/idl2k for
details\n\n@file:Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\n\npackage
org.w3c.notifications\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport
org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[Notification](https://developer.mozilla.org/en/docs/Web/API/Notification) to Kotlin\n */\npublic external open
class Notification(title: String, options: NotificationOptions = definedExternally) : EventTarget {\n var onclick:
((MouseEvent) -> dynamic)?\n var onerror: ((Event) -> dynamic)?\n open val title: String\n open val dir:
NotificationDirection\n open val lang: String\n open val body: String\n open val tag: String\n open val
image: String\n open val icon: String\n open val badge: String\n open val sound: String\n open val vibrate:
Array<out Int>\n open val timestamp: Number\n open val renotify: Boolean\n open val silent: Boolean\n
open val noscreen: Boolean\n open val requireInteraction: Boolean\n open val sticky: Boolean\n open val data:
Any?\n open val actions: Array<out NotificationAction>\n fun close(): Unit\n\n companion object {\n var
permission: NotificationPermission\n var maxActions: Int\n fun requestPermission(deprecatedCallback:
(NotificationPermission) -> Unit = definedExternally): Promise<NotificationPermission>\n }\n}\n\n\npublic
external interface NotificationOptions {\n var dir: NotificationDirection? /* = NotificationDirection.AUTO */\n
get() = definedExternally\n set(value) = definedExternally\n var lang: String? /* = \"\" */\n get() =

```

```

definedExternally\n    set(value) = definedExternally\n    var body: String? /* = "" */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var tag: String? /* = "" */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var image: String?\n    get() = definedExternally\n
set(value) = definedExternally\n    var icon: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n    var badge: String?\n    get() = definedExternally\n    set(value) = definedExternally\n
var sound: String?\n    get() = definedExternally\n    set(value) = definedExternally\n    var vibrate: dynamic\n
get() = definedExternally\n    set(value) = definedExternally\n    var timestamp: Number?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var renotify: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var silent: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var noscreen: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var requireInteraction: Boolean? /* = false */\n    get()
= definedExternally\n    set(value) = definedExternally\n    var sticky: Boolean? /* = false */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var data: Any? /* = null */\n    get() =
definedExternally\n    set(value) = definedExternally\n    var actions: Array<NotificationAction>? /* = arrayOf()
*/\n    get() = definedExternally\n    set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic
inline fun NotificationOptions(dir: NotificationDirection? = NotificationDirection.AUTO, lang: String? = "", body:
String? = "", tag: String? = "", image: String? = undefined, icon: String? = undefined, badge: String? = undefined,
sound: String? = undefined, vibrate: dynamic = undefined, timestamp: Number? = undefined, renotify: Boolean? =
false, silent: Boolean? = false, noscreen: Boolean? = false, requireInteraction: Boolean? = false, sticky: Boolean? =
false, data: Any? = null, actions: Array<NotificationAction>? = arrayOf()): NotificationOptions {\n    val o =
js("{}")\n    o["dir"] = dir\n    o["lang"] = lang\n    o["body"] = body\n    o["tag"] = tag\n    o["image"] =
image\n    o["icon"] = icon\n    o["badge"] = badge\n    o["sound"] = sound\n    o["vibrate"] = vibrate\n
o["timestamp"] = timestamp\n    o["renotify"] = renotify\n    o["silent"] = silent\n    o["noscreen"] = noscreen\n
o["requireInteraction"] = requireInteraction\n    o["sticky"] = sticky\n    o["data"] = data\n    o["actions"] =
actions\n    return o\n}\n\npublic external interface NotificationAction {\n    var action: String?\n    get() =
definedExternally\n    set(value) = definedExternally\n    var title: String?\n    get() = definedExternally\n
set(value) = definedExternally\n    var icon: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationAction(action: String?, title:
String?, icon: String? = undefined): NotificationAction {\n    val o = js("{}")\n    o["action"] = action\n
o["title"] = title\n    o["icon"] = icon\n    return o\n}\n\npublic external interface GetNotificationOptions {\n
var tag: String? /* = "" */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun GetNotificationOptions(tag: String? = ""):
GetNotificationOptions {\n    val o = js("{}")\n    o["tag"] = tag\n    return o\n}\n\n/**\n * Exposes the
JavaScript [NotificationEvent](https://developer.mozilla.org/en/docs/Web/API/NotificationEvent) to Kotlin\n
*/\n\npublic external open class NotificationEvent(type: String, eventInitDict: NotificationEventInit) :
ExtendableEvent {\n    open val notification: Notification\n    open val action: String\n}\n\npublic external interface
NotificationEventInit : ExtendableEventInit {\n    var notification: Notification?\n    get() = definedExternally\n
set(value) = definedExternally\n    var action: String? /* = "" */\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun NotificationEventInit(notification:
Notification?, action: String? = "", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? =
false): NotificationEventInit {\n    val o = js("{}")\n    o["notification"] = notification\n    o["action"] =
action\n    o["bubbles"] = bubbles\n    o["cancelable"] = cancelable\n    o["composed"] = composed\n    return
o\n}\n\n/* please, don't implement this interface! */\n\npublic external interface NotificationPermission {\n
companion object\n}\n\npublic inline val NotificationPermission.Companion.DEFAULT: NotificationPermission
get() = "default".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.DENIED: NotificationPermission get() =
"denied".asDynamic().unsafeCast<NotificationPermission>()\n\npublic inline val
NotificationPermission.Companion.GRANTED: NotificationPermission get() =

```

```

\"granted\".asDynamic().unsafeCast<NotificationPermission>()\n\n/* please, don't implement this interface!
*\npublic external interface NotificationDirection {\n  companion object\n}\npublic inline val
NotificationDirection.Companion.AUTO: NotificationDirection get() =
\"auto\".asDynamic().unsafeCast<NotificationDirection>()\npublic inline val
NotificationDirection.Companion.LTR: NotificationDirection get() =
\"ltr\".asDynamic().unsafeCast<NotificationDirection>()\npublic inline val NotificationDirection.Companion.RTL:
NotificationDirection get() = \"rtl\".asDynamic().unsafeCast<NotificationDirection>()\n\n\",/*\n * Copyright 2010-
2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license \n * that can be found in the
license/LICENSE.txt file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See
libraries/tools/idl2k for details\n\n@file:Suppress(\"NESTED_CLASS_IN_EXTERNAL_INTERFACE\")\npackage
org.w3c.workers\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport
org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport
org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport
org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport
org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport
org.w3c.xhr.*\n\n/**\n * Exposes the JavaScript
[ServiceWorkerRegistration](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerRegistration) to
Kotlin\n\n *\npublic external abstract class ServiceWorkerRegistration : EventTarget {\n  open val installing:
ServiceWorker?\n  open val waiting: ServiceWorker?\n  open val active: ServiceWorker?\n  open val scope:
String\n  open var onupdatefound: ((Event) -> dynamic)?\n  open val APISpace: dynamic\n  fun update():
Promise<Unit>\n  fun unregister(): Promise<Boolean>\n  fun methodName(): Promise<dynamic>\n  fun
showNotification(title: String, options: NotificationOptions = definedExternally): Promise<Unit>\n  fun
getNotifications(filter: GetNotificationOptions = definedExternally): Promise<dynamic>\n}\n\n/**\n * Exposes the
JavaScript
[ServiceWorkerGlobalScope](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerGlobalScope) to
Kotlin\n\n *\npublic external abstract class ServiceWorkerGlobalScope : WorkerGlobalScope {\n  open val clients:
Clients\n  open val registration: ServiceWorkerRegistration\n  open var oninstall: ((Event) -> dynamic)?\n  open
var onactivate: ((Event) -> dynamic)?\n  open var onfetch: ((FetchEvent) -> dynamic)?\n  open var
onforeignfetch: ((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  open var
onfunctionalevent: ((Event) -> dynamic)?\n  open var onnotificationclick: ((NotificationEvent) -> dynamic)?\n
open var onnotificationclose: ((NotificationEvent) -> dynamic)?\n  fun skipWaiting(): Promise<Unit>\n}\n\n/**\n
* Exposes the JavaScript [ServiceWorker](https://developer.mozilla.org/en/docs/Web/API/ServiceWorker) to
Kotlin\n\n *\npublic external abstract class ServiceWorker : EventTarget, AbstractWorker,
UnionMessagePortOrServiceWorker, UnionClientOrMessagePortOrServiceWorker {\n  open val scriptURL:
String\n  open val state: ServiceWorkerState\n  open var onstatechange: ((Event) -> dynamic)?\n  fun
postMessage(message: Any?, transfer: Array<dynamic> = definedExternally): Unit\n}\n\n/**\n * Exposes the
JavaScript [ServiceWorkerContainer](https://developer.mozilla.org/en/docs/Web/API/ServiceWorkerContainer) to
Kotlin\n\n *\npublic external abstract class ServiceWorkerContainer : EventTarget {\n  open val controller:
ServiceWorker?\n  open val ready: Promise<ServiceWorkerRegistration>\n  open var oncontrollerchange:
((Event) -> dynamic)?\n  open var onmessage: ((MessageEvent) -> dynamic)?\n  fun register(scriptURL: String,
options: RegistrationOptions = definedExternally): Promise<ServiceWorkerRegistration>\n  fun
getRegistration(clientURL: String = definedExternally): Promise<Any?>\n  fun getRegistrations():
Promise<dynamic>\n  fun startMessages(): Unit\n}\n\npublic external interface RegistrationOptions {\n  var
scope: String?\n  get() = definedExternally\n  set(value) = definedExternally\n  var type: WorkerType? /* =
WorkerType.CLASSIC *\n  get() = definedExternally\n  set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun RegistrationOptions(scope: String? =
undefined, type: WorkerType? = WorkerType.CLASSIC): RegistrationOptions {\n  val o = js(\"{\}\")\n\n  o[\"scope\"] = scope\n  o[\"type\"] = type\n\n  return o\n}\n\n/**\n * Exposes the JavaScript

```



```

FetchEvent(type: String, eventInitDict: FetchEventInit) : ExtendableEvent {
    open val request: Request
    open val clientId: String?
    open val isReload: Boolean
    fun respondWith(r: Promise<Response>): Unit
}

public external interface FetchEventInit : ExtendableEventInit {
    var request: Request?
    get() = definedExternally
    set(value) = definedExternally
    var clientId: String? /* = null */
    get() = definedExternally
    set(value) = definedExternally
    var isReload: Boolean? /* = false */
    get() = definedExternally
    set(value) = definedExternally
}

@kotlin.internal.InlineOnly
public inline fun FetchEventInit(request: Request?, clientId: String? = null, isReload: Boolean? = false, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): FetchEventInit {
    val o = js("{}")
    o["request"] = request
    o["clientId"] = clientId
    o["isReload"] = isReload
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}

public external open class ForeignFetchEvent(type: String, eventInitDict: ForeignFetchEventInit) : ExtendableEvent {
    open val request: Request
    open val origin: String
    fun respondWith(r: Promise<ForeignFetchResponse>): Unit
}

public external interface ForeignFetchEventInit : ExtendableEventInit {
    var request: Request?
    get() = definedExternally
    set(value) = definedExternally
    var origin: String? /* = "null" */
    get() = definedExternally
    set(value) = definedExternally
}

@kotlin.internal.InlineOnly
public inline fun ForeignFetchEventInit(request: Request?, origin: String? = "null", bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ForeignFetchEventInit {
    val o = js("{}")
    o["request"] = request
    o["origin"] = origin
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}

public external interface ForeignFetchResponse {
    var response: Response?
    get() = definedExternally
    set(value) = definedExternally
    var origin: String?
    get() = definedExternally
    set(value) = definedExternally
    var headers: Array<String>?
    get() = definedExternally
    set(value) = definedExternally
}

@kotlin.internal.InlineOnly
public inline fun ForeignFetchResponse(response: Response?, origin: String? = undefined, headers: Array<String>? = undefined): ForeignFetchResponse {
    val o = js("{}")
    o["response"] = response
    o["origin"] = origin
    o["headers"] = headers
    return o
}

/**
 * Exposes the JavaScript [ExtendableMessageEvent](https://developer.mozilla.org/en/docs/Web/API/ExtendableMessageEvent) to Kotlin
 */
public external open class ExtendableMessageEvent(type: String, eventInitDict: ExtendableMessageEventInit = definedExternally) : ExtendableEvent {
    open val data: Any?
    open val origin: String
    open val lastEventId: String
    open val source: UnionClientOrMessagePortOrServiceWorker?
    open val ports: Array<out MessagePort?>
}

public external interface ExtendableMessageEventInit : ExtendableEventInit {
    var data: Any?
    get() = definedExternally
    set(value) = definedExternally
    var origin: String?
    get() = definedExternally
    set(value) = definedExternally
    var lastEventId: String?
    get() = definedExternally
    set(value) = definedExternally
    var source: UnionClientOrMessagePortOrServiceWorker?
    get() = definedExternally
    set(value) = definedExternally
    var ports: Array<MessagePort?>
    get() = definedExternally
    set(value) = definedExternally
}

@kotlin.internal.InlineOnly
public inline fun ExtendableMessageEventInit(data: Any? = undefined, origin: String? = undefined, lastEventId: String? = undefined, source: UnionClientOrMessagePortOrServiceWorker? = undefined, ports: Array<MessagePort?> = undefined, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ExtendableMessageEventInit {
    val o = js("{}")
    o["data"] = data
    o["origin"] = origin
    o["lastEventId"] = lastEventId
    o["source"] = source
    o["ports"] = ports
    o["bubbles"] = bubbles
    o["cancelable"] = cancelable
    o["composed"] = composed
    return o
}

/**
 * Exposes the JavaScript [Cache](https://developer.mozilla.org/en/docs/Web/API/Cache) to Kotlin
 */
public external abstract class Cache {
    fun match(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Any?>
    fun matchAll(request: dynamic = definedExternally, options: CacheQueryOptions = definedExternally): Promise<dynamic>
    fun add(request: dynamic): Promise<Unit>
    fun addAll(requests: Array<dynamic>): Promise<Unit>
    fun put(request: dynamic, response: Response): Promise<Unit>
    fun delete(request: dynamic, options: CacheQueryOptions = definedExternally): Promise<Boolean>
    fun keys(request: dynamic =

```

```

definedExternally, options: CacheQueryOptions = definedExternally): Promise<dynamic>\n\n\npublic external
interface CacheQueryOptions {\n  var ignoreSearch: Boolean? /* = false */\n    get() = definedExternally\n
set(value) = definedExternally\n  var ignoreMethod: Boolean? /* = false */\n    get() = definedExternally\n
set(value) = definedExternally\n  var ignoreVary: Boolean? /* = false */\n    get() = definedExternally\n
set(value) = definedExternally\n  var cacheName: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CacheQueryOptions(ignoreSearch:
Boolean? = false, ignoreMethod: Boolean? = false, ignoreVary: Boolean? = false, cacheName: String? = undefined):
CacheQueryOptions {\n  val o = js("{}")\n  o["ignoreSearch"] = ignoreSearch\n  o["ignoreMethod"] =
ignoreMethod\n  o["ignoreVary"] = ignoreVary\n  o["cacheName"] = cacheName\n  return o\n}\n\npublic
external interface CacheBatchOperation {\n  var type: String?\n    get() = definedExternally\n    set(value) =
definedExternally\n  var request: Request?\n    get() = definedExternally\n    set(value) = definedExternally\n
var response: Response?\n    get() = definedExternally\n    set(value) = definedExternally\n  var options:
CacheQueryOptions?\n    get() = definedExternally\n    set(value) =
definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun CacheBatchOperation(type: String? =
undefined, request: Request? = undefined, response: Response? = undefined, options: CacheQueryOptions? =
undefined): CacheBatchOperation {\n  val o = js("{}")\n  o["type"] = type\n  o["request"] = request\n
o["response"] = response\n  o["options"] = options\n  return o\n}\n\n/**\n * Exposes the JavaScript
[CacheStorage](https://developer.mozilla.org/en/docs/Web/API/CacheStorage) to Kotlin\n */\n\npublic external
abstract class CacheStorage {\n  fun match(request: dynamic, options: CacheQueryOptions = definedExternally):
Promise<Any?>\n  fun has(cacheName: String): Promise<Boolean>\n  fun open(cacheName: String):
Promise<Cache>\n  fun delete(cacheName: String): Promise<Boolean>\n  fun keys():
Promise<dynamic>\n}\n\n\npublic external open class FunctionalEvent : ExtendableEvent {\n}\n\n\npublic external
@marker interface UnionClientOrMessagePortOrServiceWorker {\n}\n\n\n/* please, don't implement this interface!
*/\n\n\npublic external interface ServiceWorkerState {\n  companion object\n}\n\n\npublic inline val
ServiceWorkerState.Companion.INSTALLING: ServiceWorkerState get() =
"installing".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.INSTALLED: ServiceWorkerState get() =
"installed".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATING: ServiceWorkerState get() =
"activating".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.ACTIVATED: ServiceWorkerState get() =
"activated".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\npublic inline val
ServiceWorkerState.Companion.REDUNDANT: ServiceWorkerState get() =
"redundant".asDynamic().unsafeCast<ServiceWorkerState>()\n\n\n/* please, don't implement this interface!
*/\n\n\npublic external interface FrameType {\n  companion object\n}\n\n\npublic inline val
FrameType.Companion.AUXILIARY: FrameType get() =
"auxiliary".asDynamic().unsafeCast<FrameType>()\n\n\npublic inline val FrameType.Companion.TOP_LEVEL:
FrameType get() = "top-level".asDynamic().unsafeCast<FrameType>()\n\n\npublic inline val
FrameType.Companion.NESTED: FrameType get() = "nested".asDynamic().unsafeCast<FrameType>()\n\n\npublic
inline val FrameType.Companion.NONE: FrameType get() =
"none".asDynamic().unsafeCast<FrameType>()\n\n\n/* please, don't implement this interface! */\n\n\npublic external
interface ClientType {\n  companion object\n}\n\n\npublic inline val ClientType.Companion.WINDOW: ClientType
get() = "window".asDynamic().unsafeCast<ClientType>()\n\n\npublic inline val ClientType.Companion.WORKER:
ClientType get() = "worker".asDynamic().unsafeCast<ClientType>()\n\n\npublic inline val
ClientType.Companion.SHAREDWORKER: ClientType get() =
"sharedworker".asDynamic().unsafeCast<ClientType>()\n\n\npublic inline val ClientType.Companion.ALL:
ClientType get() = "all".asDynamic().unsafeCast<ClientType>()\n\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n */ that can be found in the license/LICENSE.txt

```

file.\n *\n\n// NOTE: THIS FILE IS AUTO-GENERATED, DO NOT EDIT!\n\n// See libraries/tools/idl2k for details\n\n@file:Suppress(\n"NESTED_CLASS_IN_EXTERNAL_INTERFACE")\npackage org.w3c.xr\n\nimport kotlin.js.*\nimport org.khronos.webgl.*\nimport org.w3c.css.masking.*\nimport org.w3c.dom.*\nimport org.w3c.dom.clipboard.*\nimport org.w3c.dom.css.*\nimport org.w3c.dom.events.*\nimport org.w3c.dom.mediacapture.*\nimport org.w3c.dom.parsing.*\nimport org.w3c.dom.pointerevents.*\nimport org.w3c.dom.svg.*\nimport org.w3c.dom.url.*\nimport org.w3c.fetch.*\nimport org.w3c.files.*\nimport org.w3c.notifications.*\nimport org.w3c.performance.*\nimport org.w3c.workers.*\n\n/**\n * Exposes the JavaScript

[XMLHttpRequestEventTarget](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequestEventTarget) to Kotlin\n *\n\npublic external abstract class XMLHttpRequestEventTarget : EventTarget {\n open var onloadstart: ((ProgressEvent) -> dynamic)?\n open var onprogress: ((ProgressEvent) -> dynamic)?\n open var onabort: ((Event) -> dynamic)?\n open var onerror: ((Event) -> dynamic)?\n open var onload: ((Event) -> dynamic)?\n open var ontimeout: ((Event) -> dynamic)?\n open var onloadend: ((Event) -> dynamic)?\n}\n\npublic external abstract class XMLHttpRequestUpload : XMLHttpRequestEventTarget {\n}\n\n/**\n * Exposes the JavaScript [XMLHttpRequest](https://developer.mozilla.org/en/docs/Web/API/XMLHttpRequest) to Kotlin\n *\n\npublic external open class XMLHttpRequest : XMLHttpRequestEventTarget {\n var onreadystatechange: ((Event) -> dynamic)?\n open val readyState: Short\n var timeout: Int\n var withCredentials: Boolean\n open val upload: XMLHttpRequestUpload\n open val responseURL: String\n open val status: Short\n open val statusText: String\n var responseType: XMLHttpRequestResponseType\n open val response: Any?\n open val responseText: String\n open val responseXML: Document?\n fun open(method: String, url: String): Unit\n fun open(method: String, url: String, async: Boolean, username: String? = definedExternally, password: String? = definedExternally): Unit\n fun setRequestHeader(name: String, value: String): Unit\n fun send(body: dynamic = definedExternally): Unit\n fun abort(): Unit\n fun getResponseHeader(name: String): String?\n fun getAllResponseHeaders(): String\n fun overrideMimeType(mime: String): Unit\n\n companion object {\n val UNSENT: Short\n val OPENED: Short\n val HEADERS_RECEIVED: Short\n val LOADING: Short\n val DONE: Short\n }\n}\n\n/**\n * Exposes the JavaScript

[FormData](https://developer.mozilla.org/en/docs/Web/API/FormData) to Kotlin\n *\n\npublic external open class FormData(form: HTMLFormElement = definedExternally) {\n fun append(name: String, value: String): Unit\n fun append(name: String, value: Blob, filename: String = definedExternally): Unit\n fun delete(name: String): Unit\n fun get(name: String): dynamic\n fun getAll(name: String): Array<dynamic>\n fun has(name: String): Boolean\n fun set(name: String, value: String): Unit\n fun set(name: String, value: Blob, filename: String = definedExternally): Unit\n}\n\n/**\n * Exposes the JavaScript

[ProgressEvent](https://developer.mozilla.org/en/docs/Web/API/ProgressEvent) to Kotlin\n *\n\npublic external open class ProgressEvent(type: String, eventInitDict: ProgressEventInit = definedExternally) : Event {\n open val lengthComputable: Boolean\n open val loaded: Int\n open val total: Int\n}\n\npublic external interface ProgressEventInit : EventInit {\n var lengthComputable: Boolean? /* = false */\n get() = definedExternally\n set(value) = definedExternally\n var loaded: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n var total: Int? /* = 0 */\n get() = definedExternally\n set(value) = definedExternally\n}\n\n@kotlin.internal.InlineOnly\npublic inline fun ProgressEventInit(lengthComputable: Boolean? = false, loaded: Int? = 0, total: Int? = 0, bubbles: Boolean? = false, cancelable: Boolean? = false, composed: Boolean? = false): ProgressEventInit {\n val o = js("{}")\n o["lengthComputable"] = lengthComputable\n o["loaded"] = loaded\n o["total"] = total\n o["bubbles"] = bubbles\n o["cancelable"] = cancelable\n o["composed"] = composed\n return o\n}\n\n/** please, don't implement this interface!\n\npublic external interface XMLHttpRequestResponseType {\n companion object\n}\n\npublic inline val XMLHttpRequestResponseType.Companion.EMPTY: XMLHttpRequestResponseType get() = \n\n.asDynamic().unsafeCast<XMLHttpRequestResponseType>\n\npublic inline val XMLHttpRequestResponseType.Companion.ARRAYBUFFER: XMLHttpRequestResponseType get() = \n\n"arraybuffer".asDynamic().unsafeCast<XMLHttpRequestResponseType>\n\npublic inline val

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XMLHttpRequestResponseType.Companion.BLOB: XMLHttpRequestResponseType get() =
    \"blob\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\npublic inline val
XMLHttpRequestResponseType.Companion.DOCUMENT: XMLHttpRequestResponseType get() =
    \"document\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\npublic inline val
XMLHttpRequestResponseType.Companion.JSON: XMLHttpRequestResponseType get() =
    \"json\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\npublic inline val
XMLHttpRequestResponseType.Companion.TEXT: XMLHttpRequestResponseType get() =
    \"text\".asDynamic().unsafeCast<XMLHttpRequestResponseType>()\n\n\", /*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationRetention.BINARY\nimport kotlin.annotation.AnnotationRetention.SOURCE\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\nimport kotlin.reflect.KClass\n\n/**\n * Signals that the annotated
annotation class is a marker of an experimental API.\n *\n * Any declaration annotated with that marker is
considered an experimental declaration\n *\n * and its call sites should accept the experimental aspect of it either by
using [UseExperimental],\n *\n * or by being annotated with that marker themselves, effectively causing further
propagation of that experimental aspect.\n *\n * This class is experimental itself and can only be used with the
compiler argument `Xuse-experimental=kotlin.Experimental`.\n
*\n * @Target(ANNOTATION_CLASS)\n * @Retention(BINARY)\n * @SinceKotlin(\"1.2\")\n * @RequireKotlin(\"1.2.50
\", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n * @Suppress(\"ANNOTATION_CLASS_MEMBER\")\npublic
annotation class Experimental(val level: Level = Level.ERROR) {\n    /**\n     * Severity of the diagnostic that
should be reported on usages of experimental API which did not explicitly accept the experimental aspect\n     * of
that API either by using [UseExperimental] or by being annotated with the corresponding marker annotation.\n
*\n     * @public enum class Level {\n         /** Specifies that a warning should be reported on incorrect usages of this
experimental API. *\n         WARNING,\n         /** Specifies that an error should be reported on incorrect usages of
this experimental API. *\n         ERROR,\n     }\n}\n\n/**\n * Allows to use experimental API denoted by the given
markers in the annotated file, declaration, or expression.\n *\n * If a declaration is annotated with [UseExperimental], its
usages are **not** required to opt-in to that experimental API.\n *\n * This class is experimental itself and can only
be used with the compiler argument `Xuse-experimental=kotlin.Experimental`.\n *\n * @Target(\n     CLASS,
PROPERTY, LOCAL_VARIABLE, VALUE_PARAMETER, CONSTRUCTOR, FUNCTION,
PROPERTY_GETTER, PROPERTY_SETTER, EXPRESSION, FILE,
TYPEALIAS)\n * @Retention(SOURCE)\n * @SinceKotlin(\"1.2\")\n * @RequireKotlin(\"1.2.50\", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class UseExperimental(\n    vararg val
markerClass: KClass<out Annotation>)\n}\n\n\n@Target(CLASS, PROPERTY, CONSTRUCTOR, FUNCTION,
TYPEALIAS)\n@Retention(BINARY)\ninternal annotation class WasExperimental(\n    vararg val markerClass:
KClass<out Annotation>)\n)\n\n\", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by
the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Allows to
infer generic type arguments of a function from the calls in the annotated function parameter of that function.\n *\n *
When this annotation is placed on a generic function parameter of a function,\n *\n * it enables to infer the type
arguments of that generic function from the lambda body passed to that parameter.\n *\n * The calls that affect
inference are either members of the receiver type of an annotated function parameter or\n *\n * extensions for that type.
The extensions must be themselves annotated with `@BuilderInference`.\n *\n * Example: we declare\n *\n * ```\n * fun
<T> sequence(@BuilderInference block: suspend SequenceScope<T>(). -> Unit): Sequence<T>\n * ```\n *\n * and use
it like\n *\n * ```\n * val result = sequence { yield(\"result\") }\n * ```\n *\n * Here the type argument of the resulting
sequence is inferred to `String` from\n *\n * the argument of the [SequenceScope.yield] function, that is called inside
the lambda passed to [sequence].\n *\n * Note: this annotation is experimental, see [ExperimentalTypeInference] on

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how to opt-in for it.\n *\n@Target(VALUE_PARAMETER, FUNCTION,
PROPERTY)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("\1.3")\n@ExperimentalTypeInferenc
e\npublic annotation class BuilderInference\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n *\n\npackage
kotlin\n\nimport kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * The experimental multiplatform support API marker.\n *\n *
Any usage of a declaration annotated with `@ExperimentalMultiplatform` must be accepted either by\n * annotating
that usage with the [UseExperimental] annotation, e.g. `@UseExperimental(ExperimentalMultiplatform::class)`,\n *
or by using the compiler argument `-Xuse-experimental=kotlin.ExperimentalMultiplatform`.\n
*\n\n@Experimental\n@Target(\n CLASS,\n ANNOTATION_CLASS,\n PROPERTY,\n FIELD,\n
LOCAL_VARIABLE,\n VALUE_PARAMETER,\n CONSTRUCTOR,\n FUNCTION,\n
PROPERTY_GETTER,\n PROPERTY_SETTER,\n
TYPEALIAS)\n\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("\1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic annotation class ExperimentalMultiplatform\n\n/**\n
* Marks an expected annotation class that it isn't required to have actual counterparts in all platforms.\n *\n * This
annotation is only applicable to `expect` annotation classes in multi-platform projects and marks that class as
`"optional".\n * Optional expected class is allowed to have no corresponding actual class on the platform. Optional
annotations can only be used\n * to annotate something, not as types in signatures. If an optional annotation has no
corresponding actual class on a platform,\n * the annotation entries where it's used are simply erased when
compiling code on that platform.\n *\n * Note: this annotation is experimental, see [ExperimentalMultiplatform] on
how to opt-in for it.\n
*\n\n@Target(ANNOTATION_CLASS)\n@Retention(AnnotationRetention.BINARY)\n@ExperimentalMultiplatfor
m\n@RequireKotlin("\1.2.50", versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic
annotation class OptionalExpectation\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n *\n\npackage
kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [Collection] interface.\n *\n *
@param E the type of elements contained in the collection. The collection is covariant on its element type.\n
*\n\n@SinceKotlin("\1.1")\n\npublic abstract class AbstractCollection<out E> protected constructor() : Collection<E>
{\n    abstract override val size: Int\n    abstract override fun iterator(): Iterator<E>\n\n    override fun
contains(element: @UnsafeVariance E): Boolean = any { it == element }\n\n    override fun containsAll(elements:
Collection<@UnsafeVariance E>): Boolean =\n        elements.all { contains(it) } // use when js will support bound
refs: elements.all(this::contains)\n\n    override fun isEmpty(): Boolean = size == 0\n\n    override fun toString():
String = joinToString(", ", "[", "]") {\n        if (it === this) "(this Collection)" else it.toString()\n    }\n\n    /**\n
* Returns new array of type `Array<Any?>` with the elements of this collection.\n *
*\n\n    protected open fun
toArray(): Array<Any?> = copyToArrayImpl(this)\n\n    /**\n * Fills the provided [array] or creates new array of
the same type\n * and fills it with the elements of this collection.\n *
*\n\n    protected open fun <T>
toArray(array: Array<T>): Array<T> = copyToArrayImpl(this, array)\n\n", /*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n *\n\npackage kotlin.collections\n\nprivate enum class State {\n    Ready,\n
NotReady,\n    Done,\n    Failed\n}\n\n/**\n * A base class to simplify implementing iterators so that
implementations only have to implement [computeNext]\n * to implement the iterator, calling [done] when the
iteration is complete.\n *\n\npublic abstract class AbstractIterator<T> : Iterator<T> {\n    private var state =
State.NotReady\n    private var nextValue: T? = null\n\n    override fun hasNext(): Boolean {\n        require(state !=
State.Failed)\n        return when (state) {\n            State.Done -> false\n            State.Ready -> true\n            else ->
tryToComputeNext()\n        }\n    }\n\n    override fun next(): T {\n        if (!hasNext()) throw
NoSuchElementException()\n        state = State.NotReady\n        @Suppress("\1.UNCHECKED_CAST")\n        return nextValue as T\n    }\n\n    private fun tryToComputeNext(): Boolean {\n        state = State.Failed\n        computeNext()\n        return state == State.Ready\n    }\n\n    /**\n * Computes the next item in the iterator.\n

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*\n * This callback method should call one of these two methods:\n * * [setNext] with the next value of
the iteration\n * * [done] to indicate there are no more elements\n * * Failure to call either method will
result in the iteration terminating with a failed state\n *^\n abstract protected fun computeNext(): Unit\n
/**\n * Sets the next value in the iteration, called from the [computeNext] function\n *^\n protected fun
setNext(value: T): Unit {\n     nextValue = value\n     state = State.Ready\n } \n\n /**\n * Sets the state to
done so that the iteration terminates.\n *^\n protected fun done() {\n     state = State.Done\n }\n}\n\n"/*\n
* Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n *^\n/**\n * Based on GWT AbstractList\n * Copyright 2007 Google
Inc.\n *^\n\npackage kotlin.collections\n\n/**\n * Provides a skeletal implementation of the read-only [List]
interface.\n *^\n * This class is intended to help implementing read-only lists so it doesn't support concurrent
modification tracking.\n *^\n * @param E the type of elements contained in the list. The list is covariant on its
element type.\n *^\n@SinceKotlin("1.1")\npublic abstract class AbstractList<out E> protected constructor() :
AbstractCollection<E>(), List<E> {\n    abstract override val size: Int\n    abstract override fun get(index: Int): E\n\n    override fun iterator(): Iterator<E> = IteratorImpl()\n\n    override fun indexOf(element: @UnsafeVariance E): Int =
indexOfFirst { it == element }\n\n    override fun lastIndexOf(element: @UnsafeVariance E): Int = indexOfLast {
it == element }\n\n    override fun listIterator(): ListIterator<E> = ListIteratorImpl(0)\n\n    override fun
listIterator(index: Int): ListIterator<E> = ListIteratorImpl(index)\n\n    override fun subList(fromIndex: Int, toIndex:
Int): List<E> = SubList(this, fromIndex, toIndex)\n\n    private class SubList<out E>(private val list:
AbstractList<E>, private val fromIndex: Int, toIndex: Int) : AbstractList<E>(), RandomAccess {\n        private var
_size: Int = 0\n\n        init {\n            checkRangeIndexes(fromIndex, toIndex, list.size)\n            this._size = toIndex
- fromIndex\n        }\n\n        override fun get(index: Int): E {\n            checkElementIndex(index, _size)\n\n            return list[fromIndex + index]\n        }\n\n        override val size: Int get() = _size\n        }\n\n        /**\n         * Compares
this list with other list instance with the ordered structural equality.\n         *^\n         * @return true, if [other] instance is a
[List] of the same size, which contains the same elements in the same order.\n         *^\n         override fun equals(other:
Any?): Boolean {\n             if (other === this) return true\n             if (other !is List<*>) return false\n\n             return
orderedEquals(this, other)\n         }\n\n         /**\n         * Returns the hash code value for this list.\n         *^\n         override fun
hashCode(): Int = orderedHashCode(this)\n\n         private open inner class IteratorImpl : Iterator<E> {\n             /** the
index of the item that will be returned on the next call to [next]`()\n             *^\n             protected var index = 0\n\n             override
fun hasNext(): Boolean = index < size\n\n             override fun next(): E {\n                 if (!hasNext()) throw
NoSuchElementException()\n                 return get(index++)\n             }\n        }\n\n        /**\n         * Implementation of
[ListIterator] for abstract lists.\n         *^\n         private open inner class ListIteratorImpl(index: Int) : IteratorImpl(),
ListIterator<E> {\n             init {\n                 checkPositionIndex(index, this@AbstractList.size)\n                 this.index =
index\n             }\n\n             override fun hasPrevious(): Boolean = index > 0\n\n             override fun nextIndex(): Int =
index\n\n             override fun previous(): E {\n                 if (!hasPrevious()) throw NoSuchElementException()\n                 return get(--index)\n             }\n\n             override fun previousIndex(): Int = index - 1\n        }\n\n        internal companion
object {\n            internal fun checkElementIndex(index: Int, size: Int) {\n                if (index < 0 || index >= size) {\n                    throw IndexOutOfBoundsException("index: $index, size: $size")\n                }\n            }\n\n            internal fun
checkPositionIndex(index: Int, size: Int) {\n                if (index < 0 || index > size) {\n                    throw
IndexOutOfBoundsException("index: $index, size: $size")\n                }\n            }\n\n            internal fun
checkRangeIndexes(fromIndex: Int, toIndex: Int, size: Int) {\n                if (fromIndex < 0 || toIndex > size) {\n                    throw
IndexOutOfBoundsException("fromIndex: $fromIndex, toIndex: $toIndex, size: $size")\n                }\n\n                if (fromIndex > toIndex) {\n                    throw IllegalArgumentException("fromIndex: $fromIndex > toIndex:
$toIndex")\n                }\n            }\n\n            internal fun orderedHashCode(c: Collection<*>): Int {\n                var
hashCode = 1\n                for (e in c) {\n                    hashCode = 31 * hashCode + (e?.hashCode() ?: 0)\n                }\n                return hashCode\n            }\n\n            internal fun orderedEquals(c: Collection<*>, other: Collection<*>): Boolean {\n                if (c.size != other.size) return false\n                val otherIterator = other.iterator()\n                for (elem in c) {\n                    val elemOther = otherIterator.next()\n                    if (elem != elemOther) {\n                        return false\n                    }\n                }\n                return true\n            }\n        }\n    }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is

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governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file. Based on GWT AbstractMap Copyright 2007 Google Inc. Provides a skeletal implementation of the read-only [Map] interface. The implementor is required to implement [entries] property, which should return read-only set of map entries. @param K the type of map keys. The map is invariant on its key type. @param V the type of map values. The map is covariant on its value type.

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*^@SinceKotlin("1.1")\npublic abstract class AbstractMap<K, out V> protected constructor() : Map<K, V>
{\n\n    override fun containsKey(key: K): Boolean {\n        return implFindEntry(key) != null\n    }\n\n    override fun containsValue(value: @UnsafeVariance V): Boolean = entries.any { it.value == value }\n\n    internal fun containsEntry(entry: Map.Entry<*, *>?): Boolean {\n        // since entry comes from @UnsafeVariance parameters it can be virtually anything\n        if (entry !is Map.Entry<*, *>) return false\n        val key = entry.key\n        val value = entry.value\n        val ourValue = get(key)\n        if (value != ourValue) {\n            return false\n        }\n        // Perhaps it was null and we don't contain the key?\n        if (ourValue == null && !containsKey(key)) {\n            return false\n        }\n        return true\n    }\n\n\n    /**\n     * Compares this map with other instance with the ordered structural equality.\n     * @return true, if [other] instance is a [Map] of the same size, all entries of which are contained in the [entries] set of this map.\n     *\n     * override fun equals(other: Any?): Boolean {\n     *     if (other === this) return true\n     *     if (other !is Map<*, *>) return false\n     *     if (size != other.size) return false\n     *     return other.entries.all { containsEntry(it) }\n     * }\n\n     * override operator fun get(key: K): V? = implFindEntry(key)?.value\n     *\n     * Returns the hash code value for this map. It is the same as the hashCode of [entries] set.\n     *\n     * override fun hashCode(): Int = entries.hashCode()\n     *\n     * override fun isEmpty(): Boolean = size == 0\n     *\n     * override val size: Int get() = entries.size\n     *\n     * Returns a read-only [Set] of all keys in this map. Accessing this property first time creates a keys view from [entries]. All subsequent accesses just return the created instance.\n     *\n     * override val keys: Set<K>\n     *     get() {\n     *         if (_keys == null) {\n     *             _keys = object : AbstractSet<K>() {\n     *                 override operator fun contains(element: K): Boolean = containsKey(element)\n     *                 override operator fun iterator(): Iterator<K> {\n     *                     val entryIterator = entries.iterator()\n     *                     return object : Iterator<K> {\n     *                         override fun hasNext(): Boolean = entryIterator.hasNext()\n     *                         override fun next(): K = entryIterator.next().key\n     *                     }\n     *                 }\n     *                 override val size: Int get() = this@AbstractMap.size\n     *             }\n     *             @kotlin.jvm.Volatile\n     *             private var _keys: Set<K>? = null\n     *         }\n     *         return _keys\n     *     }\n     *\n     * Returns a read-only [Collection] of all values in this map. Accessing this property first time creates a values view from [entries]. All subsequent accesses just return the created instance.\n     *\n     * override val values: Collection<V>\n     *     get() {\n     *         if (_values == null) {\n     *             _values = object : AbstractCollection<V>() {\n     *                 override operator fun contains(element: @UnsafeVariance V): Boolean = containsValue(element)\n     *                 override operator fun iterator(): Iterator<V> {\n     *                     val entryIterator = entries.iterator()\n     *                     return object : Iterator<V> {\n     *                         override fun hasNext(): Boolean = entryIterator.hasNext()\n     *                         override fun next(): V = entryIterator.next().value\n     *                     }\n     *                 }\n     *                 override val size: Int get() = this@AbstractMap.size\n     *             }\n     *             @kotlin.jvm.Volatile\n     *             private var _values: Collection<V>? = null\n     *         }\n     *         return _values\n     *     }\n     *\n     * @kotlin.jvm.Volatile\n     * private fun implFindEntry(key: K): Map.Entry<K, V>? = entries.firstOrNull { it.key == key }\n     *\n     * internal companion object {\n     *     internal fun entryHashCode(e: Map.Entry<*, *>): Int = with(e) { (key?.hashCode() ?: 0) xor (value?.hashCode() ?: 0) }\n     *     internal fun entryToString(e: Map.Entry<*, *>): String = with(e) {\n     *         \"\$key=\$value\"\n     *     }\n     *     internal fun entryEquals(e: Map.Entry<*, *>, other: Any?): Boolean {\n     *         if (other !is Map.Entry<*, *>) return false\n     *         return e.key == other.key && e.value == other.value\n     *     }\n     * }\n     *\n     * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license that can be found in the license/LICENSE.txt file.
package kotlin.collections
Provides a skeletal implementation of the read-only [Set] interface. This class is intended to help implementing read-only sets so

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it doesn't support concurrent modification tracking.\n *\n * @param E the type of elements contained in the set. The
set is covariant on its element type.\n */\n@SinceKotlin("1.1")\npublic abstract class AbstractSet<out E> protected
constructor() : AbstractCollection<E>(), Set<E> {\n\n /**\n * Compares this set with other set instance with the
unordered structural equality.\n *\n * @return true, if [other] instance is a [Set] of the same size, all elements of
which are contained in this set.\n *\n * override fun equals(other: Any?): Boolean {\n if (other === this)
return true\n if (other !is Set<*>) return false\n return setEquals(this, other)\n }\n\n /**\n * Returns
the hash code value for this set.\n *\n * override fun hashCode(): Int = unorderedHashCode(this)\n\n internal
companion object {\n internal fun unorderedHashCode(c: Collection<*>): Int {\n var hashCode = 0\n
for (element in c) {\n hashCode += (element?.hashCode() ?: 0)\n }\n return hashCode\n
}\n\n internal fun setEquals(c: Set<*>, other: Set<*>): Boolean {\n if (c.size != other.size) return false\n
return c.containsAll(other)\n }\n }\n\n}"/\n\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("ArraysKt")\n\n\npackage
kotlin.collections\n\nimport kotlin.contracts.*\n\n\n/**\n * Returns a single list of all elements from all arrays in the
given array.\n * @sample samples.collections.Arrays.Transformations.flattenArray\n *\npublic fun <T> Array<out
Array<out T>>.flatten(): List<T> {\n val result = ArrayList<T>(sumBy { it.size })\n for (element in this) {\n
result.addAll(element)\n }\n return result\n }\n\n/**\n * Returns a pair of lists, where\n * *first* list is built from
the first values of each pair from this array,\n * *second* list is built from the second values of each pair from this
array.\n * @sample samples.collections.Arrays.Transformations.unzipArray\n *\npublic fun <T, R> Array<out
Pair<T, R>>.unzip(): Pair<List<T>, List<R>> {\n val listT = ArrayList<T>(size)\n val listR =
ArrayList<R>(size)\n for (pair in this) {\n listT.add(pair.first)\n listR.add(pair.second)\n }\n return
listT to listR\n }\n\n/**\n * Returns `true` if this nullable array is either null or empty.\n * @sample
samples.collections.Arrays.Usage.arrayIsNullOrEmpty\n
*\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\npublic inline fun Array<*>?.isNullOrEmpty(): Boolean
{\n contract {\n returns(false) implies (this@isNullOrEmpty != null)\n }\n return this == null ||
this.isEmpty()\n }\n\n/**\n * Returns this array if it's not empty\n * or the result of calling [defaultValue] function if
the array is empty.\n * @sample samples.collections.Arrays.Usage.arrayIfEmpty\n
*\n\n@SinceKotlin("1.3")\n@kotlin.internal.InlineOnly\n@Suppress("UPPER_BOUND_CANNOT_BE_ARRAY")\npublic inline fun <C, R> C.ifEmpty(defaultValue: () -> R): R where C : Array<*>, C : R =\n if (isEmpty())
defaultValue() else
this\n\n\n@UseExperimental(ExperimentalUnsignedTypes::class)\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepEquals")\n@kotlin.js.JsName("contentDeepEqualsImpl")\ninternal fun <T>
Array<out T>.contentDeepEqualsImpl(other: Array<out T>): Boolean {\n if (this === other) return true\n if
(this.size != other.size) return false\n\n for (i in indices) {\n val v1 = this[i]\n val v2 = other[i]\n\n if
(v1 === v2) {\n continue\n } else if (v1 == null || v2 == null) {\n return false\n }\n\n when {\n v1 is Array<*> && v2 is Array<*> -> if (!v1.contentDeepEquals(v2)) return false\n v1
is ByteArray && v2 is ByteArray -> if (!v1.contentEquals(v2)) return false\n v1 is ShortArray && v2 is
ShortArray -> if (!v1.contentEquals(v2)) return false\n v1 is IntArray && v2 is IntArray -> if
(!v1.contentEquals(v2)) return false\n v1 is LongArray && v2 is LongArray -> if (!v1.contentEquals(v2))
return false\n v1 is FloatArray && v2 is FloatArray -> if (!v1.contentEquals(v2)) return false\n v1 is
DoubleArray && v2 is DoubleArray -> if (!v1.contentEquals(v2)) return false\n v1 is CharArray && v2
is CharArray -> if (!v1.contentEquals(v2)) return false\n v1 is BooleanArray && v2 is BooleanArray -> if
(!v1.contentEquals(v2)) return false\n\n v1 is UByteArray && v2 is UByteArray -> if
(!v1.contentEquals(v2)) return false\n\n v1 is UShortArray && v2 is UShortArray -> if
(!v1.contentEquals(v2)) return false\n\n v1 is UIntArray && v2 is UIntArray -> if (!v1.contentEquals(v2))
return false\n\n v1 is ULongArray && v2 is ULongArray -> if (!v1.contentEquals(v2)) return false\n\n
else -> if (v1 != v2) return false\n }\n\n }\n return
true\n }\n\n\n@SinceKotlin("1.3")\n@PublishedApi\n@kotlin.jvm.JvmName("contentDeepToString")\n@kotlin.js.

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JsName("contentDeepToStringImpl")\ninternal fun <T> Array<out T>.contentDeepToStringImpl(): String {\n
val length = size.coerceAtMost((Int.MAX_VALUE - 2) / 5) * 5 + 2 // in order not to overflow Int.MAX_VALUE\n
return buildString(length) {\n    contentDeepToStringInternal(this, mutableListOf())\n
}\n}\n\n@UseExperimental(ExperimentalUnsignedTypes::class)\nprivate fun <T> Array<out
T>.contentDeepToStringInternal(result: StringBuilder, processed: MutableList<Array<*>>) {\n if (this in
processed) {\n    result.append("[...]")\n    return\n } \n processed.add(this)\n result.append('[')\n\n for (i
in indices) {\n    if (i != 0) {\n        result.append(", ")\n    } \n    val element = this[i]\n    when
(element) {\n        null -> result.append("null")\n        is Array<*> ->
element.contentDeepToStringInternal(result, processed)\n        is ByteArray ->
result.append(element.contentToString())\n        is ShortArray -> result.append(element.contentToString())\n
        is IntArray -> result.append(element.contentToString())\n        is LongArray ->
result.append(element.contentToString())\n        is FloatArray -> result.append(element.contentToString())\n
        is DoubleArray -> result.append(element.contentToString())\n        is CharArray ->
result.append(element.contentToString())\n        is BooleanArray -> result.append(element.contentToString())\n\n
        is UByteArray -> result.append(element.contentToString())\n        is UShortArray ->
result.append(element.contentToString())\n        is UIntArray -> result.append(element.contentToString())\n
        is ULongArray -> result.append(element.contentToString())\n\n        else ->
result.append(element.toString())\n    }\n }\n\n result.append(''])\n
processed.removeAt(processed.lastIndex)\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code
is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.collections\n\n/**\n * Data class representing a value from a collection or sequence, along with its index in
that collection or sequence.\n */\n * @property value the underlying value.\n * @property index the index of the
value in the collection or sequence.\n */\n\npublic data class IndexedValue<out T>(public val index: Int, public val
value: T)\n}"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("MapAccessorsKt")\n\npackage kotlin.collections\n\nimport
kotlin.reflect.KProperty\nimport kotlin.internal.Exact\n\n/**\n * Returns the value of the property for the given
object from this read-only map.\n * @param thisRef the object for which the value is requested (not used).\n *
@param property the metadata for the property, used to get the name of property and lookup the value
corresponding to this name in the map.\n * @return the property value.\n */\n * @throws NoSuchElementException
when the map doesn't contain value for the property name and doesn't provide an implicit default (see
[withDefault]).\n */\n\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V> Map<in String, @Exact
V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n    @Suppress("UNCHECKED_CAST")
(getOrImplicitDefault(property.name) as V1)\n\n/**\n * Returns the value of the property for the given object from
this mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property
the metadata for the property, used to get the name of property and lookup the value corresponding to this name in
the map.\n * @return the property value.\n */\n * @throws NoSuchElementException when the map doesn't contain
value for the property name and doesn't provide an implicit default (see [withDefault]).\n
*/\n\n@kotlin.jvm.JvmName("getVar")\n@kotlin.internal.InlineOnly\npublic inline operator fun <V, V1 : V>
MutableMap<in String, out @Exact V>.getValue(thisRef: Any?, property: KProperty<*>): V1 =\n
    @Suppress("UNCHECKED_CAST") (getOrImplicitDefault(property.name) as V1)\n\n@Deprecated("Use
getValue() with two type parameters instead", level =
DeprecationLevel.ERROR)\n@kotlin.jvm.JvmName("getVarContravariant")\n@kotlin.internal.LowPriorityInOver
loadResolution\n@kotlin.internal.InlineOnly\npublic inline fun <V> MutableMap<in String, in
V>.getValue(thisRef: Any?, property: KProperty<*>): V =\n    @Suppress("UNCHECKED_CAST")
(getOrImplicitDefault(property.name) as V)\n\n/**\n * Stores the value of the property for the given object in this
mutable map.\n * @param thisRef the object for which the value is requested (not used).\n * @param property the
metadata for the property, used to get the name of property and store the value associated with that name in the

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map.\n * @param value the value to set.\n */\n@kotlin.internal.InlineOnly\npublic inline operator fun <V>  

MutableMap<in String, in V>.setValue(thisRef: Any?, property: KProperty<*>, value: V) {\n  

this.put(property.name, value)\n}\n"/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is  

governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n  

*/\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MapsKt")\n\npackage  

kotlin.collections\n\n/**\n * Returns the value for the given key, or the implicit default value for this map.\n * By  

default no implicit value is provided for maps and a [NoSuchElementException] is thrown.\n * To create a map with  

implicit default value use [withDefault] method.\n */\n * @throws NoSuchElementException when the map doesn't  

contain a value for the specified key and no implicit default was provided for that map.\n  

*/\n@kotlin.jvm.JvmName("getOrNullImplicitDefaultNullable")\n@PublishedApi\ninternal fun <K, V> Map<K,  

V>.getOrNullImplicitDefault(key: K): V {\n    if (this is MapWithDefault)\n        return  

this.getOrNullImplicitDefault(key)\n    return getOrNullNullable(key, { throw NoSuchElementException("Key $key  

is missing in the map.") })\n}\n\n/**\n * Returns a wrapper of this read-only map, having the implicit default value  

provided with the specified function [defaultValue].\n */\n * This implicit default value is used when the original  

map doesn't contain a value for the key specified\n * and a value is obtained with [Map.getValue] function, for  

example when properties are delegated to the map.\n */\n * When this map already has an implicit default value  

provided with a former call to [withDefault], it is being replaced by this call.\n */\n\npublic fun <K, V> Map<K,  

V>.withDefault(defaultValue: (key: K) -> V): Map<K, V> =\n    when (this) {\n        is MapWithDefault ->  

this.map.withDefault(defaultValue)\n        else -> MapWithDefaultImpl(this, defaultValue)\n    }\n\n/**\n * Returns  

a wrapper of this mutable map, having the implicit default value provided with the specified function  

[defaultValue].\n */\n * This implicit default value is used when the original map doesn't contain a value for the key  

specified\n * and a value is obtained with [Map.getValue] function, for example when properties are delegated to the  

map.\n */\n * When this map already has an implicit default value provided with a former call to [withDefault], it is  

being replaced by this call.\n */\n@kotlin.jvm.JvmName("withDefaultMutable")\npublic fun <K, V>  

MutableMap<K, V>.withDefault(defaultValue: (key: K) -> V): MutableMap<K, V> =\n    when (this) {\n        is  

MutableMapWithDefault -> this.map.withDefault(defaultValue)\n        else -> MutableMapWithDefaultImpl(this,  

defaultValue)\n    }\n\nprivate interface MapWithDefault<K, out V> : Map<K, V> {\n    public val map: Map<K,  

V>\n    public fun getOrNullImplicitDefault(key: K): V\n}\n\nprivate interface MutableMapWithDefault<K, V> :  

MutableMap<K, V>, MapWithDefault<K, V> {\n    public override val map: MutableMap<K, V>\n}\n\nprivate  

class MapWithDefaultImpl<K, out V>(public override val map: Map<K, V>, private val default: (key: K) -> V) :  

MapWithDefault<K, V> {\n    override fun equals(other: Any?): Boolean = map.equals(other)\n    override fun  

hashCode(): Int = map.hashCode()\n    override fun toString(): String = map.toString()\n    override val size: Int get()  

= map.size\n    override fun isEmpty(): Boolean = map.isEmpty()\n    override fun containsKey(key: K): Boolean =  

map.containsKey(key)\n    override fun containsValue(value: @UnsafeVariance V): Boolean =  

map.containsValue(value)\n    override fun get(key: K): V? = map.get(key)\n    override val keys: Set<K> get() =  

map.keys\n    override val values: Collection<V> get() = map.values\n    override val entries: Set<Map.Entry<K,  

V>> get() = map.entries\n    override fun getOrNullImplicitDefault(key: K): V = map.getOrNullNullable(key, {  

default(key) })\n}\n\nprivate class MutableMapWithDefaultImpl<K, V>(public override val map: MutableMap<K,  

V>, private val default: (key: K) -> V) : MutableMapWithDefault<K, V> {\n    override fun equals(other: Any?):  

Boolean = map.equals(other)\n    override fun hashCode(): Int = map.hashCode()\n    override fun toString(): String  

= map.toString()\n    override val size: Int get() = map.size\n    override fun isEmpty(): Boolean = map.isEmpty()\n  

override fun containsKey(key: K): Boolean = map.containsKey(key)\n    override fun containsValue(value:  

@UnsafeVariance V): Boolean = map.containsValue(value)\n    override fun get(key: K): V? = map.get(key)\n  

override val keys: MutableSet<K> get() = map.keys\n    override val values: MutableCollection<V> get() =  

map.values\n    override val entries: MutableSet<MutableMap.MutableEntry<K, V>> get() = map.entries\n  

override fun put(key: K, value: V): V? = map.put(key, value)\n    override fun remove(key: K): V? =  

map.remove(key)\n    override fun putAll(from: Map<out K, V>) = map.putAll(from)\n    override fun clear() =  

map.clear()\n}\n\n    override fun getOrNullImplicitDefault(key: K): V = map.getOrNullNullable(key, { default(key)

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})\n}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage
kotlin.collections\n\nimport kotlin.random.Random\n\n/**\n * Removes a single instance of the specified element
from this\n * collection, if it is present.\n * \n * Allows to overcome type-safety restriction of `remove` that requires
to pass an element of type `E`.\n * \n * @return `true` if the element has been successfully removed; `false` if it was
not present in the collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline fun <@kotlin.internal.OnlyInputTypes
T> MutableCollection<out T>.remove(element: T): Boolean =\n    @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).remove(element)\n\n/**\n * Removes all of this collection's elements that are also
contained in the specified collection.\n * \n * Allows to overcome type-safety restriction of `removeAll` that requires
to pass a collection of type `Collection<E>`.\n * \n * @return `true` if any of the specified elements was removed
from the collection, `false` if the collection was not modified.\n * \n@kotlin.internal.InlineOnly\n\npublic inline fun
<@kotlin.internal.OnlyInputTypes T> MutableCollection<out T>.removeAll(elements: Collection<T>): Boolean
=\n    @Suppress("UNCHECKED_CAST") (this as MutableCollection<T>).removeAll(elements)\n\n/**\n * Retains only the elements in this collection that are contained in the specified collection.\n * \n * Allows to
overcome type-safety restriction of `retainAll` that requires to pass a collection of type `Collection<E>`.\n * \n *
@return `true` if any element was removed from the collection, `false` if the collection was not modified.\n *
*\n@kotlin.internal.InlineOnly\n\npublic inline fun <@kotlin.internal.OnlyInputTypes T> MutableCollection<out
T>.retainAll(elements: Collection<T>): Boolean =\n    @Suppress("UNCHECKED_CAST") (this as
MutableCollection<T>).retainAll(elements)\n\n/**\n * Removes the element at the specified [index] from this list.\n *
*\n * In Kotlin one should use the [MutableList.removeAt] function instead.\n * \n@Deprecated("Use removeAt(index)
instead.", ReplaceWith("removeAt(index)"), level =
DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\n\npublic inline fun <T> MutableList<T>.remove(index:
Int): T = removeAt(index)\n\n/**\n * Adds the specified [element] to this mutable collection.\n *
*\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T> MutableCollection<in T>.plusAssign(element: T)
{\n    this.add(element)\n}\n\n/**\n * Adds all elements of the given [elements] collection to this mutable
collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T> MutableCollection<in
T>.plusAssign(elements: Iterable<T>) {\n    this.addAll(elements)\n}\n\n/**\n * Adds all elements of the given
[elements] array to this mutable collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T>
MutableCollection<in T>.plusAssign(elements: Array<T>) {\n    this.addAll(elements)\n}\n\n/**\n * Adds all
elements of the given [elements] sequence to this mutable collection.\n * \n@kotlin.internal.InlineOnly\n\npublic
inline operator fun <T> MutableCollection<in T>.plusAssign(elements: Sequence<T>) {\n
    this.addAll(elements)\n}\n\n/**\n * Removes a single instance of the specified [element] from this mutable
collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T> MutableCollection<in
T>.minusAssign(element: T) {\n    this.remove(element)\n}\n\n/**\n * Removes all elements contained in the given
[elements] collection from this mutable collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline operator fun
<T> MutableCollection<in T>.minusAssign(elements: Iterable<T>) {\n    this.removeAll(elements)\n}\n\n/**\n *
Removes all elements contained in the given [elements] array from this mutable collection.\n *
*\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T> MutableCollection<in T>.minusAssign(elements:
Array<T>) {\n    this.removeAll(elements)\n}\n\n/**\n * Removes all elements contained in the given [elements]
sequence from this mutable collection.\n * \n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T>
MutableCollection<in T>.minusAssign(elements: Sequence<T>) {\n    this.removeAll(elements)\n}\n\n/**\n * Adds
all elements of the given [elements] collection to this [MutableCollection].\n * \n@public fun <T>
MutableCollection<in T>.addAll(elements: Iterable<T>): Boolean {\n    when (elements) {\n        is Collection ->
return addAll(elements)\n        else -> {\n            var result: Boolean = false\n            for (item in elements)\n
if (add(item)) result = true\n            return result\n        }\n    }\n}\n\n/**\n * Adds all elements of the given
[elements] sequence to this [MutableCollection].\n * \n@public fun <T> MutableCollection<in T>.addAll(elements:
Sequence<T>): Boolean {\n    var result: Boolean = false\n    for (item in elements) {\n        if (add(item)) result =

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true\n } \n return result\n}\n\n/**\n * Adds all elements of the given [elements] array to this
[MutableCollection].\n *\npublic fun <T> MutableCollection<in T>.addAll(elements: Array<out T>): Boolean {\n
return addAll(elements.asList())\n}\n\n/**\n * Removes all elements from this [MutableIterable] that match the
given [predicate].\n *\npublic fun <T> MutableIterable<T>.removeAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, true)\n}\n\n/**\n * Retains only elements of this [MutableIterable] that match the given
[predicate].\n *\npublic fun <T> MutableIterable<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n}\n\nprivate fun <T> MutableIterable<T>.filterInPlace(predicate: (T) -> Boolean,
predicateResultToRemove: Boolean): Boolean {\n    var result = false\n    with(iterator()) {\n        while
(hasNext())\n            if (predicate(next()) == predicateResultToRemove) {\n                remove()\n                result =
true\n            }\n    }\n    return result\n}\n\n/**\n * Removes all elements from this [MutableList] that match the
given [predicate].\n *\npublic fun <T> MutableList<T>.removeAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, true)\n}\n\n/**\n * Retains only elements of this [MutableList] that match the given
[predicate].\n *\npublic fun <T> MutableList<T>.retainAll(predicate: (T) -> Boolean): Boolean =
filterInPlace(predicate, false)\n}\n\nprivate fun <T> MutableList<T>.filterInPlace(predicate: (T) -> Boolean,
predicateResultToRemove: Boolean): Boolean {\n    if (this !is RandomAccess)\n        return (this as
MutableIterable<T>).filterInPlace(predicate, predicateResultToRemove)\n    var writeIndex: Int = 0\n    for
(readIndex in 0..lastIndex) {\n        val element = this[readIndex]\n        if (predicate(element) ==
predicateResultToRemove)\n            continue\n        if (writeIndex != readIndex)\n            this[writeIndex] =
element\n        writeIndex++\n    }\n    if (writeIndex < size) {\n        for (removeIndex in lastIndex downTo
writeIndex)\n            removeAt(removeIndex)\n        return true\n    } else {\n        return false\n    }\n}\n\n/**\n * Removes all elements from this [MutableCollection] that are also contained in the given [elements] collection.\n
*\npublic fun <T> MutableCollection<in T>.removeAll(elements: Iterable<T>): Boolean {\n    return
removeAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Removes all elements from this
[MutableCollection] that are also contained in the given [elements] sequence.\n *\npublic fun <T>
MutableCollection<in T>.removeAll(elements: Sequence<T>): Boolean {\n    val set = elements.toHashSet()\n
return set.isNotEmpty() && removeAll(set)\n}\n\n/**\n * Removes all elements from this [MutableCollection] that
are also contained in the given [elements] array.\n *\npublic fun <T> MutableCollection<in
T>.removeAll(elements: Array<out T>): Boolean {\n    return elements.isNotEmpty() &&
removeAll(elements.toHashSet())\n}\n\n/**\n * Retains only elements of this [MutableCollection] that are contained
in the given [elements] collection.\n *\npublic fun <T> MutableCollection<in T>.retainAll(elements: Iterable<T>):
Boolean {\n    return retainAll(elements.convertToSetForSetOperationWith(this))\n}\n\n/**\n * Retains only
elements of this [MutableCollection] that are contained in the given [elements] array.\n *\npublic fun <T>
MutableCollection<in T>.retainAll(elements: Array<out T>): Boolean {\n    if (elements.isNotEmpty())\n        return
retainAll(elements.toHashSet())\n    else\n        return retainNothing()\n}\n\n/**\n * Retains only elements of this
[MutableCollection] that are contained in the given [elements] sequence.\n *\npublic fun <T>
MutableCollection<in T>.retainAll(elements: Sequence<T>): Boolean {\n    val set = elements.toHashSet()\n    if
(set.isNotEmpty())\n        return retainAll(set)\n    else\n        return retainNothing()\n}\n\nprivate fun
MutableCollection<*>.retainNothing(): Boolean {\n    val result = isEmpty()\n    clear()\n    return
result\n}\n\n/**\n * Randomly shuffles elements in this mutable list using the specified [random] instance as the
source of randomness.\n *\n * See:
https://en.wikipedia.org/wiki/Fisher%20%80%93Yates\_shuffle#The\_modern\_algorithm\n
*\n\n@SinceKotlin("1.3")\npublic fun <T> MutableList<T>.shuffle(random: Random): Unit {\n    for (i in lastIndex
downTo 1) {\n        val j = random.nextInt(i + 1)\n        val copy = this[i]\n        this[i] = this[j]\n        this[j] = copy\n    }\n}\n\n/**\n * Returns a new list with the elements of this list randomly shuffled\n * using the specified [random]
instance as the source of randomness.\n *\n\n@SinceKotlin("1.3")\npublic fun <T> Iterable<T>.shuffled(random:
Random): List<T> = toMutableList().apply { shuffle(random) }\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n *\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CollectionsKt")\n\npackage

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kotlin.collections\n\nprivate open class ReversedListReadOnly<out T>(private val delegate: List<T>) :
AbstractList<T>() {\n  override val size: Int get() = delegate.size\n  override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n}\n\nprivate class ReversedList<T>(private val delegate: MutableList<T>) :
AbstractMutableList<T>() {\n  override val size: Int get() = delegate.size\n  override fun get(index: Int): T =
delegate[reverseElementIndex(index)]\n\n  override fun clear() = delegate.clear()\n  override fun removeAt(index:
Int): T = delegate.removeAt(reverseElementIndex(index))\n\n  override fun set(index: Int, element: T): T =
delegate.set(reverseElementIndex(index), element)\n  override fun add(index: Int, element: T) {\n
delegate.add(reversePositionIndex(index), element)\n  }\n}\n\nprivate fun List<*>.reverseElementIndex(index:
Int) =\n  if (index in 0..lastIndex) lastIndex - index else throw IndexOutOfBoundsException("\u0027Element index
$index must be in range [${0..lastIndex}].\u0027")\n\nprivate fun List<*>.reversePositionIndex(index: Int) =\n  if (index
in 0..size) size - index else throw IndexOutOfBoundsException("\u0027Position index $index must be in range
[${0..size}].\u0027")\n\n/**\n * Returns a reversed read-only view of the original List.\n * All changes made in the
original list will be reflected in the reversed one.\n * @sample samples.collections.ReversedViews.asReversedList\n
*\npublic fun <T> List<T>.asReversed(): List<T> = ReversedListReadOnly(this)\n\n/**\n * Returns a reversed
mutable view of the original mutable List.\n * All changes made in the original list will be reflected in the reversed
one and vice versa.\n * @sample samples.collections.ReversedViews.asReversedMutableList\n
*\n@kotlin.jvm.JvmName("\u0027asReversedMutable\u0027")\npublic fun <T> MutableList<T>.asReversed():
MutableList<T> = ReversedList(this)\n\n"/**\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("\u0027SequencesKt\u0027")\n@file:UseExperimental(
ExperimentalTypeInference::class)\n\npackage kotlin.sequences\n\nimport kotlin.coroutines.*\nimport
kotlin.coroutines.intrinsics.*\nimport kotlin.experimental.ExperimentalTypeInference\n\n/**\n * Builds a
[Sequence] lazily yielding values one by one.\n * @see kotlin.sequences.generateSequence\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*\n@SinceKotlin("1.3")\npublic fun <T>
sequence(@BuilderInference block: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence {
iterator(block) }\n\n@SinceKotlin("1.3")\n@Deprecated("\u0027Use 'sequence { }' function instead.\u0027",
ReplaceWith("\u0027sequence(builderAction)\u0027"), level =
DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic inline fun <T> buildSequence(@BuilderInference
noinline builderAction: suspend SequenceScope<T>().() -> Unit): Sequence<T> = Sequence { iterator(builderAction)
}\n\n/**\n * Builds an [Iterator] lazily yielding values one by one.\n * @sample
samples.collections.Sequences.Building.buildIterator\n * @sample samples.collections.Iterables.Building.iterable\n
*\n@SinceKotlin("1.3")\npublic fun <T> iterator(@BuilderInference block: suspend SequenceScope<T>().() ->
Unit): Iterator<T> {\n  val iterator = SequenceBuilderIterator<T>()\n  iterator.nextStep =
block.createCoroutineUnintercepted(receiver = iterator, completion = iterator)\n  return
iterator\n}\n\n@SinceKotlin("1.3")\n@Deprecated("\u0027Use 'iterator { }' function instead.\u0027",
ReplaceWith("\u0027iterator(builderAction)\u0027"), level = DeprecationLevel.ERROR)\n@kotlin.internal.InlineOnly\npublic
inline fun <T> buildIterator(@BuilderInference noinline builderAction: suspend SequenceScope<T>().() -> Unit):
Iterator<T> = iterator(builderAction)\n\n/**\n * The scope for yielding values of a [Sequence] or an [Iterator],
provides [yield] and [yieldAll] suspension functions.\n * @see sequence\n * @see iterator\n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n
*\n@RestrictsSuspension\n@SinceKotlin("1.3")\npublic abstract class SequenceScope<in T> internal
constructor() {\n  /**\n   * Yields a value to the [Iterator] being built and suspends\n   * until the next value is
requested.\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   * @sample
samples.collections.Sequences.Building.buildFibonacciSequence\n   *\n   public abstract suspend fun yield(value:
T)\n\n   /**\n   * Yields all values from the `iterator` to the [Iterator] being built\n   * and suspends until all these
values are iterated and the next one is requested.\n   * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n   *
The sequence of values returned by the given iterator

```

```

can be potentially infinite.\n * \n * @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n
*/\n public abstract suspend fun yieldAll(iterator: Iterator<T>)\n\n /**\n * Yields a collections of values to
the [Iterator] being built\n * and suspends until all these values are iterated and the next one is requested.\n * \n
* @sample samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public suspend fun
yieldAll(elements: Iterable<T>) {\n     if (elements is Collection && elements.isEmpty()) return\n     return
yieldAll(elements.iterator())\n } \n\n /**\n * Yields potentially infinite sequence of values to the [Iterator]
being built\n * and suspends until all these values are iterated and the next one is requested.\n * \n * The
sequence can be potentially infinite.\n * \n * @sample
samples.collections.Sequences.Building.buildSequenceYieldAll\n */\n public suspend fun yieldAll(sequence:
Sequence<T>) = yieldAll(sequence.iterator())\n\n\n@Deprecated("Use SequenceScope class instead.",
ReplaceWith("SequenceScope<T>"), level = DeprecationLevel.ERROR)\npublic typealias SequenceBuilder<T> =
SequenceScope<T>\n\nprivate typealias State = Int\n\nprivate const val State_NotReady: State = 0\nprivate const
val State_ManyNotReady: State = 1\nprivate const val State_ManyReady: State = 2\nprivate const val State_Ready:
State = 3\nprivate const val State_Done: State = 4\nprivate const val State_Failed: State = 5\n\nprivate class
SequenceBuilderIterator<T> : SequenceScope<T>(), Iterator<T>, Continuation<Unit> {\n     private var state =
State_NotReady\n     private var nextValue: T? = null\n     private var nextIterator: Iterator<T>? = null\n     var
nextStep: Continuation<Unit>? = null\n\n     override fun hasNext(): Boolean {\n         while (true) {\n             when
(state) {\n                 State_NotReady -> {}\n                 State_ManyNotReady ->\n                     if
(nextIterator!!.hasNext()) {\n                         state = State_ManyReady\n                         return true\n                     }
else {\n                         nextIterator = null\n                         }\n                 State_Done -> return false\n
State_Ready, State_ManyReady -> return true\n                     else -> throw exceptionalState()\n                 }\n                 state
= State_Failed\n                 val step = nextStep!!\n                 nextStep = null\n                 step.resume(Unit)\n                 }\n                 }\n\n                 override fun next(): T {\n                     when (state) {\n                         State_NotReady, State_ManyNotReady -> return
nextNotReady()\n                         State_ManyReady -> {\n                             state = State_ManyNotReady\n                             return
nextIterator!!.next()\n                         }\n                         State_Ready -> {\n                             state = State_NotReady\n
\n                             @Suppress("UNCHECKED_CAST")\n                             val result = nextValue as T\n                             nextValue = null\n
\n                             return result\n                         }\n                         else -> throw exceptionalState()\n                     }\n                 }\n                 private fun nextNotReady(): T
{\n                     if (!hasNext()) throw NoSuchElementException() else return next()\n                 }\n                 private fun
exceptionalState(): Throwable = when (state) {\n                     State_Done -> NoSuchElementException()\n                     State_Failed
-> IllegalStateException("Iterator has failed.")\n                     else -> IllegalStateException("Unexpected state of the
iterator: $state")\n                 }\n                 }\n\n                 override suspend fun yield(value: T) {\n                     nextValue = value\n                     state =
State_Ready\n                     return suspendCoroutineUninterceptedOrReturn { c ->\n                         nextStep = c\n
COROUTINE_SUSPENDED\n                     }\n                 }\n                 }\n\n                 override suspend fun yieldAll(iterator: Iterator<T>) {\n                     if
(!iterator.hasNext()) return\n                     nextIterator = iterator\n                     state = State_ManyReady\n                     return
suspendCoroutineUninterceptedOrReturn { c ->\n                         nextStep = c\n                         COROUTINE_SUSPENDED\n
\n                     }\n                 }\n                 }\n\n                 // Completion continuation implementation\n                 override fun resumeWith(result: Result<Unit>) {\n
\n                     result.getOrThrow() // just rethrow exception if it is there\n                     state = State_Done\n                     }\n                 }\n\n                 override val context:
CoroutineContext\n                     get() = EmptyCoroutineContext\n                 }\n\n                 /**\n                 * Copyright 2010-2018 JetBrains s.r.o. Use of
this source code is governed by the Apache 2.0 license\n                 * that can be found in the license/LICENSE.txt file.\n
\n                 */\n\n                 @npackage kotlin.collections\n\n                 internal fun checkWindowSizeStep(size: Int, step: Int) {\n                     require(size > 0 &&
step > 0)\n                     if (size != step)\n                         \"Both size $size and step $step must be greater than zero.\"\n                     else\n
\n                         \"size $size must be greater than zero.\"\n                     }\n                 }\n\n                 internal fun <T> Sequence<T>.windowedSequence(size:
Int, step: Int, partialWindows: Boolean, reuseBuffer: Boolean): Sequence<List<T>> {\n
\n                     checkWindowSizeStep(size, step)\n                     return Sequence { windowedIterator(iterator(), size, step, partialWindows,
reuseBuffer) }\n                 }\n\n                 internal fun <T> windowedIterator(iterator: Iterator<T>, size: Int, step: Int, partialWindows:
Boolean, reuseBuffer: Boolean): Iterator<List<T>> {\n                     if (!iterator.hasNext()) return EmptyIterator\n                     return
iterator<List<T>> {\n                         val gap = step - size\n                         if (gap >= 0) {\n                             var buffer = ArrayList<T>(size)\n
\n                             var skip = 0\n                             for (e in iterator) {\n                                 if (skip > 0) { skip -= 1; continue }\n
\n                                 buffer.add(e)\n

```



```

quickSort(\n  array: UByteArray, left: Int, right: Int) {\n  val index = partition(array, left, right)\n  if (left < index
- 1)\n  quickSort(array, left, index - 1)\n  if (index < right)\n  quickSort(array, index, right)\n}\n\n//
UShortArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n  array: UShortArray, left: Int, right: Int): Int {\n  var i = left\nvar j = right\n  val pivot = array[(left + right) / 2]\n  while (i <= j) {\n    while (array[i] < pivot)\n      i++\n    while (array[j] > pivot)\n      j--\n    if (i <= j) {\n      val tmp = array[i]\n      array[i] = array[j]\n      array[j] = tmp\n      i++\n      j--\n    }\n  }\n  return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n  array: UShortArray, left: Int, right: Int) {\n  val index = partition(array, left, right)\n  if (left <
index - 1)\n  quickSort(array, left, index - 1)\n  if (index < right)\n  quickSort(array, index, right)\n}\n\n//
UIntArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n  array: UIntArray, left: Int, right: Int): Int {\n  var i = left\nvar
j = right\n  val pivot = array[(left + right) / 2]\n  while (i <= j) {\n    while (array[i] < pivot)\n      i++\n    while
(array[j] > pivot)\n      j--\n    if (i <= j) {\n      val tmp = array[i]\n      array[i] = array[j]\n      array[j] = tmp\n
      i++\n      j--\n    }\n  }\n  return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n  array: UIntArray, left: Int, right: Int) {\n  val index = partition(array, left, right)\n  if (left < index
- 1)\n  quickSort(array, left, index - 1)\n  if (index < right)\n  quickSort(array, index, right)\n}\n\n//
ULongArray
=====
\n@Exp
erimentalUnsignedTypes\nprivate fun partition(\n  array: ULongArray, left: Int, right: Int): Int {\n  var i = left\nvar
j = right\n  val pivot = array[(left + right) / 2]\n  while (i <= j) {\n    while (array[i] < pivot)\n      i++\n    while
(array[j] > pivot)\n      j--\n    if (i <= j) {\n      val tmp = array[i]\n      array[i] = array[j]\n      array[j] = tmp\n
      i++\n      j--\n    }\n  }\n  return i\n}\n\n@ExperimentalUnsignedTypes\nprivate fun
quickSort(\n  array: ULongArray, left: Int, right: Int) {\n  val index = partition(array, left, right)\n  if (left < index
- 1)\n  quickSort(array, left, index - 1)\n  if (index < right)\n  quickSort(array, index, right)\n}\n\n\n//
Interfaces
=====
\n/**\n
* Sorts the given array using qsort algorithm.\n */\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:
UByteArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:
UShortArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:
UIntArray) = quickSort(array, 0, array.size - 1)\n@ExperimentalUnsignedTypes\ninternal fun sortArray(array:
ULongArray) = quickSort(array, 0, array.size - 1)","/>\n
* Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.contracts\n\nimport kotlin.internal.ContractsDsl\nimport kotlin.internal.InlineOnly\n\n/**\n
* This marker
distinguishes the experimental contract declaration API and is used to opt-in for that feature\n * when declaring
contracts of user functions.\n */\n
* Any usage of a declaration annotated with `@ExperimentalContracts` must be
accepted either by\n * annotating that usage with the [UseExperimental] annotation, e.g.
`@UseExperimental(ExperimentalContracts::class)`,\n * or by using the compiler argument `-Xuse-
experimental=kotlin.contracts.ExperimentalContracts`.\n
*/\n
@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.3")\n@Experimental\npublic annotation class
ExperimentalContracts\n\n/**\n
* Provides a scope, where the functions of the contract DSL, such as [returns],
[callsInPlace], etc.,\n * can be used to describe the contract of a function.\n */\n
* This type is used as a receiver type
of the lambda function passed to the [contract] function.\n */\n
* @see contract\n
*/\n
@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic interface ContractBuilder {\n
/**\n
* Describes a situation when a function returns normally, without any exceptions thrown.\n */\n
* Use
[SimpleEffect.implies] function to describe a conditional effect that happens in such case.\n */\n
*/\n //
@sample samples.contracts.returnsContract\n
@ContractsDsl public fun returns(): Returns\n\n /**\n
*

```

```

Describes a situation when a function returns normally with the specified return [value].\n * The possible
values of [value] are limited to `true`, `false` or `null`.\n * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.\n * // @sample samples.contracts.returnsTrueContract\n
// @sample samples.contracts.returnsFalseContract\n // @sample samples.contracts.returnsNullContract\n
@ContractsDsl public fun returns(value: Any?): Returns\n\n /**\n * Describes a situation when a function
returns normally with any value that is not `null`.\n * Use [SimpleEffect.implies] function to describe a
conditional effect that happens in such case.\n * // @sample
samples.contracts.returnsNotNullContract\n @ContractsDsl public fun returnsNotNull(): ReturnsNotNull\n
/**\n * Specifies that the function parameter [lambda] is invoked in place.\n * This contract specifies
that:\n * 1. the function [lambda] can only be invoked during the call of the owner function,\n * and it won't be
invoked after that owner function call is completed;\n * 2. _(optionally)_ the function [lambda] is invoked the
amount of times specified by the [kind] parameter,\n * see the [InvocationKind] enum for possible values.\n
*\n * A function declaring the `callsInPlace` effect must be _inline_.\n * // @sample
samples.contracts.callsInPlaceAtMostOnceContract\n * @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n * @sample
samples.contracts.callsInPlaceExactlyOnceContract\n * @sample
samples.contracts.callsInPlaceUnknownContract\n */\n @ContractsDsl public fun <R> callsInPlace(lambda:
Function<R>, kind: InvocationKind = InvocationKind.UNKNOWN): CallsInPlace\n}\n\n/**\n * Specifies how
many times a function invokes its function parameter in place.\n * See [ContractBuilder.callsInPlace] for the
details of the call-in-place function contract.\n
*/\n\n@ContractsDsl\n@ExperimentalContracts\n@SinceKotlin("1.3")\npublic enum class InvocationKind {\n
/**\n * A function parameter will be invoked one time or not invoked at all.\n * // @sample
samples.contracts.callsInPlaceAtMostOnceContract\n @ContractsDsl AT_MOST_ONCE,\n\n /**\n * A
function parameter will be invoked one or more times.\n * // @sample
samples.contracts.callsInPlaceAtLeastOnceContract\n @ContractsDsl AT_LEAST_ONCE,\n\n /**\n * A
function parameter will be invoked exactly one time.\n * // @sample
samples.contracts.callsInPlaceExactlyOnceContract\n @ContractsDsl EXACTLY_ONCE,\n\n /**\n * A
function parameter is called in place, but it's unknown how many times it can be called.\n * // @sample
samples.contracts.callsInPlaceUnknownContract\n @ContractsDsl UNKNOWN\n}\n\n/**\n * Specifies the
contract of a function.\n * The contract description must be at the beginning of a function and have at least one
effect.\n * Only the top-level functions can have a contract for now.\n * @param builder the lambda where
the contract of a function is described with the help of the [ContractBuilder] members.\n * // @sample
samples.contracts.returnsContract\n* @sample samples.contracts.returnsTrueContract\n* @sample
samples.contracts.returnsFalseContract\n* @sample samples.contracts.returnsNullContract\n* @sample
samples.contracts.returnsNotNullContract\n* @sample samples.contracts.callsInPlaceAtMostOnceContract\n*
@sample samples.contracts.callsInPlaceAtLeastOnceContract\n* @sample
samples.contracts.callsInPlaceExactlyOnceContract\n* @sample
samples.contracts.callsInPlaceUnknownContract\n*/\n\n@ContractsDsl\n@ExperimentalContracts\n@InlineOnly\n@
SinceKotlin("1.3")\n@Suppress("UNUSED_PARAMETER")\npublic inline fun contract(builder:
ContractBuilder.() -> Unit) { },"/>\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by
the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.coroutines\n\n/**\n * Marks coroutine context element that intercepts coroutine continuations.\n * The
coroutines framework uses [ContinuationInterceptor.Key] to retrieve the interceptor and\n * intercepts all coroutine
continuations with [interceptContinuation] invocations.\n */\n\n@SinceKotlin("1.3")\npublic interface
ContinuationInterceptor : CoroutineContext.Element {\n\n /**\n * The key that defines *the* context
interceptor.\n */\n companion object Key : CoroutineContext.Key<ContinuationInterceptor>\n\n /**\n *
Returns continuation that wraps the original [continuation], thus intercepting all resumptions.\n * This function is
invoked by coroutines framework when needed and the resulting continuations are\n * cached internally per each

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```

instance of the original [continuation].\n    *\n    * This function may simply return original [continuation] if it does
not want to intercept this particular continuation.\n    *\n    * When the original [continuation] completes, coroutine
framework invokes [releaseInterceptedContinuation]\n    * with the resulting continuation if it was intercepted, that
is if `interceptContinuation` had previously\n    * returned a different continuation instance.\n    */\n    public fun
<T> interceptContinuation(continuation: Continuation<T>): Continuation<T>\n\n    /**\n    * Invoked for the
continuation instance returned by [interceptContinuation] when the original\n    * continuation completes and will
not be used anymore. This function is invoked only if [interceptContinuation]\n    * had returned a different
continuation instance from the one it was invoked with.\n    *\n    * Default implementation does nothing.\n    */\n
* @param continuation Continuation instance returned by this interceptor's [interceptContinuation] invocation.\n
*/\n    public fun releaseInterceptedContinuation(continuation: Continuation<*>) {\n        /* do nothing by default
*/\n    }\n\n    // Performance optimization for a singleton Key\n    public override operator fun <E :
CoroutineContext.Element> get(key: CoroutineContext.Key<E>): E? =\n
@Suppress("UNCHECKED_CAST")\n        if (key === Key) this as E else null\n\n    // Performance optimization
to a singleton Key\n    public override fun minusKey(key: CoroutineContext.Key<*>): CoroutineContext =\n        if
(key === Key) EmptyCoroutineContext else this\n}\n"/\n\n    * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\n    * that can be found in the license/LICENSE.txt file.\n
*/\n\npackage kotlin.coroutines\n\n/**\n    * Persistent context for the coroutine. It is an indexed set of [Element]
instances.\n    * An indexed set is a mix between a set and a map.\n    * Every element in this set has a unique [Key].
Keys are compared _by reference_.\n    */\n@SinceKotlin("1.3")\npublic interface CoroutineContext {\n    /**\n    *
Returns the element with the given [key] from this context or `null`.\n    * Keys are compared _by reference_, that
is to get an element from the context the reference to its actual key\n    * object must be presented to this function.\n
*/\n    public operator fun <E : Element> get(key: Key<E>): E?\n\n    /**\n    * Accumulates entries of this
context starting with [initial] value and applying [operation]\n    * from left to right to current accumulator value
and each element of this context.\n    */\n    public fun <R> fold(initial: R, operation: (R, Element) -> R): R\n\n
/**\n    * Returns a context containing elements from this context and elements from other [context].\n    * The
elements from this context with the same key as in the other one are dropped.\n    */\n    public operator fun
plus(context: CoroutineContext): CoroutineContext =\n        if (context === EmptyCoroutineContext) this else // fast
path -- avoid lambda creation\n            context.fold(this) { acc, element ->\n                val removed =
acc.minusKey(element.key)\n                if (removed === EmptyCoroutineContext) element else {\n                    //
make sure interceptor is always last in the context (and thus is fast to get when present)\n                    val interceptor
= removed[ContinuationInterceptor]\n                    if (interceptor == null) CombinedContext(removed, element) else
{\n                        val left = removed.minusKey(ContinuationInterceptor)\n                        if (left ===
EmptyCoroutineContext) CombinedContext(element, interceptor) else\n                            CombinedContext(CombinedContext(left, element), interceptor)\n                    }\n                }\n            }\n\n    /**\n    * Returns a context containing elements from this context, but without an element with\n    * the specified [key].
Keys are compared _by reference_, that is to remove an element from the context\n    * the reference to its actual
key object must be presented to this function.\n    */\n    public fun minusKey(key: Key<*>): CoroutineContext\n\n
/**\n    * Key for the elements of [CoroutineContext]. [E] is a type of element with this key.\n    * Keys in the
context are compared _by reference_.\n    */\n    public interface Key<E : Element>\n\n    /**\n    * An element of
the [CoroutineContext]. An element of the coroutine context is a singleton context by itself.\n    */\n    public
interface Element : CoroutineContext {\n        /**\n        * A key of this coroutine context element.\n        */\n
        public val key: Key<*>\n\n        public override operator fun <E : Element> get(key: Key<E>): E? =\n
@Suppress("UNCHECKED_CAST")\n            if (this.key == key) this as E else null\n\n        public override fun
<R> fold(initial: R, operation: (R, Element) -> R): R =\n            operation(initial, this)\n\n        public override fun
minusKey(key: Key<*>): CoroutineContext =\n            if (this.key == key) EmptyCoroutineContext else this\n    }\n}\n"/\n\n    * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n
* that can be found in the license/LICENSE.txt file.\n    */\n\npackage kotlin.coroutines\n\nimport
kotlin.coroutines.CoroutineContext.*\nimport kotlin.io.Serializable\n\n/**\n    * Base class for

```

```

[CoroutineContext.Element] implementations.\n */\n@SinceKotlin("1.3")\npublic abstract class
AbstractCoroutineContextElement(public override val key: Key<*>) : Element\n\n/**\n * An empty coroutine
context.\n */\n@SinceKotlin("1.3")\npublic object EmptyCoroutineContext : CoroutineContext, Serializable {\n
private const val serialVersionUID: Long = 0\n private fun readResolve(): Any = EmptyCoroutineContext\n\n
public override fun <E : Element> get(key: Key<E>): E? = null\n public override fun <R> fold(initial: R,
operation: (R, Element) -> R): R = initial\n public override fun plus(context: CoroutineContext):
CoroutineContext = context\n public override fun minusKey(key: Key<*>): CoroutineContext = this\n public
override fun hashCode(): Int = 0\n public override fun toString(): String = "EmptyCoroutineContext{\n}\n\n/-----
----- internal impl -----\n\n// this class is not exposed, but is hidden inside
implementations\n// this is a left-biased list, so that `plus` works naturally\n@SinceKotlin("1.3")\ninternal class
CombinedContext(\n private val left: CoroutineContext,\n private val element: Element\n) : CoroutineContext,
Serializable {\n\n override fun <E : Element> get(key: Key<E>): E? {\n var cur = this\n while (true) {\n
cur.element[key]?.let { return it }\n val next = cur.left\n if (next is CombinedContext) {\n
cur = next\n } else {\n return next[key]\n }\n }\n }\n public override fun <R>
fold(initial: R, operation: (R, Element) -> R): R =\n operation(left.fold(initial, operation), element)\n\n public
override fun minusKey(key: Key<*>): CoroutineContext {\n element[key]?.let { return left }\n val newLeft
= left.minusKey(key)\n return when {\n newLeft === left -> this\n newLeft ===
EmptyCoroutineContext -> element\n else -> CombinedContext(newLeft, element)\n }\n }\n\n private fun size(): Int {\n var cur = this\n var size = 2\n while (true) {\n cur = cur.left as?
CombinedContext ?: return size\n size++\n }\n }\n\n private fun contains(element: Element): Boolean
=\n get(element.key) == element\n\n private fun containsAll(context: CombinedContext): Boolean {\n var
cur = context\n while (true) {\n if (!contains(cur.element)) return false\n val next = cur.left\n
if (next is CombinedContext) {\n cur = next\n } else {\n return contains(next as Element)\n
}\n }\n }\n\n override fun equals(other: Any?): Boolean =\n this === other || other is
CombinedContext && other.size() == size() && other.containsAll(this)\n\n override fun hashCode(): Int =
left.hashCode() + element.hashCode()\n\n override fun toString(): String =\n "[" + fold("") { acc, element -
>\n if (acc.isEmpty()) element.toString() else "$acc, $element\n } + "]" \n\n private fun
writeReplace(): Any {\n val n = size()\n val elements = arrayOfNulls<CoroutineContext>(n)\n var
index = 0\n fold(Unit) { _, element -> elements[index++] = element }\n check(index == n)\n
@Suppress("UNCHECKED_CAST")\n return Serialized(elements as Array<CoroutineContext>)\n }\n\n private class Serialized(val elements: Array<CoroutineContext>) : Serializable {\n companion object {\n
private const val serialVersionUID: Long = 0L\n }\n\n private fun readResolve(): Any =
elements.fold(EmptyCoroutineContext, CoroutineContext::plus)\n }\n}\n\n"/**\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n
*/\n\n@file:kotlin.jvm.JvmName("IntrinsicsKt")\n@file:kotlin.jvm.JvmMultifileClass\n\npackage
kotlin.coroutines.intrinsics\n\nimport kotlin.coroutines.*\nimport kotlin.internal.InlineOnly\n\n/**\n * Obtains the
current continuation instance inside suspend functions and either suspends\n * currently running coroutine or returns
result immediately without suspension.\n * If the [block] returns the special [COROUTINE_SUSPENDED]
value, it means that suspend function did suspend the execution and will\n * not return any result immediately. In
this case, the [Continuation] provided to the [block] shall be\n * resumed by invoking [Continuation.resumeWith] at
some moment in the\n * future when the result becomes available to resume the computation.\n * Otherwise, the
return value of the [block] must have a type assignable to [T] and represents the result of this suspend function.\n *
It means that the execution was not suspended and the [Continuation] provided to the [block] shall not be invoked.\n
* As the result type of the [block] is declared as `Any?` and cannot be correctly type-checked,\n * its proper return
type remains on the conscience of the suspend function's author.\n * Invocation of [Continuation.resumeWith]
resumes coroutine directly in the invoker's thread without going through the\n * [ContinuationInterceptor] that might
be present in the coroutine's [CoroutineContext].\n * It is invoker's responsibility to ensure that the proper

```

invocation context is established. `[Continuation.intercepted]` can be used to acquire the intercepted continuation. `[Continuation.resume]` nor `[Continuation.resumeWithException]` functions synchronously in the same stackframe where suspension function is run. Use `[suspendCoroutine]` as a safer way to obtain current continuation instance.

```

*\/n@SinceKotlin("1.3")n@InlineOnlyn@Suppress("UNUSED_PARAMETER",
"RedundantSuspendModifier")npublic suspend inline fun <T>
suspendCoroutineUninterceptedOrReturn(crossinline block: (Continuation<T>) -> Any?): T =n throw
NotImplementedError("Implementation of suspendCoroutineUninterceptedOrReturn is intrinsic")n/n/**n * This
value is used as a return value of [suspendCoroutineUninterceptedOrReturn] `block` argument to state thatn * the
execution was suspended and will not return any result immediately.n *n * **Note: this value should not be used
in general code.** Using it outside of the context ofn * `suspendCoroutineUninterceptedOrReturn` function return
value (including, but not limited to,n * storing this value in other properties, returning it from other functions,
etc)n * can lead to unspecified behavior of the code.n *\/n// It is implemented as property with getter to avoid
ProGuard <clinit> problem with multifile IntrinsicsKt classn@SinceKotlin("1.3")npublic val
COROUTINE_SUSPENDED: Any get() = CoroutineSingletons.COROUTINE_SUSPENDEDn/n// Using enum
here ensures two important properties:n// 1. It makes SafeContinuation serializable with all kinds of serialization
frameworks (since all of them natively support enums)n// 2. It improves debugging experience, since you clearly
see toString() value of those objects and what package they come fromn@SinceKotlin("1.3")n@PublishedApi //
This class is Published API via serialized representation of SafeContinuation, don't rename/move\ninternal enum
class CoroutineSingletons { COROUTINE_SUSPENDED, UNDECIDED, RESUMED }n"/n/**n * Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 licensen * that can be found in the
license/LICENSE.txt file.n *\/n\npackage kotlin.experimental\n/n/** Performs a bitwise AND operation between
the two values. *\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.and(other:
Byte): Byte = (this.toInt() and other.toInt()).toByte()\n/n/** Performs a bitwise OR operation between the two
values. *\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.or(other: Byte): Byte =
(this.toInt() or other.toInt()).toByte()\n/n/** Performs a bitwise XOR operation between the two values.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Byte.xor(other: Byte): Byte =
(this.toInt() xor other.toInt()).toByte()\n/n/** Inverts the bits in this value.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline fun Byte.inv(): Byte =
(this.toInt().inv()).toByte()\n/n/** Performs a bitwise AND operation between the two values.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Short.and(other: Short): Short =
(this.toInt() and other.toInt()).toShort()\n/n/** Performs a bitwise OR operation between the two values.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Short.or(other: Short): Short =
(this.toInt() or other.toInt()).toShort()\n/n/** Performs a bitwise XOR operation between the two values.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline infix fun Short.xor(other: Short): Short =
(this.toInt() xor other.toInt()).toShort()\n/n/** Inverts the bits in this value.
*\/n@SinceKotlin("1.1")n@kotlin.internal.InlineOnly\npublic inline fun Short.inv(): Short =
(this.toInt().inv()).toShort()\n/n"/n/** Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed
by the Apache 2.0 licensen * that can be found in the license/LICENSE.txt file.n *\/n\npackage
kotlin.experimental\n/n/**n * The experimental type inference augmenting annotations marker.n *n * Any usage
of a declaration annotated with `@ExperimentalTypeInference` must be accepted either byn * annotating that usage
with the [UseExperimental] annotation, e.g. `@UseExperimental(ExperimentalTypeInference::class)` ,n * or by
using the compiler argument `-Xuse-experimental=kotlin.experimental.ExperimentalTypeInference` .n
*\/n@Experimental(level =
Experimental.Level.ERROR)n@Retention(AnnotationRetention.BINARY)n@Target(AnnotationTarget.ANNOTA
TION_CLASS)n@SinceKotlin("1.3")npublic annotation class ExperimentalTypeInference\n"/n/** Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 licensen * that can be found in the
license/LICENSE.txt file.n *\/n\npackage kotlin.internal\n/n/**n * Specifies that the corresponding type should be

```

ignored during type inference.\n

\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class NoInfer\n\n/\n * Specifies that the constraint built for the type during type inference should be an equality one.\n

\n@Target(AnnotationTarget.TYPE)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class Exact\n\n/\n * Specifies that a corresponding member has the lowest priority in overload resolution.\n

*\n@Target(AnnotationTarget.FUNCTION,

AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class

LowPriorityInOverloadResolution\n\n/*\n * Specifies that the corresponding member has the highest priority in overload resolution. Effectively this means that\n * an extension annotated with this annotation will win in overload resolution over a member with the same signature.\n *@\n@Target(AnnotationTarget.FUNCTION,

AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class

HidesMembers\n\n/*\n * The value of this type parameter should be mentioned in input types (argument types, receiver type or expected type).\n

\n@Target(AnnotationTarget.TYPE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class OnlyInputTypes\n\n/\n * Specifies that this function should not be called directly without inlining\n *@\n@Target(AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY,

AnnotationTarget.PROPERTY_GETTER,

AnnotationTarget.PROPERTY_SETTER)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class

InlineOnly\n\n/*\n * Specifies that this declaration can have dynamic receiver type.\n

*\n@Target(AnnotationTarget.FUNCTION,

AnnotationTarget.PROPERTY)\n@Retention(AnnotationRetention.BINARY)\ninternal annotation class

DynamicExtension\n\n/*\n * The value of this parameter should be a property reference expression (`this::foo`), referencing a `lateinit` property,\n * the backing field of which is accessible at the point where the corresponding argument is passed.\n

\n@Target(AnnotationTarget.VALUE_PARAMETER)\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.2")\ninternal annotation class AccessibleLateinitPropertyLiteral\n\n/\n * Specifies that this declaration is

only completely supported since the specified version.\n * The Kotlin compiler of an earlier version is going to report a diagnostic on usages of this declaration.\n * The diagnostic message can be specified with [message], or via

[errorCode] (takes less space, but might not be immediately clear\n * to the user). The diagnostic severity can be specified with [level]: WARNING/ERROR mean that either a warning or an error\n * is going to be reported,

HIDDEN means that the declaration is going to be removed from resolution completely.\n * [versionKind]

specifies which version should be compared with the [version] value, when compiling the usage of the annotated declaration.\n * Note that prior to 1.2, only [RequireKotlinVersionKind.LANGUAGE_VERSION] was supported, so the Kotlin compiler before 1.2 is going to\n * treat any [RequireKotlin] as if it requires the language version.

Since 1.2, the Kotlin compiler supports\n * [RequireKotlinVersionKind.LANGUAGE_VERSION],

[RequireKotlinVersionKind.COMPILER_VERSION] and [RequireKotlinVersionKind.API_VERSION].\n * If the actual value of [versionKind] is something different (e.g. a new version kind, added in future versions of Kotlin),\n * Kotlin 1.2 is going to ignore this [RequireKotlin] altogether, where as Kotlin before 1.2 is going to treat this as a

requirement\n * on the language version.\n * This annotation is erased at compile time; its arguments are stored in a more compact form in the Kotlin metadata.\n *@\n@Target(AnnotationTarget.CLASS,

AnnotationTarget.FUNCTION, AnnotationTarget.PROPERTY, AnnotationTarget.CONSTRUCTOR,

AnnotationTarget.TYPEALIAS)\n@Retention(AnnotationRetention.SOURCE)\n@Repeatable\n@SinceKotlin("1.2")\ninternal annotation class RequireKotlin(\n val version: String,\n val message: String = "",\n val level: DeprecationLevel = DeprecationLevel.ERROR,\n val versionKind: RequireKotlinVersionKind =

RequireKotlinVersionKind.LANGUAGE_VERSION,\n val errorCode: Int = -1)\n\n/*\n * The kind of the version that is required by [RequireKotlin].\n *@\n@SinceKotlin("1.2")\ninternal enum class

RequireKotlinVersionKind {\n LANGUAGE_VERSION,\n COMPILER_VERSION,\n API_VERSION,\n}\n\n/*\n * Specifies that this declaration is a part of special DSL, used for constructing

```

function's contract.\n */\n@Retention(AnnotationRetention.BINARY)\n@SinceKotlin("1.2")\ninternal annotation
class ContractsDsl\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the
Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage
kotlin.properties\n\nimport kotlin.reflect.KProperty\n\n/**\n * Standard property delegates.\n */\npublic object
Delegates {\n    /**\n     * Returns a property delegate for a read/write property with a non-`null` value that is
initialized not during\n     * object construction time but at a later time. Trying to read the property before the initial
value has been\n     * assigned results in an exception.\n     */\n     * @sample
samples.properties.Delegates.notNullDelegate\n     */\n     public fun <T : Any> notNull():
ReadWriteProperty<Any?, T> = NotNullVar()\n\n     /**\n     * Returns a property delegate for a read/write property
that calls a specified callback function when changed.\n     * @param initialValue the initial value of the property.\n
     * @param onChange the callback which is called after the change of the property is made. The value of the
property\n     * has already been changed when this callback is invoked.\n     */\n     * @sample
samples.properties.Delegates.observableDelegate\n     */\n     public inline fun <T> observable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Unit):\n
ReadWriteProperty<Any?, T> =\n     object : ObservableProperty<T>(initialValue) {\n         override fun
afterChange(property: KProperty<*>, oldValue: T, newValue: T) = onChange(property, oldValue, newValue)\n
     }\n\n     /**\n     * Returns a property delegate for a read/write property that calls a specified callback function when
changed,\n     * allowing the callback to veto the modification.\n     * @param initialValue the initial value of the
property.\n     * @param onChange the callback which is called before a change to the property value is attempted.\n
     * The value of the property hasn't been changed yet, when this callback is invoked.\n     * If the callback returns
`true` the value of the property is being set to the new value,\n     * and if the callback returns `false` the new value
is discarded and the property remains its old value.\n     */\n     * @sample
samples.properties.Delegates.vetoableDelegate\n     * @sample
samples.properties.Delegates.throwVetoableDelegate\n     */\n     public inline fun <T> vetoable(initialValue: T,
crossinline onChange: (property: KProperty<*>, oldValue: T, newValue: T) -> Boolean):\n
ReadWriteProperty<Any?, T> =\n     object : ObservableProperty<T>(initialValue) {\n         override fun
beforeChange(property: KProperty<*>, oldValue: T, newValue: T): Boolean = onChange(property, oldValue,
newValue)\n     }\n\nprivate class NotNullVar<T : Any>(): ReadWriteProperty<Any?, T> {\n    private var
value: T? = null\n    public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n        return value
?: throw IllegalStateException("Property ${property.name} should be initialized before get.")\n    }\n    public
override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n        this.value = value\n    }\n}\n\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin.properties\n\nimport
kotlin.reflect.KProperty\n\n/**\n * Implements the core logic of a property delegate for a read/write property that
calls callback functions when changed.\n * @param initialValue the initial value of the property.\n */\npublic
abstract class ObservableProperty<T>(initialValue: T) : ReadWriteProperty<Any?, T> {\n    private var value =
initialValue\n\n    /**\n     * The callback which is called before a change to the property value is attempted.\n     *
The value of the property hasn't been changed yet, when this callback is invoked.\n     * If the callback returns `true`
the value of the property is being set to the new value,\n     * and if the callback returns `false` the new value is
discarded and the property remains its old value.\n     */\n     protected open fun beforeChange(property:
KProperty<*>, oldValue: T, newValue: T): Boolean = true\n\n     /**\n     * The callback which is called after the
change of the property is made. The value of the property\n     * has already been changed when this callback is
invoked.\n     */\n     protected open fun afterChange(property: KProperty<*>, oldValue: T, newValue: T): Unit
{\n    }\n\n     public override fun getValue(thisRef: Any?, property: KProperty<*>): T {\n        return value\n    }\n\n
public override fun setValue(thisRef: Any?, property: KProperty<*>, value: T) {\n        val oldValue = this.value\n
        if (!beforeChange(property, oldValue, value)) {\n            return\n        }\n        this.value = value\n
        afterChange(property, oldValue, value)\n    }\n}\n","/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage

```

```

kotlin.random\n\nimport kotlin.math.nextDown\n\n/**\n * An abstract class that is implemented by random number
generator algorithms.\n *\n * The companion object [Random.Default] is the default instance of [Random].\n *\n * To get a seeded instance of random generator use [Random] function.\n *\n * @sample
samples.random.Randoms.defaultRandom\n */\n@SinceKotlin("1.3")\npublic abstract class Random {\n\n    /**\n     * Gets the next random [bitCount] number of bits.\n     *\n     * Generates an `Int` whose lower [bitCount] bits are
filled with random values and the remaining upper bits are zero.\n     *\n     * @param bitCount number of bits to
generate, must be in range 0..32, otherwise the behavior is unspecified.\n     */\n    public abstract fun
nextBits(bitCount: Int): Int\n\n    /**\n     * Gets the next random `Int` from the random number generator.\n     *\n     * Generates an `Int` random value uniformly distributed between `Int.MIN_VALUE` and `Int.MAX_VALUE`
(inclusive).\n     */\n    public open fun nextInt(): Int = nextBits(32)\n\n    /**\n     * Gets the next random non-
negative `Int` from the random number generator less than the specified [until] bound.\n     *\n     * Generates an
`Int` random value uniformly distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n     *\n     * @param until must be positive.\n     *\n     * @throws IllegalArgumentException if [until] is negative or zero.\n     */\n    public open fun nextInt(until: Int): Int = nextInt(0, until)\n\n    /**\n     * Gets the next random `Int` from the
random number generator in the specified range.\n     *\n     * Generates an `Int` random value uniformly distributed
between the specified [from] (inclusive) and [until] (exclusive) bounds.\n     *\n     * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n     */\n    public open fun nextInt(from: Int,
until: Int): Int {\n        checkRangeBounds(from, until)\n        val n = until - from\n        if (n > 0 || n ==
Int.MIN_VALUE) {\n            val rnd = if (n and -n == n) {\n                val bitCount = fastLog2(n)\n
nextBits(bitCount)\n            } else {\n                var v: Int\n                do {\n                    val bits = nextInt().ushr(1)\n
v = bits % n\n                } while (bits - v + (n - 1) < 0)\n                v\n            }\n            return from + rnd\n
        } else {\n            while (true) {\n                val rnd = nextInt()\n                if (rnd in from until until) return rnd\n
            }\n        }\n    }\n\n    /**\n     * Gets the next random `Long` from the random number generator.\n     *\n     *
Generates a `Long` random value uniformly distributed between `Long.MIN_VALUE` and `Long.MAX_VALUE`
(inclusive).\n     */\n    public open fun nextLong(): Long = nextInt().toLong().shl(32) + nextInt()\n\n    /**\n     *
Gets the next random non-negative `Long` from the random number generator less than the specified [until]
bound.\n     *\n     * Generates a `Long` random value uniformly distributed between `0` (inclusive) and the
specified [until] bound (exclusive).\n     *\n     * @param until must be positive.\n     *\n     * @throws
IllegalArgumentException if [until] is negative or zero.\n     */\n    public open fun nextLong(until: Long): Long =
nextLong(0, until)\n\n    /**\n     * Gets the next random `Long` from the random number generator in the specified
range.\n     *\n     * Generates a `Long` random value uniformly distributed between the specified [from] (inclusive)
and [until] (exclusive) bounds.\n     *\n     * @throws IllegalArgumentException if [from] is greater than or equal to
[until].\n     */\n    public open fun nextLong(from: Long, until: Long): Long {\n        checkRangeBounds(from,
until)\n        val n = until - from\n        if (n > 0) {\n            val rnd: Long\n            if (n and -n == n) {\n                val
nLow = n.toInt()\n                val nHigh = (n ushr 32).toInt()\n                rnd = when {\n                    nLow != 0 -> {\n
                        val bitCount = fastLog2(nLow)\n                        // toUInt().toLong()\n
nextBits(bitCount).toLong() and 0xFFFF_FFFF\n                    }\n                    nHigh == 1 -> {\n                        //
toUInt().toLong()\n                        nextInt().toLong() and 0xFFFF_FFFF\n                    } else -> {\n                        val
bitCount = fastLog2(nHigh)\n                        nextBits(bitCount).toLong().shl(32) + nextInt()\n                    }\n
                }\n            } else {\n                var v: Long\n                do {\n                    val bits = nextLong().ushr(1)\n
v = bits % n\n                } while (bits - v + (n - 1) < 0)\n                rnd = v\n            }\n            return from + rnd\n
        } else {\n            while (true) {\n                val rnd = nextLong()\n                if (rnd in from until until) return rnd\n
            }\n        }\n    }\n\n    /**\n     * Gets the next random [Boolean] value.\n     */\n    public open fun nextBoolean():
Boolean = nextBits(1) != 0\n\n    /**\n     * Gets the next random [Double] value uniformly distributed between 0
(inclusive) and 1 (exclusive).\n     */\n    public open fun nextDouble(): Double = doubleFromParts(nextBits(26),
nextBits(27))\n\n    /**\n     * Gets the next random non-negative `Double` from the random number generator less
than the specified [until] bound.\n     *\n     * Generates a `Double` random value uniformly distributed between 0
(inclusive) and [until] (exclusive).\n     *\n     * @throws IllegalArgumentException if [until] is negative or zero.\n     */

```

```

*/\n public open fun nextDouble(until: Double): Double = nextDouble(0.0, until)\n\n /**\n * Gets the next
random `Double` from the random number generator in the specified range.\n *\n * Generates a `Double`
random value uniformly distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n
* [from] and [until] must be finite otherwise the behavior is unspecified.\n *\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n\n */\n public open fun nextDouble(from:
Double, until: Double): Double {\n checkRangeBounds(from, until)\n val size = until - from\n val r = if
(size.isInfinite() && from.isFinite() && until.isFinite()) {\n val r1 = nextDouble() * (until / 2 - from / 2)\n
from + r1 + r1\n } else {\n from + nextDouble() * size\n }\n return if (r >= until)
until.nextDown() else r\n }\n\n /**\n * Gets the next random [Float] value uniformly distributed between 0
(inclusive) and 1 (exclusive).\n\n */\n public open fun nextFloat(): Float = nextBits(24) / (1 shl 24).toFloat()\n\n
/**\n * Fills a subrange of the specified byte [array] starting from [fromIndex] inclusive and ending [toIndex]
exclusive\n * with random bytes.\n *\n * @return [array] with the subrange filled with random bytes.\n\n
*/\n public open fun nextBytes(array: ByteArray, fromIndex: Int = 0, toIndex: Int = array.size): ByteArray {\n
require(fromIndex in 0..array.size && toIndex in 0..array.size) { \"fromIndex ($fromIndex) or toIndex ($toIndex)
are out of range: 0..${array.size}.\" }\n require(fromIndex <= toIndex) { \"fromIndex ($fromIndex) must be not
greater than toIndex ($toIndex).\" }\n\n val steps = (toIndex - fromIndex) / 4\n\n var position = fromIndex\n
repeat(steps) {\n val v = nextInt()\n array[position] = v.toByte()\n array[position + 1] =
v.ushr(8).toByte()\n array[position + 2] = v.ushr(16).toByte()\n array[position + 3] =
v.ushr(24).toByte()\n position += 4\n }\n\n val remainder = toIndex - position\n val vr =
nextBits(remainder * 8)\n for (i in 0 until remainder) {\n array[position + i] = vr.ushr(i * 8).toByte()\n
}\n\n return array\n }\n\n /**\n * Fills the specified byte [array] with random bytes and returns it.\n *\n
* @return [array] filled with random bytes.\n\n */\n public open fun nextBytes(array: ByteArray): ByteArray =
nextBytes(array, 0, array.size)\n\n /**\n * Creates a byte array of the specified [size], filled with random
bytes.\n\n */\n public open fun nextBytes(size: Int): ByteArray = nextBytes(ByteArray(size))\n\n\n /**\n *
The default random number generator.\n *\n * On JVM this generator is thread-safe, its methods can be
invoked from multiple threads.\n *\n * @sample samples.random.Randoms.defaultRandom\n\n */\n
companion object Default : Random() {\n\n private val defaultRandom: Random =
defaultPlatformRandom()\n\n override fun nextBits(bitCount: Int): Int = defaultRandom.nextBits(bitCount)\n\n
override fun nextInt(): Int = defaultRandom.nextInt()\n\n override fun nextInt(until: Int): Int =
defaultRandom.nextInt(until)\n\n override fun nextInt(from: Int, until: Int): Int = defaultRandom.nextInt(from,
until)\n\n override fun nextLong(): Long = defaultRandom.nextLong()\n\n override fun nextLong(until:
Long): Long = defaultRandom.nextLong(until)\n\n override fun nextLong(from: Long, until: Long): Long =
defaultRandom.nextLong(from, until)\n\n override fun nextBoolean(): Boolean =
defaultRandom.nextBoolean()\n\n override fun nextDouble(): Double = defaultRandom.nextDouble()\n\n
override fun nextDouble(until: Double): Double = defaultRandom.nextDouble(until)\n\n override fun
nextDouble(from: Double, until: Double): Double = defaultRandom.nextDouble(from, until)\n\n override fun
nextFloat(): Float = defaultRandom.nextFloat()\n\n override fun nextBytes(array: ByteArray): ByteArray =
defaultRandom.nextBytes(array)\n\n override fun nextBytes(size: Int): ByteArray =
defaultRandom.nextBytes(size)\n\n override fun nextBytes(array: ByteArray, fromIndex: Int, toIndex: Int):
ByteArray = defaultRandom.nextBytes(array, fromIndex, toIndex)\n\n @Deprecated(\"Use Default companion
object instead\", level = DeprecationLevel.HIDDEN)\n @Suppress(\"DEPRECATION_ERROR\")\n
@kotlin.jvm.JvmField\n public val Companion: Random.Companion = Random.Companion\n }\n\n
@Deprecated(\"Use Default companion object instead\", level = DeprecationLevel.HIDDEN)\n public object
Companion : Random() {\n\n override fun nextBits(bitCount: Int): Int = Default.nextBits(bitCount)\n
}\n}\n\n/**\n * Returns a repeatable random number generator seeded with the given [seed] `Int` value.\n *\n * Two
generators with the same seed produce the same sequence of values within the same version of Kotlin runtime.\n *\n
* *Note:* Future versions of Kotlin may change the algorithm of this seeded number generator so that it will
return\n * a sequence of values different from the current one for a given seed.\n *\n * @sample

```

```

samples.random.Randoms.seededRandom\n *^\\n@SinceKotlin("\\1.3\\")\\npublic fun Random(seed: Int): Random =
XorWowRandom(seed, seed.shr(31))\\n\\n/**\\n * Returns a repeatable random number generator seeded with the
given [seed] `Long` value.\\n *\\n * Two generators with the same seed produce the same sequence of values within
the same version of Kotlin runtime.\\n *\\n * *Note:* Future versions of Kotlin may change the algorithm of this
seeded number generator so that it will return\\n * a sequence of values different from the current one for a given
seed.\\n *\\n * @sample samples.random.Randoms.seededRandom\n *^\\n@SinceKotlin("\\1.3\\")\\npublic fun
Random(seed: Long): Random = XorWowRandom(seed.toInt(), seed.shr(32).toInt())\\n\\n\\n/**\\n * Gets the next
random `Int` from the random number generator in the specified [range].\\n *\\n * Generates an `Int` random value
uniformly distributed in the specified [range]:\\n * from `range.start` inclusive to `range.endInclusive` inclusive.\\n
*\\n * @throws IllegalArgumentException if [range] is empty.\\n *^\\n@SinceKotlin("\\1.3\\")\\npublic fun
Random.nextInt(range: IntRange): Int = when {\\n    range.isEmpty() -> throw IllegalArgumentException("\\Cannot
get random in empty range: $range")\\n    range.last < Int.MAX_VALUE -> nextInt(range.first, range.last + 1)\\n
range.first > Int.MIN_VALUE -> nextInt(range.first - 1, range.last) + 1\\n    else -> nextInt()\\n}\\n\\n/**\\n * Gets the
next random `Long` from the random number generator in the specified [range].\\n *\\n * Generates a `Long` random
value uniformly distributed in the specified [range]:\\n * from `range.start` inclusive to `range.endInclusive`
inclusive.\\n *\\n * @throws IllegalArgumentException if [range] is empty.\\n *^\\n@SinceKotlin("\\1.3\\")\\npublic fun
Random.nextLong(range: LongRange): Long = when {\\n    range.isEmpty() -> throw
IllegalArgumentException("\\Cannot get random in empty range: $range")\\n    range.last < Long.MAX_VALUE ->
nextLong(range.start, range.endInclusive + 1)\\n    range.start > Long.MIN_VALUE -> nextLong(range.start - 1,
range.endInclusive) + 1\\n    else -> nextLong()\\n}\\n\\n\\ninternal expect fun defaultPlatformRandom():
Random\\n\\ninternal expect fun fastLog2(value: Int): Int // 31 - Integer.numberOfLeadingZeros(value)\\n\\ninternal
expect fun doubleFromParts(hi26: Int, low27: Int): Double\\n\\n/** Takes upper [bitCount] bits (0..32) from this
number. */\\n\\ninternal fun Int.takeUpperBits(bitCount: Int): Int =\\n    this.ushr(32 - bitCount) and (-
bitCount).shr(31)\\n\\ninternal fun checkRangeBounds(from: Int, until: Int) = require(until > from) {
boundsErrorMessage(from, until) }\\n\\ninternal fun checkRangeBounds(from: Long, until: Long) = require(until >
from) { boundsErrorMessage(from, until) }\\n\\ninternal fun checkRangeBounds(from: Double, until: Double) =
require(until > from) { boundsErrorMessage(from, until) }\\n\\ninternal fun boundsErrorMessage(from: Any, until:
Any) = "\\Random range is empty: [$from, $until).\\n", "/**\\n * Copyright 2010-2018 JetBrains s.r.o. Use of this
source code is governed by the Apache 2.0 license\\n * that can be found in the license/LICENSE.txt file.\\n
*^\\n@package kotlin.random\\n\\n\\n/**\\n * Gets the next random [UInt] from the random number generator.\\n *\\n *
Generates a [UInt] random value uniformly distributed between [UInt.MIN_VALUE] and [UInt.MAX_VALUE]
(inclusive).\\n *^\\n@SinceKotlin("\\1.3\\")\\n@ExperimentalUnsignedTypes\\npublic fun Random.nextUInt(): UInt =
nextInt().toUInt()\\n\\n/**\\n * Gets the next random [UInt] from the random number generator less than the specified
[until] bound.\\n *\\n * Generates a [UInt] random value uniformly distributed between `0` (inclusive) and the
specified [until] bound (exclusive).\\n *\\n * @throws IllegalArgumentException if [until] is zero.\\n
*^\\n@SinceKotlin("\\1.3\\")\\n@ExperimentalUnsignedTypes\\npublic fun Random.nextUInt(until: UInt): UInt =
nextUInt(0u, until)\\n\\n/**\\n * Gets the next random [UInt] from the random number generator in the specified
range.\\n *\\n * Generates a [UInt] random value uniformly distributed between the specified [from] (inclusive) and
[until] (exclusive) bounds.\\n *\\n * @throws IllegalArgumentException if [from] is greater than or equal to [until].\\n
*^\\n@SinceKotlin("\\1.3\\")\\n@ExperimentalUnsignedTypes\\npublic fun Random.nextUInt(from: UInt, until: UInt):
UInt {\\n    checkUIntRangeBounds(from, until)\\n    val signedFrom = from.toInt() xor Int.MIN_VALUE\\n    val
signedUntil = until.toInt() xor Int.MIN_VALUE\\n    val signedResult = nextInt(signedFrom, signedUntil) xor
Int.MIN_VALUE\\n    return signedResult.toUInt()\\n}\\n\\n/**\\n * Gets the next random [UInt] from the random
number generator in the specified [range].\\n *\\n * Generates a [UInt] random value uniformly distributed in the
specified [range]:\\n * from `range.start` inclusive to `range.endInclusive` inclusive.\\n *\\n * @throws
IllegalArgumentException if [range] is empty.\\n *^\\n@SinceKotlin("\\1.3\\")\\n@ExperimentalUnsignedTypes\\npublic
fun Random.nextUInt(range: UIntRange): UInt = when {\\n    range.isEmpty() -> throw
IllegalArgumentException("\\Cannot get random in empty range: $range")\\n    range.last < UInt.MAX_VALUE ->

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nextUInt(range.first, range.last + 1u)\n    range.first > UInt.MIN_VALUE -> nextUInt(range.first - 1u, range.last) +
1u\n    else -> nextUInt()\n}\n\n/**\n * Gets the next random [ULong] from the random number generator.\n *\n * Generates a [ULong] random value uniformly distributed between [ULong.MIN_VALUE] and
[ULong.MAX_VALUE] (inclusive).\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Random.nextULong(): ULong = nextLong().toULong()\n\n/**\n * Gets the next random [ULong] from the random
number generator less than the specified [until] bound.\n *\n * Generates a [ULong] random value uniformly
distributed between `0` (inclusive) and the specified [until] bound (exclusive).\n *\n * @throws
IllegalArgumentException if [until] is zero.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic
fun Random.nextULong(until: ULong): ULong = nextULong(0uL, until)\n\n/**\n * Gets the next random [ULong]
from the random number generator in the specified range.\n *\n * Generates a [ULong] random value uniformly
distributed between the specified [from] (inclusive) and [until] (exclusive) bounds.\n *\n * @throws
IllegalArgumentException if [from] is greater than or equal to [until].\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(from: ULong, until:
ULong): ULong {\n    checkULongRangeBounds(from, until)\n\n    val signedFrom = from.toLong() xor
Long.MIN_VALUE\n    val signedUntil = until.toLong() xor Long.MIN_VALUE\n\n    val signedResult =
nextLong(signedFrom, signedUntil) xor Long.MIN_VALUE\n    return signedResult.toULong()\n}\n\n/**\n * Gets
the next random [ULong] from the random number generator in the specified [range].\n *\n * Generates a [ULong]
random value uniformly distributed in the specified [range]:\n * from `range.start` inclusive to `range.endInclusive`
inclusive.\n *\n * @throws IllegalArgumentException if [range] is empty.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextULong(range: ULongRange):
ULong = when {\n    range.isEmpty() -> throw IllegalArgumentException("Cannot get random in empty range:
$range")\n    range.last < ULong.MAX_VALUE -> nextULong(range.first, range.last + 1u)\n    range.first >
ULong.MIN_VALUE -> nextULong(range.first - 1u, range.last) + 1u\n    else -> nextULong()\n}\n\n/**\n * Fills
the specified unsigned byte [array] with random bytes and returns it.\n *\n * @return [array] filled with random
bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(array:
UByteArray): UByteArray {\n    nextBytes(array.asByteArray())\n    return array\n}\n\n/**\n * Creates an unsigned
byte array of the specified [size], filled with random bytes.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun Random.nextUBytes(size: Int): UByteArray
= nextBytes(size).asUByteArray()\n\n/**\n * Fills a subrange of the specified `UByte` [array] starting from
[fromIndex] inclusive and ending [toIndex] exclusive with random UBytes.\n *\n * @return [array] with the
subrange filled with random bytes.\n *\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
Random.nextUBytes(array: UByteArray, fromIndex: Int = 0, toIndex: Int = array.size): UByteArray {\n
    nextBytes(array.asByteArray(), fromIndex, toIndex)\n    return
array\n}\n\n@ExperimentalUnsignedTypes\ninternal fun checkUIntRangeBounds(from: UInt, until: UInt) =
require(until > from) { boundsErrorMessage(from, until) }\n\n@ExperimentalUnsignedTypes\ninternal fun
checkULongRangeBounds(from: ULong, until: ULong) = require(until > from) { boundsErrorMessage(from, until)
}\n\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n *
that can be found in the license/LICENSE.txt file.\n *\n@npackage kotlin.random\n\n/**\n * Random number
generator, algorithm "xorwow" from p. 5 of Marsaglia, "Xorshift RNGs".\n *\n * Cycles after 2^160 * (2^32-1)
repetitions.\n *\n * See http://www.jstatsoft.org/v08/i14/paper for details.\n *\ninternal class
XorWowRandom\n\ninternal constructor(\n    private var x: Int,\n    private var y: Int,\n    private var z: Int,\n    private
var w: Int,\n    private var v: Int,\n    private var addend: Int\n) : Random() {\n\n    internal constructor(seed1: Int,
seed2: Int) :\n        this(seed1, seed2, 0, 0, seed1.inv(), (seed1 shl 10) xor (seed2 ushr 4))\n\n    init {\n
require((x or y or z or w or v) != 0) { "Initial state must have at least one non-zero element." }\n        // some
trivial seeds can produce several values with zeroes in upper bits, so we discard first 64\n        repeat(64) { nextInt()
}\n    }\n\n    override fun nextInt(): Int {\n        var t = x\n        t = t xor (t ushr 2)\n        x = y\n        y = z\n        z =
w\n        val v0 = v\n        w = v0\n        t = (t xor (t shl 1)) xor v0 xor (v0 shl 4)\n        v = t\n        addend +=
362437\n        return t + addend\n    }\n\n    override fun nextBits(bitCount: Int): Int =\n

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nextInt().takeUpperBits(bitCount)\n}\n", "/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("RangesKt")\n\npackage
kotlin.ranges\n\n/**\n * Represents a range of floating point numbers.\n * Extends [ClosedRange] interface
providing custom operation [lessThanOrEquals] for comparing values of range domain type.\n *\n * This interface
is implemented by floating point ranges returned by [Float.rangeTo] and [Double.rangeTo] operators to\n * achieve
IEEE-754 comparison order instead of total order of floating point numbers.\n *\n@SinceKotlin("1.1")\n\npublic
interface ClosedFloatingPointRange<T : Comparable<T>> : ClosedRange<T> {\n    override fun contains(value: T):
Boolean = lessThanOrEquals(start, value) && lessThanOrEquals(value, endInclusive)\n    override fun isEmpty():
Boolean = !lessThanOrEquals(start, endInclusive)\n\n    /**\n     * Compares two values of range domain type and
returns true if first is less than or equal to second.\n     *\n     fun lessThanOrEquals(a: T, b: T): Boolean\n}\n\n/**\n * Represents a range of [Comparable] values.\n *\nprivate open class ComparableRange<T : Comparable<T>>(\n    override val start: T,\n    override val endInclusive: T)\n) : ClosedRange<T> {\n    override fun equals(other:
Any?): Boolean {\n        return other is ComparableRange<*> && (isEmpty() && other.isEmpty()) ||\n            start
== other.start && endInclusive == other.endInclusive\n    }\n\n    override fun hashCode(): Int {\n        return if
(isEmpty()) -1 else 31 * start.hashCode() + endInclusive.hashCode()\n    }\n\n    override fun toString(): String =
"\$start..\$endInclusive"\n}\n\n/**\n * A closed range of values of type `Double`.\n *\n * Numbers are compared
with the ends of this range according to IEEE-754.\n *\nprivate class ClosedDoubleRange(\n    start: Double,\n    endInclusive: Double)\n) : ClosedFloatingPointRange<Double> {\n    private val _start = start\n    private val
_endInclusive = endInclusive\n    override val start: Double get() = _start\n    override val endInclusive: Double get()
= _endInclusive\n\n    override fun lessThanOrEquals(a: Double, b: Double): Boolean = a <= b\n\n    override fun
contains(value: Double): Boolean = value >= _start && value <= _endInclusive\n\n    override fun isEmpty():
Boolean = !(_start <= _endInclusive)\n\n    override fun equals(other: Any?): Boolean {\n        return other is
ClosedDoubleRange && (isEmpty() && other.isEmpty()) ||\n            _start == other._start && _endInclusive ==
other._endInclusive\n    }\n\n    override fun hashCode(): Int {\n        return if (isEmpty()) -1 else 31 *
_start.hashCode() + _endInclusive.hashCode()\n    }\n\n    override fun toString(): String =
"\$ _start..\$ _endInclusive"\n}\n\n\n/**\n * Creates a range from this [Comparable] value to the specified [that]
value.\n *\n * This value needs to be smaller than [that] value, otherwise the returned range will be empty.\n *\n@sample samples.ranges.Ranges.rangeFromComparable\n\npublic operator fun <T : Comparable<T>>
T.rangeTo(that: T): ClosedRange<T> = ComparableRange(this, that)\n\n\n/**\n * Creates a range from this [Double]
value to the specified [that] value.\n *\n * Numbers are compared with the ends of this range according to IEEE-
754.\n *\n@sample samples.ranges.Ranges.rangeFromDouble\n\n@SinceKotlin("1.1")\n\npublic operator fun
Double.rangeTo(that: Double): ClosedFloatingPointRange<Double> = ClosedDoubleRange(this, that)\n\n\n/**\n * Returns `true` if this iterable range contains the specified [element].\n *\n * Always returns `false` if the [element] is
`null`.\n *\n@SinceKotlin("1.3")\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun <T, R>
R.contains(element: T?): Boolean where T : Any, R : Iterable<T>, R : ClosedRange<T> =\n    element != null &&
contains(element)\n\n\ninternal fun checkStepIsPositive(isPositive: Boolean, step: Number) {\n    if (!isPositive)
throw IllegalArgumentException("Step must be positive, was: \$step.")\n}\n\n", "/*\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("CharsKt")\n\npackage kotlin.text\n\n\n/**\n * Concatenates this Char and a String.\n *\n@sample samples.text.Chars.plus\n
*\n\n@kotlin.internal.InlineOnly\n\npublic inline operator fun Char.plus(other: String): String = this.toString() +
other\n\n\n/**\n * Returns `true` if this character is equal to the [other] character, optionally ignoring character case.\n
*\n *\n@param ignoreCase `true` to ignore character case when comparing characters. By default `false`.\n *\n * Two
characters are considered the same ignoring case if at least one of the following is `true`:\n * - The two characters
are the same (as compared by the == operator)\n * - Applying the method [toUpperCase] to each character
produces the same result\n * - Applying the method [toLowerCase] to each character produces the same result\n

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*\n * @sample samples.text.Chars.equals\n *\npublic fun Char.equals(other: Char, ignoreCase: Boolean = false):
Boolean {\n if (this == other) return true\n if (!ignoreCase) return false\n\n if (this.toUpperCase() ==
other.toUpperCase()) return true\n if (this.toLowerCase() == other.toLowerCase()) return true\n return
false\n}\n\n/**\n * Returns `true` if this character is a Unicode surrogate code unit.\n *\npublic fun
Char.isSurrogate(): Boolean = this in Char.MIN_SURROGATE..Char.MAX_SURROGATE\n"/*\n * Copyright
2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("StringsKt")\n\npackage
kotlin.text\n\n/**\n * Trims leading whitespace characters followed by [marginPrefix] from every line of a source
string and removes\n * the first and the last lines if they are blank (notice difference blank vs empty).\n *\n * Doesn't
affect a line if it doesn't contain [marginPrefix] except the first and the last blank lines.\n *\n * Doesn't preserve the
original line endings.\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter. Default is
`\` (pipe character).\n *\n * @sample samples.text.Strings.trimMargin\n * @see trimIndent\n * @see
kotlin.text.isWhitespace\n *\npublic fun String.trimMargin(marginPrefix: String = "\\"): String =\n
replaceIndentByMargin("\\", marginPrefix)\n\n/**\n * Detects indent by [marginPrefix] as it does [trimMargin] and
replace it with [newIndent].\n *\n * @param marginPrefix non-blank string, which is used as a margin delimiter.
Default is `\` (pipe character).\n *\npublic fun String.replaceIndentByMargin(newIndent: String = "\\ ",
marginPrefix: String = "\\"): String {\n require(marginPrefix.isNotBlank()) { "marginPrefix must be non-blank
string." }\n val lines = lines()\n\n return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line ->\n val firstNonWhitespaceIndex = line.indexOfFirst { !it.isWhitespace()
}\n\n when {\n firstNonWhitespaceIndex == -1 -> null\n line.startsWith(marginPrefix,
firstNonWhitespaceIndex) -> line.substring(firstNonWhitespaceIndex + marginPrefix.length)\n else -> null\n
}\n })\n}\n\n/**\n * Detects a common minimal indent of all the input lines, removes it from every line and
also removes the first and the last\n * lines if they are blank (notice difference blank vs empty).\n *\n * Note that
blank lines do not affect the detected indent level.\n *\n * In case if there are non-blank lines with no leading
whitespace characters (no indent at all) then the\n * common indent is 0, and therefore this function doesn't change
the indentation.\n *\n * Doesn't preserve the original line endings.\n *\n * @sample
samples.text.Strings.trimIndent\n * @see trimMargin\n * @see kotlin.text.isBlank\n *\npublic fun
String.trimIndent(): String = replaceIndent("\\")\n\n/**\n * Detects a common minimal indent like it does
[trimIndent] and replaces it with the specified [newIndent].\n *\npublic fun String.replaceIndent(newIndent: String
= "\\ "): String {\n val lines = lines()\n val minCommonIndent = lines\n .filter(String::isNotBlank)\n
.map(String::indentWidth)\n .min() ?: 0\n\n return lines.reindent(length + newIndent.length * lines.size,
getIndentFunction(newIndent), { line -> line.drop(minCommonIndent) })\n}\n\n/**\n * Prepends [indent] to every
line of the original string.\n *\n * Doesn't preserve the original line endings.\n *\npublic fun
String.prependIndent(indent: String = " "): String =\n lineSequence()\n .map {\n when {\n
it.isBlank() -> {\n when {\n it.length < indent.length -> indent\n else -> it\n
}\n }\n else -> indent + it\n }\n }\n .joinToString("\n")\n\nprivate fun
String.indentWidth(): Int = indexOfFirst { !it.isWhitespace() }.let { if (it == -1) length else it }\n\nprivate fun
getIndentFunction(indent: String) = when {\n indent.isEmpty() -> { line: String -> line }\n else -> { line: String -
> indent + line }\n}\n\nprivate inline fun List<String>.reindent(\n resultSizeEstimate: Int,\n indentAddFunction:
(String) -> String,\n indentCutFunction: (String) -> String?): String {\n val lastIndex = lastIndex\n return
mapIndexedNotNull { index, value ->\n if ((index == 0 || index == lastIndex) && value.isBlank())\n
null\n else\n indentCutFunction(value)?.let(indentAddFunction)?: value\n }\n
.joinTo(StringBuilder(resultSizeEstimate), "\n")\n .toString()\n}\n"/*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n *\npackage kotlin.text\n\n/**\n * Defines names for Unicode symbols used in proper
Typography.\n *\npublic object Typography {\n /** The character &#x22; \u2013 quotation mark *\n public
const val quote: Char = "\u0022\n /** The character &#x24; \u2013 dollar sign *\n public const val dollar:

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Char = '\u0024'\n /** The character &#x26; \u2013 ampersand */\n public const val amp: Char = '\u0026'\n
/** The character &#x3C; \u2013 less-than sign */\n public const val less: Char = '\u003C'\n /** The character
&#x3E; \u2013 greater-than sign */\n public const val greater: Char = '\u003E'\n /** The non-breaking space
character */\n public const val nbsp: Char = '\u00A0'\n /** The character &#xD7; */\n public const val times:
Char = '\u00D7'\n /** The character &#xA2; */\n public const val cent: Char = '\u00A2'\n /** The character
&#xA3; */\n public const val pound: Char = '\u00A3'\n /** The character &#xA7; */\n public const val
section: Char = '\u00A7'\n /** The character &#xA9; */\n public const val copyright: Char = '\u00A9'\n /**
The character &#xAB; */\n public const val leftGuillemete: Char = '\u00AB'\n /** The character &#xBB; */\n
public const val rightGuillemete: Char = '\u00BB'\n /** The character &#xAE; */\n public const val registered:
Char = '\u00AE'\n /** The character &#xB0; */\n public const val degree: Char = '\u00B0'\n /** The
character &#xB1; */\n public const val plusMinus: Char = '\u00B1'\n /** The character &#xB6; */\n public
const val paragraph: Char = '\u00B6'\n /** The character &#xB7; */\n public const val middleDot: Char =
'\u00B7'\n /** The character &#xBD; */\n public const val half: Char = '\u00BD'\n /** The character
&#x2013; */\n public const val ndash: Char = '\u2013'\n /** The character &#x2014; */\n public const val
mdash: Char = '\u2014'\n /** The character &#x2018; */\n public const val leftSingleQuote: Char = '\u2018'\n
/** The character &#x2019; */\n public const val rightSingleQuote: Char = '\u2019'\n /** The character
&#x201A; */\n public const val lowSingleQuote: Char = '\u201A'\n /** The character &#x201C; */\n public
const val leftDoubleQuote: Char = '\u201C'\n /** The character &#x201D; */\n public const val
rightDoubleQuote: Char = '\u201D'\n /** The character &#x201E; */\n public const val lowDoubleQuote: Char
= '\u201E'\n /** The character &#x2020; */\n public const val dagger: Char = '\u2020'\n /** The character
&#x2021; */\n public const val doubleDagger: Char = '\u2021'\n /** The character &#x2022; */\n public
const val bullet: Char = '\u2022'\n /** The character &#x2026; */\n public const val ellipsis: Char = '\u2026'\n
/** The character &#x2032; */\n public const val prime: Char = '\u2032'\n /** The character &#x2033; */\n
public const val doublePrime: Char = '\u2033'\n /** The character &#x20AC; */\n public const val euro: Char =
'\u20AC'\n /** The character &#x2122; */\n public const val tm: Char = '\u2122'\n /** The character
&#x2248; */\n public const val almostEqual: Char = '\u2248'\n /** The character &#x2260; */\n public const
val notEqual: Char = '\u2260'\n /** The character &#x2264; */\n public const val lessOrEqual: Char =
'\u2264'\n /** The character &#x2265; */\n public const val greaterOrEqual: Char = '\u2265'\n }"/\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n */\n\npackage kotlin.text\n\n/**\n * Represents a collection of captured
groups in a single match of a regular expression.\n * This collection has size of `groupCount + 1` where
`groupCount` is the count of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and
group with the index 0 corresponds to the entire match.\n * An element of the collection at the particular index
can be `null`,\n * if the corresponding group in the regular expression is optional and\n * there was no match
captured by that group.\n */\npublic interface MatchGroupCollection : Collection<MatchGroup?> {\n\n /**
Returns a group with the specified [index].\n * @return An instance of [MatchGroup] if the group with the
specified [index] was matched or `null` otherwise.\n * Groups are indexed from 1 to the count of groups in
the regular expression. A group with the index 0\n * corresponds to the entire match.\n */\n public operator
fun get(index: Int): MatchGroup?\n\n /**\n * Extends [MatchGroupCollection] by introducing a way to get
matched groups by name, when regex supports it.\n */\n @SinceKotlin("1.1")\npublic interface
MatchNamedGroupCollection : MatchGroupCollection {\n\n /**\n * Returns a named group with the specified
[name].\n * @return An instance of [MatchGroup] if the group with the specified [name] was matched or `null`
otherwise.\n * @throws IllegalArgumentException if there is no group with the specified [name] defined in the
regex pattern.\n * @throws UnsupportedOperationException if getting named groups isn't supported on the
current platform.\n */\n public operator fun get(name: String): MatchGroup?\n\n /**\n * Represents the
results from a single regular expression match.\n */\npublic interface MatchResult {\n\n /** The range of indices in
the original string where match was captured. */\n public val range: IntRange\n /** The substring from the input
string captured by this match. */\n public val value: String\n /**\n * A collection of groups matched by the

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regular expression.\n * This collection has size of `groupCount + 1` where `groupCount` is the count of
groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0
corresponds to the entire match.\n */\n public val groups: MatchGroupCollection\n /**\n * A list of
matched indexed group values.\n */\n * This list has size of `groupCount + 1` where `groupCount` is the count
of groups in the regular expression.\n * Groups are indexed from 1 to `groupCount` and group with the index 0
corresponds to the entire match.\n */\n * If the group in the regular expression is optional and there were no
match captured by that group,\n * corresponding item in [groupValues] is an empty string.\n */\n * @sample
samples.text.Regexps.matchDestructuringToGroupValues\n */\n public val groupValues: List<String>\n\n
/**\n * An instance of [MatchResult.Destructured] wrapper providing components for destructuring assignment
of group values.\n */\n * component1 corresponds to the value of the first group, component2 \u2014 of the
second, and so on.\n */\n * @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n
public val destructured: Destructured get() = Destructured(this)\n\n /** Returns a new [MatchResult] with the
results for the next match, starting at the position\n * at which the last match ended (at the character after the last
matched character).\n */\n\n public fun next(): MatchResult?\n\n /**\n * Provides components for
destructuring assignment of group values.\n */\n * [component1] corresponds to the value of the first group,
[component2] \u2014 of the second, and so on.\n */\n * If the group in the regular expression is optional and
there were no match captured by that group,\n * corresponding component value is an empty string.\n */\n *
@sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n public class Destructured internal
constructor(public val match: MatchResult) {\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component1(): String = match.groupValues[1]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component2(): String = match.groupValues[2]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component3(): String = match.groupValues[3]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component4(): String = match.groupValues[4]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component5(): String = match.groupValues[5]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component6(): String = match.groupValues[6]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component7(): String = match.groupValues[7]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component8(): String = match.groupValues[8]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component9(): String = match.groupValues[9]\n\n @kotlin.internal.InlineOnly\n public operator inline fun
component10(): String = match.groupValues[10]\n\n\n /**\n * Returns destructured group values as a list of
strings.\n * First value in the returned list corresponds to the value of the first group, and so on.\n */\n\n
* @sample samples.text.Regexps.matchDestructuringToGroupValues\n */\n\n public fun toList():
List<String> = match.groupValues.subList(1, match.groupValues.size)\n\n }\n\n }"/\n\n * Copyright 2010-2018
JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\n\npackage kotlin\n\nimport kotlin.internal.InlineOnly\n\n\n/**\n * Returns a hash
code value for the object or zero if the object is `null`.\n */\n * @see Any.hashCode\n\n\n*/\n\n@SinceKotlin("1.3")\n@InlineOnly\npublic inline fun Any?.hashCode(): Int = this?.hashCode() ?: 0"/\n\n *
Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be
found in the license/LICENSE.txt file.\n */\n\n\npackage kotlin\n\n\n/**\n * Represents a version of the Kotlin standard
library.\n */\n * [major], [minor] and [patch] are integer components of a version,\n * they must be non-negative and
not greater than 255 ([MAX_COMPONENT_VALUE]).\n */\n * @constructor Creates a version from all three
components.\n */\n\n@SinceKotlin("1.1")\npublic class KotlinVersion(val major: Int, val minor: Int, val patch: Int) :
Comparable<KotlinVersion> {\n\n /**\n * Creates a version from [major] and [minor] components, leaving
[patch] component zero.\n */\n\n public constructor(major: Int, minor: Int) : this(major, minor, 0)\n\n private val
version = versionOf(major, minor, patch)\n\n private fun versionOf(major: Int, minor: Int, patch: Int): Int {\n\n
require(major in 0..MAX_COMPONENT_VALUE && minor in 0..MAX_COMPONENT_VALUE && patch in
0..MAX_COMPONENT_VALUE) {\n\n\n "Version components are out of range: $major.$minor.$patch"/\n\n\n }\n\n return major.shl(16) + minor.shl(8) + patch\n\n }\n\n\n /**\n * Returns the string representation of this
version\n */\n\n override fun toString(): String = "$major.$minor.$patch"/\n\n\n override fun equals(other:

```

```

Any?): Boolean {
    if (this == other) return true
    val otherVersion = (other as? KotlinVersion) ?: return false
    return this.version == otherVersion.version
}

override fun hashCode(): Int = version

override fun compareTo(other: KotlinVersion): Int = version - other.version

/**
 * Returns `true` if this version is not less than the version specified
 * with the provided [major] and [minor] components.
 */
public fun isAtLeast(major: Int, minor: Int): Boolean = // this.version >= versionOf(major, minor, 0)
this.major > major || (this.major == major && this.minor >= minor)

/**
 * Returns `true` if this version is not less than the version specified
 * with the provided [major], [minor] and [patch] components.
 */
public fun isAtLeast(major: Int, minor: Int, patch: Int): Boolean = // this.version >= versionOf(major, minor, patch)
this.major > major || (this.major == major && (this.minor > minor || this.minor == minor && this.patch >= patch))

companion object {
    /**
     * Maximum value a version component can have, a constant value 255.
     */
    // NOTE: Must be placed before CURRENT because its initialization requires this field being initialized in JS
    public const val MAX_COMPONENT_VALUE = 255

    /**
     * Returns the current version of the Kotlin standard library.
     */
    @kotlin.jvm.JvmField
    public val CURRENT: KotlinVersion = KotlinVersion(1, 3, 31) // value is written here automatically during build
}

}

"/**
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 * that can be found in the license/LICENSE.txt file.
 */

@file:kotlin.jvm.JvmName("LateinitKt")
@file:Suppress("unused")
package kotlin
import kotlin.internal.InlineOnly
import kotlin.internal.AccessibleLateinitPropertyLiteral
import kotlin.reflect.KProperty0

/**
 * Returns `true` if this lateinit property has been assigned a value, and `false` otherwise.
 */
* Cannot be used in an inline function, to avoid binary compatibility issues.

@SinceKotlin("1.2")
@InlineOnly
inline val @receiver:AccessibleLateinitPropertyLiteral KProperty0<*>.isInitialized: Boolean
    get() = throw NotImplementedError("Implementation is intrinsic")

"/**
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 * that can be found in the license/LICENSE.txt file.
 */

@file:kotlin.jvm.JvmName("LazyKt")
@file:kotlin.jvm.JvmMultifileClass
package kotlin
import kotlin.reflect.KProperty

/**
 * Represents a value with lazy initialization.
 */
* To create an instance of [Lazy] use the [lazy] function.

public interface Lazy<out T> {
    /**
     * Gets the lazily initialized value of the current Lazy instance.
     */
    * Once the value was initialized it must not change during the rest of lifetime of this Lazy instance.

    public val value: T

    /**
     * Returns `true` if a value for this Lazy instance has been already initialized, and `false` otherwise.
     */
    * Once this function has returned `true` it stays `true` for the rest of lifetime of this Lazy instance.

    public fun isInitialized(): Boolean
}

/**
 * Creates a new instance of the [Lazy] that is already initialized with the specified [value].

public fun <T> lazyOf(value: T): Lazy<T> = InitializedLazyImpl(value)

/**
 * An extension to delegate a read-only property of type [T] to an instance of [Lazy].

*/
* This extension allows to use instances of Lazy for property delegation:

val property: String by lazy { initializer }

@kotlin.internal.InlineOnly
public inline operator fun <T> Lazy<T>.getValue(thisRef: Any?, property: KProperty<*>): T = value

/**
 * Specifies how a [Lazy] instance synchronizes initialization among multiple threads.

public enum class LazyThreadSafetyMode {
    /**
     * Locks are used to ensure that only a single thread can initialize the [Lazy] instance.
     */
    SYNCHRONIZED,

    /**
     * Initializer function can be called several times on concurrent access to uninitialized [Lazy] instance value,
     * but only the first returned value will be used as the value of [Lazy] instance.
     */
    PUBLICATION,

    /**
     * No locks are used to synchronize an access to the [Lazy] instance value; if the instance is accessed from multiple threads, its behavior is undefined.
     */
    NONE,
}

internal object UNINITIALIZED_VALUE

// internal to be called from lazy in JS
internal class UnsafeLazyImpl<out T>(initializer: () -> T) : Lazy<T>, Serializable {
    private var initializer: () -> T? = initializer
    private var _value: Any? = UNINITIALIZED_VALUE

    override val value: T
        get() {
            if (_value == UNINITIALIZED_VALUE) {
                _value = initializer!!()
                initializer = null
            }
            @Suppress("UNCHECKED_CAST")
            return _value as T
        }

    override fun isInitialized():

```

```

Boolean = _value !== UNINITIALIZED_VALUE\n\n  override fun toString(): String = if (isInitialized())
value.toString() else \"Lazy value not initialized yet.\"\n\n  private fun writeReplace(): Any =
InitializedLazyImpl(value)\n}\n\ninternal class InitializedLazyImpl<out T>(override val value: T) : Lazy<T>,
Serializable {\n\n  override fun isInitialized(): Boolean = true\n\n  override fun toString(): String =
value.toString()\n}\n}\n\n/*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the
Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\npackage kotlin\nimport
kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n@kotlin.internal.InlineOnly\n@SinceKotlin(\"1.2\")\n@Suppress(\"IN
VISIBLE_MEMBER\", \"INVISIBLE_REFERENCE\")\n@RequireKotlin(\"1.2.30\", level =
DeprecationLevel.HIDDEN, versionKind = RequireKotlinVersionKind.COMPILER_VERSION)\n\npublic inline fun
<R> suspend(noinline block: suspend () -> R): suspend () -> R = block\n\n\n/*\n * Copyright 2010-2018 JetBrains
s.r.o. Use of this source code is governed by the Apache 2.0 license\n * that can be found in the
license/LICENSE.txt file.\n */\n\n@file:kotlin.jvm.JvmName(\"TuplesKt\")\n\npackage kotlin\n\n\n/*\n *
Represents a generic pair of two values.\n * There is no meaning attached to values in this class, it can be used
for any purpose.\n * Pair exhibits value semantics, i.e. two pairs are equal if both components are equal.\n * An
example of decomposing it into values:\n * @sample samples.misc.Tuples.pairDestructuring\n * @param A
type of the first value.\n * @param B type of the second value.\n * @property first First value.\n * @property
second Second value.\n * @constructor Creates a new instance of Pair.\n */\n\npublic data class Pair<out A, out B>(\n
  public val first: A,\n  public val second: B\n) : Serializable {\n\n  /**\n   * Returns string representation of the
[Pair] including its [first] and [second] values.\n   */\n  public override fun toString(): String = \"($first,
$second)\"\n}\n\n\n/*\n * Creates a tuple of type [Pair] from this and [that].\n * This can be useful for creating
[Map] literals with less noise, for example:\n * @sample samples.collections.Maps.instantiation.mapFromPairs\n
*/\n\npublic infix fun <A, B> A.to(that: B): Pair<A, B> = Pair(this, that)\n\n\n/*\n * Converts this pair into a list.\n *
@sample samples.misc.Tuples.pairToList\n */\n\npublic fun <T> Pair<T, T>.toList(): List<T> = listOf(first,
second)\n\n\n/*\n * Represents a triad of values\n * There is no meaning attached to values in this class, it can be
used for any purpose.\n * Triple exhibits value semantics, i.e. two triples are equal if all three components are
equal.\n * An example of decomposing it into values:\n * @sample samples.misc.Tuples.tripleDestructuring\n *
@param A type of the first value.\n * @param B type of the second value.\n * @param C type of the third value.\n *
@property first First value.\n * @property second Second value.\n * @property third Third value.\n */\n\npublic data
class Triple<out A, out B, out C>(\n  public val first: A,\n  public val second: B,\n  public val third: C\n) :
Serializable {\n\n  /**\n   * Returns string representation of the [Triple] including its [first], [second] and [third]
values.\n   */\n  public override fun toString(): String = \"($first, $second, $third)\"\n}\n\n\n/*\n * Converts this
triple into a list.\n * @sample samples.misc.Tuples.tripleToList\n */\n\npublic fun <T> Triple<T, T, T>.toList():
List<T> = listOf(first, second, third)\n\n\n/*\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is
governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt file.\n */\n\n// Auto-generated
file. DO NOT EDIT!\n\npackage kotlin.ranges\n\n\nimport kotlin.internal.*\n\n\n/*\n * A range of values of type
`UInt`\n */\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n\npublic class UIntRange(start: UInt,
endInclusive: UInt) : UIntProgression(start, endInclusive, 1), ClosedRange<UInt> {\n\n  override val start: UInt get()
= first\n\n  override val endInclusive: UInt get() = last\n\n  override fun contains(value: UInt): Boolean = first <=
value && value <= last\n\n  override fun isEmpty(): Boolean = first > last\n\n  override fun equals(other: Any?):
Boolean =\n    other is UIntRange && (isEmpty() && other.isEmpty()) ||\n    first == other.first && last ==
other.last\n\n  override fun hashCode(): Int =\n    if (isEmpty()) -1 else (31 * first.toInt() + last.toInt())\n\n  override fun toString(): String = \"$first..$last\"\n}\n\n\ncompanion object {\n\n  /** An empty range of values of
type UInt. */\n  public val EMPTY: UIntRange = UIntRange(UInt.MAX_VALUE, UInt.MIN_VALUE)\n}\n}\n\n\n/*\n * A progression of values of type `UInt`\n
*/\n\n@SinceKotlin(\"1.3\")\n@ExperimentalUnsignedTypes\n\npublic open class UIntProgression\n\ninternal
constructor(\n  start: UInt,\n  endInclusive: UInt,\n  step: Int\n) : Iterable<UInt> {\n\n  init {\n    if (step ==
0.toInt()) throw kotlin.IllegalArgumentException(\"Step must be non-zero.\")\n    if (step == Int.MIN_VALUE)

```

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throw kotlin.IllegalArgumentException("Step must be greater than Int.MIN_VALUE to avoid overflow on
negation.")\n }\n\n /**\n * The first element in the progression.\n */\n public val first: UInt = start\n /**\n * The last element in the progression.\n */\n public val last: UInt = getProgressionLastElement(start,
endInclusive, step)\n\n /**\n * The step of the progression.\n */\n public val step: Int = step\n\n override
fun iterator(): UIntIterator = UIntProgressionIterator(first, last, step)\n\n /** Checks if the progression is empty.
*/\n public open fun isEmpty(): Boolean = if (step > 0) first > last else first < last\n\n override fun equals(other:
Any?): Boolean =\n    other is UIntProgression && (isEmpty() && other.isEmpty()) ||\n        first ==
other.first && last == other.last && step == other.step)\n\n override fun hashCode(): Int =\n    if (isEmpty()) -1
else (31 * (31 * first.toInt() + last.toInt()) + step.toInt())\n\n override fun toString(): String = if (step > 0)
"$first..$last step $step" else "$first downTo $last step ${-step}"\n\n companion object {\n    /**\n    *
Creates UIntProgression within the specified bounds of a closed range.\n    * The progression starts with the
[rangeStart] value and goes toward the [rangeEnd] value not excluding it, with the specified [step].\n    * In order
to go backwards the [step] must be negative.\n    * [step] must be greater than `Int.MIN_VALUE` and
not equal to zero.\n    */\n    public fun fromClosedRange(rangeStart: UInt, rangeEnd: UInt, step: Int):
UIntProgression = UIntProgression(rangeStart, rangeEnd, step)\n }\n\n /**\n * An iterator over a progression
of values of type `UInt`. \n * @property step the number by which the value is incremented on each step.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n private class UIntProgressionIterator(first: UInt, last:
UInt, step: Int) : UIntIterator() {\n    private val finalElement = last\n    private var hasNext: Boolean = if (step > 0)
first <= last else first >= last\n    private val step = step.toUInt() // use 2-complement math for negative steps\n
private var next = if (hasNext) first else finalElement\n\n    override fun hasNext(): Boolean = hasNext\n\n
override fun nextUInt(): UInt {\n    val value = next\n    if (value == finalElement) {\n        if (!hasNext)
throw kotlin.NoSuchElementException()\n        hasNext = false\n    } else {\n        next += step\n    }\n
return value\n }\n}\n\n", /**\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source code is governed by the
Apache 2.0 license \n * that can be found in the license/LICENSE.txt file.\n */\n\n // Auto-generated file. DO NOT
EDIT!\n\n package kotlin.collections\n\n /**\n * An iterator over a sequence of values of type `UByte`.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UByteIterator : Iterator<UByte>\n {\n
override final fun next() = nextUByte()\n\n /** Returns the next value in the sequence without boxing. \n
*/\n public abstract fun nextUByte(): UByte\n }\n\n /**\n * An iterator over a sequence of values of type `UShort`.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UShortIterator : Iterator<UShort>\n
{\n    override final fun next() = nextUShort()\n\n /** Returns the next value in the sequence without boxing. \n
*/\n public abstract fun nextUShort(): UShort\n }\n\n /**\n * An iterator over a sequence of values of type `UInt`.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class UIntIterator : Iterator<UInt> {\n
override final fun next() = nextUInt()\n\n /** Returns the next value in the sequence without boxing. \n
*/\n public abstract fun nextUInt(): UInt\n }\n\n /**\n * An iterator over a sequence of values of type `ULong`.\n
*/\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public abstract class ULongIterator : Iterator<ULong>\n
{\n    override final fun next() = nextULong()\n\n /** Returns the next value in the sequence without boxing. \n
*/\n public abstract fun nextULong(): ULong\n }\n\n", /**\n * Copyright 2010-2019 JetBrains s.r.o. Use of this source
code is governed by the Apache 2.0 license \n * that can be found in the license/LICENSE.txt file.\n */\n\n // Auto-generated file. DO NOT EDIT!\n\n package kotlin.ranges\n\n\n import kotlin.internal.\n\n /**\n * A range of
values of type `ULong`. \n */\n @SinceKotlin("1.3")\n @ExperimentalUnsignedTypes\n public class
ULongRange(start: ULong, endInclusive: ULong) : ULongProgression(start, endInclusive, 1),
ClosedRange<ULong> {\n    override val start: ULong get() = first\n    override val endInclusive: ULong get() =
last\n\n    override fun contains(value: ULong): Boolean = first <= value && value <= last\n\n    override fun
isEmpty(): Boolean = first > last\n\n    override fun equals(other: Any?): Boolean =\n        other is ULongRange &&
(isEmpty() && other.isEmpty()) ||\n            first == other.first && last == other.last\n\n    override fun
hashCode(): Int =\n        if (isEmpty()) -1 else (31 * (first xor (first shr 32)).toInt() + (last xor (last shr
32)).toInt())\n\n    override fun toString(): String = "$first..$last"\n\n    companion object {\n        /**\n        * An empty
range of values of type ULong. \n */\n        public val EMPTY: ULongRange = ULongRange(ULong.MAX_VALUE,

```



```

successive elements in the progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: UInt, end: UInt, step:
Int): UInt = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start, step.toUInt())\n
step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toUInt())\n    else -> throw
kotlin.IllegalArgumentException("Step is zero.")\n}\n\n/**\n * Calculates the final element of a bounded
arithmetic progression, i.e. the last element of the progression which is in the range\n * from [start] to [end] in case
of a positive [step], or from [end] to [start] in case of a negative\n * [step].\n * No validation on passed
parameters is performed. The given parameters should satisfy the condition:\n * - either `step > 0` and `start <=
end`,\n * - or `step < 0` and `start >= end`.\n * @param start first element of the progression\n * @param end
ending bound for the progression\n * @param step increment, or difference of successive elements in the
progression\n * @return the final element of the progression\n * @suppress\n
*\n@PublishedApi\n@SinceKotlin("1.3")\ninternal fun getProgressionLastElement(start: ULong, end: ULong,
step: Long): ULong = when {\n    step > 0 -> if (start >= end) end else end - differenceModulo(end, start,
step.toULong())\n    step < 0 -> if (start <= end) end else end + differenceModulo(start, end, (-step).toULong())\n
else -> throw kotlin.IllegalArgumentException("Step is zero.")\n}\n\n"/*\n * Copyright 2010-2018 JetBrains s.r.o.
Use of this source code is governed by the Apache 2.0 license\n * that can be found in the license/LICENSE.txt
file.\n */\n\n@file:kotlin.jvm.JvmName("UStringsKt") // string representation of unsigned numbers\n\npackage
kotlin.text\n\n/**\n * Returns a string representation of this [Byte] value in the specified [radix].\n * @throws
IllegalArgumentException when [radix] is not a valid radix for number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UByte.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this
[Short] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix
for number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UShort.toString(radix: Int): String = this.toInt().toString(radix)\n\n/**\n * Returns a string representation of this
[Int] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix for
number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\n//@kotlin.internal.InlineOnly\npublic /*inline*/ fun
UInt.toString(radix: Int): String = this.toLong().toString(radix)\n\n/**\n * Returns a string representation of this
[Long] value in the specified [radix].\n * @throws IllegalArgumentException when [radix] is not a valid radix
for number to string conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
ULong.toString(radix: Int): String = ulongToString(this.toLong(), checkRadix(radix))\n\n/**\n * Parses the string
as a signed [UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun
String.toUByte(): UByte = toUByteOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a signed
[UByte] number and returns the result.\n * @throws NumberFormatException if the string is not a valid
representation of a number.\n * @throws IllegalArgumentException when [radix] is not a valid radix for string to
number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUByte(radix:
Int): UByte = toUByteOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as a [UShort]
number and returns the result.\n * @throws NumberFormatException if the string is not a valid representation of a
number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(): UShort =
toUShortOrNull() ?: numberFormatError(this)\n\n/**\n * Parses the string as a [UShort] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n * @throws
IllegalArgumentException when [radix] is not a valid radix for string to number conversion.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUShort(radix: Int): UShort =
toUShortOrNull(radix) ?: numberFormatError(this)\n\n/**\n * Parses the string as an [UInt] number and returns the
result.\n * @throws NumberFormatException if the string is not a valid representation of a number.\n
*\n@SinceKotlin("1.3")\n@ExperimentalUnsignedTypes\npublic fun String.toUInt(): UInt = toUIntOrNull() ?

```



```

limitBeforeMul) return null\n\n    result *= uradix\n\n    val beforeAdding = result\n    result +=
digit.toUInt()\n    if (result < beforeAdding) return null // overflow has happened\n    }\n\n    return
result\n}\n", /*\n * Copyright 2010-2018 JetBrains s.r.o. Use of this source code is governed by the Apache 2.0
license\n * that can be found in the license/LICENSE.txt file.\n
*\n\n@file:Suppress("INVISIBLE_REFERENCE", "INVISIBLE_MEMBER")\npackage kotlin\n\nimport
kotlin.annotation.AnnotationTarget.*\nimport kotlin.internal.RequireKotlin\nimport
kotlin.internal.RequireKotlinVersionKind\n\n/**\n * Marks the API that is dependent on the experimental unsigned
types, including those types themselves.\n * Usages of such API will be reported as warnings unless an explicit
opt-in with\n * the [UseExperimental] annotation, e.g. `@UseExperimental(ExperimentalUnsignedTypes::class)`,\n
* or with the `Xuse-experimental=kotlin.ExperimentalUnsignedTypes` compiler option is given.\n * It's
recommended to propagate the experimental status to the API that depends on unsigned types by annotating it with
this annotation.\n */\n@Experimental(level = Experimental.Level.WARNING)\n@Target(CLASS,
ANNOTATION_CLASS, PROPERTY, FIELD, LOCAL_VARIABLE, VALUE_PARAMETER,
CONSTRUCTOR, FUNCTION, PROPERTY_GETTER, PROPERTY_SETTER,
TYPEALIAS)\n@Retention(AnnotationRetention.BINARY)\n@RequireKotlin("1.2.50", versionKind =
RequireKotlinVersionKind.COMPILER_VERSION)\npublic annotation class ExperimentalUnsignedTypes\n", /*\n
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found in the license/LICENSE.txt file.\n
*\n\n@file:kotlin.jvm.JvmMultifileClass\n@file:kotlin.jvm.JvmName("MathKt")\n\npackage
kotlin.math\n\n\n// constants, can't use them from nativeMath as they are not constants there\n\n/** Ratio of the
circumference of a circle to its diameter, approximately 3.14159. *\n@SinceKotlin("1.2")\npublic const val PI:
Double = 3.141592653589793\n** Base of the natural logarithms, approximately 2.71828.
*\n@SinceKotlin("1.2")\npublic const val E: Double = 2.718281828459045\n\n// region =====
Double Math =====\n\n** Computes the sine of the angle [x]
given in radians.\n * Special cases:\n * - `sin(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic
expect fun sin(x: Double): Double\n\n** Computes the cosine of the angle [x] given in radians.\n * Special
cases:\n * - `cos(NaN|+Inf|-Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun cos(x: Double):
Double\n\n** Computes the tangent of the angle [x] given in radians.\n * Special cases:\n * - `tan(NaN|+Inf|-
Inf)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun tan(x: Double): Double\n\n**\n * Computes the arc
sine of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * Special
cases:\n * - `asin(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun
asin(x: Double): Double\n\n**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in
the range from `0.0` to `PI` radians.\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is
`NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun acos(x: Double): Double\n\n**\n * Computes the arc tangent
of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * Special cases:\n
* - `atan(NaN)` is `NaN`\n */\n@SinceKotlin("1.2")\npublic expect fun atan(x: Double): Double\n\n**\n
Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x,
y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to
`PI` radians.\n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI`
for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y <
+Inf` and `-0.0` for `-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * -
`atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`\n * -
`atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n
*\n@SinceKotlin("1.2")\npublic expect fun atan2(y: Double, x: Double): Double\n\n**\n * Computes the
hyperbolic sine of the value [x].\n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n *
- `sinh(-Inf)` is `-Inf`\n */\n@SinceKotlin("1.2")\npublic expect fun sinh(x: Double): Double\n\n**\n * Computes
the hyperbolic cosine of the value [x].\n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is
`+Inf`\n */\n@SinceKotlin("1.2")\npublic expect fun cosh(x: Double): Double\n\n**\n * Computes the hyperbolic

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tangent of the value [x].
Special cases: $\tanh(\text{NaN})$ is NaN $\tanh(+\text{Inf})$ is 1.0 $\tanh(-\text{Inf})$ is -1.0

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@SinceKotlin("1.2")\npublic expect fun tanh(x: Double): Double\n\n * Computes the inverse hyperbolic sine of the value [x].\n * The returned value is `y` such that `sinh(y) == x`.\n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * - `asinh(-Inf)` is `-Inf`\n\n *\n@SinceKotlin("1.2")\npublic expect fun asinh(x: Double): Double\n\n * Computes the inverse hyperbolic cosine of the value [x].\n * The returned value is positive `y` such that `cosh(y) == x`.\n * Special cases:\n * - `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when `x < 1`\n * - `acosh(+Inf)` is `+Inf`\n\n *\n@SinceKotlin("1.2")\npublic expect fun acosh(x: Double): Double\n\n * Computes the inverse hyperbolic tangent of the value [x].\n * The returned value is `y` such that `tanh(y) == x`.\n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `tanh(1.0)` is `+Inf`\n * - `tanh(-1.0)` is `-Inf`\n\n *\n@SinceKotlin("1.2")\npublic expect fun atanh(x: Double): Double\n\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n * Special cases:\n * - returns `+Inf` if any of arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n\n *\n@SinceKotlin("1.2")\npublic expect fun hypot(x: Double, y: Double): Double\n\n * Computes the positive square root of the value [x].\n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n\n *\n@SinceKotlin("1.2")\npublic expect fun sqrt(x: Double): Double\n\n * Computes Euler's number `e` raised to the power of the value [x].\n * Special cases:\n * - `exp(NaN)` is `NaN`\n * - `exp(+Inf)` is `+Inf`\n * - `exp(-Inf)` is `0.0`\n\n *\n@SinceKotlin("1.2")\npublic expect fun exp(x: Double): Double\n\n * Computes `exp(x) - 1`.\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n * - `expm1(-Inf)` is `-1.0`\n\n * @see [exp] function.\n\n *\n@SinceKotlin("1.2")\npublic expect fun expm1(x: Double): Double\n\n * Computes the logarithm of the value [x] to the given [base].\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b < 1`\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n\n *\n@SinceKotlin("1.2")\npublic expect fun log(x: Double, base: Double): Double\n\n * Computes the natural logarithm (base `E`) of the value [x].\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n\n *\n@SinceKotlin("1.2")\npublic expect fun ln(x: Double): Double\n\n * Computes the common logarithm (base 10) of the value [x].\n * @see [ln] function for special cases.\n\n *\n@SinceKotlin("1.2")\npublic expect fun log10(x: Double): Double\n\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function for special cases.\n\n *\n@SinceKotlin("1.2")\npublic expect fun log2(x: Double): Double\n\n * Computes `ln(x + 1)`.\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - `ln1p(NaN)` is `NaN`\n * - `ln1p(x)` is `NaN` where `x < -1.0`\n * - `ln1p(-1.0)` is `-Inf`\n * - `ln1p(+Inf)` is `+Inf`\n * @see [ln] function\n * @see [expm1] function\n\n *\n@SinceKotlin("1.2")\npublic expect fun ln1p(x: Double): Double\n\n * Rounds the given value [x] to an integer towards positive infinity.\n * @return the smallest double value that is greater than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - `ceil(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun ceil(x: Double): Double\n\n * Rounds the given value [x] to an integer towards negative infinity.\n * @return the largest double value that is smaller than or equal to the given value [x] and is a mathematical integer.\n * Special cases:\n * - `floor(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun floor(x: Double): Double\n\n * Rounds the given value [x] to an integer towards zero.\n * @return the value [x] having its fractional part truncated.\n * Special cases:\n * - `truncate(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Double): Double\n\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer.\n * Special cases:\n * - `round(x)` is `x` where `x` is `NaN` or `+Inf` or `-Inf` or already a mathematical integer.\n\n *\n@SinceKotlin("1.2")\npublic expect fun round(x: Double): Double\n\n * Returns the absolute
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value of the given value [x].
Special cases: `-abs(NaN)` is `-NaN`
@see `absoluteValue`
extension property for `[Double]`
@SinceKotlin("1.2")
public expect fun `abs(x: Double): Double`
Returns the sign of the given value [x]:
-1.0 if the value is negative,
zero if the value is zero,
1.0 if the value is positive
Special case: `-sign(NaN)` is `-NaN`
@SinceKotlin("1.2")
public expect fun `sign(x: Double): Double`
Returns the smaller of two values.
If either value is `-NaN`, then the result is `-NaN`.
@SinceKotlin("1.2")
public expect fun `min(a: Double, b: Double): Double`
Returns the greater of two values.
If either value is `-NaN`, then the result is `-NaN`.
@SinceKotlin("1.2")
public expect fun `max(a: Double, b: Double): Double`
extensions
Raises this value to the power [x].
Special cases: `-b.pow(0.0)` is `1.0`
-b.pow(1.0) == b
-b.pow(NaN) is `-NaN`
-NaN.pow(x) is `-NaN` for `x != 0.0`
-b.pow(Inf) is `-NaN` for `abs(b) == 1.0`
-b.pow(x) is `-NaN` for `b < 0` and `x` is finite and not an integer
@SinceKotlin("1.2")
public expect fun `Double.pow(x: Double): Double`
Raises this value to the integer power [n].
See the other overload of [pow] for details.
@SinceKotlin("1.2")
public expect fun `Double.pow(n: Int): Double`
Returns the absolute value of this value.
Special cases: `-NaN.absoluteValue` is `-NaN`
@see `abs` function
@SinceKotlin("1.2")
public expect val `Double.absoluteValue: Double`
Returns the sign of this value:
-1.0 if the value is negative,
zero if the value is zero,
1.0 if the value is positive
Special case: `-NaN.sign` is `-NaN`
@SinceKotlin("1.2")
public expect val `Double.sign: Double`
Returns this value with the sign bit same as of the [sign] value.
If [sign] is `-NaN` the sign of the result is undefined.
@SinceKotlin("1.2")
public expect fun `Double.withSign(sign: Double): Double`
Returns this value with the sign bit same as of the [sign] value.
@SinceKotlin("1.2")
public expect fun `Double.withSign(sign: Int): Double`
Returns the ulp (unit in the last place) of this value.
An ulp is a positive distance between this value and the next nearest [Double] value larger in magnitude.
Special Cases: `-NaN.ulp` is `-NaN`
-x.ulp is `+Inf` when `x` is `+Inf` or `-Inf`
-0.0.ulp is `Double.MIN_VALUE`
@SinceKotlin("1.2")
public expect val `Double.ulp: Double`
Returns the [Double] value nearest to this value in direction of positive infinity.
@SinceKotlin("1.2")
public expect fun `Double.nextUp(): Double`
Returns the [Double] value nearest to this value in direction from this value towards the value [to].
Special cases: `-x.nextTowards(y)` is `-NaN` if either `x` or `y` are `-NaN`
-x.nextTowards(x) == x
@SinceKotlin("1.2")
public expect fun `Double.nextTowards(to: Double): Double`
Rounds this [Double] value to the nearest integer and converts the result to [Int].
Ties are rounded towards positive infinity.
Special cases: `-x.roundToInt() == Int.MAX_VALUE` when `x > Int.MAX_VALUE`
-x.roundToInt() == Int.MIN_VALUE when `x < Int.MIN_VALUE`
@throws `IllegalArgumentException` when this value is `-NaN`
@SinceKotlin("1.2")
public expect fun `Double.roundToInt(): Int`
Rounds this [Double] value to the nearest integer and converts the result to [Long].
Ties are rounded towards positive infinity.
Special cases: `-x.roundToLong() == Long.MAX_VALUE` when `x > Long.MAX_VALUE`
-x.roundToLong() == Long.MIN_VALUE when `x < Long.MIN_VALUE`
@throws `IllegalArgumentException` when this value is `-NaN`
@SinceKotlin("1.2")
public expect fun `Double.roundToLong(): Long`
endregion
region =====
Float Math
=====
Computes the sine of the angle [x] given in radians.
Special cases: `-sin(NaN|+Inf|-Inf)` is `-NaN`
@SinceKotlin("1.2")
public expect fun `sin(x: Float): Float`
Computes the cosine of the angle [x] given in radians.
Special cases: `-cos(NaN|+Inf|-Inf)` is `-NaN`
@SinceKotlin("1.2")
public expect fun `cos(x: Float): Float`
Computes the tangent of the angle [x] given in radians.
Special cases: `-tan(NaN|+Inf|-Inf)` is `-NaN`
@SinceKotlin("1.2")
public expect fun `tan(x: Float): Float`
Computes the arc sine of the value [x];
the returned value is an angle in the range from `-PI/2` to `PI/2` radians.
Special cases: `-asin(x)` is `-NaN`, when `abs(x) > 1` or `x` is `-NaN`
@SinceKotlin("1.2")
public expect fun `asin(x: Float): Float`

Float\n\n/**\n * Computes the arc cosine of the value [x];\n * the returned value is an angle in the range from `0.0` to `PI` radians.\n * Special cases:\n * - `acos(x)` is `NaN`, when `abs(x) > 1` or x is `NaN`\n

*\n@SinceKotlin("1.2")\npublic expect fun acos(x: Float): Float\n\n/**\n * Computes the arc tangent of the value [x];\n * the returned value is an angle in the range from `-PI/2` to `PI/2` radians.\n * Special cases:\n * - `atan(NaN)` is `NaN`\n * *\n@SinceKotlin("1.2")\npublic expect fun atan(x: Float): Float\n\n/**\n * Returns the angle `theta` of the polar coordinates `(r, theta)` that correspond\n * to the rectangular coordinates `(x, y)` by computing the arc tangent of the value [y] / [x];\n * the returned value is an angle in the range from `-PI` to `PI` radians.\n * Special cases:\n * - `atan2(0.0, 0.0)` is `0.0`\n * - `atan2(0.0, x)` is `0.0` for `x > 0` and `PI` for `x < 0`\n * - `atan2(-0.0, x)` is `-0.0` for `x > 0` and `-PI` for `x < 0`\n * - `atan2(y, +Inf)` is `0.0` for `0 < y < +Inf` and `-0.0` for `-Inf < y < 0`\n * - `atan2(y, -Inf)` is `PI` for `0 < y < +Inf` and `-PI` for `-Inf < y < 0`\n * - `atan2(y, 0.0)` is `PI/2` for `y > 0` and `-PI/2` for `y < 0`\n * - `atan2(+Inf, x)` is `PI/2` for finite `x`\n * - `atan2(-Inf, x)` is `-PI/2` for finite `x`\n * - `atan2(NaN, x)` and `atan2(y, NaN)` is `NaN`\n

*\n@SinceKotlin("1.2")\npublic expect fun atan2(y: Float, x: Float): Float\n\n/**\n * Computes the hyperbolic sine of the value [x].\n * Special cases:\n * - `sinh(NaN)` is `NaN`\n * - `sinh(+Inf)` is `+Inf`\n * - `sinh(-Inf)` is `-Inf`\n * *\n@SinceKotlin("1.2")\npublic expect fun sinh(x: Float): Float\n\n/**\n * Computes the hyperbolic cosine of the value [x].\n * Special cases:\n * - `cosh(NaN)` is `NaN`\n * - `cosh(+Inf|-Inf)` is `+Inf`\n * *\n@SinceKotlin("1.2")\npublic expect fun cosh(x: Float): Float\n\n/**\n * Computes the hyperbolic tangent of the value [x].\n * Special cases:\n * - `tanh(NaN)` is `NaN`\n * - `tanh(+Inf)` is `1.0`\n * - `tanh(-Inf)` is `-1.0`\n * *\n@SinceKotlin("1.2")\npublic expect fun tanh(x: Float): Float\n\n/**\n * Computes the inverse hyperbolic sine of the value [x].\n * The returned value is `y` such that `sinh(y) == x`.\n * Special cases:\n * - `asinh(NaN)` is `NaN`\n * - `asinh(+Inf)` is `+Inf`\n * - `asinh(-Inf)` is `-Inf`\n

*\n@SinceKotlin("1.2")\npublic expect fun asinh(x: Float): Float\n\n/**\n * Computes the inverse hyperbolic cosine of the value [x].\n * The returned value is positive `y` such that `cosh(y) == x`.\n * Special cases:\n * - `acosh(NaN)` is `NaN`\n * - `acosh(x)` is `NaN` when `x < 1`\n * - `acosh(+Inf)` is `+Inf`\n

*\n@SinceKotlin("1.2")\npublic expect fun acosh(x: Float): Float\n\n/**\n * Computes the inverse hyperbolic tangent of the value [x].\n * The returned value is `y` such that `tanh(y) == x`.\n * Special cases:\n * - `atanh(NaN)` is `NaN`\n * - `atanh(x)` is `NaN` when `x > 1` or `x < -1`\n * - `atanh(1.0)` is `+Inf`\n * - `atanh(-1.0)` is `-Inf`\n * *\n@SinceKotlin("1.2")\npublic expect fun atanh(x: Float): Float\n\n/**\n * Computes `sqrt(x^2 + y^2)` without intermediate overflow or underflow.\n * Special cases:\n * - returns `+Inf` if any of arguments is infinite\n * - returns `NaN` if any of arguments is `NaN` and the other is not infinite\n

*\n@SinceKotlin("1.2")\npublic expect fun hypot(x: Float, y: Float): Float\n\n/**\n * Computes the positive square root of the value [x].\n * Special cases:\n * - `sqrt(x)` is `NaN` when `x < 0` or `x` is `NaN`\n

*\n@SinceKotlin("1.2")\npublic expect fun sqrt(x: Float): Float\n\n/**\n * Computes Euler's number `e` raised to the power of the value [x].\n * Special cases:\n * - `exp(NaN)` is `NaN`\n * - `exp(+Inf)` is `+Inf`\n * - `exp(-Inf)` is `0.0`\n * *\n@SinceKotlin("1.2")\npublic expect fun exp(x: Float): Float\n\n/**\n * Computes `exp(x) - 1`.\n * This function can be implemented to produce more precise result for [x] near zero.\n * Special cases:\n * - `expm1(NaN)` is `NaN`\n * - `expm1(+Inf)` is `+Inf`\n * - `expm1(-Inf)` is `-1.0`\n * @see [exp] function.\n * *\n@SinceKotlin("1.2")\npublic expect fun expm1(x: Float): Float\n\n/**\n * Computes the logarithm of the value [x] to the given [base].\n * Special cases:\n * - `log(x, b)` is `NaN` if either `x` or `b` are `NaN`\n * - `log(x, b)` is `NaN` when `x < 0` or `b <= 0` or `b == 1.0`\n * - `log(+Inf, +Inf)` is `NaN`\n * - `log(+Inf, b)` is `+Inf` for `b > 1` and `-Inf` for `b < 1`\n * - `log(0.0, b)` is `-Inf` for `b > 1` and `+Inf` for `b > 1`\n * See also logarithm functions for common fixed bases: [ln], [log10] and [log2].\n

*\n@SinceKotlin("1.2")\npublic expect fun log(x: Float, base: Float): Float\n\n/**\n * Computes the natural logarithm (base `E`) of the value [x].\n * Special cases:\n * - `ln(NaN)` is `NaN`\n * - `ln(x)` is `NaN` when `x < 0.0`\n * - `ln(+Inf)` is `+Inf`\n * - `ln(0.0)` is `-Inf`\n * *\n@SinceKotlin("1.2")\npublic expect fun ln(x: Float): Float\n\n/**\n * Computes the common logarithm (base 10) of the value [x].\n * @see [ln] function for special cases.\n * *\n@SinceKotlin("1.2")\npublic expect fun log10(x: Float): Float\n\n/**\n * Computes the binary logarithm (base 2) of the value [x].\n * @see [ln] function for special cases.\n * *\n@SinceKotlin("1.2")\npublic

expect fun log2(x: Float): Float\n\n/**\n * Computes $\ln(a + 1)$. \n * This function can be implemented to produce more precise result for [x] near zero. \n * Special cases: \n * - $\ln1p(\text{NaN})$ is NaN \n * - $\ln1p(x)$ is NaN where $x < -1.0$ \n * - $\ln1p(-1.0)$ is $-\text{Inf}$ \n * - $\ln1p(+\text{Inf})$ is $+\text{Inf}$ \n * @see [ln] function \n * @see [expm1] function \n */\n@SinceKotlin("1.2")\npublic expect fun ln1p(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards positive infinity. \n * @return the smallest Float value that is greater than or equal to the given value [x] and is a mathematical integer. \n * Special cases: \n * - $\text{ceil}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer. \n */\n@SinceKotlin("1.2")\npublic expect fun ceil(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards negative infinity. \n * @return the largest Float value that is smaller than or equal to the given value [x] and is a mathematical integer. \n * Special cases: \n * - $\text{floor}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer. \n */\n@SinceKotlin("1.2")\npublic expect fun floor(x: Float): Float\n\n/**\n * Rounds the given value [x] to an integer towards zero. \n * @return the value [x] having its fractional part truncated. \n * Special cases: \n * - $\text{truncate}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer. \n */\n@SinceKotlin("1.2")\npublic expect fun truncate(x: Float): Float\n\n/**\n * Rounds the given value [x] towards the closest integer with ties rounded towards even integer. \n * Special cases: \n * - $\text{round}(x)$ is x where x is NaN or $+\text{Inf}$ or $-\text{Inf}$ or already a mathematical integer. \n */\n@SinceKotlin("1.2")\npublic expect fun round(x: Float): Float\n\n/**\n * Returns the absolute value of the given value [x]. \n * Special cases: \n * - $\text{abs}(\text{NaN})$ is NaN \n * @see absoluteValue extension property for [Float] \n */\n@SinceKotlin("1.2")\npublic expect fun abs(x: Float): Float\n\n/**\n * Returns the sign of the given value [x]: \n * - -1.0 if the value is negative, \n * - zero if the value is zero, \n * - 1.0 if the value is positive \n * Special case: \n * - $\text{sign}(\text{NaN})$ is NaN \n */\n@SinceKotlin("1.2")\npublic expect fun sign(x: Float): Float\n\n/**\n * Returns the smaller of two values. \n * If either value is NaN , then the result is NaN . \n */\n@SinceKotlin("1.2")\npublic expect fun min(a: Float, b: Float): Float\n\n/**\n * Returns the greater of two values. \n * If either value is NaN , then the result is NaN . \n */\n@SinceKotlin("1.2")\npublic expect fun max(a: Float, b: Float): Float\n\n/**\n * extensions \n * Raises this value to the power [x]. \n * Special cases: \n * - $\text{b.pow}(0.0)$ is 1.0 \n * - $\text{b.pow}(1.0) == b$ \n * - $\text{b.pow}(\text{NaN})$ is NaN \n * - $\text{NaN.pow}(x)$ is NaN for $x != 0.0$ \n * - $\text{b.pow}(\text{Inf})$ is NaN for $\text{abs}(b) == 1.0$ \n * - $\text{b.pow}(x)$ is NaN for $b < 0$ and x is finite and not an integer \n */\n@SinceKotlin("1.2")\npublic expect fun Float.pow(x: Float): Float\n\n/**\n * Raises this value to the integer power [n]. \n * See the other overload of [pow] for details. \n */\n@SinceKotlin("1.2")\npublic expect fun Float.pow(n: Int): Float\n\n/**\n * Returns the absolute value of this value. \n * Special cases: \n * - NaN.absoluteValue is NaN \n * @see abs function \n */\n@SinceKotlin("1.2")\npublic expect val Float.absoluteValue: Float\n\n/**\n * Returns the sign of this value: \n * - -1.0 if the value is negative, \n * - zero if the value is zero, \n * - 1.0 if the value is positive \n * Special case: \n * - NaN.sign is NaN \n */\n@SinceKotlin("1.2")\npublic expect val Float.sign: Float\n\n/**\n * Returns this value with the sign bit same as of the [sign] value. \n * If [sign] is NaN the sign of the result is undefined. \n */\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Float): Float\n\n/**\n * Returns this value with the sign bit same as of the [sign] value. \n */\n@SinceKotlin("1.2")\npublic expect fun Float.withSign(sign: Int): Float\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Int]. \n * Ties are rounded towards positive infinity. \n * Special cases: \n * - $x.\text{roundToInt}() == \text{Int.MAX_VALUE}$ when $x > \text{Int.MAX_VALUE}$ \n * - $x.\text{roundToInt}() == \text{Int.MIN_VALUE}$ when $x < \text{Int.MIN_VALUE}$ \n * @throws IllegalArgumentException when this value is NaN \n */\n@SinceKotlin("1.2")\npublic expect fun Float.roundToInt(): Int\n\n/**\n * Rounds this [Float] value to the nearest integer and converts the result to [Long]. \n * Ties are rounded towards positive infinity. \n * Special cases: \n * - $x.\text{roundToLong}() == \text{Long.MAX_VALUE}$ when $x > \text{Long.MAX_VALUE}$ \n * - $x.\text{roundToLong}() == \text{Long.MIN_VALUE}$ when $x < \text{Long.MIN_VALUE}$ \n * @throws IllegalArgumentException when this value is NaN \n */\n@SinceKotlin("1.2")\npublic expect fun Float.roundToLong(): Long\n\n/**\n * extensions \n * Returns the absolute value of the given value [n]. \n * Special cases: \n * - $\text{abs}(\text{Int.MIN_VALUE})$ is

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`Int.MIN_VALUE` due to an overflow\n * \n * @see absoluteValue extension property for [Int]\n
*\n@SinceKotlin("1.2")\npublic expect fun abs(n: Int): Int\n\n/**\n * Returns the smaller of two values.\n
*\n@SinceKotlin("1.2")\npublic expect fun min(a: Int, b: Int): Int\n\n/**\n * Returns the greater of two values.\n
*\n@SinceKotlin("1.2")\npublic expect fun max(a: Int, b: Int): Int\n\n/**\n * Returns the absolute value of this
value.\n * \n * Special cases:\n * - `Int.MIN_VALUE.absoluteValue` is `Int.MIN_VALUE` due to an overflow\n
*\n * @see abs function\n *\n@SinceKotlin("1.2")\npublic expect val Int.absoluteValue: Int\n\n/**\n * Returns
the sign of this value:\n * - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is
positive\n *\n@SinceKotlin("1.2")\npublic expect val Int.sign: Int\n\n\n/**\n * Returns the absolute value of the
given value [n].\n * \n * Special cases:\n * - `abs(Long.MIN_VALUE)` is `Long.MIN_VALUE` due to an
overflow\n * \n * @see absoluteValue extension property for [Long]\n *\n@SinceKotlin("1.2")\npublic expect fun
abs(n: Long): Long\n\n/**\n * Returns the smaller of two values.\n *\n@SinceKotlin("1.2")\npublic expect fun
min(a: Long, b: Long): Long\n\n/**\n * Returns the greater of two values.\n *\n@SinceKotlin("1.2")\npublic
expect fun max(a: Long, b: Long): Long\n\n/**\n * Returns the absolute value of this value.\n * \n * Special cases:\n
* - `Long.MIN_VALUE.absoluteValue` is `Long.MIN_VALUE` due to an overflow\n * \n * @see abs function\n
*\n@SinceKotlin("1.2")\npublic expect val Long.absoluteValue: Long\n\n/**\n * Returns the sign of this value:\n
* - `-1` if the value is negative,\n * - `0` if the value is zero,\n * - `1` if the value is positive\n
*\n@SinceKotlin("1.2")\npublic expect val Long.sign: Int\n\n\n//
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O,mB;MACtB,IAAI,MAAK,CAAT,C;QAAY,OAAO,OAAO,UAAK,OAAO,CAAP,IAAL,CAAP,C;MACnB,WA
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B,C;UA+EI,C;QAAA,C;OAAA,C;MS8Zf,sC;QAQI,OAAO,mDTItaI,2BSsa2B,QTta3B,CSsaJ,E;MACX,C;KATA,
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W,OAA X,EAAjB,EAA sC,C;IACjD,C;;MAWI,OAA Y,OAAL,SAAK,EAAC,OAAT,QAAS,CAAd,C;IAC hB,C;;M
AWI,OAA+C,UAAx C,YAAW,SAAX,EAA0B,aAAT,QAAS,CAA1B,EAAwC,C;IACnD,C;;MAWI,OAAkC,UAA
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,C;;MAEA,6B;MAAA,qC;IAAA,C;;MAEA,6B;MAAA,2C;IAAA,C;;MAEA,6B;MAAA,qC;IAAA,C;;MAEA,6
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A,S;UAAA,gD;gBAAA,0E;;IAAA,C;;MAwB+B,oC;IAAD,C;;MAQI,qB;QAAA,iD;MAAA,kB;IAAD,C;;IAEjC,
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Z,IAAJ,EAA2B,CAA3B,C;IACX,C;;MAGI,OAAO,MAAI,MAAI,CAAJ,EAAO,CAAP,WAAY,MAAI,CAAJ,EA
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,,,,,,,,,,,,,,,,,,,,,MCnB/E,e;MAAA,iB;MAAA,uB;IAAA,C;;MAAA,yC;MAAA,C;MAKI,sE;MAGA,0F;MAGA,gE;I
AXJ,C;;MAKI,4B;MAAA,wC;IAAA,C;;MAGA,4B;MAAA,kD;IAAA,C;;MAGA,4B;MAAA,qC;IAAA,C;;MA
XJ,sI;IAAA,C;;MAAA,a;aAAA,U;UAAA,6C;aAAA,oB;UAAA,uD;aAAA,O;UAAA,0C;gBAAA,mE;;IAAA,C;;;
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,C;;MAOA,wDAA+B,IAA/B,C;IAAA,C;;MA7BZ,gD;QAAA,+B;;MAAA,yC;IAAA,C;;MATI,oB;IAXR,C;;MA
eQ,gB;IAfR,C;;MAAA,2BAWQ,8CAXR,EAeQ,kCAfR,C;IAAA,C;;MAAA,OAWQ,4DAXR,IAeQ,sCAfR,O;IAA
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B;MAAA,uB;IAAA,C;;MAAA,qC;MAAA,C;MAYI,0D;MAKA,gE;MAKA,8D;MAKA,4D;IA3BJ,C;;MAYI,wB;
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W,Q;MAAA,IqB/egB,KrB+eZ,IAAS,CAAT,IqB/eY,KrB+eE,IAAS,0BAA3B,C;QAAA,OAAsC,UqB/etB,KrB+es
B,C;;QqB/eb,MAAM,8BAA0B,iCAAuB,gBAAvB,MAA1B,C;;MAAtC,W;IACJ,C;;MrBwfW,Q;MAAA,IqBhfgB,
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S,Q;MAAL,IAAI,eAAC,uFAAD,CAAJ,C;QAAgC,OAAO,E;MACvC,OAAmB,UAAZ,gBAAy,EAAY,EA
AY,OAAZ,C;IACvB,C;;MAfJ,0C;IAiBJ,C;wFAsVA,yB;MAAA,8C;MAAA,kF;QAmB0E,iC;UAAA,oBAAyB,C;
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B,C;;MASI,OAAy,SAAY,Q;IAC5B,C;;MASI,OAAy,SAAY,Q;IAC5B,C;;MAQW,WAAS,W;MAAT,YAA2B,SA
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;;MCs2BV,OAAO,SAAS,SAAT,EAAe,iBAAy,OAAZ,CAAF,C;IACX,C;;MDz2BI,IAAI,ECq3BI,WAAW,CDr3Bf
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, SAAIB, EAA6B, OAA7B, EAAsC, gBAAtC, C; MACN, WAAS, W; MAAT, YAA2B, SAAy, OAAM, SAAN, EAAiB, O
AAjB, C; MkCx0B9C, eAAiB, I; MICw0BjB, OkCv0BO, K; IlCw0BX, C;; MAOI, OAAy, SAAy, QAAO, CAAQ, OAAR,
CAAP, C; IAC5B, C; iFAEA, yB; MAwIA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, eAAy, OAAZ, EAwIL, C; MAvIX, C;
KANA, C; iFAQA, yB; MAwIA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, gBAAa, OAAb, EAwIL, C; MAvIX, C; KANA,
C; iFAQA, yB; MAwIA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, gBAAW, OAAx, EAwIL, C; MAvIX, C; KANA, C; iFA
QA, yB; MAwIA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, mBAAy, OAAZ, CAwIL, C; MAvIX, C; KANA, C; iFAQA, y
B; MAwIA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, kBAAa, OAAb, EAwIL, C; MAvIX, C; KANA, C; gFAQA, yB; MAw
IA, iD; MAxIA, qC; QAKI, OAwIO, gCaxIK, kBAAc, OAAd, EAwIL, C; MAvIX, C; KANA, C; iFAQA, yB; MAwIA, iD; M
AxIA, qC; QAKI, OAwIO, gCaxIK, sBA Ae, OAAf, CAwIL, C; MAvIX, C; KANA, C; iFAQA, yB; MAwIA, iD; MAxIA, qC
; QAKI, OAwIO, gCaxIK, mBAAy, OAAZ, CAwIL, C; MAvIX, C; KANA, C;; MAaI, OAAO, oBAAoB, SAApB, EAA0B,
QAA1B, C; IACX, C;; MAMI, OAAO, mBAAwB, UAAL, SAAK, EAAO, mBAAO, QAAS, KAAhB, IAAP, CAAxB, EA
AsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MAMI, OAAO, mBAAwB, UAAL, SAAK, EAAO, mBAAO, QAAS,
KAAhB, IAAP, CAAxB, EAAsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MAMI, OAAO, mBAAwB, UAAL, SA
AK, EAAO, mBAAO, QAAS, KAAhB, IAAP, CAAxB, EAAsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MAMI, O
AAO, oBAAoB, SAApB, EAA0B, QAA1B, C; IACX, C;; MAMI, OAAO, mBAAwB, UAAL, SAAK, EAAO, mBAAO, Q
AAS, KAAhB, IAAP, CAAxB, EAAsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MAMI, OAAO, mBAAwB, UA
L, SAAK, EAAO, mBAAO, QAAS, KAAhB, IAAP, CAAxB, EAAsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MA
MI, OAAO, oBAAoB, SAApB, EAA0B, QAA1B, C; IACX, C;; MAMI, OAAO, mBAAwB, UAAL, SAAK, EAAO, mBAA
O, QAAS, KAAhB, IAAP, CAAxB, EAAsD, SAAK, OAA3D, EAAiE, QAAjE, C; IACX, C;; MAOI, OAAy, SAAy, QAA
O, QAAP, C; IAC5B, C; iFAEA, yB; MAAA, iD; MAAA, sC; QAKI, OAAO, qBAAqB, SAArB, EAA2B, QAA3B, C; MAC
X, C; KANA, C; iFAQA, yB; MAAA, iD; MAAA, sC; QAKI, OAAO, qBAAqB, SAArB, EAA2B, QAA3B, C; MACX, C; KA
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AAR, CAAP, C; IAC5B, C;; Mac6C, OAAA, CAAE, iBAAU, CAAV, C; IAaA, C;; MAaX, IAAL, mBAAO, CAAX, C; QA
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AI, mBAAO, CAAX, C; QAac, cAAc, SAAd, EAAoB, UAAP, C; IACIB, C;; MAOI, SAAy, MAAK, UAAL, C; IACHB, C;
; MAOI, SAAy, MAAK, UAAL, C; IACHB, C;; MAOI, SAAy, MAAK, UAAL, C; IACHB, C;; MAOI, SAAy, MAAK, UA
L, C; IACHB, C;; MAOI, SAAy, MAAK, UAAL, C; IACHB, C;; MAOI, SAAy, MAAK, UAAL, C; IACHB, C;; MAOI, SAA
y, MAAK, UAAL, C; IACHB, C;; MAQI, IAAL, mBAAO, CAAX, C; QAac, gBAAc, SAAd, EAAoB, UAAP, C; IACIB, C;
; MAMI, OAAO, EAAS, MAAM, MAAK, SAAL, C; IAC1B, C;; MAMI, OAAO, EAAS, MAAM, MAAK, SAAL, C; IAC1
B, C;; MAMI, OAAO, EAAS, MAAM, MAAK, SAAL, C; IAC1B, C;; MAMI, OAAO, EAAS, MAAM, MAAK, SAAL, C; I
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C; IAC1B, C;; MAMI, OAAO, EAAS, MAAM, MAAK, SAAL, C; IAC1B, C;; MAMuB, wB; QAAW, qCAAK, KAAL, E; M
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CA, sBAAK, YAAL, EAAqB, GAAR, B; QACA, mC;; IAER, C;; MhCPI, OAAW, oBAAK, CAAL, MAAJ, GAAY, CAA
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C; MACHB, C; KARA, C; mFAUA, yB; MAAA, iB; MAAA, uB; QAOI, OAAO, MAAK, KAAL, CAAJ, EAAO, CAAP, C; M
ACHB, C; KARA, C;; MAgBI, OAAW, kBAAK, CAAL, MAAJ, GAAY, CAAZ, GAAM, B; IAC9B, C; mFAEA, yB; MAA

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A,C;;MAGnC,0B;IAAA,C;MAAA,0B;IAAA,C;;MAYI,IAAI,0BAAJ,C;QAAoB,OAAO,K;MAC3B,OAAO,kBAA
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A9B,C;IAAN,C;;MAErD,WAAmB,Q;IACvB,C;;MAEuE,yCAAc,OAAd,C;IAAA,C;;MAEC,qD;IAAA,C;;MAGp
E,IAAI,oBAAS,OAAT,CAAJ,C;QACI,WAAmB,cAAO,OAAQ,IAAf,C;QACnB,OAAO,I;;MAEX,OAAO,K;IACX
,C;;MAE+B,OAAA,WAAmB,K;IAAnB,C;;M3DEnC,IAAI,E2DgBM,0BAAQ,IAAR,IAAgB,0BAAQ,I3DhB9B,C
AAJ,C;QACI,cAdW,e;QAEX,MAAM,6BAAsB,OAAQ,WAA9B,C;;M2DgBN,YAAY,mB;MACZ,IAAI,SAAS,IA
Ab,C;QACI,sBAAO,S;QACP,yBAAO,S;QACP,yBAAO,S;;QAGK,YAAa,KAAM,a;Q3DRhC,uB;QAEp,IAfoB,K
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+B;QAEA,yBAAO,K;QACP,yBAAO,K;QAEp,qBAAa,S;QACb,qBAAa,S;;IAErB,C;;MAMI,IAAI,SAAK,aAAL,
KAAc,SAAlB,C;QAEI,sBAAO,I;;QAEp,IAAI,wBAAS,SAAb,C;UAEI,sBAAO,sB;;QAEX,qDAAc,sB;QACd,qD
AAc,sB;;MAEIB,yBAAO,I;MACP,yBAAO,I;IACX,C;;MA6CI,kBAAI,Q;MACJ,sBAAO,I;IACX,C;;MAQmD,OA
AA,kBAAI,mBAAy,GAAX,C;IAAJ,C;;MAGIB,Q;MAAA,0B;MAAA,iB;QAAQ,OAAO,K;;MAA5C,WAA6B,I;;
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,eAAe,6BAAW,GAAX,EAAGB,KAAhB,C;QACf,kBAAI,aAAI,GAAJ,EAAS,QAAT,C;QACK,wBAAT,QAAS,C;
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hB,IAAI,SAAS,IAAb,C;QACU,sBAAN,KAAM,C;QACN,OAAO,KAAM,M;;MAEjB,OAAO,I;IACX,C;;MAEsC,

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Ac,IAAd,C;MACf,4BAAY,MAAK,KAAL,EAAW,OAAX,EAAoB,IAApB,C;MADpC,Y;IAAA,C;;MAIA,mD;MA
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,Y;IAAA,C;;MACA,uE;MAAuC,0CAAK,OAAL,EAAC,IAAd,C;MAAvC,Y;IAAA,C;;MACA,uE;MAAwC,0CAA
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G,O;;IAAxD,C;;;MACx4C,4D;MAAuB,+BAAK,IAAL,C;MAAvB,Y;IAAA,C;;MAG+F,mBAAM,OAAN,EAAe,K
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B,EAAE,UAAF,IAAgB,Q;MAEhB,OAAO,C;IACX,C;;MAwCyC,qB;QAAA,QAAiB,K;MAAO,qB;QAAA,QAAi
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W,G;MACX,EAAE,KAAF,IAAW,G;MAEX,OAAO,C;IACX,C;;MAYsC,qB;QAAA,QAAc,S;MAAW,qB;QAAA,

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CX,C;;MAuBsF,OAAa,Y;IAAb,C;;MACD,OAAy,W;IAAZ,C;;MACC,OAAa,Y;IAAb,C;;MACD,OAAy,W;IAAZ
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B;MAAA,wC;IAAA,C;;MAPJ,yF;IAAA,C;;MAAA,a;aAAA,S;UAAA,+C;aAAA,O;UAAA,6C;gBAAA,8D;;IAA
A,C;;MAyBA,8B;IADmC,C;;MAQnC,8B;IADqC,C;;ICIDzC,C;;ICCA,C;;IAyBA,C;;ICxBgD,C;;MAiB,c;;Q7
Gk8C7C,Q;QADhB,IAAI,mCAAsB,cAA1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,sB;QAaHb,OAAgB,cAAhB,C;
UAAgB,2B;UAAM,I6G18C6C,O7Gk8C/B,S6G18C+B,U7Gk8C7C,C;YAAwB,aAAO,I;YAAP,e;;QAC9C,aAAO,
K;;M6Gn8CsD,iB;IAAA,C;;MAGhD,c;;Q7G06CG,Q;QADhB,IAAI,c6Gz6CA,Q7Gy6CA,iB6Gz6CA,Q7Gy6CsB,
UAA1B,C;UAAqC,aAAO,I;UAAP,e;;QACrB,O6G16CZ,Q7G06CY,W;QAaHb,OAAgB,cAAhB,C;UAAgB,yB;U
AAM,IAAI,C6G16CP,oB7G06CkB,O6G16CIB,C7G06CG,C;YAAyB,aAAO,K;YAAP,e;;QAC/C,aAAO,I;;M6G3
6CH,iB;IAAA,C;;MAE8B,qBAAQ,C;IAAR,C;;MAE6B,qB;QAC3D,OAAI,OAAO,uBAAX,GAAiB,mBAAjB,GA
A6C,SAAH,EAAG,C;MADc,C;IAAA,C;;MAA7B,4BAAa,IAAb,EAAMb,GAAnB,EAawB,GAAXb,kBAA6B,wC
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JJ,C;;MACI,kB;MAAA,2B;IAAA,C;;MACA,kB;MAAA,8B;IAAA,C;;MACA,kB;MAAA,0B;IAAA,C;;MACA,
kB;MAAA,4B;IAAA,C;;MAJJ,sH;IAAA,C;;MAAA,a;aAAA,O;UAAA,gC;aAAA,U;UAAA,mC;aAAA,M;UAA
A,+B;aAAA,Q;UAAA,iC;gBAAA,6D;;IAAA,C;;MAYI,mD;MACA,2BAA4B,I;IANhC,C;;MAUqB,IAAN,I;MnH
UX,IAAI,EmHXQ,mDnHWR,CAAJ,C;QACI,cAda,qB;QAeB,MAAM,gCAAYB,OAAQ,WAAjC,C;;MmHZC,QA
AM,oBAAN,M;aACH,M;UAAc,Y;UAAAd,K;aACA,O;UAAe,W;UAAf,K;gBACQ,wC;UAHL,K;;MAAP,W;IAKJ,
C;;MAMW,Q;MAHP,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;MACtB,mD;MAEA,OAAO,2F;IACX,C;;MAGI,i
D;MACA,kB;MACA,OAAO,kD;IACX,C;;MAkBI,2BAAy,K;MACZ,gD;IACJ,C;;MAMI,+C;IACJ,C;;MCiCA,oC
;MAPFgE,6B;IAA1B,C;;MAIC,0C;IAAA,C;;MAEiB,uB;;Q/GiR3C,Q;QADb,YAAy,C;QACC,sB;QAAb,OAAa,c
AAb,C;UAAa,sB;UACT,I+GIRmE,O/GkRrD,I+GIRqD,U/GkRnE,C;YACI,sBAAO,K;YAAP,wB;;UACJ,qB;;QAE
J,sBAAO,E;;M+GtRiD,0B;IAAA,C;;MAEI,sB;;Q/G0S5D,eAAoB,0BAAa,SAAb,C;QACpB,OAAO,QAAS,cAAh
B,C;UACI,I+G5SsE,O/G4SxD,QAAS,W+G5S+C,U/G4StE,C;YACI,qBAAO,QAAS,Y;YAAhB,uB;;QAGR,qBA
AO,E;;M+GhTqD,yB;IAAA,C;;MAEb,+CAAiB,CAAjB,C;IAAA,C;;MAEU,+CAAiB,KAAjB,C;IAAA,C;;MAEK
,gCAAQ,IAAR,EAAC,SAAd,EAAYB,OAAzB,C;IAAA,C;;MAE8C,uB;MAA/E,kB;MAAmC,4B;MAC5D,eAAyB,
C;MAGrB,+DAAkB,gBAAIB,EAa6B,OAA7B,EAAsC,WAAK,KAA3C,C;MACA,eAAa,UAAU,gBAAV,I;IALO,
C;;MASpB,+DAAkB,KAAIB,EAAYB,YAAzB,C;MAEA,OAAO,wBAAK,mBAAy,KAAZ,IAAL,C;IACX,C;;MA
E+B,mB;IAAA,C;;MAS/B,IAAI,UAAU,IAAd,C;QAAoB,OAAO,I;MAC3B,IAAI,2BAAJ,C;QAAuB,OAAO,K;M
AE9B,OAAO,2DAAC,IAAd,EAoB,KAApB,C;IACX,C;;MAK+B,oEAAgB,IAAhB,C;IAAA,C;;MAE/B,oB;MAC
I,eAcB,C;IAF1B,C;;MAIsC,sBAAQ,gB;IAAR,C;;MAInB,gB;MADX,IAAI,CAAC,cAAL,C;QAAGB,MAAM,6B;

MACX,iE;MAAX,OAAO,+B;IACX,C;;;MAGJ,oB;MAGwD,iD;MAGhD,gEAAmB,KAAAnB,EAA0B,WAAkB,KA
A5C,C;MACA,eAAa,K;IAJoB,C;;MAOC,sBAAQ,C;IAAR,C;;MAEN,mB;IAAA,C;;MAG5B,IAAI,CAAC,kBAA
L,C;QAAoB,MAAM,6B;MAC1B,OAAO,yBAAl,mCAAJ,EAAI,YAAJ,E;IACX,C;;MAEOc,sBAAQ,CAAR,I;IAA
A,C;;;MAGxC,sC;IAAA,C;;MAEQ,IAAI,QAAQ,CAAR,IAAa,SAAS,IAA1B,C;QACI,MAAM,8BAA0B,YAAS,K
AAT,gBAAuB,IAAjD,C;;IAEd,C;;MAGI,IAAI,QAAQ,CAAR,IAAa,QAAQ,IAAZB,C;QACI,MAAM,8BAA0B,Y
AAS,KAAT,gBAAuB,IAAjD,C;;IAEd,C;;MAGI,IAAI,YAAI,CAAZ,IAAiB,UAAU,IAA/B,C;QACI,MAAM,8BA
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yB,gBAAa,SAAb,oBAAmC,OAA5D,C;;IAEd,C;;MAIc,UACsB,M;MAFhC,iBA Ae,C;MACL,mB;MAAV,OAAU,
cAAV,C;QAAU,mB;QACN,aAAW,MAAK,UAAI,SAAiB,6DAAiB,CAAIC,K;;MAEf,OAAO,U;IACX,C;;MAMi
B,Q;MAHb,IAAI,CAAe,KAAf,KAAU,KAAM,KAAPB,C;QAA0B,OAAO,K;MAEjC,oBAAoB,KAAM,W;MACb
,mB;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,gBAAGb,aAAc,O;QAC9B,IAAI,cAAQ,SAAR,CAAJ,C;UACI,OAA
O,K;;;MAGf,OAAO,I;IACX,C;;;MAZcJ,6C;QAAA,4B;;MAAA,sC;IAAA,C;;;MCsCA,mC;MAZCA,uBAC6B,I;M
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xD,Q;QADhB,IAAI,wCAAsB,mBAA1B,C;UAAqC,aAAO,K;UAAP,e;;QACrB,2B;QAAhB,OAAgB,cAAhB,C;U
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C,aAAO,K;;MgHz7CyD,iB;IAAA,C;;MAI5D,IAAI,gCAAJ,C;QAA+B,OAAO,K;MACtC,UAAU,KAAM,I;MACH
B,YAAI,KAAM,M;MIl8JO,Q;MkI7JzB,eIl6J4C,CAAnB,mDAAmB,YkI7JzB,Gli6JyB,C;MkI3J5C,IAAI,eAAS,Q
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,I;MAC3B,IAAI,0BAAJ,C;QAAyB,OAAO,K;MACHc,IAAI,cAAQ,KAAM,KAAlB,C;QAAwB,OAAO,K;MAEV,
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B,2B;QAAhB,OAAgB,cAAhB,C;UAAgB,yB;UAAM,IAAI,CgHn4CK,2BhHm4CM,OgHn4CN,ChHm4CT,C;YA
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X,wC;MAAS,sB;IAAT,C;;MACkD,+CAAY,OAAZ,C;IAAA,C;;MAI3C,kD;IAAA,C;;MAC+B,OAAA,0BAAc,U;I
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S,6B;IAAT,C;;MACgE,iDAAc,OAAc,C;IAAA,C;;MAI3D,kD;IAAA,C;;MAC+B,OAAA,0BAAc,U;IAAd,C;;MA
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A+B,OAAO,K;MACtC,OAAO,OAAA,CAAe,IAAF,EAAS,KAAM,IAAf,KAAsB,OAAA,CAAe,MAAF,EAAW,
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ADhB,iBA Ae,C;MACC,mB;MAAhB,OAAgB,cAAhB,C;QAAgB,yB;QACC,U;QAAb,2BAAa,yEAAuB,CAAPc,
K;;MAEJ,OAAO,U;IACX,C;;MAGI,IAAI,CAAe,KAAf,KAAU,KAAM,KAAPB,C;QAA0B,OAAO,K;MACjC,O
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EX,OAAO,M;IACX,C;;MAWiB,Q;MAFb,YAAI,iBA Aa,gBAAb,C;MACZ,YAAI,iBA Aa,gBAAb,C;MACZ,wB
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AU,WAAI,SAAJ,C;MACV,MAAO,gBAAO,EAAP,C;MAEP,4C;QACI,IAAI,MAAK,CAAT,C;UACI,MAAO,gB
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;aAC1B,yBARE,OAQF,E;UAAmB,MAAO,gBAaE,cAAR,OAAQ,CAAf,C;aAC1B,uBATE,OASF,E;UAAmB,MA
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1B,kBAfE,OAeF,c;UAAmB,MAAO,gBAaE,kBAAR,OAAQ,CAAf,C;;UAEP,MAAO,gBAAO,OAAQ,WAAf,C;;
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ACI,MAAM,6B;IAAN,C;;;MANvC,oC;QAAA,mB;;MAAA,6B;IAAA,C;;MASA,yB;MACI,+C;IADJ,C;;MAGgD
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MACiB,Y;IAAA,C;;MACgB,OAAA,QAAS,U;IAAT,C;;MAE3B,MAAM,8BAA0B,iDAA8C,KAA9C,MAA1B,C;I
AAN,C;;MACM,S;IAAA,C;;MACI,S;IAAA,C;;MAEL,kC;IAAA,C;;MACQ,kC;IAAA,C;;MAEjD,IAAI,UAAS,C
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AAQ,C;IMrsMmB,C;;MACW,OAAO,SAAP,WAAO,EAAS,OAAT,C;IAAP,C;;MACyB,c;;QmBm4CtD,Q;QADh
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,C;IACZ,C;;MAGY,0C;IAAA,C;;sFrI5LhB,yB;MAAA,kC;MAAA,0C;;QAQuF,wC;MARvF,C;MAAA,wD;QAS2
C,8B;MAAA,C;MAT3C,8E;MAAA,2B;QAQuF,2C;MAAA,C;KARvF,C;;MAiBgE,mB;QAAE,sB;MAAF,C;IAAA
,C;;MAAT,OAAkB,yCAAT,+BAAS,E;IAAIB,C;;MAOM,OAAI,QZ2tMtD,YAAQ,CY3tM0C,GAAwB,eAAxB,G
AAsD,WAAT,QAAS,C;IAAtD,C;;MAKf,kC;IAAA,C;;MAE9C,6B;IAAA,C;;MACiD,kC;IAAA,C;;MACjB,kC;IA
AA,C;;MACA,kC;IAAA,C;;;MAHhC,oC;QAAA,mB;;MAAA,6B;IAAA,C;oFAMA,yB;MAAA,2D;MAAA,4B;Q
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,kBoBjER,yB;yBpBiEQ,yB;gBAAA,Q;;gBAEA,gB;gCAAA,sCAAS,iCAAT,O;oBAAA,kBoBnER,yB;yBpBmEQ,
yB;gBAAA,Q;;;;cAJJ,W;;cAAA,W;;;;;;;;IAMJ,C;;MAP4F,yD;uBAAA,uG;YAAA,S;iBAAA,Q;iBAAA,u
B;MAAA,C;IAAA,C;;MAAT,gBAAS,uCAAT,C;IAAA,C;;MAcX,OAAA,EAAG,W;IAAW,C;;MAAxB,4BAAQ,c
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B,SAAnB,EAAYB,gBAAzB,EAaIC,QAaJ,C;IACX,C;;MAYiB,Q;MAFb,YAAy,gB;MACZ,YAAy,gB;MACC,2
B;MAAb,OAAa,cAAb,C;QAAa,sB;QACT,KAAM,WAAl,IAAK,MAAT,C;QACN,KAAM,WAAl,IAAK,OAAT,C
;;MAEV,OAAO,UAAS,KAAT,C;IACX,C;;MAWI,wB;QAAA,WAAgC,I;MADhC,0B;MACA,0B;MACA,4B;IAH
+B,C;;MAMQ,oD;MACnC,gBAAE,iCAAS,W;MACxB,iBAAqB,E;MACrB,gBAAmB,I;IAHgB,C;;MAM/B,OAA
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UACX,iBAAy,C;UACZ,M;;MAGR,iBAAy,C;IACb,C;;MAWW,Q;MARP,IAAI,mBAAa,EAajB,C;QACI,iB;M
ACJ,IAAI,mBAAa,CAajB,C;QACI,MAAM,6B;MACV,aAAa,a;MACb,gBAAW,I;MACX,iBAAy,E;MAEZ,OAA
O,yE;IACX,C;;MAGI,IAAI,mBAAa,EAajB,C;QACI,iB;MACJ,OAAO,mBAAa,C;IACxB,C;;MAjCmC,yD;IAAA
,C;;MA2C/B,0B;MAAmC,gC;IAA/C,C;;MAC2C,0D;MACnC,gBAAE,oCAAS,W;IADW,C;;MAG/B,OAAO,6CA
AY,aAAS,OAARb,C;IACX,C;;MAGI,OAAO,aAAS,U;IACpB,C;;MARmC,4D;IAAA,C;;MAYnC,OAAO,uBAA4
B,eAA5B,EAAsC,kBAAtC,EAAMd,QAANd,C;IACX,C;;MASQ,0B;MAAmC,gC;IAA/C,C;;MAC2C,wE;MACn
C,gBAAE,2CAAS,W;MACxB,aAAY,C;IAFuB,C;;MAIO,Q;MAATC,OAAO,oDAAY,oBAAmB,iBAAnB,EAAMb,
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AkB/B,0B;IAAZ,C;;MAEQ,gBAAE,gCAAS,W;MACxB,aAAY,C;IAFqC,C;;MAIN,Q;MAAvC,OAAO,iBAAa,oB
AAmB,iBAAnB,EAAMb,yBAAnB,QAAb,EAa0C,aAAS,OAAAnD,C;IACX,C;;MAGI,OAAO,aAAS,U;IACpB,C;;
MATiD,wD;IAAA,C;;MAoBrD,4B;MACA,4B;MACA,4B;IAHJ,C;;MAK2C,gD;MACnC,iBAAgB,gCAAU,W;M
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AGI,OAAO,cAAU,UAaV,IAAuB,cAAU,U;IAC5C,C;;MATmC,uD;IAAA,C;;MAEvC,0B;MACA,gC;MACA,0B
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0B;MQ5QA,IAAI,ERgRQ,qBAAc,CQhRtB,CAAJ,C;QACI,cR+Q2B,+CAA4C,iB;QQ9QvE,MAAM,gCAAYB,OA
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CAAYB,SAAQ,WAAjC,C;;MAFV,IAAI,ERkRQ,mBAAy,iBQIRpB,CAAJ,C;QACI,gBRiRkC,0DAAuD,eAAvD,
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,OAAI,KAAK,YAAT,GAAgB,eAAhB,GAAqC,gBAAy,eAAZ,EAAsB,oBAAa,CAAb,IAAtB,EAAsC,eAAtC,C;I
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,sC;MAAS,2B;MAC5C,eAAoB,oB;MACpB,eAAoB,4B;IAFe,C;;MASnB,Q;MAJZ,IAAI,iBAAS,CAAb,C;QACI,
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B,C;QACI,OAAO,IAAP,IAAe,wBAAO,GAAP,gE;QACf,mB;QACA,iB;;MAGJ,MAAM,C;MACN,OAAO,OAAO
,IAAd,C;QACI,OAAO,IAAP,IAAe,wBAAO,GAAP,gE;QACf,mB;QACA,iB;;MAEJ,IAAI,MAAO,OAAP,GAAc,I
AAK,KAAvB,C;QAA6B,OAAO,IAAK,KAAZ,IAAoB,I;MAEjD,OAAO,uD;IACX,C;;MAGI,OAAO,qBAAQ,gBA
Aa,SAAb,OAAR,C;IACX,C;;MAMI,IAAI,aAAJ,C;QACI,MAAM,6BAAsB,qBAAtB,C;;MAGV,cA6B0C,CA7Bn
C,iBA6BoC,GA7BjB,SA6BiB,IAAD,IAAa,aA7BvD,IAAmC,O;MACnC,6B;IACJ,C;;M9H9HA,IAAI,E8HoIQ,KA
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AAK,S9HrIb,CAAJ,C;QACI,gB8HoIqB,wEAA8D,S;Q9HnInF,MAAM,gCAAYB,SAAQ,WAAjC,C;;M8HqIn,IAA
I,IAAI,CAAR,C;QACI,YAAy,iB;QACZ,UAGbS,C,AhB5B,KAgB6B,GAhBf,CAGBe,IAAD,IAAa,a;QAdnD,IAAI
,QAAQ,GAAZ,C;UACW,YAAP,aAAO,EAAK,IAAL,EAAW,KAAX,EAakB,aAAIB,C;UACA,YAAP,aAAO,EA
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QAGX,oBAAa,G;QACb,wBAAQ,CAAR,I;;IAER,C;;MAI8C,QAAC,YAAO,CAAP,IAAD,IAAa,a;IAAb,C;;MAGJ
,yB;QAAA,YAAiB,C;MAAG,uB;QAAA,UAAe,gB;MACzE,eAAy,SAAZ,QAA4B,OAA5B,Q;QACI,UAAK,GA
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,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,OjJ8B4E,0BiJ9BrE,kBAAM,CAAN,CjJ8K2B,KA
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P,C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,CAAN,EA AW,kBA AM,CAAN,CAAX,C;UACA,kBAAM,CAAN,EA AW,GAAX,C;UACA,a;UACA,a;;MAGR,OAAO,C;IACX,C;;M AKI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAAR,IAAP,CAAJ,C; QACI,UAAU,KAAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,KAAZ,C;QACI,UAA U,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;IACR,C;;MAMI,QAAQ,I;MACR,QAAQ,K;MACR,YAAY,kBAA M,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,O/IK6E,0B+ILtE,k BAAM,CAAN,C/I8I2B,KAAL,GAAiB,KAZI+B,E+IL3D,K/I8IgB,KAAL,GAAiB,KAZI+B,C+ILtE,IAAP,C;UACI, a;;QACJ,O/IG6E,0B+IHtE,kBAAM,CAAN,C/I4I2B,KAAL,GAAiB,KAZI+B,E+IH3D,K/I4IgB,KAAL,GAAiB,KA ZI+B,C+IHtE,IAAP,C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,C AAN,EA AW,kBAAM,CAAN,CAAX,C;UACA,kBAAM,CAAN,EA AW,GAAX,C;UACA,a;UACA,a;;MAGR,OA AO,C;IACX,C;;MAKI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAA R,IAAP,CAAJ,C;QACI,YAAU,KAAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,KAA Z,C;QACI,YAAU,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;IACR,C;;MAMI,QAAQ,I;MACR,QAAQ,K;MACR ,YAAY,kBAAM,CAAC,OAAO,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,OhJ pB8D,YgJoBvD,kBAAM,CAAN,ChJpBwE,KAAjB,EgJoB5C,KhJpByE,KAA7B,CgJoBvD,IAAP,C;UACI,a;;QAC J,OhJtB8D,YgJsBvD,kBAAM,CAAN,ChJtBwE,KAAjB,EgJsB5C,KhJtByE,KAA7B,CgJsBvD,IAAP,C;UACI,a;;Q ACJ,IAAI,KAAK,CAAT,C;UACI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,CAAN,EA AW,kBAAM,CAAN,CA AX,C;UACA,kBAAM,CAAN,EA AW,GAAX,C;UACA,a;UACA,a;;MAGR,OAAO,C;IACX,C;;MAKI,YAAY,aA AU,KAAV,EAAiB,IAAjB,EAAuB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAAR,IAAP,CAAJ,C;QACI,YAAU,K AAV,EAAiB,IAAjB,EAAuB,QAAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,KAAZ,C;QACI,YAAU,KAAV,EAAiB ,KAAjB,EAAwB,KAAxB,C;IACR,C;;MAMI,QAAQ,I;MACR,QAAQ,K;MACR,YAAY,kBAAM,CAAC,OAAO ,KAAP,IAAD,IAAiB,CAAjB,IAAN,C;MACZ,OAAO,KAAK,CAAZ,C;QACI,OnI7C+D,amI6CxD,kBAAM,CAAN ,CnI7C0E,KAAiB,EmI6C7C,KnI7C2E,KAA9B,Cml6CxD,IAAP,C;UACI,a;;QACJ,OnI/C+D,amI+CxD,kBAAM,C AAN,CnI/C0E,KAAiB,EmI+C7C,KnI/C2E,KAA9B,CmI+CxD,IAAP,C;UACI,a;;QACJ,IAAI,KAAK,CAAT,C;UA CI,UAAU,kBAAM,CAAN,C;UACV,kBAAM,CAAN,EA AW,kBAAM,CAAN,CAAX,C;UACA,kBAAM,CAAN,EA AW,GAAX,C;UACA,a;UACA,a;;MAGR,OAAO,C;IACX,C;;MAKI,YAAY,aAAU,KAAV,EAAiB,IAAjB,EAA uB,KAAvB,C;MACZ,IAAI,QAAO,QAAQ,CAAR,IAAP,CAAJ,C;QACI,YAAU,KAAV,EAAiB,IAAjB,EAAuB,Q AAQ,CAAR,IAAvB,C;MACJ,IAAI,QAAQ,KAAZ,C;QACI,YAAU,KAAV,EAAiB,KAAjB,EAAwB,KAAxB,C;I AC R,C;;MAQ+C,UAAU,KAAV,EAAiB,CAAjB,EAAoB,KAAM,KAAN,GAAa,CAAb,IAApB,C;IAAA,C;;MAE A,YAAU,KAAV,EAAiB,CAAjB,EAAoB,KAAM,KAAN,GAAa,CAAb,IAApB,C;IAAA,C;;MAEA,YAAU,KAAV ,EAAiB,CAAjB,EAAoB,KAAM,KAAN,GAAa,CAAb,IAApB,C;IAAA,C;;MAEA,YAAU,KAAV,EAAiB,CAAjB, EAAoB,KAAM,KAAN,GAAa,CAAb,IAApB,C;IAAA,C;;M/HpH3C,IAAI,EEjBl,SAAU,OAAV,GAAiB,CFiBrB, CAAJ,C;QACI,cAda,qB;QAeb,MAAM,gCAAyB,OAAQ,WAAjC,C;;MEIBV,OAAO,oBAAoB,CAApB,EAAuB,C AAvB,EAA0B,SAA1B,C;IACX,C;;MAGe,Q;MAAX,wBAAW,SAAX,gB;QAAW,SAAS,SAAX,M;QACI,SAAS, GAAG,CAAH,C;QACT,SAAS,GAAG,CAAH,C;QACT,WAAW,cAAc,EAAd,EAakB,EAAiB,C;QACX,IAAI,SA AQ,CAAZ,C;UAAe,OAAO,I;;MAE1B,OAAO,C;IACX,C;sGAEA,yB;MAAA,8D;MAAA,iC;QASI,OAAO,cAAc, SAAS,CAAT,CAAd,EAA2B,SAAS,CAAT,CAA3B,C;MACX,C;KAVA,C;;MAqBI,OAAO,UAAW,SAAQ,SAAS, CAAT,CAAR,EAAqB,SAAS,CAAT,CAArB,C;IACtB,C;;MAuBY,Q;MALR,IAAI,MAAM,CAAV,C;QAAa,OAA O,C;MACpB,IAAI,SAAJ,C;QAAe,OAAO,E;MACtB,IAAI,SAAJ,C;QAAe,OAAO,C;MAGtB,OAA8B,iBAAtB,m DAAsB,EAAU,CAAV,C;IACIC,C;;MAYsB,uB;QAAU,2BAAoB,CAApB,EAAuB,CAAvB,EAA0B,iBAA1B,C;M AAV,C;IAAA,C;;MFvDIB,IAAI,EEsDI,SAAU,OAAV,GAAiB,CFiDrB,CAAJ,C;QACI,cAda,qB;QAeb,MAAM,g CAAYB,OAAQ,WAAjC,C;;MEqDV,oCAakB,2BAA1B,C;IACJ,C;0FAGA,yB;MAAA,sC;MJjFA,kC;MAAA,oC;; QAAsg,4C;MAAtG,C;MAAA,6D;QAC4C,+BAAW,CAAX,EAAC,CAAd,C;MAAA,C;MAD5C,kF;MIiFA,uBAOe ,yB;QArEf,8D;;UAqEe,uB;YAAU,eAAsB,gB;YAAtB,OA5Dd,cAAc,SA4DgB,CA5DhB,CAAd,EAA2B,SA4DM, CA5DN,CAA3B,C;UA4DI,C;QAAA,C;OAAA,C;MAPf,2B;QAOI,oCAAW,0BAAX,C;MAAA,C;KAPJ,C;0FASA ,yB;MJ1FA,kC;MAAA,oC;;QAAsG,4C;MAAtG,C;MAAA,6D;QAC4C,+BAAW,CAAX,EAAC,CAAd,C;MAAA,C ;MAD5C,kF;;QIkGe,uB;UAAU,iBAAsB,kB;UAAtB,eAAkC,gB;UAAIC,OA1Dd,UAAW,SAAQ,SA0DW,CA1DX ,CAAR,EAAqB,SA0DC,CA1DD,CAArB,C;QA0DP,C;MAAA,C;MARf,uC;QAQI,oCAAW,sCAAX,C;MAAA,C;

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AFqD,OAEE,4F;WACvD,WAH2D,SAG3D,wC;QAHqD,OAGE,gG;;QAHF,OAI7C,uBAAmB,SAAnB,C;IAJ6C,C
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G;IAAA,C;;MAoBJ,e;MAAA,iB;MAAA,uB;IAAA,C;;MAAA,wC;MAAA,C;MASI,4E;MAMA,8E;MAOA,4E;M
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PG,C;I+IIPH,C;;MAWY,8BAAU,2BAAV,EAAe,KAAf,C;IAAA,C;;MAY/C,sBAAsB,IAAtB,EAA4B,KAA5B,C;
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,EAAqB,WAArB,+B;MACnB,O/IqNsC,U+IrN/B,Y/IqN+B,C;I+IpN1C,C;;MAaI,IAAA,KAAM,UAAN,C;QAAMB
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1.14 tar 1.34+dfsg-1ubuntu0.1.22.04.1

1.14.1 Available under license :

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1.16 adduser 3.118ubuntu5

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Since Nov 27 1996, it was maintained by Guy Maor <maor@debian.org>. He rewrote most of it.

Since May 20 2000, it is maintained by Roland Bauerschmidt <rb@debian.org>.

Since March 24 2004, it is maintained by Roland Bauerschmidt <rb@debian.org>, and co-maintained by Marc Haber <mh+debian-packages@zugschlus.de>

Since 23 Oct 2005, it has been maintained by Joerg Hoh <joerg@joerghoh.de>

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1.17 okio 3.3.0

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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/SegmentSharingTest.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonAppleMain/okio/SegmentedByteString.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/SegmentedByteString.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/appleMain/okio/SegmentedByteString.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/ForwardingTimeout.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/SegmentedByteString.kt

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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/CipherSourceTest.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/CipherAlgorithm.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/CipherFactory.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/CipherSinkTest.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/HashFunction.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/CipherSink.kt

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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/Md5.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/Sha256.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/Sha1.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/Sha512.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/MessageDigestConsistencyTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/Md5.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/Sha1.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/Sha256.kt
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RealBufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/-
RealBufferedSource.kt
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonTest/okio/ByteStringMoreTests.kt

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jar/jvmTest/okio/BufferedSourceJavaTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/JvmOkio.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/GzipSinkTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/SegmentPool.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/BufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/BufferedSinkJavaTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/GzipSource.kt
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/SocketTimeoutTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/DeflaterSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/RealBufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/MockSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonMain/okio/ForwardingSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/InflaterSource.kt
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jar/jvmMain/okio/ForwardingSource.kt
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/DeflaterSinkTest.java
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/BufferedSourceTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/SegmentPool.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/Timeout.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/OkioTest.java
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/TestUtil.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/nonJvmMain/okio/RealBufferedSource.kt
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jar/jvmMain/okio/RealBufferedSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/nonJvmMain/okio/ForwardingSource.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/ReadUtf8LineTest.java
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/utilJvm.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/ResourceFileSystemTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/JvmFileHandle.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/FileHandleTestingFileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/internal/FixedLengthSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/ZipBuilder.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/ZipFileSystemTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/mingwX64Main/okio/WindowsFileHandle.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/FileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/unixMain/okio/UnixFileHandle.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/FileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/FileHandle.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmTest/okio/utilNonJvm.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/FixedLengthSourceTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeMain/okio/FileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/TimeoutTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/internal/ResourceFileSystem.kt
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```
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/ThrottlerTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/DeflateKotlinTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/ByteStringKotlinTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/GzipKotlinTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/Throttler.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/OkioKotlinTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/Stopwatch.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/ThrottlerTakeTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
```


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- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/Path.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/unixMain/okio/-
UnixPosixVariant.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/nonJvmMain/okio/HashingSource.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/JvmTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeMain/okio/FileSink.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonMain/okio/HashingSource.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/HashingSink.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonTest/okio/ForwardingFileSystemTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/-
Path.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/ZipFileSystemJavaTest.java
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonTest/okio/UnsafeCursorTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/HashingSink.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/HmacTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeMain/okio/FileSource.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/FileMetadata.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/linuxX64Main/okio/-
LinuxX64PosixVariant.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmTest/okio/JvmSystemFileSystemTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/jvmMain/okio/JvmSystemFileSystem.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeMain/okio/-Cinterop.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonMain/okio/ExperimentalFileSystem.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/nativeMain/okio/PosixFileSystem.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/mingwX64Main/okio/-
WindowsPosixVariant.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-
jar/commonTest/okio/FakeFileSystemTest.kt
- * /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/internal/Hmac.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeTest/okio/NativeSystemFileSystemTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/ForwardingFileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/FileSystemJavaTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Path.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/mingwX64Main/okio/-Windows.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/appleMain/okio/-ApplePosixVariant.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/Path.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/FileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/appleTest/okio/AppleByteStringTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nativeMain/okio/-PosixVariant.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/PathTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/hashFunctions/okio/internal/Hmac.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jsMain/okio/FileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/NioSystemFileSystem.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jsMain/okio/-JsPlatform.kt
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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/HashingSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/HashingSinkTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/HashingSourceTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/WaitUntilNotifiedTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/Pipe.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/PipeTest.java
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Options.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/LargeStreamsTest.java

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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/ZipFileSystem.kt
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jar/jvmTest/okio/ByteStringJavaTest.java

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* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/BufferedSinkFactory.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Timeout.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/AbstractBufferedSinkTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/BufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/CommonRealBufferedSinkTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Source.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Okio.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/BufferedSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/BufferedSourceFactory.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/-Buffer.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/util.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/Sink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/Timeout.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/CommonOkioKotlinTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/RealBufferedSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmTest/okio/BufferFactory.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/Buffer.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/BufferCommonTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/RealBufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/CommonRealBufferedSourceTest.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/BufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/Buffer.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/BufferedSource.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/RealBufferedSink.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/AbstractBufferedSourceTest.kt

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Found in path(s):

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/ByteString.kt

* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/-Utf8.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/appleMain/okio/ByteString.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/-CommonPlatform.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/internal/-ByteString.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/ByteStringTest.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonJvmMain/okio/-NonJvmPlatform.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/nonAppleMain/okio/ByteString.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/jvmMain/okio/-JvmPlatform.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonMain/okio/-Util.kt
* /opt/cola/permits/1657433255_1682648745.2014782/0/okio-3-3-0-sources-jar/commonTest/okio/ByteStringFactory.kt

1.18 libdebconfclient0 0.261ubuntu1

1.18.1 Available under license :

CDebConf was initially written by Randolph Chung <tausq@debian.org>

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CDebConf includes ideas and code from:

debconf - The original, de facto, perl implementation
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1.19 zlib1g 1.2.11.dfsg-2ubuntu9.2

1.19.1 Available under license :

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```
/* inffast.c -- fast decoding
* Copyright (C) 1995-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inffast.c
```

No license file was found, but licenses were detected in source scan.

```
/* infcover.c -- test zlib's inflate routines with full code coverage
* Copyright (C) 2011, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/infcover.c
```

No license file was found, but licenses were detected in source scan.

```
/* gzread.c -- zlib functions for reading gzip files
* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzread.c
```

No license file was found, but licenses were detected in source scan.

```
/* zconf.h -- configuration of the zlib compression library
* Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h.cmakein
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h.in
```

No license file was found, but licenses were detected in source scan.

```
/* gzwrite.c -- zlib functions for writing gzip files
* Copyright (C) 2004-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzwrite.c
```

No license file was found, but licenses were detected in source scan.

```
/* uncompr.c -- decompress a memory buffer
* Copyright (C) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/uncompr.c
```

No license file was found, but licenses were detected in source scan.

```
/* gzguts.h -- zlib internal header definitions for gz* operations
* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzguts.h
```

No license file was found, but licenses were detected in source scan.

```
/* gun.c -- simple gunzip to give an example of the use of inflateBack()
* Copyright (C) 2003, 2005, 2008, 2010, 2012 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
Version 1.7 12 August 2012 Mark Adler */
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-
```

1.2.11.dfsg/examples/gun.c

No license file was found, but licenses were detected in source scan.

```
/* zutil.c -- target dependent utility functions for the compression library
* Copyright (C) 1995-2017 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zutil.c

No license file was found, but licenses were detected in source scan.

```
/* zutil.h -- internal interface and configuration of the compression library
* Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zutil.h

No license file was found, but licenses were detected in source scan.

```
/* minigzip.c -- simulate gzip using the zlib compression library
* Copyright (C) 1995-2006, 2010, 2011, 2016 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/minigzip.c

No license file was found, but licenses were detected in source scan.

```
/* inftrees.h -- header to use inftrees.c
* Copyright (C) 1995-2005, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inftrees.h

No license file was found, but licenses were detected in source scan.

For conditions of distribution and use, see copyright notice in zlib.h

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/msdos/Makefile.dj2

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/old/os2/Makefile.os2

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-

1.2.11.dfsg/msdos/Makefile.emx

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-

1.2.11.dfsg/old/Makefile.emx

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Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-

1.2.11.dfsg/examples/zlib_how.html

No license file was found, but licenses were detected in source scan.

/* crc32.c -- compute the CRC-32 of a data stream

* Copyright (C) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*

* Thanks to Rodney Brown <rbrown64@csc.com.au> for his contribution of faster

* CRC methods: exclusive-oring 32 bits of data at a time, and pre-computing

* tables for updating the shift register in one step with three exclusive-ors

* instead of four steps with four exclusive-ors. This results in about a

* factor of two increase in speed on a Power PC G4 (PPC7455) using gcc -O3.

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/crc32.c

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Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zlib.3

No license file was found, but licenses were detected in source scan.

/* adler32.c -- compute the Adler-32 checksum of a data stream

* Copyright (C) 1995-2011, 2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/adler32.c

No license file was found, but licenses were detected in source scan.

/* zip.h -- IO on .zip files using zlib

Version 1.1, February 14h, 2010

part of the MiniZip project - (<http://www.winimage.com/zLibDll/minizip.html>)

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications for Zip64 support

Copyright (C) 2009-2010 Mathias Svensson (<http://result42.com>)

For more info read MiniZip_info.txt

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Changes

See header of zip.h

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/zip.h

No license file was found, but licenses were detected in source scan.

/* inflate.h -- internal inflate state definition

* Copyright (C) 1995-2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inflate.h

No license file was found, but licenses were detected in source scan.

```
/* fitblk.c: example of fitting compressed output to a specified size
   Not copyrighted -- provided to the public domain
   Version 1.1 25 November 2004 Mark Adler */
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/fitblk.c
```

No license file was found, but licenses were detected in source scan.

```
/* zlib.h -- interface of the 'zlib' general purpose compression library
   version 1.2.11, January 15th, 2017
```

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zlib.h
```

No license file was found, but licenses were detected in source scan.

```
/* inftrees.c -- generate Huffman trees for efficient decoding
   * Copyright (C) 1995-2017 Mark Adler
   * For conditions of distribution and use, see copyright notice in zlib.h
```

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/infrees.c
No license file was found, but licenses were detected in source scan.

/* gzclose.c -- zlib gzclose() function

* Copyright (C) 2004, 2010 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzclose.c
No license file was found, but licenses were detected in source scan.

/* gzjoin -- command to join gzip files into one gzip file

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version 1.2, 14 Aug 2012

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Mark Adler madler@alumni.caltech.edu

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzjoin.c
No license file was found, but licenses were detected in source scan.

/* inflate.c -- zlib decompression

* Copyright (C) 1995-2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inflate.c  
No license file was found, but licenses were detected in source scan.
```

```
/* infback.c -- inflate using a call-back interface  
* Copyright (C) 1995-2016 Mark Adler  
* For conditions of distribution and use, see copyright notice in zlib.h  
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/infback.c  
No license file was found, but licenses were detected in source scan.
```

```
/* gzlib.c -- zlib functions common to reading and writing gzip files  
* Copyright (C) 2004-2017 Mark Adler  
* For conditions of distribution and use, see copyright notice in zlib.h  
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzlib.c  
No license file was found, but licenses were detected in source scan.
```

ZLIB DATA COMPRESSION LIBRARY

zlib 1.2.11 is a general purpose data compression library. All the code is thread safe. The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), [rfc1951](http://tools.ietf.org/html/rfc1951) (deflate format) and [rfc1952](http://tools.ietf.org/html/rfc1952) (gzip format).

All functions of the compression library are documented in the file `zlib.h` (volunteer to write man pages welcome, contact zlib@gzip.org). A usage example of the library is given in the file `test/example.c` which also tests that the library is working correctly. Another example is given in the file `test/minigzip.c`. The compression library itself is composed of all source files in the root directory.

To compile all files and run the test program, follow the instructions given at the top of `Makefile.in`. In short `./configure; make test`, and if that goes well, `make install` should work for most flavors of Unix. For Windows, use one of the special makefiles in `win32/` or `contrib/vstudio/`. For VMS, use `make_vms.com`.

Questions about zlib should be sent to [<zlib@gzip.org>](mailto:zlib@gzip.org), or to Gilles Vollant [<info@winimage.com>](mailto:info@winimage.com) for the Windows DLL version. The zlib home page is <http://zlib.net/>. Before reporting a problem, please check this site to verify that you have the latest version of zlib; otherwise get the latest

version and check whether the problem still exists or not.

PLEASE read the zlib FAQ http://zlib.net/zlib_faq.html before asking for help.

Mark Nelson <markn@ieee.org> wrote an article about zlib for the Jan. 1997 issue of Dr. Dobbs's Journal; a copy of the article is available at <http://marknelson.us/1997/01/01/zlib-engine/> .

The changes made in version 1.2.11 are documented in the file ChangeLog.

Unsupported third party contributions are provided in directory contrib/ .

zlib is available in Java using the java.util.zip package, documented at <http://java.sun.com/developer/technicalArticles/Programming/compression/> .

A Perl interface to zlib written by Paul Marquess <pmqs@cpan.org> is available at CPAN (Comprehensive Perl Archive Network) sites, including <http://search.cpan.org/~pmqs/IO-Compress-Zlib/> .

A Python interface to zlib written by A.M. Kuchling <amk@amk.ca> is available in Python 1.5 and later versions, see <http://docs.python.org/library/zlib.html> .

zlib is built into tcl: <http://wiki.tcl.tk/4610> .

An experimental package to read and write files in .zip format, written on top of zlib by Gilles Vollant <info@winimage.com>, is available in the contrib/minizip directory of zlib.

Notes for some targets:

- For Windows DLL versions, please see win32/DLL_FAQ.txt
- For 64-bit Irix, deflate.c must be compiled without any optimization. With -O, one libpng test fails. The test works in 32 bit mode (with the -n32 compiler flag). The compiler bug has been reported to SGI.
- zlib doesn't work with gcc 2.6.3 on a DEC 3000/300LX under OSF/1 2.1 it works when compiled with cc.
- On Digital Unix 4.0D (formely OSF/1) on AlphaServer, the cc option -std1 is necessary to get gzprintf working correctly. This is done by configure.
- zlib doesn't work on HP-UX 9.05 with some versions of /bin/cc. It works with other compilers. Use "make test" to check your compiler.
- gzdopen is not supported on RISCOS or BEOS.

- For PalmOs, see <http://palmzlib.sourceforge.net/>

Acknowledgments:

The deflate format used by zlib was defined by Phil Katz. The deflate and zlib specifications were written by L. Peter Deutsch. Thanks to all the people who reported problems and suggested various improvements in zlib; they are too numerous to cite here.

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

If you redistribute modified sources, we would appreciate that you include in the file ChangeLog history information documenting your changes. Please read the FAQ for more information on the distribution of modified source versions.

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/README

No license file was found, but licenses were detected in source scan.

/* compress.c -- compress a memory buffer

* Copyright (C) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/compress.c

No license file was found, but licenses were detected in source scan.

/* gzappend -- command to append to a gzip file

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version 1.2, 11 Oct 2012

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Mark Adler madler@alumni.caltech.edu

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzappend.c

No license file was found, but licenses were detected in source scan.

MiniZip - Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson

Introduction

MiniZip 1.1 is built from MiniZip 1.0 by Gilles Vollant (<http://www.winimage.com/zLibDll/minizip.html>)

When adding ZIP64 support into minizip it would result into risk of breaking compatibility with minizip 1.0. All possible work was done for compatibility.

Background

When adding ZIP64 support Mathias Svensson found that Even Rouault have added ZIP64 support for unzip.c into minizip for a open source project called gdal (<http://www.gdal.org/>)

That was used as a starting point. And after that ZIP64 support was added to zip.c some refactoring and code cleanup was also done.

Changed from MiniZip 1.0 to MiniZip 1.1

- * Added ZIP64 support for unzip (by Even Rouault)
- * Added ZIP64 support for zip (by Mathias Svensson)
- * Reverted some changed that Even Rouault did.
- * Bunch of patches received from Gilles Vollant that he received for MiniZip from various users.
- * Added unzip patch for BZIP Compression method (patch create by Daniel Borca)
- * Added BZIP Compress method for zip
- * Did some refactoring and code cleanup

Credits

Gilles Vollant - Original MiniZip author
Even Rouault - ZIP64 unzip Support
Daniel Borca - BZip Compression method support in unzip
Mathias Svensson - ZIP64 zip support
Mathias Svensson - BZip Compression method support in zip

Resources

ZipLayout <http://result42.com/projects/ZipFileLayout>

Command line tool for Windows that shows the layout and information of the headers in a zip archive.
Used when debugging and validating the creation of zip files using MiniZip64

ZIP App Note <http://www.pkware.com/documents/casestudies/APPNOTE.TXT>
Zip File specification

Notes.

* To be able to use BZip compression method in zip64.c or unzip64.c the BZIP2 lib is needed and HAVE_BZIP2 need to be defined.

License

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2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/MiniZip64_info.txt

No license file was found, but licenses were detected in source scan.

/* example.c -- usage example of the zlib compression library

* Copyright (C) 1995-2006, 2011, 2016 Jean-loup Gailly

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/example.c

No license file was found, but licenses were detected in source scan.

/* unzip.h -- IO for uncompress .zip files using zlib

Version 1.1, February 14h, 2010

part of the MiniZip project - (<http://www.winimage.com/zLibDll/minizip.html>)

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications of Unzip for Zip64

Copyright (C) 2007-2008 Even Rouault

Modifications for Zip64 support on both zip and unzip

Copyright (C) 2009-2010 Mathias Svensson (<http://result42.com>)

For more info read MiniZip_info.txt

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2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice may not be removed or altered from any source distribution.

Changes

See header of unzip64.c

*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/unzip.h

No license file was found, but licenses were detected in source scan.

/* zpipe.c: example of proper use of zlib's inflate() and deflate()

Not copyrighted -- provided to the public domain

Version 1.4 11 December 2005 Mark Adler */

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/zpipe.c

No license file was found, but licenses were detected in source scan.

/* zran.c -- example of zlib/gzip stream indexing and random access

* Copyright (C) 2005, 2012 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

Version 1.1 29 Sep 2012 Mark Adler */

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/zran.c

No license file was found, but licenses were detected in source scan.

```
/* deflate.h -- internal compression state
* Copyright (C) 1995-2016 Jean-loup Gailly
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/deflate.h
No license file was found, but licenses were detected in source scan.
```

```
/*
* gzlog.c
* Copyright (C) 2004, 2008, 2012, 2016 Mark Adler, all rights reserved
* For conditions of distribution and use, see copyright notice in gzlog.h
* version 2.2, 14 Aug 2012
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-
1.2.11.dfsg/examples/gzlog.c
No license file was found, but licenses were detected in source scan.
```

```
/* gzlog.h
Copyright (C) 2004, 2008, 2012 Mark Adler, all rights reserved
version 2.2, 14 Aug 2012
```

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3. This notice may not be removed or altered from any source distribution.

```
Mark Adler  madler@alumni.caltech.edu
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-
```

1.2.11.dfsg/examples/gzlog.h

No license file was found, but licenses were detected in source scan.

```
/* deflate.c -- compress data using the deflation algorithm
* Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/deflate.c

No license file was found, but licenses were detected in source scan.

Frequently Asked Questions about zlib

If your question is not there, please check the zlib home page

<http://zlib.net/> which may have more recent information.

The latest zlib FAQ is at http://zlib.net/zlib_faq.html

1. Is zlib Y2K-compliant?

Yes. zlib doesn't handle dates.

2. Where can I get a Windows DLL version?

The zlib sources can be compiled without change to produce a DLL. See the file `win32/DLL_FAQ.txt` in the zlib distribution. Pointers to the precompiled DLL are found in the zlib web site at <http://zlib.net/>.

3. Where can I get a Visual Basic interface to zlib?

See

* <http://marknelson.us/1997/01/01/zlib-engine/>

* `win32/DLL_FAQ.txt` in the zlib distribution

4. `compress()` returns `Z_BUF_ERROR`.

Make sure that before the call of `compress()`, the length of the compressed buffer is equal to the available size of the compressed buffer and not zero. For Visual Basic, check that this parameter is passed by reference ("as any"), not by value ("as long").

5. `deflate()` or `inflate()` returns `Z_BUF_ERROR`.

Before making the call, make sure that `avail_in` and `avail_out` are not zero. When setting the parameter `flush` equal to `Z_FINISH`, also make sure that `avail_out` is big enough to allow processing all pending input. Note that a

Z_BUF_ERROR is not fatal--another call to deflate() or inflate() can be made with more input or output space. A Z_BUF_ERROR may in fact be unavoidable depending on how the functions are used, since it is not possible to tell whether or not there is more output pending when strm.avail_out returns with zero. See http://zlib.net/zlib_how.html for a heavily annotated example.

6. Where's the zlib documentation (man pages, etc.)?

It's in zlib.h . Examples of zlib usage are in the files test/example.c and test/minizip.c, with more in examples/ .

7. Why don't you use GNU autoconf or libtool or ...?

Because we would like to keep zlib as a very small and simple package. zlib is rather portable and doesn't need much configuration.

8. I found a bug in zlib.

Most of the time, such problems are due to an incorrect usage of zlib. Please try to reproduce the problem with a small program and send the corresponding source to us at zlib@gzip.org . Do not send multi-megabyte data files without prior agreement.

9. Why do I get "undefined reference to gzputc"?

If "make test" produces something like

```
example.o(.text+0x154): undefined reference to `gzputc'
```

check that you don't have old files libz.* in /usr/lib, /usr/local/lib or /usr/X11R6/lib. Remove any old versions, then do "make install".

10. I need a Delphi interface to zlib.

See the contrib/delphi directory in the zlib distribution.

11. Can zlib handle .zip archives?

Not by itself, no. See the directory contrib/minizip in the zlib distribution.

12. Can zlib handle .Z files?

No, sorry. You have to spawn an uncompress or gunzip subprocess, or adapt the code of uncompress on your own.

13. How can I make a Unix shared library?

By default a shared (and a static) library is built for Unix. So:

```
make distclean
./configure
make
```

14. How do I install a shared zlib library on Unix?

After the above, then:

```
make install
```

However, many flavors of Unix come with a shared zlib already installed. Before going to the trouble of compiling a shared version of zlib and trying to install it, you may want to check if it's already there! If you can `#include <zlib.h>`, it's there. The `-lz` option will probably link to it. You can check the version at the top of `zlib.h` or with the `ZLIB_VERSION` symbol defined in `zlib.h`.

15. I have a question about OttoPDF.

We are not the authors of OttoPDF. The real author is on the OttoPDF web site: Joel Hainley, jhainley@myndkryme.com.

16. Can zlib decode Flate data in an Adobe PDF file?

Yes. See <http://www.pdflib.com/>. To modify PDF forms, see <http://sourceforge.net/projects/acroformtool/>.

17. Why am I getting this "register_frame_info not found" error on Solaris?

After installing zlib 1.1.4 on Solaris 2.6, running applications using zlib generates an error such as:

```
ld.so.1: rpm: fatal: relocation error: file /usr/local/lib/libz.so:
symbol __register_frame_info: referenced symbol not found
```

The symbol `__register_frame_info` is not part of zlib, it is generated by the C compiler (`cc` or `gcc`). You must recompile applications using zlib which have this problem. This problem is specific to Solaris. See <http://www.sunfreeware.com> for Solaris versions of zlib and applications using zlib.

18. Why does gzip give an error on a file I make with compress/deflate?

The `compress` and `deflate` functions produce data in the zlib format, which is different and incompatible with the gzip format. The `gz*` functions in

zlib on the other hand use the gzip format. Both the zlib and gzip formats use the same compressed data format internally, but have different headers and trailers around the compressed data.

19. Ok, so why are there two different formats?

The gzip format was designed to retain the directory information about a single file, such as the name and last modification date. The zlib format on the other hand was designed for in-memory and communication channel applications, and has a much more compact header and trailer and uses a faster integrity check than gzip.

20. Well that's nice, but how do I make a gzip file in memory?

You can request that deflate write the gzip format instead of the zlib format using `deflateInit2()`. You can also request that inflate decode the gzip format using `inflateInit2()`. Read `zlib.h` for more details.

21. Is zlib thread-safe?

Yes. However any library routines that zlib uses and any application-provided memory allocation routines must also be thread-safe. zlib's `gz*` functions use `stdio` library routines, and most of zlib's functions use the library memory allocation routines by default. zlib's `*Init*` functions allow for the application to provide custom memory allocation routines.

Of course, you should only operate on any given zlib or gzip stream from a single thread at a time.

22. Can I use zlib in my commercial application?

Yes. Please read the license in `zlib.h`.

23. Is zlib under the GNU license?

No. Please read the license in `zlib.h`.

24. The license says that altered source versions must be "plainly marked". So what exactly do I need to do to meet that requirement?

You need to change the `ZLIB_VERSION` and `ZLIB_VERNUM` #defines in `zlib.h`. In particular, the final version number needs to be changed to "f", and an identification string should be appended to `ZLIB_VERSION`. Version numbers `x.x.x.f` are reserved for modifications to zlib by others than the zlib maintainers. For example, if the version of the base zlib you are altering is "1.2.3.4", then in `zlib.h` you should change `ZLIB_VERNUM` to `0x123f`, and `ZLIB_VERSION` to something like "1.2.3.f-zachary-mods-v3". You can also update the version strings in `deflate.c` and `inftrees.c`.

For altered source distributions, you should also note the origin and nature of the changes in zlib.h, as well as in ChangeLog and README, along with the dates of the alterations. The origin should include at least your name (or your company's name), and an email address to contact for help or issues with the library.

Note that distributing a compiled zlib library along with zlib.h and zconf.h is also a source distribution, and so you should change ZLIB_VERSION and ZLIB_VERNUM and note the origin and nature of the changes in zlib.h as you would for a full source distribution.

25. Will zlib work on a big-endian or little-endian architecture, and can I exchange compressed data between them?

Yes and yes.

26. Will zlib work on a 64-bit machine?

Yes. It has been tested on 64-bit machines, and has no dependence on any data types being limited to 32-bits in length. If you have any difficulties, please provide a complete problem report to zlib@gzip.org

27. Will zlib decompress data from the PKWare Data Compression Library?

No. The PKWare DCL uses a completely different compressed data format than does PKZIP and zlib. However, you can look in zlib's contrib/blast directory for a possible solution to your problem.

28. Can I access data randomly in a compressed stream?

No, not without some preparation. If when compressing you periodically use Z_FULL_FLUSH, carefully write all the pending data at those points, and keep an index of those locations, then you can start decompression at those points. You have to be careful to not use Z_FULL_FLUSH too often, since it can significantly degrade compression. Alternatively, you can scan a deflate stream once to generate an index, and then use that index for random access. See examples/zran.c .

29. Does zlib work on MVS, OS/390, CICS, etc.?

It has in the past, but we have not heard of any recent evidence. There were working ports of zlib 1.1.4 to MVS, but those links no longer work. If you know of recent, successful applications of zlib on these operating systems, please let us know. Thanks.

30. Is there some simpler, easier to read version of inflate I can look at to understand the deflate format?

First off, you should read RFC 1951. Second, yes. Look in zlib's contrib/puff directory.

31. Does zlib infringe on any patents?

As far as we know, no. In fact, that was originally the whole point behind zlib. Look here for some more information:

<http://www.gzip.org/#faq11>

32. Can zlib work with greater than 4 GB of data?

Yes. inflate() and deflate() will process any amount of data correctly. Each call of inflate() or deflate() is limited to input and output chunks of the maximum value that can be stored in the compiler's "unsigned int" type, but there is no limit to the number of chunks. Note however that the strm.total_in and strm_total_out counters may be limited to 4 GB. These counters are provided as a convenience and are not used internally by inflate() or deflate(). The application can easily set up its own counters updated after each call of inflate() or deflate() to count beyond 4 GB. compress() and uncompress() may be limited to 4 GB, since they operate in a single call. gzseek() and gztell() may be limited to 4 GB depending on how zlib is compiled. See the zlibCompileFlags() function in zlib.h.

The word "may" appears several times above since there is a 4 GB limit only if the compiler's "long" type is 32 bits. If the compiler's "long" type is 64 bits, then the limit is 16 exabytes.

33. Does zlib have any security vulnerabilities?

The only one that we are aware of is potentially in gzprintf(). If zlib is compiled to use sprintf() or vsprintf(), then there is no protection against a buffer overflow of an 8K string space (or other value as set by gzbuffer()), other than the caller of gzprintf() assuring that the output will not exceed 8K. On the other hand, if zlib is compiled to use snprintf() or vsnprintf(), which should normally be the case, then there is no vulnerability. The ./configure script will display warnings if an insecure variation of sprintf() will be used by gzprintf(). Also the zlibCompileFlags() function will return information on what variant of sprintf() is used by gzprintf().

If you don't have snprintf() or vsnprintf() and would like one, you can find a portable implementation here:

<http://www.ijs.si/software/snprintf/>

Note that you should be using the most recent version of zlib. Versions

1.1.3 and before were subject to a double-free vulnerability, and versions 1.2.1 and 1.2.2 were subject to an access exception when decompressing invalid compressed data.

34. Is there a Java version of zlib?

Probably what you want is to use zlib in Java. zlib is already included as part of the Java SDK in the `java.util.zip` package. If you really want a version of zlib written in the Java language, look on the zlib home page for links: <http://zlib.net/>.

35. I get this or that compiler or source-code scanner warning when I crank it up to maximally-pedantic. Can't you guys write proper code?

Many years ago, we gave up attempting to avoid warnings on every compiler in the universe. It just got to be a waste of time, and some compilers were downright silly as well as contradicted each other. So now, we simply make sure that the code always works.

36. Valgrind (or some similar memory access checker) says that deflate is performing a conditional jump that depends on an uninitialized value. Isn't that a bug?

No. That is intentional for performance reasons, and the output of deflate is not affected. This only started showing up recently since zlib 1.2.x uses `malloc()` by default for allocations, whereas earlier versions used `calloc()`, which zeros out the allocated memory. Even though the code was correct, versions 1.2.4 and later was changed to not stimulate these checkers.

37. Will zlib read the (insert any ancient or arcane format here) compressed data format?

Probably not. Look in the `comp.compression` FAQ for pointers to various formats and associated software.

38. How can I encrypt/decrypt zip files with zlib?

zlib doesn't support encryption. The original PKZIP encryption is very weak and can be broken with freely available programs. To get strong encryption, use GnuPG, <http://www.gnupg.org/>, which already includes zlib compression. For PKZIP compatible "encryption", look at <http://www.info-zip.org/>

39. What's the difference between the "gzip" and "deflate" HTTP 1.1 encodings?

"gzip" is the gzip format, and "deflate" is the zlib format. They should probably have called the second one "zlib" instead to avoid confusion with

the raw deflate compressed data format. While the HTTP 1.1 RFC 2616 correctly points to the zlib specification in RFC 1950 for the "deflate" transfer encoding, there have been reports of servers and browsers that incorrectly produce or expect raw deflate data per the deflate specification in RFC 1951, most notably Microsoft. So even though the "deflate" transfer encoding using the zlib format would be the more efficient approach (and in fact exactly what the zlib format was designed for), using the "gzip" transfer encoding is probably more reliable due to an unfortunate choice of name on the part of the HTTP 1.1 authors.

Bottom line: use the gzip format for HTTP 1.1 encoding.

40. Does zlib support the new "Deflate64" format introduced by PKWare?

No. PKWare has apparently decided to keep that format proprietary, since they have not documented it as they have previous compression formats. In any case, the compression improvements are so modest compared to other more modern approaches, that it's not worth the effort to implement.

41. I'm having a problem with the zip functions in zlib, can you help?

There are no zip functions in zlib. You are probably using minizip by Giles Vollant, which is found in the contrib directory of zlib. It is not part of zlib. In fact none of the stuff in contrib is part of zlib. The files in there are not supported by the zlib authors. You need to contact the authors of the respective contribution for help.

42. The match.asm code in contrib is under the GNU General Public License. Since it's part of zlib, doesn't that mean that all of zlib falls under the GNU GPL?

No. The files in contrib are not part of zlib. They were contributed by other authors and are provided as a convenience to the user within the zlib distribution. Each item in contrib has its own license.

43. Is zlib subject to export controls? What is its ECCN?

zlib is not subject to export controls, and so is classified as EAR99.

44. Can you please sign these lengthy legal documents and fax them back to us so that we can use your software in our product?

No. Go away. Shoo.

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/FAQ

No license file was found, but licenses were detected in source scan.

```
/* trees.c -- output deflated data using Huffman coding
* Copyright (C) 1995-2017 Jean-loup Gailly
* detect_data_type() function provided freely by Cosmin Truta, 2006
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/trees.c
No license file was found, but licenses were detected in source scan.
```

```
/* inffast.h -- header to use inffast.c
* Copyright (C) 1995-2003, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inffast.h
No license file was found, but licenses were detected in source scan.
```

```
/*
Additional tools for Minizip
Code: Xavier Roche '2004
License: Same as ZLIB (www.gzip.org)
*/
```

Found in path(s):

```
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/mztools.c
* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/mztools.h
No license file was found, but licenses were detected in source scan.
```

```
/* unzip.c -- IO for uncompress .zip files using zlib
Version 1.1, February 14h, 2010
part of the MiniZip project - ( http://www.winimage.com/zLibDll/minizip.html )
```

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications of Unzip for Zip64
Copyright (C) 2007-2008 Even Rouault

Modifications for Zip64 support on both zip and unzip
Copyright (C) 2009-2010 Mathias Svensson (<http://result42.com>)

For more info read MiniZip_info.txt

Decryption code comes from crypt.c by Info-ZIP but has been greatly reduced in terms of compatibility with older software. The following is from the original crypt.c.

Code woven in by Terry Thorsen 1/2003.

Copyright (c) 1990-2000 Info-ZIP. All rights reserved.

See the accompanying file LICENSE, version 2000-Apr-09 or later (the contents of which are also included in zip.h) for terms of use.

If, for some reason, all these files are missing, the Info-ZIP license also may be found at: <ftp://ftp.info-zip.org/pub/infozip/license.html>

crypt.c (full version) by Info-ZIP. Last revised: [see crypt.h]

The encryption/decryption parts of this source code (as opposed to the non-echoing password parts) were originally written in Europe. The whole source package can be freely distributed, including from the USA. (Prior to January 2000, re-export from the US was a violation of US law.)

This encryption code is a direct transcription of the algorithm from Roger Schlafly, described by Phil Katz in the file appnote.txt. This file (appnote.txt) is distributed with the PKZIP program (even in the version without encryption capabilities).

Changes in unzip.c

2007-2008 - Even Rouault - Addition of cpl_unzGetCurrentFileZStreamPos
2007-2008 - Even Rouault - Decoration of symbol names unz* -> cpl_unz*
2007-2008 - Even Rouault - Remove old C style function prototypes
2007-2008 - Even Rouault - Add unzip support for ZIP64

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Oct-2009 - Mathias Svensson - Removed cpl_* from symbol names (Even Rouault added them but since this is now moved to a new project (minizip64) I renamed them again).

Oct-2009 - Mathias Svensson - Fixed problem if uncompressed size was > 4G and compressed size was <4G should only read the compressed/uncompressed size from the Zip64 format if the size from normal header was 0xFFFFFFFF

Oct-2009 - Mathias Svensson - Applied some bug fixes from patches received from Gilles Vollant

Oct-2009 - Mathias Svensson - Applied support to unzip files with compression method BZIP2 (bzip2 lib is required)

Patch created by Daniel Borca

Jan-2010 - back to unzip and minizip 1.0 name scheme, with compatibility layer

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*/

Found in path(s):

* /opt/cola/permits/1680209102_1684415608.4893944/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/unzip.c

1.20 libtirpc3 1.3.2-2ubuntu0.1

1.20.1 Available under license :

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1.21 selinux 3.3-1build2

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1.22 xorg 7.7+23ubuntu2

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Source Package: xorg

Debian/Ubuntu package authors: Branden Robinson, Fabio M. Di Nitto, Daniel Stone and others

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1.23 appdynamics-bindeps-linux-x64 23.4.0

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```

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Version 3, 29 June 2007

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1.24 libcom-err 1.46.5-2ubuntu1.1

1.24.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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#

This is a Makefile stub which handles the creation of BSD shared libraries.

#

In order to use this stub, the following makefile variables must be defined.

#

BSDLIB_VERSION = 1.0

BSDLIB_IMAGE = libce

BSDLIB_MYDIR = et

BSDLIB_INSTALL_DIR = \$(SHLIBDIR)

#

all:: image

real-subdirs:: Makefile

@echo " MKDIR pic"

@mkdir -p pic

BSD_LIB = \$(BSDLIB_IMAGE).so.\$(BSDLIB_VERSION)

BSDLIB_PIC_FLAG = -fpic

image: \$(BSD_LIB)

\$(BSD_LIB): \$(OBJS)

(cd pic; ld -Bshareable -o \$(BSD_LIB) \$(LDFLAGS_SHLIB) \$(OBJS))

\$(MV) pic/\$(BSD_LIB) .

\$(RM) -f ../\$(BSD_LIB)

(cd ..; \$(LN) \$(LINK_BUILD_FLAGS) \

`echo \$(my_dir) | sed -e 's;lib/;;'/'\$(BSD_LIB) \$(BSD_LIB))

install-shlibs install:: \$(BSD_LIB)

@echo " INSTALL_PROGRAM \$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)"

@\$(INSTALL_PROGRAM) \$(BSD_LIB) \

\$(DESTDIR)\$\$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)

@-\$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

\$(RM) -f \$(DESTDIR)\$\$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)

clean::

\$(RM) -rf pic

\$(RM) -f \$(BSD_LIB)

\$(RM) -f ../\$(BSD_LIB)

This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Index: tdbsa/tdb.c

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
- + trivial database library - standalone version

- trivial database library - private includes

-

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Theodore Ts'o
23-June-2007

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This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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1.26 jzmq 3.1.1-SNAPSHOT

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This package was debianized by
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1.27 httpcomponents-core 4.4.13

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1. SOFTWARE LICENSE.

1.1 LICENSE GRANT.

This End User License Agreement (this Agreement) between AppDynamics, Inc., a Delaware corporation with its principal place of business located at 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107 (AppDynamics) and the customer set forth in the Order Form (as defined below) (End User) is effective as of the date the initial Order Form is executed or the date this Agreement is referenced by the applicable purchase order (the Effective Date). This Agreement shall govern each order form, sales quotation, proposal, purchase order or other ordering document that references this Agreement (each an Order Form). Each Order Form will form part of this Agreement. Subject to the terms and conditions of this Agreement, AppDynamics hereby grants to End User, during the License Term (as defined below), a non-exclusive, non-transferable, non-sublicensable right and license to use the software-as-a-service and/or on-premises version of AppDynamics application intelligence software product, including one Controller, as designated in the Order Forms (the Software) for internal business purposes only for the quantity of units in the Order Form. AppDynamics Test & Dev Edition licenses shall only be used in test-only non-production environments. For purposes hereof, the License Term begins on the date AppDynamics delivers the Software license keys to End User and extends for the period specified in the applicable Order Form (unless earlier terminated in accordance with this Agreement). For the avoidance of doubt, End Users affiliates (and employees thereof) shall not use the Software without AppDynamics prior written consent. Notwithstanding anything to the contrary herein, this Agreement does not supersede a signed agreement between AppDynamics and End User with respect to the Software.

1.2 RESTRICTIONS ON USE.

Except as otherwise expressly provided in this Agreement, End User shall not (and shall not permit any third party to): (a) sublicense, sell, resell, transfer, assign, distribute, share, lease, rent, make any external commercial use of, outsource, use on a timeshare or service bureau, or use in an application service provider or managed service provider environment, or otherwise generate income from the Software; (b) copy the Software onto any public or distributed network, except for an internal and secure cloud computing environment; (c) cause the decompiling, disassembly, or reverse engineering of any portion of the Software, or attempt to discover any source code or other operational mechanisms of the Software (except where such restriction is expressly prohibited by law without the possibility of waiver, and then only upon prior written notice to AppDynamics); (d) modify, adapt, translate or create derivative works based on all or any part of the Software; (e) use any Third Party Software (as defined below) provided with the Software other than with the Software; (f) modify any proprietary rights notices that appear in the

Software or components thereof; (g) publish the results of any benchmarking tests run on any Third Party Software; (h) use any Software in violation of any applicable laws and regulations (including any export laws, restrictions, national security controls and regulations) or outside of the license scope set forth in Section 1.1; (i) use the Software in support of any nuclear proliferation, chemical weapon, biological weapon or missile proliferation activity; (j) configure the Software to collect any (1) social security numbers or other government-issued identification numbers, (2) passwords or other authentication credentials, (3) health information, biometric data, genetic data, or payment/financial information, (4) any data relating to a person under the age of 13 years old, or (5) any other data that is subject to regulatory or contractual handling requirements (e.g., PCI, HIPAA, or state and federal data security laws) (collectively, Prohibited Data); or (k) use the Software to (1) store, download or transmit infringing, libelous, or otherwise unlawful or tortious material, or malicious code or malware, or (2) engage in phishing, spamming, denial-of-service attacks or other fraudulent or criminal activity, (3) interfere with or disrupt the integrity or performance of third party systems, or the Software or data contained therein, or (4) attempt to gain unauthorized access to the Software or AppDynamics' systems or networks, or (5) perform, or engage any third party to perform, authenticated or unauthenticated penetration testing, vulnerability assessments or other security assessments on the SaaS version of the Software. End User shall not export or re-export, directly or indirectly, any Software or technical data or any copy, portions or direct product thereof (i) in violation of any applicable laws and regulations, (ii) to any country for which the United States or any other government, or any agency thereof, at the time of export requires an export license or other governmental approval, including Cuba, Libya, North Korea, Iran, Iraq, or Rwanda or any other Group D:1 or E:2 country (or to a national or resident thereof) specified in the then current Supplement No. 1 to part 740 of the U.S. Export Administration Regulations (or any successor supplement or regulations, without first obtaining such license or approval) or (ii) to anyone on the U.S. Treasury Departments list of Specially Designated Nationals or the U.S. Commerce Departments Table of Denial Orders. End User shall, at its own expense, obtain all necessary customs, import, or other governmental authorizations and approvals.

1.3 EVALUATION USE.

If End User accessed the Software pursuant to a no-fee or beta evaluation (Evaluation Use), then the License Term is for the period enabled by the license key for the Software provided by AppDynamics. AppDynamics shall have the right to downgrade, limit or otherwise modify the Software provided for Evaluation Use at any time without notice, and no warranty, indemnity, Maintenance or Support obligations of AppDynamics will apply to Evaluation Use. End User may use the number and type of licenses indicated by AppDynamics in writing prior to End User downloading or accessing the Software, which will be enabled by End Users specific license key. AppDynamics has the right to immediately revoke and terminate any Evaluation Use at any time. End User agrees to provide feedback related to the Software as reasonably requested by AppDynamics. End User grants to AppDynamics, without charge, the fully paid-up, perpetual, sublicensable right to exploit such feedback for any purpose. Evaluation Use is not a guarantee of future product features and should not be relied upon in making any purchasing decisions.

1.4 UNAUTHORIZED USE.

End User shall notify AppDynamics promptly of any unauthorized use of any password or account or any other known or suspected breach of security or misuse of the Software. End User is responsible for use of the Software by any and all employees, contractors, or other users that it allows to access the Software.

1.5 MAINTENANCE AND SUPPORT.

Support is defined as AppDynamics' obligations to respond to support requests as described in Exhibit A (Enterprise Support). Maintenance means AppDynamics obligations related to error resolution, bug fixes and the provision of updates and upgrades made generally commercially available by AppDynamics in its sole discretion, all as

described in Exhibit A. Subject to End Users payment of the fees set forth in the applicable Order Form(s), AppDynamics will (a) provide Maintenance and Support for the Software, and (b) solely if End User has purchased access to the software-as-a-service version of the Software, make the Software available to End User in accordance with Exhibit B (Availability and Security). For time-limited licenses for the Software (as set forth in an Order Form, Subscription Licenses), the fees for Maintenance and Support are included in the fees for the Software. For perpetual licenses, (i) AppDynamics shall invoice End User the applicable fees for Maintenance and Support (Maintenance and Support Fees) upon execution of the Order Form, and (ii) subject to payment of the Maintenance and Support Fees, AppDynamics will provide Support for the Maintenance and Support period set forth in the Order Form, as it may be renewed (the Maintenance and Support Term). If Maintenance and Support terminates with respect to any perpetual licenses, and End User is in good standing under this Agreement, then End User may reinstate Maintenance and Support on payment of the cumulative Maintenance and Support Fees applicable for the period during which Maintenance and Support lapsed, plus Maintenance and Support Fees for the reinstated Maintenance and Support Term. Notwithstanding anything herein to the contrary, if End User receives Support from an authorized partner of AppDynamics (Partner), then the support terms agreed upon by End User and such Partner shall govern in lieu of those set forth in Exhibit A, and AppDynamics shall have no support obligations to End User.

1.6 SERVICES.

Subject to the terms hereof (including payment of any applicable fees set forth in the Order Form), AppDynamics will provide the training, enablement and/or other services described in an Order Form (or statement of work referencing this Agreement), if any (Services). All Services will be rendered on a time and materials basis. AppDynamics will not exceed the total time purchased without prior written approval from End User. If the Services purchased have been consumed, AppDynamics will stop the Services until additional Services have been purchased. If End User elects not to purchase additional Services, then the Services will be deemed complete. If not used, pre-purchased Services and expenses expire twelve (12) months after the date purchased (unless otherwise set forth in the applicable Order Form). End User agrees to provide reasonable cooperation and information as necessary to permit AppDynamics to perform the Services. End User will reimburse AppDynamics for travel and expenses (at cost) incurred in connection with the Services (if any) by the Invoice Due Date (as defined below). Services will be performed on business days (a business day means Monday through Friday, excluding national holidays, during working hours, in the location where the Services are delivered). Saturday Services, and hours worked during the week that exceed the local working hours in a week, will be charged at the agreed rate x 1.5. Services performed on Sundays or national holidays will be charged at 2 x the agreed rate. If End User cancels or delays any scheduled Services less than ten (10) business days before the start date of such Services, then AppDynamics will deduct from End User's account (or End User will pay for) the amount of Services that were scheduled in any of the ten (10) business days following the date of cancellation (or notification of the delay, as applicable), and End User will fully reimburse AppDynamics for any reasonable travel and expenses incurred by AppDynamics for such Services (and for any Services rescheduled by End User) for which AppDynamics is unable to obtain a refund. During the License Term (for Subscription Licenses) or during the Maintenance and Support Term (for perpetual licenses), and in each case for a period of twelve (12) months thereafter, without AppDynamics prior written approval, End User will not solicit for employment or consultancy any AppDynamics employees who participated in the performance of Services.

2. FEES.

2.1 PRICING.

End User will be invoiced for those amounts and at those prices set forth in an Order Form (an Invoice), provided, however, that, for Evaluation Use, End User shall not be billed unless otherwise specified by AppDynamics in

writing prior to End User downloading or accessing (as applicable) the Software. Fees do not include any customization of the Software (nor support for any such customizations, unless otherwise agreed in writing). If End Users usage of the Software is in excess of those amounts set forth in the Order Form, End User will be billed for those overages at a pro-rated amount for the remainder of the applicable License Term, based on AppDynamics then-current standard pricing. If AppDynamics believes in good faith that End Users usage of the Software exceeds that set forth on the applicable Order Form, End User agrees to allow AppDynamics to audit End Users use of the Software (not more frequently than twice per calendar year), upon at least twenty-four (24) hours notice, to determine the actual Software use, using a commercially reasonable auditing procedure. End User acknowledges that purchases made under this Agreement are neither contingent on the delivery of any future functionality or features nor dependent on any oral or written public comments made by AppDynamics regarding future functionality or features.

2.2 PAYMENTS.

End User shall pay Invoices within thirty (30) days of the invoice date (the Invoice Due Date). If End User reasonably disputes any Invoice, (i) End User shall provide AppDynamics with written notice of such dispute, including the grounds therefor (a Dispute Notice), prior to the Invoice Due Date, (ii) End User and AppDynamics shall, for a period of fifteen (15) days following AppDynamics receipt of such Dispute Notice, negotiate in good faith to resolve the dispute and (iii) if such dispute remains unresolved at the end of such period, the parties shall retain all of their respective rights under this Agreement (including, without limitation, any action for non-payment of the fees set forth herein). All payment obligations are non-cancelable and all amounts paid are non-refundable, except (a) for amounts paid in error that are not actually due under this Agreement, and (b) as set forth in Sections 6.1 and 7.1. The fees paid by End User are exclusive of all taxes, levies, or duties imposed by taxing authorities, if any, and End User shall be responsible for payment of all such taxes, levies, or duties, excluding taxes based on AppDynamics income. End User represents and warrants that the billing and contact information provided to AppDynamics is complete and accurate, and AppDynamics shall have no responsibility for any Invoices that are not received due to inaccurate or missing information provided by End User. End User shall pay interest on all payments not received by the Invoice Due Date at a rate of one percent (1%) per month or the maximum amount allowed by law, whichever is lesser. All amounts due under this Agreement shall be paid by End User in full without any set-off, counterclaim, deduction or withholding (other than any deduction or withholding of tax as required by law). If requested by AppDynamics, End User will obtain and furnish to AppDynamics tax receipts or other certificates issued by the competent taxation office showing the payments of the withholding tax within a reasonable time after payment. Following written notice, AppDynamics shall be entitled to suspend End Users access to the Software if payments are not received within thirty (30) days of the Invoice Due Date. Notwithstanding anything herein to the contrary, if End User makes its payments pursuant to this Agreement to a Partner, then the payment terms agreed by End User and such Partner shall govern to the extent anything in this Section 2 conflicts with such Partner payment terms.

3. CONFIDENTIALITY

3.1 SCOPE AND RESTRICTIONS.

Confidential Information means all information of a party (Disclosing Party) disclosed to the other party (Receiving Party) that is designated in writing or identified as confidential at the time of disclosure or should be reasonably known by the Receiving Party to be confidential due to the nature of the information disclosed and the circumstances surrounding the disclosure. The terms of this Agreement, the Software, any technical or other documentation relating to the Software, logins, passwords and other access codes and any and all information regarding AppDynamics business, products and services are the Confidential Information of AppDynamics. The

Receiving Party will: (i) not use the Disclosing Party's Confidential Information for any purpose outside of this Agreement; (ii) not disclose such Confidential Information to any person or entity, other than its affiliates, employees, consultants, agents and professional advisers who have a need to know for the Receiving Party to exercise its rights or perform its obligations hereunder, provided that such employees, consultants, and agents are bound by agreements or, in the case of professional advisers, ethical duties respecting such Confidential Information in accordance with the terms of this Section 3; and (iii) use reasonable measures to protect the confidentiality of such Confidential Information. If the Receiving Party is required by applicable law or court order to make any disclosure of such Confidential Information, it will first give written notice of such requirement to the Disclosing Party, and, to the extent within its control, permit the Disclosing Party to intervene in any relevant proceedings to protect its interests in its Confidential Information, and provide full cooperation to the Disclosing Party in seeking to obtain such protection. Further, this Section 3 will not apply to information that the Receiving Party can document: (i) was rightfully in its possession or known to it prior to receipt without any restriction on its disclosure; (ii) is or has become public knowledge or publicly available through no fault of the Receiving Party; (iii) is rightfully obtained by the Receiving Party from a third party without breach of any confidentiality obligation; or (iv) is independently developed by employees of the Receiving Party who had no access to such information.

3.2 EQUITABLE RELIEF.

The Receiving Party acknowledges that unauthorized disclosure of the Disclosing Party's Confidential Information could cause substantial harm to the Disclosing Party for which damages alone might not be a sufficient remedy and, therefore, that upon any such disclosure by the Receiving Party the Disclosing Party will be entitled to seek appropriate equitable relief in addition to whatever other remedies it might have at law or equity.

4. PROPRIETARY RIGHTS. AppDynamics and its suppliers own and shall retain all proprietary rights, including all copyright, patent, trade secret, trademark and all other intellectual property rights, in and to the Software and the results of any Services. End User acknowledges that the rights granted under this Agreement do not provide End User with title to or ownership of the Software. Certain free or open source based software (the FOSS Software) and third party software included with the Software (the Third Party Software) is shipped with the Software but is not considered part of the Software hereunder. A list of the FOSS Software and Third Party Software is set forth on the webpage located at <https://docs.appdynamics.com/display/DASH/Legal+Notices> With respect to Third Party Software included with the Software, such Third Party Software suppliers are third party beneficiaries of this Agreement. End Users use of such FOSS Software is subject to the terms of the licenses set forth on such webpage. The Software and Third Party Software may only be used by End User as prescribed by the AppDynamics documentation located at <http://docs.appdynamics.com> (as it may be updated from time to time, the Documentation).

5. TERM AND TERMINATION.

The term of this Agreement begins on the Effective Date and will remain in effect until all Subscription Licenses (and Maintenance and Support Terms, if applicable) expire or until this Agreement is otherwise terminated in accordance with the terms hereof, whichever occurs first (the Term). This Agreement may be renewed at any time by execution of an Order Form referencing this Agreement, and any such renewal will be deemed part of the Term hereunder. If either party commits a material breach of this Agreement, and such breach has not been cured within thirty (30) days after receipt of written notice thereof, the non-breaching party may terminate this Agreement, except that AppDynamics may immediately terminate this Agreement and/or End Users license to the Software upon End Users breach of Section 1.2. Either party may also terminate this Agreement upon written notice if the other party suspends payment of its debts or experiences any other insolvency or bankruptcy-type event. Upon expiration or termination of this Agreement for any reason, (i) with respect to Subscription Licenses, all rights granted to End

User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; (ii) with respect to perpetual licenses, these will survive termination of this Agreement unless AppDynamics terminates the Agreement for End Users breach of this Agreement in which case all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; and (iii) each Receiving Party will return or destroy, at the Disclosing Partys option, the Disclosing Partys Confidential Information in the Receiving Partys possession or control. All fees that have accrued as of such expiration or termination, and Sections 1.2, 1.3, 1.4, 2, 3, 4, 5, 6.2 and 7 through 12, will survive any expiration or termination hereof.

6. WARRANTIES.

6.1 LIMITED WARRANTY. The limits below will not apply to the extent prohibited by applicable law.

AppDynamics warrants that during the first thirty (30) days following the date the Software is purchased, the Software will, in all material respects, conform to the functionality described in the then-current Documentation for the applicable Software version. AppDynamics sole and exclusive obligation, and End Users sole and exclusive remedy, for a breach of this warranty shall be that AppDynamics shall be required to use commercially reasonable efforts to repair or replace the Software to conform in all material respects to the Documentation, and if AppDynamics is unable to materially restore such functionality within thirty (30) days from the date of written notice of such breach, End User shall be entitled to terminate the license to the affected Software upon written notice and AppDynamics shall promptly provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). End User must notify AppDynamics in writing of any warranty breaches within such warranty period, and End User must have installed and configured the Software in accordance with the Documentation to be eligible for the foregoing remedy.

6.2 WARRANTY DISCLAIMER.

EXCEPT AS EXPRESSLY PROVIDED IN THIS SECTION 6, ALL SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT AND SERVICES ARE PROVIDED AS IS AND APPDYNAMICS AND ITS SUPPLIERS EXPRESSLY DISCLAIM ANY AND ALL OTHER REPRESENTATIONS AND WARRANTIES, EITHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT THERETO, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, OR THE CONTINUOUS, UNINTERRUPTED, ERROR-FREE, VIRUS-FREE, OR SECURE ACCESS TO OR OPERATION OF THE SOFTWARE. APPDYNAMICS EXPRESSLY DISCLAIMS ANY WARRANTY AS TO THE ACCURACY OR COMPLETENESS OF ANY INFORMATION OR DATA ACCESSED OR USED IN CONNECTION WITH THE SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT, OR SERVICES. AppDynamics is not responsible for any delays, delivery failures, or any other loss or damage resulting from the transfer of data over communications networks and facilities, including the Internet, and End User acknowledges that the Software and Documentation may be subject to limitations, delays and other problems inherent in the use of such communications facilities. The Software is not fault-tolerant and is not designed or intended for use in hazardous environments, including without limitation, in the operation of aircraft or other modes of human mass transportation, nuclear or chemical facilities, life support systems, implantable medical equipment, motor vehicles or weaponry systems, or any other application in which failure of the Software could lead to death or serious bodily injury of a person, or to severe physical or environmental damage (each, a High Risk Use). AppDynamics expressly disclaims any express or implied warranty or representation of fitness for High Risk Use. AppDynamics shall not be liable to End User for any loss, damage or harm suffered by End User that is directly or indirectly caused by End Users unauthorized use of the Software to process Prohibited Data.

7. INDEMNIFICATION.

7.1 BY APPDYNAMICS.

AppDynamics agrees at its expense to defend End User against (or, at AppDynamics option, settle), any third party claim to the extent such claim alleges that the Software infringes or misappropriates any patent, copyright, trademark or trade secret of a third party, and AppDynamics shall pay all costs and damages finally awarded against End User by a court of competent jurisdiction as a result of any such claim. In the event that the use of the Software is, or in AppDynamics sole opinion is likely to become, subject to such a claim, AppDynamics, at its option and expense, may (a) replace the applicable Software with functionally equivalent non-infringing technology, (b) obtain a license for End Users continued use of the applicable Software, or (c) terminate the license and provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). The foregoing indemnification obligation of AppDynamics will not apply: (1) if the Software is modified by End User or its agent; (2) if the Software is combined with other non-AppDynamics products, applications, or processes, but solely to the extent the alleged infringement is caused by such combination; or (3) to any unauthorized use of the Software. The foregoing shall be End Users sole remedy with respect to any claim of infringement of third party intellectual property rights.

7.2 BY END USER.

End User agrees to defend, at its expense, AppDynamics and its affiliates, its suppliers and its resellers against any third party claim to the extent such claim arises from or is made in connection with End Users breach of Section 1 or End Users negligence or willful misconduct, and End User shall pay all costs and damages finally awarded against AppDynamics by a court of competent jurisdiction as a result of any such claim.

7.3 INDEMNIFICATION REQUIREMENTS.

In connection with any claim for indemnification under this Section 7, the indemnified party must promptly provide the indemnifying party with notice of any claim that the indemnified party believes is within the scope of the obligation to indemnify, provided, however, that the failure to provide such notice shall not relieve the indemnifying party of its obligations under this Section 7, except to the extent that such failure materially prejudices the indemnifying partys defense of such claim. The indemnified party may, at its own expense, assist in the defense if it so chooses, but the indemnifying party shall control the defense and all negotiations related to the settlement of any such claim. Any such settlement intended to bind either party shall not be final without the other partys written consent, which consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that End Users consent shall not be required when AppDynamics is the indemnifying party if the settlement involves only the payment of money by AppDynamics.

8. LIMITATION OF LIABILITY. The limits below will not apply to the extent prohibited by applicable law.

8.1 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), IN NO EVENT SHALL EITHER PARTY BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOSS OF REVENUES OR PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, OR LOSS OF DATA, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8.2 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), NEITHER PARTYS LIABILITY FOR ANY DAMAGES (WHETHER FOR BREACH OF CONTRACT, MISREPRESENTATIONS, NEGLIGENCE, STRICT LIABILITY, OTHER TORTS OR OTHERWISE) UNDER THIS AGREEMENT SHALL EXCEED AN AMOUNT EQUAL TO THE TOTAL FEES PAID (PLUS FEES PAYABLE) TO APPDYNAMICS DURING THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM GIVING RISE TO SUCH DAMAGES. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

9. FORCE MAJEURE.

Except for payment obligations, neither party hereto will be liable for defaults or delays due to acts of God, or the public enemy, acts or demands of any government or governmental agency, fires, earthquakes, floods, accidents, or other unforeseeable causes beyond its reasonable control and not due to its fault or negligence.

10. DATA COLLECTION.

End User acknowledges that AppDynamics application server and machine software agents (the Agents) collect metrics that relate to the performance, health and resource of an application, its components (transactions, code libraries) and related infrastructure (nodes, tiers) that service those components. In addition, AppDynamics collects metrics on End Users activities, such as web pages visited, length of visit, and which features of the Software an End User uses. If End User provides AppDynamics with any personally identifiable information (personal data), End User represents and warrants that such information has been collected by End User in accordance with the provisions of all applicable data protection legislation and that End User has all right and consents necessary to provide such personal data to AppDynamics. End User will indemnify AppDynamics for reasonable costs and other amounts that AppDynamics may incur relating to any breach of this Section.

11. US GOVERNMENT MATTERS.

As defined in FAR section 2.101, the Software and Documentation are commercial items and according to DFAR section 252.227 7014(a)(1) and (5) are deemed to be commercial computer software and commercial computer software documentation. Consistent with DFAR section 227.7202 and FAR section 12.212, any use modification, reproduction, release, performance, display, or disclosure of such commercial software or commercial software documentation by the U.S. Government will be governed solely by the terms of this Agreement and will be prohibited except to the extent expressly permitted by the terms of this Agreement.

12. MISCELLANEOUS.

This Agreement shall be governed by and construed under the laws of the State of California, U.S.A. The parties consent to the exclusive jurisdiction and venue of the courts located in and serving San Francisco, California. Failure by either Party to exercise any of its rights under, or to enforce any provision of, this Agreement will not be deemed a waiver or forfeiture of such rights or ability to enforce such provision. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or unenforceable, such provision will be amended to achieve as nearly as possible the same economic effect of the original provision and the remainder of this Agreement will remain in full force and effect. This Agreement and its exhibits, together with the Order Form(s) and any statements of work incorporating this Agreement, if applicable, represent the entire agreement between the parties and supersede any previous or contemporaneous oral or written agreements or communications regarding the subject matter of this Agreement. The person signing or otherwise accepting this Agreement for End User represents

that s/he is duly authorized by all necessary and appropriate corporate action to enter this Agreement on behalf of End User. Any modification to this Agreement must be in writing and signed by a duly authorized agent of both parties. The Uniform Computer Information Transactions Act (UCITA) does not apply to this Agreement. This Agreement shall control over additional or different terms of any purchase order, confirmation, invoice, statement of work or similar document (other than an AppDynamics Order Form, which will take precedence), even if accepted in writing by both parties, and waivers and amendments to this Agreement shall be effective only if made by non-pre-printed agreements clearly understood by both parties to be an amendment or waiver to this Agreement. For purposes of this Agreement, including means including without limitation. The rights and remedies of the parties hereunder will be deemed cumulative and not exclusive of any other right or remedy conferred by this Agreement or by law or equity. No joint venture, partnership, employment, or agency relationship exists between the parties as a result of this Agreement or use of the Software. AppDynamics reserves the right to perform its obligations from locations and/or through use of affiliates and subcontractors, worldwide, provided that AppDynamics will be responsible for such parties. End User may not assign this Agreement without the prior written approval of AppDynamics and any purported assignment in violation of this section shall be void; AppDynamics may assign, transfer or subcontract this Agreement in whole or in part. Upon any assignment of this Agreement by End User that is approved by AppDynamics, any licenses that contain an unlimited aspect will, with respect to End User or the successor entity, as applicable, be capped at the number of authorized Software units in use immediately prior to such assignment. End User agrees that AppDynamics may refer to End User by its trade name and logo, and may briefly describe End Users business, in AppDynamics marketing materials and website. AppDynamics may give notice to End User by electronic mail to End Users email address on record in End Users account information, or by written communication sent by first class mail or pre-paid post to End Users address on record in End Users account information. End User may give notice to AppDynamics at any time by any letter delivered by nationally recognized overnight delivery service or first class postage prepaid mail to AppDynamics at the following address or such other address as may be notified to End User from time to time: AppDynamics, Inc., 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107, Attn: Legal Department. Notice under this Agreement shall be deemed given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by email; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested.

EXHIBIT A

ENTERPRISE SUPPORT

GENERAL REQUIREMENTS.

AppDynamics will provide access to a ticketing system and email address (help@appdynamics.com), which will be available twenty-four (24) hours per day, seven (7) days per week. The email account will be maintained by qualified support specialists, who shall use commercially reasonable efforts to answer questions and resolve problems regarding the Software.

HOURS OF OPERATION.

Support is available twenty-four (24) hours per day, seven (7) days per week.

ERROR CLASSIFICATION.

Any reported errors are classified in the following manner, in each case when caused by

the Software:

Error Classification Criteria

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Urgent End User production application is down or there is a major malfunction, resulting in a business revenue loss and impacting the End User application functionality for a majority of users.

High Critical loss of End User application functionality or performance, impacting the application functionality for a high number of users.

Normal Moderate loss of End User application functionality or performance, impacting multiple users.

Low Minor loss of End User application functionality or product feature in question.

ERROR DEFINITION.

An error means a reproducible malfunction in the Software that is reported by End User through AppDynamics ticketing system that prevents the Software from performing in accordance with the operating specifications described in the then-current Documentation.

AUTHORIZED SUPPORT CONTACTS.

Maintenance and Support will be provided solely to End Users designated support contacts. The Order Form may indicate a maximum number of designated support contacts for End Users service level. End User will provide its designated support contacts, including its primary email address.

END USERS OBLIGATION TO ASSIST.

If End User reports a purported error in the Software to AppDynamics, AppDynamics ticketing system will request the following minimum information:

- A general description of the operating environment
- A list of all hardware components, operating systems and networks
- A reproducible test case
- Any log files, trace and systems files

End Users failure to provide this information may prevent or significantly delay AppDynamics ability to identify and fix the reported error. AppDynamics time to respond to any error will begin when AppDynamics has received all requested information from the End User and is able to reproduce the error.

ERROR RESOLUTION.

If AppDynamics determines there is an error in the Software, AppDynamics may, at its sole option, repair that error in the version of the Software that End User is currently using or instruct End User to install a newer version of the Software with that error repaired. AppDynamics reserves the right to provide End User with a workaround in lieu of fixing an error.

SOFTWARE UPDATES AND UPGRADES. End User must be current on fees in order to receive access to Maintenance.

RESPONSE TIME. AppDynamics shall respond to error tickets in accordance with the tables set forth below. AppDynamics will use reasonable means to repair the error and keep End User informed of progress. AppDynamics makes no representations as to when a full resolution of the error may be made.

Error Initial Response Manager Escalation VP Escalation Email Status Updates

=====

Urgent 1 Hour 1 Business Day 1 Week Daily
High 6 Hours 1 Week 2 Weeks Weekly
Normal 1 Business Day Quarterly Review None None
Low 2 Business Days Semi-Annual Review None None

Maintenance and Support Policy: The Maintenance and Support policy is as follows:

AppDynamics provides Maintenance and Support for each version of the Software for a period of twelve (12) months after the generally available release of the next major version of the Software (a major release is a change in the first number to the right of the decimal point). For example, if version 4.1 is released on January 1, 2015, then AppDynamics will provide Maintenance and Support for version 4.0 until January 1, 2016. AppDynamics does not provide Maintenance or Support for any customized software (or components thereof).

For third party software or technology used by End User with the Software but not included with the Software (a Platform, such as Java Virtual Machines), AppDynamics will follow the end-of-life (EOL) support timeline announced by the third party vendor of such Platform. AppDynamics will stop providing Maintenance and Support for an EOLd Platform version when the Platform vendor stops providing maintenance and support for that Platform version.

EXHIBIT B
AVAILABILITY AND SECURITY

The terms set forth in this Exhibit B apply only if End User has purchased access to the online software-as-a-service (SaaS) version of the Software, as indicated on the Order Form.

AVAILABILITY.

AppDynamics will provide System Availability (as defined below) of ninety-nine and one-half percent (99.5%) (the Availability SLA), excluding situations identified as Exclusions below. For purposes of the Availability SLA, the AppDynamics network extends to, includes and terminates at the data center located router that provides the outside interface of each of AppDynamics WAN connections to its backbone providers (the AppDynamics Network).

Exclusions means any outage that results from any of the following:

- a. Any Maintenance performed by AppDynamics during AppDynamics standard Maintenance windows. AppDynamics will notify End User within forty-eight (48) hours of any standard Maintenance and within twenty-four (24) hours for other non-standard emergency Maintenance (collectively referred to herein as Scheduled Maintenance).
- b. End User's information content or application programming, or the acts or omissions of End User or its agents, including, without limitation, the following:
 1. End Users use of any programs not supplied by AppDynamics;
 2. End Users failure to provide AppDynamics with reasonable advance prior notice of any pending unusual large deployments of new nodes (i.e., adding over ten percent (10%) total nodes in less than twenty-four (24) hours);
 3. End Users implementation of any significant configuration changes, including changes that lead to a greater than thirty percent (30%) change in a one week period or greater than fifty percent (50%) change in a one month period in the number of key objects in the system including but not limited to metrics, snapshots, nodes, events and business transactions;
 4. Any misconfiguration by End User (as determined in AppDynamics sole discretion), including configuration errors and unintended usage of the Software;
 5. End Users failure to upgrade the Agents to keep the Agent versions within six (6) months of the Controller version; or
 6. End Users implementation of configuration changes in the number of key objects in the Software (including metrics, snapshots, nodes, events and business transactions) that results in, or is likely to result in, an adverse impact on other customers.
- c. Force majeure or other circumstances beyond AppDynamics reasonable control that could not be avoided by its exercise of due care.
- d. Failures of the Internet backbone itself and the network by which End User connects to the Internet backbone or any other network unavailability outside of the AppDynamics Network, such as misconfigurations, proxies or firewalls.
- e. Any window of time when End User agrees that Software availability/unavailability will not be monitored or counted.
- f. Any problems resulting from End User combining or merging the Software with any hardware or software not supplied by AppDynamics or not identified by AppDynamics in the Documentation as being compatible with the Software.
- g. End Users or any third party's use of the Software in an unauthorized or unlawful manner.

Remedies for Excessive Downtime:

In the event the availability of the Software falls below the Availability SLA in a given calendar quarter, AppDynamics will pay End User a service credit (Service Credit) as follows, corresponding to the actual Availability of the Software during the applicable calendar quarter (on pro-rated basis for annual or multi-year fees): if the Availability is 99.5% or greater, End User is entitled to receive no credits; if the Availability is 97.0% - 99.49%, then End User is entitled to receive Service Credits equal to five percent of the fees for the applicable calendar quarter (not to exceed \$280); if the Availability is 95.0% - 96.9%, then End User is entitled to receive

Service Credits equal to ten percent of the fees for the applicable calendar quarter (not to exceed \$560); and if the Availability is less than 95.0%, then End User is entitled to receive Service Credits equal to twenty percent of the fees for the applicable calendar quarter (not to exceed \$1120). Such Service Credit will be issued as a credit against any fees owed by End User for the next calendar quarter of the Term, or, if End User does not owe any additional fees, then AppDynamics will pay End User the amount of the applicable Service Credit within thirty (30) days after the end of the calendar quarter in which such credit accrued. To receive Service Credits, End User must submit a written request to AppDynamics (to customersuccess@appdynamics.com with a copy to legal@appdynamics.com) within 15 days after the end of the quarter in which the Software was unavailable, or End Users right to receive Service Credits with respect to such unavailability will be waived. The remedies stated in this section are End Users sole and exclusive remedies and AppDynamics sole and exclusive obligations for service interruption or unavailability.

System Availability is measured by the following formula: $(n - y) * 100 / n$

(1) n is the total number of minutes in the given calendar quarter minus the Exclusions (as defined above); and y is the total number of minutes in the given calendar quarter that the Controller is not accessible by End User (as determined by AppDynamics tools).

(2) Specifically excluded from n and y in this calculation are the Exclusions.

SECURITY INFORMATION.

For all End User data stored in the software-as-a-service version of the Software, AppDynamics will satisfy all of its obligations under Section 3 by maintaining the security precautions described below.

Certifications

AppDynamics is SOC 2 Type II compliant, meaning it has been independently audited to verify the validity and functionality of its control activities and processes. Customers may request AppDynamics report at any time.

AppDynamics data center provider is also SOC 2 Type II compliant.

Secure Connections

Agents initiate connections to a single Controller, which can either be hosted on-premises by the customer or by AppDynamics via the AppDynamics software-as-a-service platform. The Controller is the central repository and analytics engine where all performance data is stored, baselined, and analyzed. If End User downloads the Agent from End Users controller (ie., using the installation wizard provided by AppDynamics), then transport layer security (TLS) for Agent-to-Controller communication is enabled by default. For other installations, AppDynamics recommends enabling SSL/TLS encryption for Agent communications. For detailed instructions please see docs.appdynamics.com. Agents also support outbound HTTP proxies for customers using these security mechanisms. For Software user interface access, AppDynamics redirects all traffic to HTTPS.

Access Controls to Data

Access to collected data and data collection features is restricted to authenticated customer users by role-based access controls (RBAC). In addition, customer users do not have native access to run queries on the Controllers MySQL database.

Availability

Servers for the software are operated in fault-tolerant architecture in a manner designed to ensure availability. Data is backed up nightly and stored redundantly. AppDynamics also provides an off-site backup service. Software security updates and patches are evaluated by engineers and are deployed based upon the security risks and stability benefits they offer to the Software and End Users.

Security

Access to the Software platform infrastructure and data by AppDynamics personnel is secured by authentication methods including public key authentication, passwords and network access control lists. Infrastructure and data access is restricted to AppDynamics employees and contractors subject to confidentiality agreements. System and network activity for the Software are regularly monitored by a team of engineers. Failed authentication attempts are audited and engineers are paged so that intrusions or threats can be investigated. Standard firewall policies are deployed to block access except to ports required for Software and Agent communication.

Sensitive Data

AppDynamics recommends on-premises (rather than software-as-a-service) deployments for customers subject to heightened regulatory oversight of data.

More Information

For more information on data privacy or security processes please contact help@appdynamics.com or your account representative. To report a suspected security breach, contact security@appdynamics.com.

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1.31 opentelemetry-sdk 1.24.0

1.31.1 Available under license :

Apache-2.0

1.32 libmount 2.37.2-4ubuntu3

1.32.1 Available under license :

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*/

NR START END SECTORS SIZE NAME UUID

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1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
5 7936 12799 4864 2.4M
6 12544 16127 3584 1.8M
```

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Version 3, 29 June 2007

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b) Convey the object code in, or embodied in, a physical product (including a physical distribution medium), accompanied by a written offer, valid for at least three years and valid for as long as you offer spare parts or customer support for that product model, to give anyone who possesses the object code either (1) a copy of the Corresponding Source for all the software in the

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c) Convey individual copies of the object code with a copy of the written offer to provide the Corresponding Source. This alternative is allowed only occasionally and noncommercially, and only if you received the object code with such an offer, in accord with subsection 6b.

d) Convey the object code by offering access from a designated place (gratis or for a charge), and offer equivalent access to the Corresponding Source in the same way through the same place at no further charge. You need not require recipients to copy the Corresponding Source along with the object code. If the place to copy the object code is a network server, the Corresponding Source may be on a different server (operated by you or a third party) that supports equivalent copying facilities, provided you maintain clear directions next to the object code saying where to find the Corresponding Source. Regardless of what server hosts the Corresponding Source, you remain obligated to ensure that it is available for as long as needed to satisfy these requirements.

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"Installation Information" for a User Product means any methods,

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Corresponding Source conveyed, and Installation Information provided, in accord with this section must be in a format that is publicly documented (and with an implementation available to the public in source code form), and must require no special password or key for unpacking, reading or copying.

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```
x ?"U@,5 @mISmIN<GimCN7g1u|E
43mI,5WEV @@ WEV @mImImIAmImImI0mImImI*mImI
A0mImImI...
lost+found...
```

```
;9GimCN7g
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~WEV @@
WEV[B "1
```

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1.33 e2fsprogs 1.46.5-2ubuntu1.1

1.33.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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#

This is a Makefile stub which handles the creation of BSD shared libraries.

#

In order to use this stub, the following makefile variables must be defined.

#

BSDLIB_VERSION = 1.0

BSDLIB_IMAGE = libce

BSDLIB_MYDIR = et

BSDLIB_INSTALL_DIR = \$(SHLIBDIR)

#

all:: image

real-subdirs:: Makefile

@echo " MKDIR pic"

@mkdir -p pic

BSD_LIB = \$(BSDLIB_IMAGE).so.\$(BSDLIB_VERSION)

BSDLIB_PIC_FLAG = -fpic

image: \$(BSD_LIB)

\$(BSD_LIB): \$(OBJS)

(cd pic; ld -Bshareable -o \$(BSD_LIB) \$(LDFLAGS_SHLIB) \$(OBJS))

\$(MV) pic/\$(BSD_LIB) .

\$(RM) -f ../\$(BSD_LIB)

(cd ..; \$(LN) \$(LINK_BUILD_FLAGS) \

`echo \$(my_dir) | sed -e 's;lib/;;'/'\$(BSD_LIB) \$(BSD_LIB))

install-shlibs install:: \$(BSD_LIB)

@echo " INSTALL_PROGRAM \$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)"

@\$(INSTALL_PROGRAM) \$(BSD_LIB) \

\$(DESTDIR)\$\$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)

@-\$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

\$(RM) -f \$(DESTDIR)\$\$(BSDLIB_INSTALL_DIR)/\$(BSD_LIB)

clean::

\$(RM) -rf pic

\$(RM) -f \$(BSD_LIB)

\$(RM) -f ../\$(BSD_LIB)

This package was added to the e2fsprogs debian source package by

Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Index: tdbsa/tdb.c

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
- + trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell 2005
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Theodore Ts'o
23-June-2007

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That's all there is to it!
This package was added to the e2fsprogs debian source package by
Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Upstream Author: Theodore Ts'o <tytso@mit.edu>

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This is the Debian GNU/Linux prepackaged version of the ss command-line interface parsing library. It is currently distributed together with the EXT2 file system utilities, which are otherwise packaged as "e2fsprogs".

This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:
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Gadi Oxman, August 1995

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```

```
<signature of Ty Coon>, 1 April 1989
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* /opt/cola/permits/1258876677_1643115784.16/0/animal-sniffer-annotations-1-19-sources-jar/META-INF/maven/org.codehaus.mojo/animal-sniffer-annotations/pom.xml

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* /opt/cola/permits/1258876677_1643115784.16/0/animal-sniffer-annotations-1-19-sources-jar/org/codehaus/mojo/animal_sniffer/IgnoreJRERequirement.java

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1.42 jdk-zulu 11.66+15

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1.43 gnupg 2.2.27-3ubuntu2.1

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* Regular expression support

regex/jimregex.[ch]:

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Written by Henry Spencer. Not derived from licensed software.

Subsequently modified by:

1986 John Gilmore hoptoad!gnu

1987 James A. Woods ames!jaw

1993 Christopher Seiwald seiwald@vix.com

2000, 2002 Christopher Seiwald <seiwald@perforce.com>

2010 Steve Bennett <steveb@workware.net.au>

2020 NIIBE Yutaka <gniibe@fsij.org>

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regex/utf8.[ch] (see regex/LICENSE):

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1.44 libext2fs2 1.46.5-2ubuntu1.1

1.44.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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Upstream Author: Theodore Ts'o <tytso@mit.edu>

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#

This is a Makefile stub which handles the creation of BSD shared

```

# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#

all:: image

real-subdirs:: Makefile
    @echo " MKDIR pic"
    @mkdir -p pic

BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
BSDLIB_PIC_FLAG = -fpic

image: $(BSD_LIB)

$(BSD_LIB): $(OBJS)
    (cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
    $(MV) pic/$(BSD_LIB) .
    $(RM) -f ../$(BSD_LIB)
    (cd ..; $(LN) $(LINK_BUILD_FLAGS) \
    `echo $(my_dir) | sed -e 's;lib/;;' /$(BSD_LIB) $(BSD_LIB)`)

install-shlibs install:: $(BSD_LIB)
    @echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
    @$(INSTALL_PROGRAM) $(BSD_LIB) \
    $(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
    @-$(LDCONFIG)

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::
    $(RM) -f $(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)

clean::
    $(RM) -rf pic
    $(RM) -f $(BSD_LIB)
    $(RM) -f ../$(BSD_LIB)

```

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

<http://sourceforge.net/projects/e2fsprogs>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

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Index: `tdbsa/tdb.c`

```
=====
--- tdbsa.orig/tdb.c
+++ tdbsa/tdb.c
@@ -4,11 +4,11 @@ Rev: 23371
Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)
*/
/*
- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes
-
- Copyright (C) Andrew Tridgell      2005
+ Copyright (C) Andrew Tridgell      1999-2005
+ Copyright (C) Jeremy Allison      2000-2006
+ Copyright (C) Paul 'Rusty' Russell  2000
```

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Theodore Ts'o
23-June-2007

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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This package was put together by Yann Dirson <dirson@debian.org>, from sources obtained from a mirror of:

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Gadi Oxman, August 1995

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```
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```

```
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```
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```

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```
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```

```
<signature of Ty Coon>, 1 April 1989  
Ty Coon, President of Vice
```

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1.45 login 4.8.1-2ubuntu2.1

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1.47 libss 1.46.5-2ubuntu1.1

1.47.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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#

This is a Makefile stub which handles the creation of BSD shared
libraries.

#

In order to use this stub, the following makefile variables must be defined.

#

BSDLIB_VERSION = 1.0

BSDLIB_IMAGE = libce

BSDLIB_MYDIR = et

BSDLIB_INSTALL_DIR = \$(SHLIBDIR)

#

all:: image

real-subdirs:: Makefile

@echo " MKDIR pic"

@mkdir -p pic

BSD_LIB = \$(BSDLIB_IMAGE).so.\$(BSDLIB_VERSION)

BSDLIB_PIC_FLAG = -fpic

image: \$(BSD_LIB)

\$(BSD_LIB): \$(OBS)

(cd pic; ld -Bshareable -o \$(BSD_LIB) \$(LDFLAGS_SHLIB) \$(OBS))

\$(MV) pic/\$(BSD_LIB) .

\$(RM) -f ../\$(BSD_LIB)

(cd ..; \$(LN) \$(LINK_BUILD_FLAGS) \

```
`echo $(my_dir) | sed -e 's;lib/;;'~/$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
```

```
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
```

```
@$(INSTALL_PROGRAM) $(BSD_LIB) \
```

```
$(DESTDIR)$ (BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

```
@-$(LDCONFIG)
```

```
install-strip: install
```

```
install-shlibs-strip:: install-shlibs
```

```
uninstall-shlibs uninstall::
```

```
$(RM) -f $(DESTDIR)$ (BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

```
clean::
```

```
$(RM) -rf pic
```

```
$(RM) -f $(BSD_LIB)
```

```
$(RM) -f ../$(BSD_LIB)
```

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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This is the Debian GNU/Linux prepackaged version of the translation files of the EXT2 file system utilities. The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

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Index: tdbsa/tdb.c

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes

-

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Theodore Ts'o
23-June-2007

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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1.49 procps 3.3.17-6ubuntu2

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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1.50 pcre 10.39-3ubuntu0.1

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- o freetype-devel@nongnu.org

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*

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## Dynalink v.5
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	GL/ wglxext.h	Khronos
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include/GL/gl.h :

Mesa 3-D graphics library

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```
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include/GL/glxext.h
include/GL/wglxext.h :
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Little Color Management System (LCMS) v2.12

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## The Unicode Standard, Unicode Character Database, Version 10.0.0
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### Unicode Character Database
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### xwd utility
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CUP Parser Generator for Java v 0.11b

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```

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hostname -- set the host name or show the host/domain name

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1.56 logsave 1.46.5-2ubuntu1.1

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```
#
# This is a Makefile stub which handles the creation of BSD shared
# libraries.
#
# In order to use this stub, the following makefile variables must be defined.
#
# BSDLIB_VERSION = 1.0
# BSDLIB_IMAGE = libce
# BSDLIB_MYDIR = et
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)
#
```

```
all:: image
```

```
real-subdirs:: Makefile
```

```
@echo " MKDIR pic"
```

```
@mkdir -p pic
```

```
BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)
```

```
BSDLIB_PIC_FLAG = -fpic
```

```
image: $(BSD_LIB)
```

```
$(BSD_LIB): $(OBJS)
```

```
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))
```

```
$(MV) pic/$(BSD_LIB) .
```

```
$(RM) -f ../$(BSD_LIB)
```

```
(cd ..; $(LN) $(LINK_BUILD_FLAGS) \
```

```
`echo $(my_dir) | sed -e 's;lib/;;'"/$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
```

```
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
```

```
@$(INSTALL_PROGRAM) $(BSD_LIB) \
```

```
$(DESTDIR)$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

```
@-$(LDCONFIG)
```

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

```
$(RM) -f $(DESTDIR)$BSDLIB_INSTALL_DIR/$BSD_LIB
```

clean::

```
$(RM) -rf pic
```

```
$(RM) -f $BSD_LIB
```

```
$(RM) -f ../$BSD_LIB
```

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Index: tdbsa/tdb.c

=====

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
+ trivial database library - standalone version

- trivial database library - private includes

-

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Theodore Ts'o
23-June-2007

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This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

<http://sourceforge.net/projects/e2fsprogs>

Upstream Author: Theodore Ts'o <tytso@mit.edu>

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/* run-parts: run a bunch of scripts in a directory

*

* Debian run-parts program

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* Copyright (C) 1996-1999 Guy Maor <maor@debian.org>

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* /opt/cola/permits/1343603013_1655136462.2288256/0/debianutils-5-5-orig-tar-xz/debianutils-5.5/po4a/de/remove-shell.8
* /opt/cola/permits/1343603013_1655136462.2288256/0/debianutils-5-5-orig-tar-xz/debianutils-5.5/po4a/de/which.1
* /opt/cola/permits/1343603013_1655136462.2288256/0/debianutils-5-5-orig-tar-xz/debianutils-5.5/po4a/de/add-shell.8
* /opt/cola/permits/1343603013_1655136462.2288256/0/debianutils-5-5-orig-tar-xz/debianutils-5.5/po4a/de/savelog.8
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/* ischroot: detect if running in a chroot

*

* Debian ischroot program

* Copyright (C) 2011 Aurelien Jarno <aurel32@debian.org>

* Copyright (C) 2015 Andreas Henriksson <andreas@fatal.se>

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1.58 libaudit 3.0.7-1build1

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Version 2.1, February 1999

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1.59 zulu 11.0.20-1

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1.60 xerces-j 2.12.2

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1.61 zlib 1.2.11.dfsg-2ubuntu9.2

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/* zip.h -- IO on .zip files using zlib
Version 1.1, February 14h, 2010
part of the MiniZip project - (<http://www.winimage.com/zLibDll/minizip.html>)

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications for Zip64 support
Copyright (C) 2009-2010 Mathias Svensson (<http://result42.com>)

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Changes

See header of zip.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/zip.h

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/* fitblk.c: example of fitting compressed output to a specified size

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Version 1.1 25 November 2004 Mark Adler */

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* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/fitblk.c

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/* gzwrite.c -- zlib functions for writing gzip files

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*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzwrite.c

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/* inftrees.c -- generate Huffman trees for efficient decoding

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*/

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* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inftrees.c

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/* inflate.c -- zlib decompression

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/* gzlog.h

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version 2.2, 14 Aug 2012

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Mark Adler madler@alumni.caltech.edu

*/

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzlog.h
```

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```
/*
```

```
Additional tools for Minizip
```

```
Code: Xavier Roche '2004
```

```
License: Same as ZLIB (www.gzip.org)
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/mztools.h
```

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/mztools.c
```

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```
/* uncompr.c -- decompress a memory buffer
```

```
* Copyright (C) 1995-2003, 2010, 2014, 2016 Jean-loup Gailly, Mark Adler
```

```
* For conditions of distribution and use, see copyright notice in zlib.h
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/uncompr.c
```

No license file was found, but licenses were detected in source scan.

```
/* zran.c -- example of zlib/gzip stream indexing and random access
```

```
* Copyright (C) 2005, 2012 Mark Adler
```

```
* For conditions of distribution and use, see copyright notice in zlib.h
```

```
Version 1.1 29 Sep 2012 Mark Adler */
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/zran.c
```

No license file was found, but licenses were detected in source scan.

```
/* gzappend -- command to append to a gzip file
```

```
Copyright (C) 2003, 2012 Mark Adler, all rights reserved
```

```
version 1.2, 11 Oct 2012
```

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Mark Adler madler@alumni.caltech.edu

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzappend.c

No license file was found, but licenses were detected in source scan.

/* gzguts.h -- zlib internal header definitions for gz* operations

* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzguts.h

No license file was found, but licenses were detected in source scan.

/* trees.c -- output deflated data using Huffman coding

* Copyright (C) 1995-2017 Jean-loup Gailly

* detect_data_type() function provided freely by Cosmin Truta, 2006

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/trees.c

No license file was found, but licenses were detected in source scan.

For conditions of distribution and use, see copyright notice in zlib.h

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/msdos/Makefile.dj2

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/old/os2/Makefile.os2

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/old/Makefile.emx

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/msdos/Makefile.emx

No license file was found, but licenses were detected in source scan.

```
/* Adler-32 checksum of a data stream
 * Copyright (C) 1995-2011, 2016 Mark Adler
 * For conditions of distribution and use, see copyright notice in zlib.h
 */
```

Found in path(s):

```
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/adler32.c
No license file was found, but licenses were detected in source scan.
```

```
/* inflate.h -- internal inflate state definition
 * Copyright (C) 1995-2016 Mark Adler
 * For conditions of distribution and use, see copyright notice in zlib.h
 */
```

Found in path(s):

```
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inflate.h
No license file was found, but licenses were detected in source scan.
```

```
/* zconf.h -- configuration of the zlib compression library
 * Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler
 * For conditions of distribution and use, see copyright notice in zlib.h
 */
```

Found in path(s):

```
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h.in
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zconf.h.cmakein
No license file was found, but licenses were detected in source scan.
```

```
/* zpipe.c: example of proper use of zlib's inflate() and deflate()
   Not copyrighted -- provided to the public domain
   Version 1.4 11 December 2005 Mark Adler */
```

Found in path(s):

```
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/zpipe.c
No license file was found, but licenses were detected in source scan.
```

```
/* gzlib.c -- zlib functions common to reading and writing gzip files
 * Copyright (C) 2004-2017 Mark Adler
 * For conditions of distribution and use, see copyright notice in zlib.h
 */
```

Found in path(s):

```
*/opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzlib.c
```

No license file was found, but licenses were detected in source scan.

```
/* infcover.c -- test zlib's inflate routines with full code coverage
* Copyright (C) 2011, 2016 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/infcover.c
```

No license file was found, but licenses were detected in source scan.

```
/*
* gzlog.c
* Copyright (C) 2004, 2008, 2012, 2016 Mark Adler, all rights reserved
* For conditions of distribution and use, see copyright notice in gzlog.h
* version 2.2, 14 Aug 2012
*/
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzlog.c
```

No license file was found, but licenses were detected in source scan.

```
/* gzjoin -- command to join gzip files into one gzip file
```

Copyright (C) 2004, 2005, 2012 Mark Adler, all rights reserved
version 1.2, 14 Aug 2012

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Mark Adler madler@alumni.caltech.edu

```
*/
```

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gzjoin.c

No license file was found, but licenses were detected in source scan.

MiniZip - Copyright (c) 1998-2010 - by Gilles Vollant - version 1.1 64 bits from Mathias Svensson

Introduction

MiniZip 1.1 is built from MiniZip 1.0 by Gilles Vollant (<http://www.winimage.com/zLibDll/minizip.html>)

When adding ZIP64 support into minizip it would result into risk of breaking compatibility with minizip 1.0. All possible work was done for compatibility.

Background

When adding ZIP64 support Mathias Svensson found that Even Rouault have added ZIP64 support for unzip.c into minizip for a open source project called gdal (<http://www.gdal.org/>)

That was used as a starting point. And after that ZIP64 support was added to zip.c some refactoring and code cleanup was also done.

Changed from MiniZip 1.0 to MiniZip 1.1

-
- * Added ZIP64 support for unzip (by Even Rouault)
 - * Added ZIP64 support for zip (by Mathias Svensson)
 - * Reverted some changed that Even Rouault did.
 - * Bunch of patches received from Gullies Vollant that he received for MiniZip from various users.
 - * Added unzip patch for BZIP Compression method (patch create by Daniel Borca)
 - * Added BZIP Compress method for zip
 - * Did some refactoring and code cleanup

Credits

Gilles Vollant - Original MiniZip author
Even Rouault - ZIP64 unzip Support
Daniel Borca - BZip Compression method support in unzip
Mathias Svensson - ZIP64 zip support
Mathias Svensson - BZip Compression method support in zip

Resources

ZipLayout <http://result42.com/projects/ZipFileLayout>

Command line tool for Windows that shows the layout and information of the headers in a zip archive.

Used when debugging and validating the creation of zip files using MiniZip64

ZIP App Note <http://www.pkware.com/documents/casestudies/APPNOTE.TXT>
Zip File specification

Notes.

* To be able to use BZip compression method in zip64.c or unzip64.c the BZIP2 lib is needed and HAVE_BZIP2 need to be defined.

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2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
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Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/MiniZip64_info.txt

No license file was found, but licenses were detected in source scan.

/* deflate.h -- internal compression state

* Copyright (C) 1995-2016 Jean-loup Gailly

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/deflate.h

No license file was found, but licenses were detected in source scan.

/* zutil.c -- target dependent utility functions for the compression library

* Copyright (C) 1995-2017 Jean-loup Gailly

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zutil.c

No license file was found, but licenses were detected in source scan.

/* zutil.h -- internal interface and configuration of the compression library

* Copyright (C) 1995-2016 Jean-loup Gailly, Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zutil.h

No license file was found, but licenses were detected in source scan.

/* gzread.c -- zlib functions for reading gzip files

* Copyright (C) 2004, 2005, 2010, 2011, 2012, 2013, 2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzread.c

No license file was found, but licenses were detected in source scan.

/* gzclose.c -- zlib gzclose() function

* Copyright (C) 2004, 2010 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/gzclose.c

No license file was found, but licenses were detected in source scan.

/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.11, January 15th, 2017

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/zlib.h

No license file was found, but licenses were detected in source scan.

/* infback.c -- inflate using a call-back interface

* Copyright (C) 1995-2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/infback.c

No license file was found, but licenses were detected in source scan.

/* inftrees.h -- header to use inftrees.c

* Copyright (C) 1995-2005, 2010 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inftrees.h

No license file was found, but licenses were detected in source scan.

/* minigzip.c -- simulate gzip using the zlib compression library

* Copyright (C) 1995-2006, 2010, 2011, 2016 Jean-loup Gailly

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/minigzip.c

No license file was found, but licenses were detected in source scan.

```
/* inffast.c -- fast decoding
* Copyright (C) 1995-2017 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inffast.c
No license file was found, but licenses were detected in source scan.
```

Not copyrighted -- provided to the public domain

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/zlib_how.html
No license file was found, but licenses were detected in source scan.
```

```
/* gun.c -- simple gunzip to give an example of the use of inflateBack()
* Copyright (C) 2003, 2005, 2008, 2010, 2012 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
Version 1.7 12 August 2012 Mark Adler */
```

Found in path(s):

```
* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/examples/gun.c
No license file was found, but licenses were detected in source scan.
```

Frequently Asked Questions about zlib

If your question is not there, please check the zlib home page <http://zlib.net/> which may have more recent information. The latest zlib FAQ is at http://zlib.net/zlib_faq.html

1. Is zlib Y2K-compliant?

Yes. zlib doesn't handle dates.

2. Where can I get a Windows DLL version?

The zlib sources can be compiled without change to produce a DLL. See the file win32/DLL_FAQ.txt in the zlib distribution. Pointers to the precompiled DLL are found in the zlib web site at <http://zlib.net/>.

3. Where can I get a Visual Basic interface to zlib?

See

* <http://marknelson.us/1997/01/01/zlib-engine/>

* win32/DLL_FAQ.txt in the zlib distribution

4. compress() returns Z_BUF_ERROR.

Make sure that before the call of compress(), the length of the compressed buffer is equal to the available size of the compressed buffer and not zero. For Visual Basic, check that this parameter is passed by reference ("as any"), not by value ("as long").

5. deflate() or inflate() returns Z_BUF_ERROR.

Before making the call, make sure that avail_in and avail_out are not zero. When setting the parameter flush equal to Z_FINISH, also make sure that avail_out is big enough to allow processing all pending input. Note that a Z_BUF_ERROR is not fatal--another call to deflate() or inflate() can be made with more input or output space. A Z_BUF_ERROR may in fact be unavoidable depending on how the functions are used, since it is not possible to tell whether or not there is more output pending when strm.avail_out returns with zero. See http://zlib.net/zlib_how.html for a heavily annotated example.

6. Where's the zlib documentation (man pages, etc.)?

It's in zlib.h . Examples of zlib usage are in the files test/example.c and test/minigzip.c, with more in examples/ .

7. Why don't you use GNU autoconf or libtool or ...?

Because we would like to keep zlib as a very small and simple package. zlib is rather portable and doesn't need much configuration.

8. I found a bug in zlib.

Most of the time, such problems are due to an incorrect usage of zlib. Please try to reproduce the problem with a small program and send the corresponding source to us at zlib@gzip.org . Do not send multi-megabyte data files without prior agreement.

9. Why do I get "undefined reference to gzputc"?

If "make test" produces something like

```
example.o(.text+0x154): undefined reference to `gzputc'
```

check that you don't have old files libz.* in /usr/lib, /usr/local/lib or /usr/X11R6/lib. Remove any old versions, then do "make install".

10. I need a Delphi interface to zlib.

See the contrib/delphi directory in the zlib distribution.

11. Can zlib handle .zip archives?

Not by itself, no. See the directory contrib/minizip in the zlib distribution.

12. Can zlib handle .Z files?

No, sorry. You have to spawn an uncompress or gunzip subprocess, or adapt the code of uncompress on your own.

13. How can I make a Unix shared library?

By default a shared (and a static) library is built for Unix. So:

```
make distclean
./configure
make
```

14. How do I install a shared zlib library on Unix?

After the above, then:

```
make install
```

However, many flavors of Unix come with a shared zlib already installed. Before going to the trouble of compiling a shared version of zlib and trying to install it, you may want to check if it's already there! If you can `#include <zlib.h>`, it's there. The `-lz` option will probably link to it. You can check the version at the top of `zlib.h` or with the `ZLIB_VERSION` symbol defined in `zlib.h`.

15. I have a question about OttoPDF.

We are not the authors of OttoPDF. The real author is on the OttoPDF web site: Joel Hainley, jhainley@myndkryme.com.

16. Can zlib decode Flate data in an Adobe PDF file?

Yes. See <http://www.pdflib.com/>. To modify PDF forms, see <http://sourceforge.net/projects/acroformtool/>.

17. Why am I getting this "register_frame_info not found" error on Solaris?

After installing zlib 1.1.4 on Solaris 2.6, running applications using zlib generates an error such as:

```
ld.so.1: rpm: fatal: relocation error: file /usr/local/lib/libz.so:  
symbol __register_frame_info: referenced symbol not found
```

The symbol `__register_frame_info` is not part of zlib, it is generated by the C compiler (cc or gcc). You must recompile applications using zlib which have this problem. This problem is specific to Solaris. See <http://www.sunfreeware.com> for Solaris versions of zlib and applications using zlib.

18. Why does gzip give an error on a file I make with compress/deflate?

The compress and deflate functions produce data in the zlib format, which is different and incompatible with the gzip format. The `gz*` functions in zlib on the other hand use the gzip format. Both the zlib and gzip formats use the same compressed data format internally, but have different headers and trailers around the compressed data.

19. Ok, so why are there two different formats?

The gzip format was designed to retain the directory information about a single file, such as the name and last modification date. The zlib format on the other hand was designed for in-memory and communication channel applications, and has a much more compact header and trailer and uses a faster integrity check than gzip.

20. Well that's nice, but how do I make a gzip file in memory?

You can request that deflate write the gzip format instead of the zlib format using `deflateInit2()`. You can also request that inflate decode the gzip format using `inflateInit2()`. Read `zlib.h` for more details.

21. Is zlib thread-safe?

Yes. However any library routines that zlib uses and any application-provided memory allocation routines must also be thread-safe. zlib's `gz*` functions use stdio library routines, and most of zlib's functions use the library memory allocation routines by default. zlib's `*Init*` functions allow for the application to provide custom memory allocation routines.

Of course, you should only operate on any given zlib or gzip stream from a single thread at a time.

22. Can I use zlib in my commercial application?

Yes. Please read the license in `zlib.h`.

23. Is zlib under the GNU license?

No. Please read the license in zlib.h.

24. The license says that altered source versions must be "plainly marked". So what exactly do I need to do to meet that requirement?

You need to change the ZLIB_VERSION and ZLIB_VERNUM #defines in zlib.h. In particular, the final version number needs to be changed to "f", and an identification string should be appended to ZLIB_VERSION. Version numbers x.x.x.f are reserved for modifications to zlib by others than the zlib maintainers. For example, if the version of the base zlib you are altering is "1.2.3.4", then in zlib.h you should change ZLIB_VERNUM to 0x123f, and ZLIB_VERSION to something like "1.2.3.f-zachary-mods-v3". You can also update the version strings in deflate.c and infrees.c.

For altered source distributions, you should also note the origin and nature of the changes in zlib.h, as well as in ChangeLog and README, along with the dates of the alterations. The origin should include at least your name (or your company's name), and an email address to contact for help or issues with the library.

Note that distributing a compiled zlib library along with zlib.h and zconf.h is also a source distribution, and so you should change ZLIB_VERSION and ZLIB_VERNUM and note the origin and nature of the changes in zlib.h as you would for a full source distribution.

25. Will zlib work on a big-endian or little-endian architecture, and can I exchange compressed data between them?

Yes and yes.

26. Will zlib work on a 64-bit machine?

Yes. It has been tested on 64-bit machines, and has no dependence on any data types being limited to 32-bits in length. If you have any difficulties, please provide a complete problem report to zlib@gzip.org

27. Will zlib decompress data from the PKWare Data Compression Library?

No. The PKWare DCL uses a completely different compressed data format than does PKZIP and zlib. However, you can look in zlib's contrib/blast directory for a possible solution to your problem.

28. Can I access data randomly in a compressed stream?

No, not without some preparation. If when compressing you periodically use Z_FULL_FLUSH, carefully write all the pending data at those points, and keep an index of those locations, then you can start decompression at those

points. You have to be careful to not use `Z_FULL_FLUSH` too often, since it can significantly degrade compression. Alternatively, you can scan a deflate stream once to generate an index, and then use that index for random access. See `examples/zran.c`.

29. Does zlib work on MVS, OS/390, CICS, etc.?

It has in the past, but we have not heard of any recent evidence. There were working ports of zlib 1.1.4 to MVS, but those links no longer work. If you know of recent, successful applications of zlib on these operating systems, please let us know. Thanks.

30. Is there some simpler, easier to read version of inflate I can look at to understand the deflate format?

First off, you should read RFC 1951. Second, yes. Look in zlib's `contrib/puff` directory.

31. Does zlib infringe on any patents?

As far as we know, no. In fact, that was originally the whole point behind zlib. Look here for some more information:

<http://www.gzip.org/#faq11>

32. Can zlib work with greater than 4 GB of data?

Yes. `inflate()` and `deflate()` will process any amount of data correctly. Each call of `inflate()` or `deflate()` is limited to input and output chunks of the maximum value that can be stored in the compiler's "unsigned int" type, but there is no limit to the number of chunks. Note however that the `strm.total_in` and `strm_total_out` counters may be limited to 4 GB. These counters are provided as a convenience and are not used internally by `inflate()` or `deflate()`. The application can easily set up its own counters updated after each call of `inflate()` or `deflate()` to count beyond 4 GB. `compress()` and `uncompress()` may be limited to 4 GB, since they operate in a single call. `gzseek()` and `gztell()` may be limited to 4 GB depending on how zlib is compiled. See the `zlibCompileFlags()` function in `zlib.h`.

The word "may" appears several times above since there is a 4 GB limit only if the compiler's "long" type is 32 bits. If the compiler's "long" type is 64 bits, then the limit is 16 exabytes.

33. Does zlib have any security vulnerabilities?

The only one that we are aware of is potentially in `gzprintf()`. If zlib is compiled to use `sprintf()` or `vsprintf()`, then there is no protection against a buffer overflow of an 8K string space (or other value as set by

gzbuffer()), other than the caller of gzprintf() assuring that the output will not exceed 8K. On the other hand, if zlib is compiled to use snprintf() or vsnprintf(), which should normally be the case, then there is no vulnerability. The ./configure script will display warnings if an insecure variation of sprintf() will be used by gzprintf(). Also the zlibCompileFlags() function will return information on what variant of sprintf() is used by gzprintf().

If you don't have snprintf() or vsnprintf() and would like one, you can find a portable implementation here:

<http://www.ijs.si/software/snprintf/>

Note that you should be using the most recent version of zlib. Versions 1.1.3 and before were subject to a double-free vulnerability, and versions 1.2.1 and 1.2.2 were subject to an access exception when decompressing invalid compressed data.

34. Is there a Java version of zlib?

Probably what you want is to use zlib in Java. zlib is already included as part of the Java SDK in the java.util.zip package. If you really want a version of zlib written in the Java language, look on the zlib home page for links: <http://zlib.net/> .

35. I get this or that compiler or source-code scanner warning when I crank it up to maximally-pedantic. Can't you guys write proper code?

Many years ago, we gave up attempting to avoid warnings on every compiler in the universe. It just got to be a waste of time, and some compilers were downright silly as well as contradicted each other. So now, we simply make sure that the code always works.

36. Valgrind (or some similar memory access checker) says that deflate is performing a conditional jump that depends on an uninitialized value. Isn't that a bug?

No. That is intentional for performance reasons, and the output of deflate is not affected. This only started showing up recently since zlib 1.2.x uses malloc() by default for allocations, whereas earlier versions used calloc(), which zeros out the allocated memory. Even though the code was correct, versions 1.2.4 and later was changed to not stimulate these checkers.

37. Will zlib read the (insert any ancient or arcane format here) compressed data format?

Probably not. Look in the comp.compression FAQ for pointers to various

formats and associated software.

38. How can I encrypt/decrypt zip files with zlib?

zlib doesn't support encryption. The original PKZIP encryption is very weak and can be broken with freely available programs. To get strong encryption, use GnuPG, <http://www.gnupg.org/>, which already includes zlib compression. For PKZIP compatible "encryption", look at <http://www.info-zip.org/>

39. What's the difference between the "gzip" and "deflate" HTTP 1.1 encodings?

"gzip" is the gzip format, and "deflate" is the zlib format. They should probably have called the second one "zlib" instead to avoid confusion with the raw deflate compressed data format. While the HTTP 1.1 RFC 2616 correctly points to the zlib specification in RFC 1950 for the "deflate" transfer encoding, there have been reports of servers and browsers that incorrectly produce or expect raw deflate data per the deflate specification in RFC 1951, most notably Microsoft. So even though the "deflate" transfer encoding using the zlib format would be the more efficient approach (and in fact exactly what the zlib format was designed for), using the "gzip" transfer encoding is probably more reliable due to an unfortunate choice of name on the part of the HTTP 1.1 authors.

Bottom line: use the gzip format for HTTP 1.1 encoding.

40. Does zlib support the new "Deflate64" format introduced by PKWare?

No. PKWare has apparently decided to keep that format proprietary, since they have not documented it as they have previous compression formats. In any case, the compression improvements are so modest compared to other more modern approaches, that it's not worth the effort to implement.

41. I'm having a problem with the zip functions in zlib, can you help?

There are no zip functions in zlib. You are probably using minizip by Giles Vollant, which is found in the contrib directory of zlib. It is not part of zlib. In fact none of the stuff in contrib is part of zlib. The files in there are not supported by the zlib authors. You need to contact the authors of the respective contribution for help.

42. The match.asm code in contrib is under the GNU General Public License.

Since it's part of zlib, doesn't that mean that all of zlib falls under the GNU GPL?

No. The files in contrib are not part of zlib. They were contributed by other authors and are provided as a convenience to the user within the zlib distribution. Each item in contrib has its own license.

43. Is zlib subject to export controls? What is its ECCN?

zlib is not subject to export controls, and so is classified as EAR99.

44. Can you please sign these lengthy legal documents and fax them back to us so that we can use your software in our product?

No. Go away. Shoo.

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/FAQ
No license file was found, but licenses were detected in source scan.

```
/* compress.c -- compress a memory buffer
* Copyright (C) 1995-2005, 2014, 2016 Jean-loup Gailly, Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/compress.c
No license file was found, but licenses were detected in source scan.

```
/* deflate.c -- compress data using the deflation algorithm
* Copyright (C) 1995-2017 Jean-loup Gailly and Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/deflate.c
No license file was found, but licenses were detected in source scan.

```
/* inffast.h -- header to use inffast.c
* Copyright (C) 1995-2003, 2010 Mark Adler
* For conditions of distribution and use, see copyright notice in zlib.h
*/
```

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/inffast.h
No license file was found, but licenses were detected in source scan.

```
/* unzip.c -- IO for uncompress .zip files using zlib
Version 1.1, February 14h, 2010
part of the MiniZip project - ( http://www.winimage.com/zLibDll/minizip.html )
```

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications of Unzip for Zip64

Copyright (C) 2007-2008 Even Rouault

Modifications for Zip64 support on both zip and unzip

Copyright (C) 2009-2010 Mathias Svensson (<http://result42.com>)

For more info read MiniZip_info.txt

Decryption code comes from crypt.c by Info-ZIP but has been greatly reduced in terms of compatibility with older software. The following is from the original crypt.c.

Code woven in by Terry Thorsen 1/2003.

Copyright (c) 1990-2000 Info-ZIP. All rights reserved.

See the accompanying file LICENSE, version 2000-Apr-09 or later (the contents of which are also included in zip.h) for terms of use.

If, for some reason, all these files are missing, the Info-ZIP license also may be found at: <ftp://ftp.info-zip.org/pub/infozip/license.html>

crypt.c (full version) by Info-ZIP. Last revised: [see crypt.h]

The encryption/decryption parts of this source code (as opposed to the non-echoing password parts) were originally written in Europe. The whole source package can be freely distributed, including from the USA. (Prior to January 2000, re-export from the US was a violation of US law.)

This encryption code is a direct transcription of the algorithm from Roger Schlafly, described by Phil Katz in the file appnote.txt. This file (appnote.txt) is distributed with the PKZIP program (even in the version without encryption capabilities).

Changes in unzip.c

2007-2008 - Even Rouault - Addition of cpl_unzGetCurrentFileZStreamPos

2007-2008 - Even Rouault - Decoration of symbol names unz* -> cpl_unz*

2007-2008 - Even Rouault - Remove old C style function prototypes

2007-2008 - Even Rouault - Add unzip support for ZIP64

Copyright (C) 2007-2008 Even Rouault

Oct-2009 - Mathias Svensson - Removed cpl_* from symbol names (Even Rouault added them but since this is now moved to a new project (minizip64) I renamed them again).

Oct-2009 - Mathias Svensson - Fixed problem if uncompressed size was > 4G and compressed size was <4G should only read the compressed/uncompressed size from the Zip64 format if

the size from normal header was 0xFFFFFFFF

Oct-2009 - Mathias Svensson - Applied some bug fixes from patches received from Gilles Vollant

Oct-2009 - Mathias Svensson - Applied support to unzip files with compression method BZIP2 (bzip2 lib is required)

Patch created by Daniel Borca

Jan-2010 - back to unzip and minizip 1.0 name scheme, with compatibility layer

Copyright (C) 1998 - 2010 Gilles Vollant, Even Rouault, Mathias Svensson

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/unzip.c

No license file was found, but licenses were detected in source scan.

/* crc32.c -- compute the CRC-32 of a data stream

* Copyright (C) 1995-2006, 2010, 2011, 2012, 2016 Mark Adler

* For conditions of distribution and use, see copyright notice in zlib.h

*

* Thanks to Rodney Brown <rbrown64@csc.com.au> for his contribution of faster

* CRC methods: exclusive-oring 32 bits of data at a time, and pre-computing

* tables for updating the shift register in one step with three exclusive-ors

* instead of four steps with four exclusive-ors. This results in about a

* factor of two increase in speed on a Power PC G4 (PPC7455) using gcc -O3.

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/crc32.c

No license file was found, but licenses were detected in source scan.

/* unzip.h -- IO for uncompress .zip files using zlib

Version 1.1, February 14h, 2010

part of the MiniZip project - (<http://www.winimage.com/zLibDll/minizip.html>)

Copyright (C) 1998-2010 Gilles Vollant (minizip) (<http://www.winimage.com/zLibDll/minizip.html>)

Modifications of Unzip for Zip64

Copyright (C) 2007-2008 Even Rouault

Modifications for Zip64 support on both zip and unzip

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For more info read MiniZip_info.txt

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Changes

See header of unzip64.c

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/contrib/minizip/unzip.h

No license file was found, but licenses were detected in source scan.

/* example.c -- usage example of the zlib compression library

* Copyright (C) 1995-2006, 2011, 2016 Jean-loup Gailly

* For conditions of distribution and use, see copyright notice in zlib.h

*/

Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/test/example.c

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ZLIB DATA COMPRESSION LIBRARY

zlib 1.2.11 is a general purpose data compression library. All the code is thread safe. The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), [rfc1951](http://tools.ietf.org/html/rfc1951) (deflate format) and [rfc1952](http://tools.ietf.org/html/rfc1952) (gzip format).

All functions of the compression library are documented in the file `zlib.h` (volunteer to write man pages welcome, contact zlib@gzip.org). A usage example of the library is given in the file `test/example.c` which also tests that the library is working correctly. Another example is given in the file `test/minigzip.c`. The compression library itself is composed of all source files in the root directory.

To compile all files and run the test program, follow the instructions given at the top of `Makefile.in`. In short `./configure; make test`, and if that goes well, `make install` should work for most flavors of Unix. For Windows, use one of the special makefiles in `win32/` or `contrib/vstudio/`. For VMS, use `make_vms.com`.

Questions about zlib should be sent to zlib@gzip.org, or to Gilles Vollant info@winimage.com for the Windows DLL version. The zlib home page is <http://zlib.net/>. Before reporting a problem, please check this site to verify that you have the latest version of zlib; otherwise get the latest version and check whether the problem still exists or not.

PLEASE read the zlib FAQ http://zlib.net/zlib_faq.html before asking for help.

Mark Nelson markn@ieee.org wrote an article about zlib for the Jan. 1997 issue of Dr. Dobbs's Journal; a copy of the article is available at <http://marknelson.us/1997/01/01/zlib-engine/>.

The changes made in version 1.2.11 are documented in the file `ChangeLog`.

Unsupported third party contributions are provided in directory `contrib/`.

zlib is available in Java using the `java.util.zip` package, documented at <http://java.sun.com/developer/technicalArticles/Programming/compression/>.

A Perl interface to zlib written by Paul Marquess pmqs@cpan.org is available at CPAN (Comprehensive Perl Archive Network) sites, including <http://search.cpan.org/~pmqs/IO-Compress-Zlib/>.

A Python interface to zlib written by A.M. Kuchling amk@amk.ca is available in Python 1.5 and later versions, see <http://docs.python.org/library/zlib.html>.

zlib is built into tcl: <http://wiki.tcl.tk/4610>.

An experimental package to read and write files in `.zip` format, written on top of zlib by Gilles Vollant info@winimage.com, is available in the `contrib/minizip` directory of zlib.

Notes for some targets:

- For Windows DLL versions, please see win32/DLL_FAQ.txt
- For 64-bit Irix, deflate.c must be compiled without any optimization. With -O, one libpng test fails. The test works in 32 bit mode (with the -n32 compiler flag). The compiler bug has been reported to SGI.
- zlib doesn't work with gcc 2.6.3 on a DEC 3000/300LX under OSF/1 2.1 it works when compiled with cc.
- On Digital Unix 4.0D (formerly OSF/1) on AlphaServer, the cc option -std1 is necessary to get gzprintf working correctly. This is done by configure.
- zlib doesn't work on HP-UX 9.05 with some versions of /bin/cc. It works with other compilers. Use "make test" to check your compiler.
- gzdopen is not supported on RISCOS or BEOS.
- For PalmOs, see <http://palmzlib.sourceforge.net/>

Acknowledgments:

The deflate format used by zlib was defined by Phil Katz. The deflate and zlib specifications were written by L. Peter Deutsch. Thanks to all the people who reported problems and suggested various improvements in zlib; they are too numerous to cite here.

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

If you use the zlib library in a product, we would appreciate *not* receiving lengthy legal documents to sign. The sources are provided for free but without warranty of any kind. The library has been entirely written by Jean-loup Gailly and Mark Adler; it does not include third-party code.

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Found in path(s):

* /opt/cola/permits/1444731281_1666176765.8222194/0/zlib-1-2-11-dfsg-orig-2-tar-gz/zlib-1.2.11.dfsg/README

1.62 libxdmcp 1.1.3-0ubuntu5

1.62.1 Available under license :

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1.63 libfontconfig 2.13.1-4.2ubuntu5

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1.64 zulu-doc 11.0.20-1

1.64.1 Available under license :

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1.65 libprocps 3.3.17-6ubuntu2

1.65.1 Available under license :

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Version 2, June 1991

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*/

Found in path(s):

* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FileExistsException.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/IOUtils.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FileUtilsV2_2.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/StringBuilderWriter.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/commons/FilenameUtils.java

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```
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 */
```

Found in path(s):

```
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZTFileUtil.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipInfoCallback.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/NameMapper.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/FileSource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntryUtil.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/PreJava8TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/Zips.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ByteSource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/Java8TimestampStrategy.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntrySource.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/IdentityNameMapper.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipUtil.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/timestamps/TimestampStrategyFactory.java
* /opt/cola/permits/1135879776_1613624027.25/0/zt-zip-1-14-sources-1-jar/org/zeroturnaround/zip/ZipEntryCallback.java
```

1.67 coreutils 8.32-4.1ubuntu1

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Version 3, 29 June 2007

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1.68 bridgeutils 1.7.1

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1.69 commons-logging 1.2

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```
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1.70 libffi8 3.4.2-4

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Ty Coon, President of Vice
```

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#+STARTUP: showall
```

* DNS resolver (dirmngr/dns.c)

dns.c - Recursive, Reentrant DNS Resolver.

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1987 James A. Woods ames!jaw
1993 Christopher Seiwald seiwald@vix.com
2000, 2002 Christopher Seiwald <seiwald@perforce.com>
2010 Steve Bennett <steveb@workware.net.au>

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1.72 busybox 1.35.0

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Julian Seward, Cambridge, UK.

jseward@bzip.org

bzip2/libbzip2 version 1.0.4 of 20 December 2006

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1.74 libpng 1.6.37-3build5

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 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/MapKey.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapFactory.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Component.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/InstanceFactory.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SingleCheck.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Factory.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/MapProviderFactory.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Collections.java
 * /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/SetFactory.java
```

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/StringKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/LongKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Beta.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/ClassKey.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Subcomponent.java

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/ProviderOfLazy.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Binds.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/Preconditions.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/internal/DoubleCheck.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-

jar/dagger/multibindings/ElementsIntoSet.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoMap.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/package-info.java

* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/multibindings/IntoSet.java

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* /opt/cola/permits/1257772315_1643010337.24/0/dagger-2-4-sources-jar/dagger/Lazy.java

1.77 appdynamics-bindeps-alpine-linux-x64

23.4.0

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\$Id\$

1.80 zlib 1.2.13-r0

1.80.1 Available under license :

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/* zlib.h -- interface of the 'zlib' general purpose compression library
version 1.2.13, October 13th, 2022

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The data format used by the zlib library is described by RFCs (Request for Comments) 1950 to 1952 in the files <http://tools.ietf.org/html/rfc1950> (zlib format), rfc1951 (deflate format) and rfc1952 (gzip format).

*/

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Jean-loup Gailly Mark Adler
jloup@gzip.org madler@alumni.caltech.edu

1.81 ca-certificates 20230506-r0

1.81.1 Available under license :

No license file was found, but licenses were detected in source scan.

```
#
# This Source Code Form is subject to the terms of the Mozilla Public
# License, v. 2.0. If a copy of the MPL was not distributed with this
# file, You can obtain one at http://mozilla.org/MPL/2.0/.

#
# certdata.txt
#
# This file contains the object definitions for the certs and other
# information "built into" NSS.
#
# Object definitions:
#
# Certificates
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE       CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
# CKA_SUBJECT          DER+base64      (varies)
# CKA_ID               byte array    (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER    DER+base64      (varies)
# CKA_VALUE            DER+base64      (varies)
# CKA_NSS_EMAIL        ASCII7          (unused here)
# CKA_NSS_SERVER_DISTRUST_AFTER DER+base64      (varies)
# CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64      (varies)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_TRUST
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE       CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER    DER+base64      (varies)
# CKA_CERT_HASH        binary+base64    (varies)
# CKA_EXPIRES          CK_DATE          (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST        (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST        (varies)
```

```

# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST          (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST          (varies)
# CKA_TRUST_CRL_SIGN CK_TRUST               (varies)
# CKA_TRUST_SERVER_AUTH CK_TRUST            (varies)
# CKA_TRUST_CLIENT_AUTH CK_TRUST            (varies)
# CKA_TRUST_CODE_SIGNING CK_TRUST           (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST       (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST       (varies)
# CKA_TRUST_IPSEC_TUNNEL CK_TRUST           (varies)
# CKA_TRUST_IPSEC_USER CK_TRUST             (varies)
# CKA_TRUST_TIME_STAMPING CK_TRUST          (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL       (varies)
# (other trust attributes can be defined)
#

#
# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#
BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#
# Certificate "GlobalSign Root CA"
#
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Tue Sep 01 12:00:00 1998
# Not Valid After : Fri Jan 28 12:00:00 2028
# Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154

```

\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011

\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root CA"

Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94

Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE

Not Valid Before: Tue Sep 01 12:00:00 1998

Not Valid After : Fri Jan 28 12:00:00 2028

Fingerprint (SHA-256):

EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99

Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root CA"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122

\244\035\202\234

```
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
```

\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
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\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033
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\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155
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\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312
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\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206
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\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370
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\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066
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\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Not Valid Before: Fri Oct 01 00:00:00 1999

Not Valid After : Wed Jul 16 23:59:59 2036

Fingerprint (SHA-256):

CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65

Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321

\351\216\106\245

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163

END

CKA_ISSUER MULTILINE_OCTAL

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\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123

\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125

\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165

\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003

\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145

\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106

\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163

\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023

\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040

\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171

\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101

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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110

\316\261\244

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CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Verisign Class 2 Public Primary Certification Authority - G3"

#

Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Not Valid Before: Fri Oct 01 00:00:00 1999

Not Valid After : Wed Jul 16 23:59:59 2036

Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

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\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
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\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
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CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
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\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
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\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
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\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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CKA_SERIAL_NUMBER MULTILINE_OCTAL

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END

CKA_VALUE MULTILINE_OCTAL

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\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
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\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337
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\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Verisign Class 2 Public Primary Certification Authority - G3"

Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a

Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Not Valid Before: Fri Oct 01 00:00:00 1999

Not Valid After : Wed Jul 16 23:59:59 2036

Fingerprint (SHA-256):

92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB

Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11

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CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
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END
CKA_ISSUER MULTILINE_OCTAL
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\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
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\133\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust.net Premium 2048 Secure Server CA"
#
# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Serial Number: 946069240 (0x3863def8)
# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Not Valid Before: Fri Dec 24 17:50:51 1999
# Not Valid After : Tue Jul 24 14:15:12 2029
# Fingerprint (SHA-256):
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

```

Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
```

END

CKA_ID UTF8 "0"

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\070\143\336\370
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060
```

\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050
\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037

```
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Entrust.net Premium 2048 Secure Server CA"
```

```
# Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
# Serial Number: 946069240 (0x3863def8)
```

```
# Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
```

```
# Not Valid Before: Fri Dec 24 17:50:51 1999
```

```
# Not Valid After : Tue Jul 24 14:15:12 2029
```

```
# Fingerprint (SHA-256):
```

```
6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77
```

```
# Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
```

```
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\070\143\336\370
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Baltimore CyberTrust Root"

#

Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Serial Number: 33554617 (0x20000b9)

Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Not Valid Before: Fri May 12 18:46:00 2000

Not Valid After : Mon May 12 23:59:00 2025

Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Baltimore CyberTrust Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\002\000\000\271

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060
\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061

```
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Baltimore CyberTrust Root"
```

```
# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
```

```
# Serial Number: 33554617 (0x20000b9)
```

```
# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
```

```
# Not Valid Before: Fri May 12 18:46:00 2000
```

```
# Not Valid After : Mon May 12 23:59:00 2025
```

```
# Fingerprint (SHA-256):
```

```
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
```

```
# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\004\002\000\000\271
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority"

#

Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Serial Number: 1164660820 (0x456b5054)

Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Not Valid Before: Mon Nov 27 20:23:42 2006

Not Valid After : Fri Nov 27 20:53:42 2026

Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040

\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\105\153\120\124

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003
\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210

\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376
\036\177\132\264\074

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority"

Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Serial Number: 1164660820 (0x456b5054)

Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Not Valid Before: Mon Nov 27 20:23:42 2006

Not Valid After : Fri Nov 27 20:53:42 2026

```
# Fingerprint (SHA-256):
73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C
# Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324
\147\111\122\371
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\105\153\120\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Root CA"
#
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
# Serial Number: 65568 (0x10020)
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
# Not Valid Before: Tue Jun 11 10:46:39 2002
# Not Valid After : Fri Jun 11 10:46:39 2027
# Fingerprint (SHA-256):
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123
```

```
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certum Root CA"
```

```
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Serial Number: 65568 (0x10020)
```

```
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Not Valid Before: Tue Jun 11 10:46:39 2002
```

```
# Not Valid After : Fri Jun 11 10:46:39 2027
```

```
# Fingerprint (SHA-256):
```

```
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
```

```
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
```

```
\121\261\201\030
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```

\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
END
CKA_ISSUER MULTILINE_OCTAL
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\001\000\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Comodo AAA Services root"
#
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Serial Number: 1 (0x1)
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
# Not Valid Before: Thu Jan 01 00:00:00 2004
# Not Valid After : Sun Dec 31 23:59:59 2028
# Fingerprint (SHA-256):
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016

```

\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015
\060\064\060\061\060\061\060\060\060\060\060\132\027\015\062
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243

\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237
\225\351\066\226\230\156

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Comodo AAA Services root"

Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

Serial Number: 1 (0x1)

Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

Not Valid Before: Thu Jan 01 00:00:00 2004

Not Valid After : Sun Dec 31 23:59:59 2028

Fingerprint (SHA-256):

D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4

Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Comodo AAA Services root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
END
CKA_ISSUER MULTILINE_OCTAL
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2"
#
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157

```

```
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021
```

\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332
\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177

```
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171
\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 2"
```

```
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
```

```
# Serial Number: 1289 (0x509)
```

```
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Fri Nov 24 18:27:00 2006
```

```
# Not Valid After : Mon Nov 24 18:23:33 2031
```

```
# Fingerprint (SHA-256):
```

```
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
```

```
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\002\005\011
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "QuoVadis Root CA 3"

#

Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

Serial Number: 1478 (0x5c6)

Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM

Not Valid Before: Fri Nov 24 19:11:23 2006

Not Valid After : Mon Nov 24 19:06:44 2031

Fingerprint (SHA-256):

18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35

Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "QuoVadis Root CA 3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\005\306

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125

\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311
\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164

\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031
\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312

```

\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "QuoVadis Root CA 3"
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Serial Number: 1478 (0x5c6)
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication Root CA"
#
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)

```

```
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367
```

\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144
\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication Root CA"

Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

Serial Number: 0 (0x0)

Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

```

# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Camerfirma Chambers of Commerce Root"
#
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\063
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
```

\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121
\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216

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\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370
\334
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
# For Email Distrust After: Mon Mar 01 00:00:00 2021
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\061\060\063\060\061\060\060\060\060\060\060\132
END
```

```
# Trust for "Camerfirma Chambers of Commerce Root"
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
```

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\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "XRamp Global CA Root"
#
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170

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\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120
\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254

\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020
\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311
\264\003\045\274

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "XRamp Global CA Root"

Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US

Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US

Not Valid Before: Mon Nov 01 17:14:04 2004

Not Valid After : Mon Jan 01 05:37:19 2035

Fingerprint (SHA-256):

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2

```

# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Class 2 CA"
#
# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:06:20 2004
# Not Valid After : Thu Jun 29 17:06:20 2034
# Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253
```

\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152
\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
\177\333\275\237

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Class 2 CA"

```

# Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:06:20 2004
# Not Valid After : Thu Jun 29 17:06:20 2034
# Fingerprint (SHA-256):
C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4
# Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002
\217\040\356\344
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147
END
CKA_ISSUER MULTILINE_OCTAL
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Class 2 CA"
#
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:39:16 2004
# Not Valid After : Thu Jun 29 17:39:16 2034
# Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\063\064\060\066
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002
```

\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300
\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224

END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Starfield Class 2 CA"
# Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Serial Number: 0 (0x0)
# Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US
# Not Valid Before: Tue Jun 29 17:39:16 2004
# Not Valid After : Thu Jun 29 17:39:16 2034
# Fingerprint (SHA-256):
14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58
# Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root CA"
#
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

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# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
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\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076
\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362

END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Assured ID Root CA"
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root CA"
#
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

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# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
```

\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172
\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Global Root CA"
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert High Assurance EV Root CA"
#
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

```

```
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\060\066\061\061\061\060\060\060\060\060\060\060\132\027\015\063
```

\061\061\061\061\060\060\060\060\060\060\060\060\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070
\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143

```
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251  
\370\351\056\023\243\167\350\037\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE  
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE  
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert High Assurance EV Root CA"
```

```
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
```

```
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Fri Nov 10 00:00:00 2006
```

```
# Not Valid After : Mon Nov 10 00:00:00 2031
```

```
# Fingerprint (SHA-256):
```

```
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
```

```
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
```

```
\141\307\334\045
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
```

```
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
```

```
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
```

```
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
```

```
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
```

```
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
```

```
\045\167
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "SwissSign Gold CA - G2"
```

```
#
# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:30:35 2006
# Not Valid After : Sat Oct 25 08:30:35 2036
# Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110
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\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120
\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374

\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362
\111\044\133\311\260\320\127\301\372\076\172\341\227\311

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "SwissSign Gold CA - G2"

Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

Serial Number:00:bb:40:1c:43:f5:5e:4f:b0

Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH

Not Valid Before: Wed Oct 25 08:30:35 2006

Not Valid After : Sat Oct 25 08:30:35 2036

Fingerprint (SHA-256):

62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95

Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "SwissSign Gold CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Silver CA - G2"
#
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\117\033\324\057\124\273\057\113

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004
\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020

\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005

```
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SwissSign Silver CA - G2"
```

```
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
```

```
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
```

```
# Not Valid Before: Wed Oct 25 08:32:46 2006
```

```
# Not Valid After : Sat Oct 25 08:32:46 2036
```

```
# Fingerprint (SHA-256):
```

```
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
```

```
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\117\033\324\057\124\273\057\113
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "SecureTrust CA"
#
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:31:18 2006
# Not Valid After : Mon Dec 31 19:40:55 2029
# Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003

```

\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250
\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051

\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050

\113\035\236\054\302\270\150\274\355\002\356\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SecureTrust CA"

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

Not Valid Before: Tue Nov 07 19:31:18 2006

Not Valid After : Mon Dec 31 19:40:55 2029

Fingerprint (SHA-256):

F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73

Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SecureTrust CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104

\331\064\377\021

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321

END

CKA_ISSUER MULTILINE_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145

\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157

\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165

\162\145\124\162\165\163\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030

\131\320

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Secure Global CA"

#

Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

```
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206
```

\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302
\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Secure Global CA"

Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5

Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US

Not Valid Before: Tue Nov 07 19:42:28 2006

Not Valid After : Mon Dec 31 19:52:06 2029

Fingerprint (SHA-256):

42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69

Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Secure Global CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336

END

CKA_ISSUER MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "COMODO Certification Authority"

#

Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB

Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d

Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB

Not Valid Before: Fri Dec 01 00:00:00 2006

Not Valid After : Mon Dec 31 23:59:59 2029

Fingerprint (SHA-256):

0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66

Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "COMODO Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151

\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367
\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337

```
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
\145
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "COMODO Certification Authority"
```

```
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
```

```
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Not Valid Before: Fri Dec 01 00:00:00 2006
```

```
# Not Valid After : Mon Dec 31 23:59:59 2029
```

```
# Fingerprint (SHA-256):
```

```
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
```

```
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "COMODO Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO ECC Certification Authority"
#
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Thu Mar 06 00:00:00 2008
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
```

\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346

```

\334\335\363\377\035\054\072\026\127\331\222\071\326
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "COMODO ECC Certification Authority"
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Thu Mar 06 00:00:00 2008
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

```

#
# Certificate "OISTE WISeKey Global Root GA CA"
#
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Not Valid Before: Sun Dec 11 16:03:44 2005
# Not Valid After : Fri Dec 11 16:09:51 2037
# Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013
\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261

```
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051
\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311
\374\276\337\012\015
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISeKey Global Root GA CA"
```

```
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
```

```
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
```

```
# Not Valid Before: Sun Dec 11 16:03:44 2005
```

```
# Not Valid After : Fri Dec 11 16:09:51 2037
```

```
# Fingerprint (SHA-256):
```

```
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
```

```
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260
\104\033\017\251
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
```

```
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certigna"

#

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\376\334\343\001\017\311\110\377
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023

```
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certigna"

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\376\334\343\001\017\311\110\377
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ePKI Root Certification Authority"

#

Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Mon Dec 20 02:31:27 2004

Not Valid After : Wed Dec 20 02:31:27 2034

Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060

\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004

\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017
\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ePKI Root Certification Authority"
Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

```

# Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Mon Dec 20 02:31:27 2004
# Not Valid After : Wed Dec 20 02:31:27 2034
# Fingerprint (SHA-256):
C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5
# Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ePKI Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342
\075\151\306\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN ROOT CA"
#
# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Serial Number:20:06:05:16:70:02
# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Not Valid Before: Tue Jul 04 17:20:04 2006
# Not Valid After : Fri Jul 04 17:20:04 2031
# Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057
```

\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115
\366\356\260\132\116\111\104\124\130\137\102\203

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "certSIGN ROOT CA"

Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO

Serial Number:20:06:05:16:70:02

Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO

Not Valid Before: Tue Jul 04 17:20:04 2006

Not Valid After : Fri Jul 04 17:20:04 2031

Fingerprint (SHA-256):

EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB

Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "certSIGN ROOT CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
END
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "NetLock Arany (Class Gold) Ftanúsítvány"
#
# Issuer: CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Serial Number:49:41:2c:e4:00:10
# Subject: CN=NetLock Arany (Class Gold) F.tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\006\111\101\054\344\000\020

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331

\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233
\330\316\304\143\165\077\131\107\261

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "NetLock Arany (Class Gold) Ftanúsítvány"

Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

Serial Number:49:41:2c:e4:00:10

Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

```

# Not Valid Before: Thu Dec 11 15:08:21 2008
# Not Valid After : Wed Dec 06 15:08:21 2028
# Fingerprint (SHA-256):
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 1"
#
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Serial Number: 1000 (0x3e8)
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2

```

Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174
```

\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hongkong Post Root CA 1"

Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

Serial Number: 1000 (0x3e8)

Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK

Not Valid Before: Thu May 15 05:13:14 2003

Not Valid After : Mon May 15 04:52:29 2023

Fingerprint (SHA-256):

F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2

Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureSign RootCA11"
#
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Serial Number: 1 (0x1)
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Not Valid Before: Wed Apr 08 04:56:47 2009
# Not Valid After : Sun Apr 08 04:56:47 2029
# Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END

```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324

```
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003
\362
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SecureSign RootCA11"

Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

Serial Number: 1 (0x1)

Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP

Not Valid Before: Wed Apr 08 04:56:47 2009

Not Valid After : Sun Apr 08 04:56:47 2029

Fingerprint (SHA-256):

BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12

Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SecureSign RootCA11"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Microsec e-Szigno Root CA 2009"

#

Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:00:c2:7e:43:04:4e:47:3f:19

Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Jun 16 11:30:18 2009

Not Valid After : Sun Dec 30 11:30:18 2029

Fingerprint (SHA-256):

3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78

Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
```

\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003
\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044

\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311
\202\042\055\172\124\253\160\303\175\042\145\202\160\226

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Microsec e-Szigno Root CA 2009"

Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:00:c2:7e:43:04:4e:47:3f:19

Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Jun 16 11:30:18 2009

Not Valid After : Sun Dec 30 11:30:18 2029

Fingerprint (SHA-256):

3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78

Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\302\176\103\004\116\107\077\031

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Root CA - R3"

#

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

Serial Number:04:00:00:00:00:01:21:58:53:08:a2

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3

Not Valid Before: Wed Mar 18 10:00:00 2009

Not Valid After : Sun Mar 18 10:00:00 2029

Fingerprint (SHA-256):

CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B

Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root CA - R3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\004\000\000\000\000\001\041\130\123\010\242

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004
\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377

```
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107
\130\077\137
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA - R3"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Not Valid Before: Wed Mar 18 10:00:00 2009
```

```
# Not Valid After : Sun Mar 18 10:00:00 2029
```

```
# Fingerprint (SHA-256):
```

```
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
```

```
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
```

```
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\013\004\000\000\000\000\001\041\130\123\010\242
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"

#

Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Serial Number:53:ec:3b:ee:fb:b2:48:5f

Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Not Valid Before: Wed May 20 08:38:15 2009

Not Valid After : Tue Dec 31 08:38:15 2030

Fingerprint (SHA-256):

```
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
```

Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\123\354\073\356\373\262\110\137

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305

\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063

```
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"
```

```
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
```

```
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
```

```
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
```

```
# Not Valid Before: Wed May 20 08:38:15 2009
```

```
# Not Valid After : Tue Dec 31 08:38:15 2030
```

```
# Fingerprint (SHA-256):
```

```
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
```

```
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
\267\367\266\372
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\123\354\073\356\373\262\110\137
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Izenpe.com"
#
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
```

\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341
\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046
\312\027\270\311\172\207\126\054\032\001\036\154\276\023\255\020
\254\265\044\365\070\221\241\326\113\332\361\273\322\336\107\265
\361\274\201\366\131\153\317\031\123\351\215\025\313\112\313\251
\157\104\345\033\101\317\341\206\247\312\320\152\237\274\114\215
\006\063\132\242\205\345\220\065\240\142\134\026\116\360\343\242
\372\003\032\264\054\161\263\130\054\336\173\013\333\032\017\353
\336\041\037\006\167\006\003\260\311\357\231\374\300\271\117\013
\206\050\376\322\271\352\343\332\245\303\107\151\022\340\333\360
\366\031\213\355\173\160\327\002\326\355\207\030\050\054\004\044
\114\167\344\110\212\032\306\073\232\324\017\312\372\165\322\001
\100\132\215\171\277\213\317\113\317\252\026\301\225\344\255\114
\212\076\027\221\324\261\142\345\202\345\200\004\244\003\176\215
\277\332\177\242\017\227\117\014\323\015\373\327\321\345\162\176
\034\310\167\377\133\232\017\267\256\005\106\345\361\250\026\354
\107\244\027\002\003\001\000\001\243\201\366\060\201\363\060\201
\260\006\003\125\035\021\004\201\250\060\201\245\201\017\151\156
\146\157\100\151\172\145\156\160\145\056\143\157\155\244\201\221
\060\201\216\061\107\060\105\006\003\125\004\012\014\076\111\132
\105\116\120\105\040\123\056\101\056\040\055\040\103\111\106\040
\101\060\061\063\063\067\062\066\060\055\122\115\145\162\143\056
\126\151\164\157\162\151\141\055\107\141\163\164\145\151\172\040
\124\061\060\065\065\040\106\066\062\040\123\070\061\103\060\101
\006\003\125\004\011\014\072\101\166\144\141\040\144\145\154\040
\115\145\144\151\164\145\162\162\141\156\145\157\040\105\164\157
\162\142\151\144\145\141\040\061\064\040\055\040\060\061\060\061
\060\040\126\151\164\157\162\151\141\055\107\141\163\164\145\151
\172\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\035\034\145
\016\250\362\045\173\264\221\317\344\261\261\346\275\125\164\154

\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\170\246\014\026\112\237\114\210\072\300\313
\016\245\026\175\237\271\110\137\030\217\015\142\066\366\315\031
\153\254\253\325\366\221\175\256\161\363\077\263\016\170\205\233
\225\244\047\041\107\102\112\174\110\072\365\105\174\263\014\216
\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003
\307\355\102\001\316\017\330\261\372\242\222\341\140\155\256\172
\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071
\133\176\361\034\056\335\154\011\255\362\061\301\202\116\271\273
\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201
\354\276\155\046\346\034\344\102\040\236\107\260\254\203\131\160
\054\065\326\257\066\064\264\315\073\370\062\250\357\343\170\211
\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065
\360\005\321\252\274\343\333\310\002\352\174\375\202\332\302\133
\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154
\333\374\046\210\307

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Izenpe.com"

Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES

Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d

Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES

Not Valid Before: Thu Dec 13 13:08:28 2007

Not Valid After : Sun Dec 13 08:27:25 2037

Fingerprint (SHA-256):

25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F

Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Chambers of Commerce Root - 2008"
#
# Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Serial Number:00:a3:da:42:7e:a4:b1:ae:da
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:29:50 2008
# Not Valid After : Sat Jul 31 12:29:50 2038
# Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125

```

\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000
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\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
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\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051\060
\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\040\055\040\062\060\060\070\060\036\027\015\060\070\060\070
\060\061\061\062\062\071\065\060\132\027\015\063\070\060\067\063
\061\061\062\062\071\065\060\132\060\201\256\061\013\060\011\006
\003\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004

\007\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143
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\056\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060
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\124\240\062\031\131\376\037\213\327\075\140\206\205\044\157\343
\021\263\167\076\040\226\065\041\153\263\010\331\160\056\144\367
\204\222\123\326\016\260\220\212\212\343\207\215\006\323\275\220
\016\342\231\241\033\206\016\332\232\012\273\013\141\120\006\122
\361\236\177\166\354\313\017\320\036\015\317\231\060\075\034\304
\105\020\130\254\326\323\350\327\345\352\305\001\007\167\326\121
\346\003\177\212\110\245\115\150\165\271\351\274\236\116\031\161
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\141\144\162\151\144\040\050\163\145\145\040\143\165\162\162\145
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\146\151\162\155\141\040\123\056\101\056\061\051\060\047\006\003
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\040\103\157\155\155\145\162\143\145\040\122\157\157\164\040\055
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\001\026\034\150\164\164\160\072\057\057\160\157\154\151\143\171
\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060
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\002\001\000\220\022\257\042\065\302\243\071\360\056\336\351\265
\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026
\074\237\264\133\146\236\152\347\303\271\135\210\350\017\255\317
\043\017\336\045\072\136\314\117\245\301\265\055\254\044\322\130
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\044\043\052\220\375\220\051\065\362\223\337\064\245\306\367\370
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\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022
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\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311
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\167\110\320
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Chambers of Commerce Root - 2008"

Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Serial Number:00:a3:da:42:7e:a4:b1:ae:da

Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:29:50 2008

Not Valid After : Sat Jul 31 12:29:50 2038

Fingerprint (SHA-256):

06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0

Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

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\376\232\316\074
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END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

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END

CKA_ISSUER MULTILINE_OCTAL

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\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

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END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Global Chambersign Root - 2008"

#

Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:31:40 2008

Not Valid After : Sat Jul 31 12:31:40 2038

Fingerprint (SHA-256):

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Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Global Chambersign Root - 2008"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

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\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
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END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

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\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
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\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

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END

CKA_VALUE MULTILINE_OCTAL

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\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271
\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062
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\255\227\374\227\056\230\204\277\054\311\243\277\321\230\021\024
\355\143\370\312\230\210\130\027\231\355\105\003\227\176\074\206
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\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351
\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131

\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364
\351\233\256\325\124\300\164\200\321\013\102\237\301

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Global Chambersign Root - 2008"

Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce

Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:31:40 2008

Not Valid After : Sat Jul 31 12:31:40 2038

Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\311\315\323\351\325\175\043\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Go Daddy Root Certificate Authority - G2"
#
# Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

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CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051
\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Root Certificate Authority - G2"

Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

```

# Serial Number: 0 (0x0)
# Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA
# Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302
\124\375\346\213
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009

```

```
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
```

\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312

```
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Root Certificate Authority - G2"

Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5

Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Services Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

```

\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060
\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060

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\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215
\261\050\272
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Services Root Certificate Authority - G2"

Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5

Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AffirmTrust Commercial"

#

Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

Serial Number:77:77:06:27:26:a9:b1:7c

Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:06:06 2010

Not Valid After : Tue Dec 31 14:06:06 2030

Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AffirmTrust Commercial"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051

```
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236
\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Commercial"
```

```
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Serial Number:77:77:06:27:26:a9:b1:7c
```

```
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:06:06 2010
```

```
# Not Valid After : Tue Dec 31 14:06:06 2030
```

```
# Fingerprint (SHA-256):
```

```
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
```

```
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Commercial"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054
\307\262\170\267
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
```

```
END
```

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Networking"
#
# Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Serial Number:7c:4f:04:39:1c:d4:99:2d
# Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:08:24 2010
# Not Valid After : Tue Dec 31 14:08:24 2030
# Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013

```

\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362
\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064

\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Networking"

Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Serial Number:7c:4f:04:39:1c:d4:99:2d

Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:08:24 2010

Not Valid After : Tue Dec 31 14:08:24 2030

Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AffirmTrust Networking"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220

\237\105\000\057

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177

END

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167

\157\162\153\151\156\147

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\174\117\004\071\034\324\231\055

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AffirmTrust Premium"

#

Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

Serial Number:6d:8c:14:46:b1:a6:0a:ee

Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

```
# Not Valid Before: Fri Jan 29 14:10:36 2010
# Not Valid After : Mon Dec 31 14:10:36 2040
# Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020
```

\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076
\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234

```
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236
\051\340\266\270\011\150\031\034\030\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "AffirmTrust Premium"

Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US

Serial Number:6d:8c:14:46:b1:a6:0a:ee

Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:10:36 2010

Not Valid After : Mon Dec 31 14:10:36 2040

Fingerprint (SHA-256):

70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A

Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Premium"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
```

```

\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Premium ECC"
#
# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Serial Number:74:97:25:8a:c7:3f:7a:54
# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:20:24 2010
# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002
\214\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Premium ECC"

Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Serial Number:74:97:25:8a:c7:3f:7a:54

Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:20:24 2010

Not Valid After : Mon Dec 31 14:20:24 2040

Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA"
#
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164

```

\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\004\104\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074

\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum Trusted Network CA"

Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Serial Number: 279744 (0x444c0)

Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL

Not Valid Before: Wed Oct 22 12:07:37 2008

Not Valid After : Mon Dec 31 12:07:37 2029

Fingerprint (SHA-256):

```

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Root Certification Authority"
#
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307

\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Root Certification Authority"

Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

Serial Number: 1 (0x1)

Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW

Not Valid Before: Thu Aug 28 07:24:33 2008

Not Valid After : Tue Dec 31 15:59:59 2030

Fingerprint (SHA-256):

BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44

Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Explicitly Distrust DigiNotar Root CA"
#
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061

```

```
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\212\060\202\003\162\240\003\002\001\002\002\020\017
\377\377\377\377\377\377\377\377\377\377\377\377\377\377\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\137
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022\060
\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164\141
\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147\151
\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040\060
\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151\156
\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154\060
\036\027\015\060\067\060\067\062\067\061\067\061\071\063\067\132
\027\015\062\065\060\063\063\061\061\070\061\071\062\062\132\060
\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061\022
\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157\164
\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151\147
\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061\040
\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021\151
\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156\154
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\260\130\301\000\275\330\041\010\013\053\232\376\156\126
\060\005\237\033\167\220\020\101\134\303\015\207\021\167\216\201
\361\312\174\351\214\152\355\070\164\065\273\332\337\371\273\300
\011\067\264\226\163\201\175\063\032\230\071\367\223\157\225\177
\075\271\261\165\207\272\121\110\350\213\160\076\225\004\305\330
\266\303\026\331\210\260\261\207\035\160\332\206\264\017\024\213
\172\317\020\321\164\066\242\022\173\167\206\112\171\346\173\337
\002\021\150\245\116\206\256\064\130\233\044\023\170\126\042\045
\036\001\213\113\121\161\373\202\314\131\226\151\210\132\150\123
\305\271\015\002\067\313\113\274\146\112\220\176\052\013\005\007
```

\355\026\137\125\220\165\330\106\311\033\203\342\010\276\361\043
\314\231\035\326\052\017\203\040\025\130\047\202\056\372\342\042
\302\111\261\271\001\201\152\235\155\235\100\167\150\166\116\041
\052\155\204\100\205\116\166\231\174\202\363\363\267\002\131\324
\046\001\033\216\337\255\123\006\321\256\030\335\342\262\072\313
\327\210\070\216\254\133\051\271\031\323\230\371\030\003\317\110
\202\206\146\013\033\151\017\311\353\070\210\172\046\032\005\114
\222\327\044\324\226\362\254\122\055\243\107\325\122\366\077\376
\316\204\006\160\246\252\076\242\362\266\126\064\030\127\242\344
\201\155\347\312\360\152\323\307\221\153\002\203\101\174\025\357
\153\232\144\136\343\320\074\345\261\353\173\135\206\373\313\346
\167\111\315\243\145\334\367\271\234\270\344\013\137\223\317\314
\060\032\062\034\316\034\143\225\245\371\352\341\164\213\236\351
\053\251\060\173\240\030\037\016\030\013\345\133\251\323\321\154
\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134

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\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163
\262\345\214\360\206\231\270\345\305\337\204\301\267\353
END
```

```
# Trust for Certificate "Explicitly Distrust DigiNotar Root CA"
# Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff
# Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL
# Not Valid Before: Fri Jul 27 17:19:37 2007
# Not Valid After : Mon Mar 31 18:19:22 2025
# Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E
# Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\301\167\313\113\340\264\046\216\365\307\317\105\231\042\271\260
\316\272\041\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\244\325\314\272\264\373\243\131\343\346\001\335\123\331\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\017\377\377\377\377\377\377\377\377\377\377\377\377\377
\377\377
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_NOT_TRUSTED
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CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_NOT_TRUSTED
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication RootCA2"
#
# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Fri May 29 05:00:39 2009
# Not Valid After : Tue May 29 05:00:39 2029
# Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036

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\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360
\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077

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\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Security Communication RootCA2"
# Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Fri May 29 05:00:39 2009
# Not Valid After : Tue May 29 05:00:39 2029
# Fingerprint (SHA-256):
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Actalis Authentication Root CA"
#
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

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```
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002
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\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105
\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015
\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013

\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364
\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Actalis Authentication Root CA"

Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

Serial Number:57:0a:11:97:42:c4:e3:cc

Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT

Not Valid Before: Thu Sep 22 11:22:02 2011

Not Valid After : Sun Sep 22 11:22:02 2030

Fingerprint (SHA-256):

55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66

Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
END
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 2 Root CA"
#
# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040

```

```
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001
```

|152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075
|356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000
|025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153
|122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004
|277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033
|160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342
|025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135
|276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362
|337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122
|077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150
|253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306
|327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015
|365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143
|307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326
|046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117
|002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
|001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
|016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363
|272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017
|001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
|206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041
|365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357
|006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025
|033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254
|003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377
|112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326
|107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355
|072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117
|266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136
|203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350
|371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017
|217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376
|254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373
|051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265
|011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312
|352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266
|014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022
|313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021
|065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054
|037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272
|325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110
|367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320
|043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331
|243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
|115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
|346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
|112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
|336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141

```
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Buypass Class 2 Root CA"

Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

Serial Number: 2 (0x2)

Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

Not Valid Before: Tue Oct 26 08:38:03 2010

Not Valid After : Fri Oct 26 08:38:03 2040

Fingerprint (SHA-256):

9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48

Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Buypass Class 3 Root CA"

```
#
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:28:58 2010
# Not Valid After : Fri Oct 26 08:28:58 2040
# Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
```

\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071
\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101

```
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221
\123\001\250\040\210\156\234\137\104\271\131\140\201\064\354\157
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351
\061\356\006\274\163\277\023\142\012\237\307\271\227
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Buypass Class 3 Root CA"
```

```
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Serial Number: 2 (0x2)
```

```
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Not Valid Before: Tue Oct 26 08:28:58 2010
```

```
# Not Valid After : Fri Oct 26 08:28:58 2040
```

```
# Fingerprint (SHA-256):
```

```
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
```

```
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354

END

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061

\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163

\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040

\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163

\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\002

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "T-TeleSec GlobalRoot Class 3"

#

Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Not Valid Before: Wed Oct 01 10:29:56 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105

\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163

\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040

\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060

\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155

\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045

\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123

\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154

\141\163\163\040\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271

\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035
\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051
\116\223\303\244\124\024\133

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "T-TeleSec GlobalRoot Class 3"

Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Not Valid Before: Wed Oct 01 10:29:56 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623603 (0x983f3)
# Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:35:58 2009
# Not Valid After : Mon Nov 05 08:35:58 2029
# Fingerprint (SHA-256):
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014

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\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006

\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167
\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136
\164\145\327\134\376\243\342

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 2009"

Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Serial Number: 623603 (0x983f3)

Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:35:58 2009

Not Valid After : Mon Nov 05 08:35:58 2029

Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

```

# Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623604 (0x983f4)
# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163

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\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\011\203\364

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374

\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055
\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041
\352\237\026\361\054\124\265

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 EV 2009"
Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
Serial Number: 623604 (0x983f4)
Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

```

# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140
\372\271\026\203
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CA Disig Root R2"
#
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003
```

\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211
\101\366\004\222\212\051\051\155\153\072\034\347\165\175\002\161
\016\363\300\347\275\313\031\335\235\140\262\302\146\140\266\261
\004\356\311\346\206\271\232\146\100\250\347\021\355\201\105\003
\213\366\147\131\350\301\006\021\275\335\317\200\002\117\145\100
\170\134\107\120\310\233\346\037\201\173\344\104\250\133\205\232
\342\336\132\325\307\371\072\104\146\113\344\062\124\174\344\154
\234\263\016\075\027\242\262\064\022\326\176\262\250\111\273\321
\172\050\100\276\242\026\037\337\344\067\037\021\163\373\220\012
\145\103\242\015\174\370\006\001\125\063\175\260\015\270\364\365
\256\245\102\127\174\066\021\214\173\136\304\003\235\214\171\235
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125\035
\016\004\026\004\024\265\231\370\257\260\224\365\343\040\326\012
\255\316\116\126\244\056\156\102\355\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\046\006\136
\160\347\145\063\310\202\156\331\234\027\072\033\172\146\262\001
\366\170\073\151\136\057\352\377\116\371\050\303\230\052\141\114
\264\044\022\212\175\155\021\024\367\234\265\312\346\274\236\047
\216\114\031\310\251\275\172\300\327\066\016\155\205\162\156\250
\306\242\155\366\372\163\143\177\274\156\171\010\034\235\212\237
\032\212\123\246\330\273\331\065\125\261\021\305\251\003\263\126
\073\271\204\223\042\136\176\301\366\022\122\213\352\054\147\274
\376\066\114\365\270\317\321\263\111\222\073\323\051\016\231\033
\226\367\141\270\073\304\053\266\170\154\264\043\157\360\375\323
\262\136\165\037\231\225\250\254\366\332\341\305\061\173\373\321
\106\263\322\274\147\264\142\124\272\011\367\143\260\223\242\232
\371\351\122\056\213\140\022\253\374\365\140\126\357\020\134\213
\304\032\102\334\203\133\144\016\313\265\274\326\117\301\174\074
\156\215\023\155\373\173\353\060\320\334\115\257\305\325\266\245
\114\133\161\311\350\061\276\350\070\006\110\241\032\342\352\322
\336\022\071\130\032\377\200\016\202\165\346\267\311\007\154\016
\357\377\070\361\230\161\304\267\177\016\025\320\045\151\275\042
\235\053\355\005\366\106\107\254\355\300\360\324\073\342\354\356

```
\226\133\220\023\116\036\126\072\353\260\357\226\273\226\043\021
\272\362\103\206\164\144\225\310\050\165\337\035\065\272\322\067
\203\070\123\070\066\073\317\154\351\371\153\016\320\373\004\350
\117\167\327\145\001\170\206\014\172\076\041\142\361\177\143\161
\014\311\237\104\333\250\047\242\165\276\156\201\076\327\300\353
\033\230\017\160\134\064\262\212\314\300\205\030\353\156\172\263
\367\132\241\007\277\251\102\222\363\140\042\227\344\024\241\007
\233\116\166\300\216\175\375\244\045\307\107\355\377\037\163\254
\314\303\245\351\157\012\216\233\145\302\120\205\265\243\240\123
\022\314\125\207\141\363\201\256\020\106\141\275\104\041\270\302
\075\164\317\176\044\065\372\034\007\016\233\075\042\312\357\061
\057\214\254\022\275\357\100\050\374\051\147\237\262\023\117\146
\044\304\123\031\351\036\051\025\357\346\155\260\177\055\147\375
\363\154\033\165\106\243\345\112\027\351\244\327\013
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "CA Disig Root R2"
```

```
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
```

```
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
```

```
# Not Valid Before: Thu Jul 19 09:15:30 2012
```

```
# Not Valid After : Sat Jul 19 09:15:30 2042
```

```
# Fingerprint (SHA-256):
```

```
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
```

```
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CA Disig Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ACCVRAIZ1"
#
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
# Not Valid Before: Thu May 05 09:37:37 2011
# Not Valid After : Tue Dec 31 09:37:37 2030
# Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016

```

\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030
\036\330\217\331\026\274\020\110\066\134\360\143\263\220\132\134
\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073
\340\241\045\007\110\253\311\211\164\377\010\217\200\277\300\226
\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272
\006\366\373\122\250\113\231\004\335\370\371\264\213\120\243\116
\142\211\360\207\044\372\203\102\301\207\372\325\055\051\052\132
\161\172\144\152\327\047\140\143\015\333\316\111\365\215\037\220
\211\062\027\370\163\103\270\322\132\223\206\141\326\341\165\012
\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345
\271\113\027\100\017\261\266\271\365\336\117\334\340\263\254\073
\021\160\140\204\112\103\156\231\040\300\051\161\012\300\145\002
\003\001\000\001\243\202\002\313\060\202\002\307\060\175\006\010
\053\006\001\005\005\007\001\001\004\161\060\157\060\114\006\010
\053\006\001\005\005\007\060\002\206\100\150\164\164\160\072\057
\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154
\145\141\144\155\151\156\057\101\162\143\150\151\166\157\163\057

\143\145\162\164\151\146\151\143\141\144\157\163\057\162\141\151
\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006
\001\005\005\007\060\001\206\023\150\164\164\160\072\057\057\157
\143\163\160\056\141\143\143\166\056\145\163\060\035\006\003\125
\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006
\010\053\006\001\005\005\007\002\002\060\202\001\024\036\202\001
\020\000\101\000\165\000\164\000\157\000\162\000\151\000\144\000
\141\000\144\000\040\000\144\000\145\000\040\000\103\000\145\000
\162\000\164\000\151\000\146\000\151\000\143\000\141\000\143\000
\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000
\103\000\103\000\126\000\040\000\050\000\101\000\147\000\145\000
\156\000\143\000\151\000\141\000\040\000\144\000\145\000\040\000
\124\000\145\000\143\000\156\000\157\000\154\000\157\000\147\000
\355\000\141\000\040\000\171\000\040\000\103\000\145\000\162\000
\164\000\151\000\146\000\151\000\143\000\141\000\143\000\151\000
\363\000\156\000\040\000\105\000\154\000\145\000\143\000\164\000
\162\000\363\000\156\000\151\000\143\000\141\000\054\000\040\000
\103\000\111\000\106\000\040\000\121\000\064\000\066\000\060\000
\061\000\061\000\065\000\066\000\105\000\051\000\056\000\040\000
\103\000\120\000\123\000\040\000\145\000\156\000\040\000\150\000
\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167\000
\167\000\056\000\141\000\143\000\143\000\166\000\056\000\145\000
\163\060\060\006\010\053\006\001\005\005\007\002\001\026\044\150
\164\164\160\072\057\057\167\167\167\056\141\143\143\166\056\145
\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056
\150\164\155\060\125\006\003\125\035\037\004\116\060\114\060\112
\240\110\240\106\206\104\150\164\164\160\072\057\057\167\167\167
\056\141\143\143\166\056\145\163\057\146\151\154\145\141\144\155
\151\156\057\101\162\143\150\151\166\157\163\057\143\145\162\164
\151\146\151\143\141\144\157\163\057\162\141\151\172\141\143\143
\166\061\137\144\145\162\056\143\162\154\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166
\056\145\163\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\002\001\000\227\061\002\237\347\375\103\147\110
\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111

\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113
\125\064\106\052\213\206\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ACCVRAIZ1"

Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

Serial Number:5e:c3:b7:a6:43:7f:a4:e0

Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

Not Valid Before: Thu May 05 09:37:37 2011

Not Valid After : Tue Dec 31 09:37:37 2030

Fingerprint (SHA-256):

9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13

Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ACCVRAIZ1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170

\274\123\144\027

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
END
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TWCA Global Root CA"
#
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 3262 (0xcbe)
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Wed Jun 27 06:28:33 2012
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116

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\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\014\276

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103
\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017

\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331
\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Global Root CA"

Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Serial Number: 3262 (0xcbe)

Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Not Valid Before: Wed Jun 27 06:28:33 2012

Not Valid After : Tue Dec 31 15:59:59 2030

Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TWCA Global Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023

\365\255\257\145

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226

END

CKA_ISSUER MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061

\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116

\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157

\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023

\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164

\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\014\276

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "TeliaSonera Root CA v1"

#

Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera

Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96

Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera

Not Valid Before: Thu Oct 18 12:00:50 2007

Not Valid After : Mon Oct 18 12:00:50 2032

```
# Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227
```

\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211
\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210

```
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211
\245\240\314\277\323\366\165\244\165\226\155\126
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TeliaSonera Root CA v1"
```

```
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
```

```
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
```

```
# Not Valid Before: Thu Oct 18 12:00:50 2007
```

```
# Not Valid After : Mon Oct 18 12:00:50 2032
```

```
# Fingerprint (SHA-256):
```

```
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
```

```
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372

\213\315\226

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "E-Tugra Certification Authority"

#

Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

Serial Number:6a:68:3e:9c:51:9b:cb:53

Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR

Not Valid Before: Tue Mar 05 12:09:48 2013

Not Valid After : Fri Mar 03 12:09:48 2023

Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "E-Tugra Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122

\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162

\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165

\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151

\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040

\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056

\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055

\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163

\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006

\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145

\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150

\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122

\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162

\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165

\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151

\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040

\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\152\150\076\234\121\233\313\123

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205

\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336
\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212

```
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "E-Tugra Certification Authority"

Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

Serial Number:6a:68:3e:9c:51:9b:cb:53

Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR

Not Valid Before: Tue Mar 05 12:09:48 2013

Not Valid After : Fri Mar 03 12:09:48 2023

Fingerprint (SHA-256):

B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C

Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "E-Tugra Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
```

```
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\152\150\076\234\121\233\313\123
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "T-TeleSec GlobalRoot Class 2"

#

Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Not Valid Before: Wed Oct 01 10:40:14 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302

\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117
\005\047\216\023\241\156\302

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "T-TeleSec GlobalRoot Class 2"

Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Not Valid Before: Wed Oct 01 10:40:14 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Atos TrustedRoot 2011"
#
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Serial Number:5c:33:cb:62:2c:5f:b3:32
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
# Not Valid Before: Thu Jul 07 14:58:30 2011
# Not Valid After : Tue Dec 31 23:59:59 2030
# Fingerprint (SHA-256):
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157

```

\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125

```
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Atos TrustedRoot 2011"
```

```
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Serial Number:5c:33:cb:62:2c:5f:b3:32
```

```
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Not Valid Before: Thu Jul 07 14:58:30 2011
```

```
# Not Valid After : Tue Dec 31 23:59:59 2030
```

```
# Fingerprint (SHA-256):
```

```
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
```

```
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\134\063\313\142\054\137\263\062
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 1 G3"
#
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161

\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317
\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207
\063\140\345\303

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "QuoVadis Root CA 1 G3"
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2 G3"
#
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 18:59:32 2012
# Not Valid After : Sun Jan 12 18:59:32 2042
# Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311
```

\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252
\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072

```
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 2 G3"
```

```
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
```

```
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Thu Jan 12 18:59:32 2012
```

```
# Not Valid After : Sun Jan 12 18:59:32 2042
```

```
# Fingerprint (SHA-256):
```

```
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
```

```
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
\045\365\310\066
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
```

```

\157\164\040\103\101\040\062\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3 G3"
#
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376

\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375
\130\371\230\364

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3 G3"
Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM

```

# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G2"
#
# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113

END

CKA_VALUE MULTILINE_OCTAL
\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317

\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050
\042\023\163\154\317\046\365\212\051\347

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root G2"
Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
Not Valid Before: Thu Aug 01 12:00:00 2013
Not Valid After : Fri Jan 15 12:00:00 2038
Fingerprint (SHA-256):

```

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
\223\121\135\077
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G3"
#
# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111

```
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057
\352\226\143\152\145\105\222\225\001\264
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Assured ID Root G3"
```

```
# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
```

```
# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
```

```
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root G2"
#
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011

```

\372\345

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370

```
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345
\062\266
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root G2"

Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5

Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F

Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Global Root G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
```

CKA_ISSUER MULTILINE_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root G3"
#
# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72
# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162

```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root G3"

Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

```

# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Trusted Root G4"
#
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135
```

\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253
\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256

```
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274
\317\363\146\176
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Trusted Root G4"
```

```
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
```

```
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
```

```
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO RSA Certification Authority"
#
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141
\154\146\157\162\144\061\032\060\030\006\003\125\004\012\023\021
\103\117\115\117\104\117\040\103\101\040\114\151\155\151\164\145
\144\061\053\060\051\006\003\125\004\003\023\042\103\117\115\117
\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\221
\350\124\222\322\012\126\261\254\015\044\335\305\317\104\147\164
\231\053\067\243\175\043\160\000\161\274\123\337\304\372\052\022
\217\113\177\020\126\275\237\160\162\267\141\177\311\113\017\027
\247\075\343\260\004\141\356\377\021\227\307\364\206\076\012\372
\076\134\371\223\346\064\172\331\024\153\347\234\263\205\240\202
\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202
\364\024\176\371\276\304\246\057\117\177\231\177\265\374\147\103

\162\275\014\000\326\211\353\153\054\323\355\217\230\034\024\253
\176\345\343\156\374\330\250\344\222\044\332\103\153\142\270\125
\375\352\301\274\154\266\213\363\016\215\232\344\233\154\151\231
\370\170\110\060\105\325\255\341\015\074\105\140\374\062\226\121
\047\274\147\303\312\056\266\153\352\106\307\307\040\240\261\037
\145\336\110\010\272\244\116\251\362\203\106\067\204\353\350\314
\201\110\103\147\116\162\052\233\134\275\114\033\050\212\134\042
\173\264\253\230\331\356\340\121\203\303\011\106\116\155\076\231
\372\225\027\332\174\063\127\101\074\215\121\355\013\266\134\257
\054\143\032\337\127\310\077\274\351\135\304\233\257\105\231\342
\243\132\044\264\272\251\126\075\317\157\252\377\111\130\276\360
\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103
\102\036\211\330\204\313\023\361\331\273\341\211\140\270\214\050
\126\254\024\035\234\012\347\161\353\317\016\335\075\251\226\241
\110\275\074\367\257\265\015\042\114\300\021\201\354\126\073\366
\323\242\342\133\267\262\004\042\122\225\200\223\151\350\216\114
\145\361\221\003\055\160\164\002\352\213\147\025\051\151\122\002
\273\327\337\120\152\125\106\277\240\243\050\141\177\160\320\303
\242\252\054\041\252\107\316\050\234\006\105\166\277\202\030\047
\264\325\256\264\313\120\346\153\364\114\206\161\060\351\246\337
\026\206\340\330\377\100\335\373\320\102\210\177\243\063\072\056
\134\036\101\021\201\143\316\030\161\153\053\354\246\212\267\061
\134\072\152\107\340\303\171\131\326\040\032\257\362\152\230\252
\162\274\127\112\322\113\235\273\020\374\260\114\101\345\355\035
\075\136\050\235\234\314\277\263\121\332\247\107\345\204\123\002
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
\026\004\024\273\257\176\002\075\372\246\361\074\204\216\255\356
\070\230\354\331\062\062\324\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\012\361\325\106
\204\267\256\121\273\154\262\115\101\024\000\223\114\234\313\345
\300\124\317\240\045\216\002\371\375\260\242\015\365\040\230\074
\023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232
\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244
\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225
\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312

```
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301
\065\123\205\006\112\135\237\255\273\033\137\164
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "COMODO RSA Certification Authority"
```

```
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
```

```
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
```

```
# Not Valid Before: Tue Jan 19 00:00:00 2010
```

```
# Not Valid After : Mon Jan 18 23:59:59 2038
```

```
# Fingerprint (SHA-256):
```

```
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
```

```
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
```

```
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "USERTrust RSA Certification Authority"

#

Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Not Valid Before: Mon Feb 01 00:00:00 2010

Not Valid After : Mon Jan 18 23:59:59 2038

Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
```

\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060
\062\060\061\060\060\060\060\060\132\027\015\063\070\060\061
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146

\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345
\163\254\043\073\055\000\277\065\125\164\011\111\330\111\130\032
\177\222\066\346\121\222\016\363\046\175\034\115\027\274\311\354
\103\046\320\277\101\137\100\251\104\104\364\231\347\127\207\236
\120\037\127\124\250\076\375\164\143\057\261\120\145\011\346\130
\102\056\103\032\114\264\360\045\107\131\372\004\036\223\324\046
\106\112\120\201\262\336\276\170\267\374\147\025\341\311\127\204
\036\017\143\326\351\142\272\326\137\125\056\352\134\306\050\010
\004\045\071\270\016\053\251\362\114\227\034\007\077\015\122\365
\355\357\057\202\017\002\003\001\000\001\243\102\060\100\060\035
\006\003\125\035\016\004\026\004\024\123\171\277\132\252\053\112
\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015
\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202\002
\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305
\122\237\313\370\317\231\006\177\033\332\103\025\237\236\002\125
\127\226\024\361\122\074\047\207\224\050\355\037\072\001\067\242
\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310

```
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220
\250\375
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "USERTrust RSA Certification Authority"

Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d

Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Not Valid Before: Mon Feb 01 00:00:00 2010

Not Valid After : Mon Jan 18 23:59:59 2038

Fingerprint (SHA-256):

E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2

Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "USERTrust RSA Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
```

```

\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "USERTrust ECC Certification Authority"
#
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013

```

\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001

```
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "USERTrust ECC Certification Authority"

Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26

Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

Not Valid Before: Mon Feb 01 00:00:00 2010

Not Valid After : Mon Jan 18 23:59:59 2038

Fingerprint (SHA-256):

4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A

Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "USERTrust ECC Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R5"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044

```

\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign ECC Root CA - R5"

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

Not Valid Before: Tue Nov 13 00:00:00 2012

Not Valid After : Tue Jan 19 03:14:07 2038

Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24

Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Staat der Nederlanden Root CA - G3"
#
# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Serial Number: 10003001 (0x98a239)
# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Not Valid Before: Thu Nov 14 11:28:42 2013
# Not Valid After : Mon Nov 13 23:00:00 2028
# Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061

```

\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\242\071

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000
\230\242\071\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124

\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022
\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355
\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025
\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024

```
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Staat der Nederlanden Root CA - G3"

Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Serial Number: 10003001 (0x98a239)

Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Not Valid Before: Thu Nov 14 11:28:42 2013

Not Valid After : Mon Nov 13 23:00:00 2028

Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
```

CKA_ISSUER MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\000\230\242\071
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "IdenTrust Commercial Root CA 1"

#

Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Not Valid Before: Thu Jan 16 18:12:23 2014

Not Valid After : Mon Jan 16 18:12:23 2034

Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064

\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207
\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256

\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371
\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030
\272\204\156\207

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "IdenTrust Commercial Root CA 1"

Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02

Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US

Not Valid Before: Thu Jan 16 18:12:23 2014

Not Valid After : Mon Jan 16 18:12:23 2034

Fingerprint (SHA-256):

5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE

Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Public Sector Root CA 1"
#
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066

\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003
\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144

```
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "IdenTrust Public Sector Root CA 1"
```

```
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
```

```
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
```

```
# Not Valid Before: Thu Jan 16 17:53:32 2014
```

```
# Not Valid After : Mon Jan 16 17:53:32 2034
```

```
# Fingerprint (SHA-256):
```

```
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
```

```
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
```

```
\155\115\105\375
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

```
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
```

```
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
```

```
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
```

```
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
```

```
\000\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Entrust Root Certification Authority - G2"
#
# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number: 1246989352 (0x4a538c28)
# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Jul 07 17:25:54 2009
# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\112\123\214\050

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054
\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\065
\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352

\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213
\105\366

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - G2"

Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number: 1246989352 (0x4a538c28)

Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Tue Jul 07 17:25:54 2009

Not Valid After : Sat Dec 07 17:55:54 2030

Fingerprint (SHA-256):

43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39

Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273

\223\042\162\324

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165

\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004

\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165

\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162

\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051

\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111

\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162

\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060

\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040

\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151

\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107

\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\112\123\214\050

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority - EC1"

#

Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9

Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Tue Dec 18 15:25:36 2012

Not Valid After : Fri Dec 18 15:55:36 2037

Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162

\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270
\231\267\046\101\133\045\140\256\320\110\032\356\006

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - EC1"
Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Serial Number:00:a6:8b:79:29:00:00:00:50:d0:91:f9
Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
Not Valid Before: Tue Dec 18 15:25:36 2012
Not Valid After : Fri Dec 18 15:55:36 2037

```

# Fingerprint (SHA-256):
02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5
# Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CFCA EV ROOT"
#
# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Serial Number: 407555286 (0x184accd6)
# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
# Not Valid Before: Wed Aug 08 03:07:01 2012
# Not Valid After : Mon Dec 31 03:07:01 2029
# Fingerprint (SHA-256):
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

```

Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CFCA EV ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END

CKA_VALUE MULTILINE_OCTAL
\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014

\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243
\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161

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\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173
\056
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "CFCA EV ROOT"

Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Serial Number: 407555286 (0x184accd6)

Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Not Valid Before: Wed Aug 08 03:07:01 2012

Not Valid After : Mon Dec 31 03:07:01 2029

Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CFCA EV ROOT"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\030\112\314\326
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GB CA"
#
# Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0
# Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Mon Dec 01 15:00:32 2014
# Not Valid After : Thu Dec 01 15:10:31 2039
# Fingerprint (SHA-256):
6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6
# Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144

```

\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060

```
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176
\065\255\201\307\116\161\272\210\023
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "OISTE WISEKey Global Root GB CA"

Issuer: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

Subject: CN=OISTE WISEKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH

Not Valid Before: Mon Dec 01 15:00:32 2014

Not Valid After : Thu Dec 01 15:10:31 2039

Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OISTE WISEKey Global Root GB CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
\047\254\314\355
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "SZAFIR ROOT CA2"
#
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Not Valid Before: Mon Oct 19 07:43:30 2015
# Not Valid After : Fri Oct 19 07:43:30 2035
# Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
```

\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172
\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351

```
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240
\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212
\326\040\036\343\163\267
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SZAFIR ROOT CA2"
```

```
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
```

```
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
```

```
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
```

```
# Not Valid Before: Mon Oct 19 07:43:30 2015
```

```
# Not Valid After : Fri Oct 19 07:43:30 2035
```

```
# Fingerprint (SHA-256):
```

```
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
```

```
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
```

```
\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA 2"
#
# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Thu Oct 06 08:39:56 2011
# Not Valid After : Sat Oct 06 08:39:56 2046
# Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
```

\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042
\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150

\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276
\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015

```
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certum Trusted Network CA 2"

Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9

Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Not Valid Before: Thu Oct 06 08:39:56 2011

Not Valid After : Sat Oct 06 08:39:56 2046

Fingerprint (SHA-256):

B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04

Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022

\215\351

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Hellenic Academic and Research Institutions RootCA 2015"

#

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:11:21 2015

Not Valid After : Sat Jun 30 10:11:21 2040

Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154

\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003

\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150

\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157

\157\164\103\101\040\062\060\061\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154

\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\013\060\202\003\363\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163
\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162
\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040
\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171\061
\100\060\076\006\003\125\004\003\023\067\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\122\157\157\164\103\101\040\062\060\061
\065\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\370\251\077\033\211\374\074\074\004\135\075\220\066
\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000
\343\050\354\256\041\101\316\037\332\375\175\022\133\001\203\017
\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347
\241\210\153\061\257\360\213\320\030\063\270\333\105\152\064\364
\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164
\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034

\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365
\263\321\150\317\040\024\176\114\134\137\347\213\345\365\065\201
\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265
\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052
\066\021\004\172\120\275\062\204\276\057\334\162\325\327\035\026
\107\344\107\146\040\077\364\226\305\257\216\001\172\245\017\172
\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026

```
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hellenic Academic and Research Institutions RootCA 2015"
```

```
# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Not Valid Before: Tue Jul 07 10:11:21 2015
```

```
# Not Valid After : Sat Jun 30 10:11:21 2040
```

```
# Fingerprint (SHA-256):
```

```
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
```

```
# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352
\051\351\022\246
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
```

```
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\000
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

#

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:37:12 2015

Not Valid After : Sat Jun 30 10:37:12 2040

Fingerprint (SHA-256):

```
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
```

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
```

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003

```
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
```

```
# Not Valid Before: Tue Jul 07 10:37:12 2015
```

```
# Not Valid After : Sat Jun 30 10:37:12 2040
```

```
# Fingerprint (SHA-256):
```

```
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
```

```
# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150
\013\272\266\146
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
```

```

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X1"
#
# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Not Valid Before: Thu Jun 04 11:04:38 2015
# Not Valid After : Mon Jun 04 11:04:38 2035
# Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143

```

\202\213\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360

\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340
\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ISRG Root X1"

```

# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Not Valid Before: Thu Jun 04 11:04:38 2015
# Not Valid After : Mon Jun 04 11:04:38 2035
# Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AC RAIZ FNMT-RCM"
#
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Not Valid Before: Wed Oct 29 15:59:56 2008
# Not Valid After : Tue Jan 01 00:00:00 2030
# Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

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```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105
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\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302
\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346

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\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121
\072\117\110\366\213\266\263
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AC RAIZ FNMT-RCM"
```

```
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
```

```
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
```

```
# Not Valid Before: Wed Oct 29 15:59:56 2008
```

```
# Not Valid After : Tue Jan 01 00:00:00 2030
```

```
# Fingerprint (SHA-256):
```

```
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
```

```
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 1"
#
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005

```

\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\132\027\015\063
\070\060\061\061\067\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172
\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162

```

\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "Amazon Root CA 1"
# Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 2"
#
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

```

```
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331
```

|133|117|343|114|350|006|066|115|314|232|254|075|014|220|053|222
|324|006|031|140|254|067|104|171|205|201|202|255|132|067|340|015
|314|235|246|114|122|166|352|103|235|267|004|321|120|366|125|340
|325|322|246|111|205|351|067|351|312|176|256|134|225|115|110|232
|077|256|040|132|155|210|225|331|064|270|122|032|103|220|260|277
|154|005|271|266|170|267|352|320|344|072|074|022|123|142|377|112
|362|173|276|065|005|251|022|064|343|363|144|164|142|054|075|000
|111|132|050|376|062|104|273|207|335|145|047|002|161|073|332|112
|367|037|332|315|367|041|125|220|117|017|354|256|202|341|237|153
|331|105|323|273|360|137|207|355|074|054|071|206|332|077|336|354
|162|125|353|171|243|255|333|335|174|260|272|034|316|374|336|117
|065|166|317|017|370|170|037|152|066|121|106|047|141|133|351|236
|317|360|242|125|175|174|045|212|157|057|264|305|317|204|056|053
|375|015|121|020|154|373|137|033|274|033|176|305|256|073|230|001
|061|222|377|013|127|364|232|262|271|127|351|253|357|015|166|321
|360|356|364|316|206|247|340|156|351|264|151|241|337|151|366|063
|306|151|056|227|023|236|245|207|260|127|020|201|067|311|123|263
|273|177|366|222|321|234|320|030|364|222|156|332|203|117|246|143
|231|114|245|373|136|357|041|144|172|040|137|154|144|205|025|313
|067|351|142|014|013|052|026|334|001|056|062|332|076|113|365|236
|072|366|027|100|224|357|236|221|010|206|372|276|143|250|132|063
|354|313|164|103|225|371|154|151|122|066|307|051|157|374|125|003
|134|037|373|237|275|107|353|347|111|107|225|013|116|211|042|011
|111|340|365|141|036|361|277|056|212|162|156|200|131|377|127|072
|371|165|062|243|116|137|354|355|050|142|331|115|163|362|314|201
|027|140|355|315|353|334|333|247|312|305|176|002|275|362|124|010
|124|375|264|055|011|054|027|124|112|230|321|124|341|121|147|010
|322|355|156|176|157|077|322|055|201|131|051|146|313|220|071|225
|021|036|164|047|376|335|353|257|002|003|001|000|001|243|102|060
|100|060|017|006|003|125|035|023|001|001|377|004|005|060|003|001
|001|377|060|016|006|003|125|035|017|001|001|377|004|004|003|002
|001|206|060|035|006|003|125|035|016|004|026|004|024|260|014|360
|114|060|364|005|130|002|110|375|063|345|122|257|113|204|343|146
|122|060|015|006|011|052|206|110|206|367|015|001|001|014|005|000
|003|202|002|001|000|252|250|200|217|016|170|243|340|242|324|315
|346|365|230|172|073|352|000|003|260|227|016|223|274|132|250|366
|054|214|162|207|251|261|374|177|163|375|143|161|170|245|207|131
|317|060|341|015|020|262|023|132|155|202|365|152|346|200|237|240
|005|013|150|344|107|153|307|152|337|266|375|167|062|162|345|030
|372|011|364|240|223|054|135|322|214|165|205|166|145|220|014|003
|171|267|061|043|143|255|170|203|011|206|150|204|312|377|371|317
|046|232|222|171|347|315|113|305|347|141|247|027|313|363|251|022
|223|223|153|247|350|057|123|222|304|140|130|260|314|002|121|030
|133|205|215|142|131|143|266|255|264|336|232|373|046|367|000|047
|300|135|125|067|164|231|311|120|177|343|131|056|104|343|054|045
|356|354|114|062|167|264|237|032|351|113|135|040|305|332|375|034
|207|026|306|103|350|324|273|046|232|105|160|136|251|013|067|123
|342|106|173|047|375|340|106|362|211|267|314|102|266|313|050|046

```
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323
\340\373\011\140\154
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 2"
```

```
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
```

```
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sat May 26 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
```

```
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
```

```

\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 3"
#
# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
# Subject: CN=Amazon Root CA 3,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006

```

\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214
\143\044\110\034\337\060\175\325\150\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 3"

Issuer: CN=Amazon Root CA 3,O=Amazon,C=US

Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a

Subject: CN=Amazon Root CA 3,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4

Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Amazon Root CA 3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052

```

\377\263\322\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 4"
#
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157

```

```
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 4"
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
```

```

# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
```

\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375
\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364

\322\063\340\377\275\321\124\071\051\017

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Symantec Class 1 Public Primary Certification Authority - G6"

Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98

Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust

Network,O=Symantec Corporation,C=US

Not Valid Before: Tue Oct 18 00:00:00 2011

Not Valid After : Tue Dec 01 23:59:59 2037

Fingerprint (SHA-256):

9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9

Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303

\314\123\155\144

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156

\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061

\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164

\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153

\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156

\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154

\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151

\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151

\164\171\040\055\040\107\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320

\363\230

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001

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\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376
\157\374\132\344\202\125\131\257\061\251
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
# For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

```
# Trust for "Symantec Class 2 Public Primary Certification Authority - G6"
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
```

```

\121\324\035\217
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root CA 3 2013"
#
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101

```

\040\063\040\062\060\061\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\017\335\254

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157

\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111
\137\134

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root CA 3 2013"

Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE

Serial Number: 1039788 (0xfddac)

Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE

Not Valid Before: Fri Sep 20 08:25:51 2013

Not Valid After : Wed Sep 20 08:25:51 2028

Fingerprint (SHA-256):

A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57

Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
#
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Serial Number: 1 (0x1)
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Not Valid Before: Mon Nov 25 08:25:55 2013
# Not Valid After : Sun Oct 25 08:25:55 2043
# Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
```

```
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162
```

\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040
\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270

```
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
```

```
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
```

```
# Not Valid Before: Mon Nov 25 08:25:55 2013
```

```
# Not Valid After : Sun Oct 25 08:25:55 2043
```

```
# Fingerprint (SHA-256):
```

```
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
```

```
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
```

```
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GDCA TrustAUTH R5 ROOT"

#

Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Serial Number:7d:09:97:fe:f0:47:ea:7a

Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Not Valid Before: Wed Nov 26 05:13:15 2014

Not Valid After : Mon Dec 31 15:59:59 2040

Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
```

```
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
```

```
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
```

```
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
```

```
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
```

```
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
```

```
\122\117\117\124
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
```

```
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
```

```
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
```

```
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
```

```
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
```

```
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
```

\122\117\117\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\175\011\227\376\360\107\352\172

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125
\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244

\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "GDCA TrustAUTH R5 ROOT"
# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
# Serial Number:7d:09:97:fe:f0:47:ea:7a
# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
# Not Valid Before: Wed Nov 26 05:13:15 2014
# Not Valid After : Mon Dec 31 15:59:59 2040
# Fingerprint (SHA-256):
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-1"
#
# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de

```

```
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:00:da:9b:ec:71:f3:03:b0:19
# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:16 2016
# Not Valid After : Mon Dec 31 17:23:16 2029
# Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\332\233\354\161\363\003\260\031
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206
```

\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017
\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206

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\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024
\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074
\132\171\054\031
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END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_SERVER_DISTRICT_AFTER MULTILINE_OCTAL

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\062\062\061\061\063\060\060\060\060\060\060\060\132
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END

For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

Trust for "TrustCor RootCert CA-1"

Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:00:da:9b:ec:71:f3:03:b0:19

Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:16 2016

Not Valid After : Mon Dec 31 17:23:16 2029

Fingerprint (SHA-256):

D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C

Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor RootCert CA-1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072
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\105\133\303\012
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END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "TrustCor RootCert CA-2"

#

Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:25:a1:df:ca:33:cb:59:02

Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:23 2016

Not Valid After : Sun Dec 31 17:26:39 2034

Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor RootCert CA-2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\045\241\337\312\063\313\131\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045
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\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060\035
\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162\040
\122\157\157\164\103\145\162\164\040\103\101\055\062\060\036\027
\015\061\066\060\062\060\064\061\062\063\062\062\063\132\027\015
\063\064\061\062\063\061\061\067\062\066\063\071\132\060\201\244
\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017\060
\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061\024
\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141\040
\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033\124
\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163\040
\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006\003

\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162
\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164\040
\103\101\055\062\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\247\040\156\302\052\242\142\044\225\220\166
\310\070\176\200\322\253\301\233\145\005\224\364\301\012\020\325
\002\254\355\237\223\307\207\310\260\047\053\102\014\075\012\076
\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323
\144\106\364\124\251\334\072\124\055\061\053\231\202\362\331\052
\327\357\161\000\270\061\244\276\172\044\007\303\102\040\362\212
\324\222\004\033\145\126\114\154\324\373\266\141\132\107\043\264
\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351
\333\052\245\073\372\316\260\377\176\152\050\375\047\034\310\261
\351\051\361\127\156\144\264\320\301\025\155\016\276\056\016\106
\310\136\364\121\376\357\016\143\072\073\161\272\317\157\131\312
\014\343\233\135\111\270\114\342\127\261\230\212\102\127\234\166
\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010
\304\026\054\104\040\126\251\104\021\167\357\135\264\035\252\136
\153\076\213\062\366\007\057\127\004\222\312\365\376\235\302\351
\350\263\216\114\113\002\061\331\344\074\110\202\047\367\030\202
\166\110\072\161\261\023\241\071\325\056\305\064\302\035\142\205
\337\003\376\115\364\257\075\337\134\133\215\372\160\341\245\176
\047\307\206\056\152\217\022\306\204\136\103\121\120\234\031\233
\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074
\241\143\373\371\254\207\065\237\363\202\236\244\077\012\234\061
\151\213\231\244\210\112\216\156\146\115\357\026\304\017\171\050
\041\140\015\205\026\175\327\124\070\361\222\126\375\265\063\114
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\377\175\315\133\341\324\254\141\173\127\325\112\173\133\324\205
\130\047\135\277\370\053\140\254\240\046\256\024\041\047\306\167
\232\063\200\074\136\106\077\367\303\261\243\206\063\306\350\136
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\070\252\251\354\030\232\007\202\053\333\270\234\030\255\332\340
\106\027\254\317\135\002\003\001\000\001\243\143\060\141\060\035
\006\003\125\035\016\004\026\004\024\331\376\041\100\156\224\236
\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006
\003\125\035\043\004\030\060\026\200\024\331\376\041\100\156\224
\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\236\105\236\014\073\266\357\341\072\310\174\321\000
\075\317\342\352\006\265\262\072\273\006\113\150\172\320\043\227

\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376
\061\147\024\151\130\220\012\252\013\356\067\043\307\120\121\264
\365\176\236\343\173\367\344\314\102\062\055\111\014\313\377\111
\014\233\036\064\375\156\156\226\212\171\003\266\157\333\011\313
\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156
\326\354\011

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_SERVER_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\060\132

END

Trust for "TrustCor RootCert CA-2"

Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:25:a1:df:ca:33:cb:59:02

Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de

```
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:23 2016
# Not Valid After : Sun Dec 31 17:26:39 2034
# Fingerprint (SHA-256):
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
\224\262\034\300
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
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\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor ECA-1"
#
# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Serial Number:00:84:82:2c:5f:1c:62:d0:40
# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:33 2016
```

Not Valid After : Mon Dec 31 17:28:07 2029

Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor ECA-1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124

\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025
\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105

```
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242
\264\237\327\346
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_SERVER_DISTRICT_AFTER MULTILINE_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

Trust for "TrustCor ECA-1"

Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:00:84:82:2c:5f:1c:62:d0:40

Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:33 2016

Not Valid After : Mon Dec 31 17:28:07 2029

Fingerprint (SHA-256):

```
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
```

Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor ECA-1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204
\013\310\170\275
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
```

```
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\204\202\054\137\034\142\320\100
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SSL.com Root Certification Authority RSA"

#

Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:7b:2c:9b:d3:16:80:32:99

Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 17:39:39 2016

Not Valid After : Tue Feb 12 17:39:39 2041

Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
```

\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005
\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050

\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170
\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321

```
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047
\271
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority RSA"

Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:7b:2c:9b:d3:16:80:32:99

Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 17:39:39 2016

Not Valid After : Tue Feb 12 17:39:39 2041

Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
```

CKA_ISSUER MULTILINE_OCTAL

```
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\173\054\233\323\026\200\062\231
```

END

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com Root Certification Authority ECC"
#
# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:75:e6:df:cb:c1:68:5b:a8
# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:14:03 2016
# Not Valid After : Tue Feb 12 18:14:03 2041
# Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165

```

\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\063
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority ECC"

Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

```
# Serial Number:75:e6:df:cb:c1:68:5b:a8
# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:14:03 2016
# Not Valid After : Tue Feb 12 18:14:03 2041
# Fingerprint (SHA-256):
34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65
# Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303
\016\023\002\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority RSA R2"
#
# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:56:b6:29:cd:34:bc:78:f6
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
```

Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
```

END

CKA_ID UTF8 "0"

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\126\266\051\315\064\274\170\366
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006
```

\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235
\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052

\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233
\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com EV Root Certification Authority RSA R2"
Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
Serial Number:56:b6:29:cd:34:bc:78:f6
Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
Not Valid Before: Wed May 31 18:14:37 2017
Not Valid After : Fri May 30 18:14:37 2042
Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\126\266\051\315\064\274\170\366
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority ECC"
#
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:2c:29:9c:5b:16:ed:05:95
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:15:23 2016
# Not Valid After : Tue Feb 12 18:15:23 2041
# Fingerprint (SHA-256):
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA_SUBJECT MULTILINE_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\054\051\234\133\026\355\005\225

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075

```
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250
\371\007\340\142\232\214\134\112
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com EV Root Certification Authority ECC"

Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:2c:29:9c:5b:16:ed:05:95

Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 18:15:23 2016

Not Valid After : Tue Feb 12 18:15:23 2041

Fingerprint (SHA-256):

22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8

Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\054\051\234\133\026\355\005\225
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Root CA - R6"

#

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Not Valid Before: Wed Dec 10 00:00:00 2014

Not Valid After : Sun Dec 10 00:00:00 2034

Fingerprint (SHA-256):

```
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
```

Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root CA - R6"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
```

\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064
\061\062\061\060\060\060\060\060\060\132\027\015\063\064\061
\062\061\060\060\060\060\060\060\132\060\114\061\040\060\036
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047

\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "GlobalSign Root CA - R6"
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6
# Not Valid Before: Wed Dec 10 00:00:00 2014
# Not Valid After : Sun Dec 10 00:00:00 2034
# Fingerprint (SHA-256):
2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69
# Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISEKey Global Root GC CA"
#
# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
# Not Valid Before: Tue May 09 09:48:34 2017
# Not Valid After : Fri May 09 09:58:33 2042

```

Fingerprint (SHA-256):

85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D

Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156

```
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302
\242\355\357\173\260\200\117\130\017\113\123\071\275
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISEKey Global Root GC CA"
```

```
# Issuer: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
```

```
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
```

```
# Subject: CN=OISTE WISEKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISEKey,C=CH
```

```
# Not Valid Before: Tue May 09 09:48:34 2017
```

```
# Not Valid After : Fri May 09 09:58:33 2042
```

```
# Fingerprint (SHA-256):
```

```
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
```

```
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISEKey Global Root GC CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043

END

CKA_ISSUER MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061

\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145

\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124

\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144

\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037

\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154

\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055

\072\352

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "UCA Global G2 Root"

#

Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

Not Valid Before: Fri Mar 11 00:00:00 2016

Not Valid After : Mon Dec 31 00:00:00 2040

Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "UCA Global G2 Root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165

\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101

\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061

\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165

\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101

\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027
\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107

\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313
\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "UCA Global G2 Root"
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Extended Validation Root"
#
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037
```

\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363
\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255

```
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314
\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255
\177\275\145\040\262\311\301\053\166\030\166\237\126\261
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "UCA Extended Validation Root"

Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN

Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60

Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN

Not Valid Before: Fri Mar 13 00:00:00 2015

Not Valid After : Fri Dec 31 00:00:00 2038

Fingerprint (SHA-256):

D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24

Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "UCA Extended Validation Root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377
\335\360\327\072
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certigna Root CA"
#
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Not Valid Before: Tue Oct 01 08:32:27 2013
# Not Valid After : Sat Oct 01 08:32:27 2033
# Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END

```

CKA_VALUE MULTILINE_OCTAL

\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034
\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105

\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146
\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111

\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certigna Root CA"

Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1

Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

Not Valid Before: Tue Oct 01 08:32:27 2013

Not Valid After : Sat Oct 01 08:32:27 2033

Fingerprint (SHA-256):

D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68

Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167

END

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "emSign Root CA - G1"

#

Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67

Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign Root CA - G1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\012\061\365\344\142\014\154\130\355\326\330

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124

\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146
\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362

```
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign Root CA - G1"
```

```
# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
```

```
# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
```

```
# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\012\061\365\344\142\014\154\130\355\326\330
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "emSign ECC Root CA - G3"
#
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
```

\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign ECC Root CA - G3"

Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84

Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B

Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign ECC Root CA - G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\
060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\
077\346\273\301

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\
316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100

END

CKA_ISSUER MULTILINE_OCTAL
\
060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\
023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\
040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\
115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\
151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\
003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\
040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\
002\012\074\366\007\251\150\160\016\332\213\204

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "emSign Root CA - C1"

#

Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign Root CA - C1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL
\
060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\
023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\
040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\
115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\
125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\
040\103\101\040\055\040\103\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243

```
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341
\361\337\312\276\203\015\102
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign Root CA - C1"

Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign Root CA - C1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
```

```
\313\206\117\001
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\000\256\317\000\272\304\317\062\370\103\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - C3"
#
# Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040

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\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103
\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign ECC Root CA - C3"

Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

```

# Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8
# Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3
# Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign ECC Root CA - C3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025
\014\356\110\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 3"
#
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Not Valid Before: Sat Jun 03 02:29:46 2017
# Not Valid After : Tue Jun 03 02:29:46 2042
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156
```

\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243
\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244

\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006
\232\233\364

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hongkong Post Root CA 3"

Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4

Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK

Not Valid Before: Sat Jun 03 02:29:46 2017

Not Valid After : Tue Jun 03 02:29:46 2042

Fingerprint (SHA-256):

5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6

Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hongkong Post Root CA 3"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
END

CKA_ISSUER MULTILINE_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority - G4"

#

Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Wed May 27 11:11:16 2015

Not Valid After : Sun Dec 27 11:41:16 2037

Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004

\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066

\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323
\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125

\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

Trust for "Entrust Root Certification Authority - G4"

Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Wed May 27 11:11:16 2015

Not Valid After : Sun Dec 27 11:41:16 2037

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# Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft ECC Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 23:06:45 2019
# Not Valid After : Fri Jul 18 23:16:04 2042
# Fingerprint (SHA-256):

```

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103

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\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153
\124\026\040\377\053\265\347\114\014\115\246\117\163
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Microsoft ECC Root Certificate Authority 2017"

Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Not Valid Before: Wed Dec 18 23:06:45 2019

Not Valid After : Fri Jul 18 23:16:04 2042

Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Microsoft RSA Root Certificate Authority 2017"

#

Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Not Valid Before: Wed Dec 18 22:51:22 2019

Not Valid After : Fri Jul 18 23:00:23 2042

Fingerprint (SHA-256):

C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0

Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163

\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205

\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220
\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116

```
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Microsoft RSA Root Certificate Authority 2017"
```

```
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
```

```
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Not Valid Before: Wed Dec 18 22:51:22 2019
```

```
# Not Valid After : Fri Jul 18 23:00:23 2042
```

```
# Fingerprint (SHA-256):
```

```
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
```

```
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "e-Szigno Root CA 2017"

#

Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Aug 22 12:07:06 2017

Not Valid After : Fri Aug 22 12:07:06 2042

Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "e-Szigno Root CA 2017"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\001\124\110\357\041\375\227\131\015\365\004\012

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014

\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "e-Szigno Root CA 2017"

Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a

Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU

Not Valid Before: Tue Aug 22 12:07:06 2017

Not Valid After : Fri Aug 22 12:07:06 2042

Fingerprint (SHA-256):

BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99

Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
END
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN Root CA G2"
#
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061

```

\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\021\000\064\266\116\306\066\055\066

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121

\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202
\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247

```
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027
\101\020\135\047\163\140\205\127\111\042\007
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "certSIGN Root CA G2"
```

```
# Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Serial Number:11:00:34:b6:4e:c6:36:2d:36
```

```
# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
```

```
# Not Valid Before: Mon Feb 06 09:27:35 2017
```

```
# Not Valid After : Thu Feb 06 09:27:35 2042
```

```
# Fingerprint (SHA-256):
```

```
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
```

```
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "certSIGN Root CA G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\021\000\064\266\116\306\066\055\066
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```

# Certificate "Trustwave Global Certification Authority"
#
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060

```

\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003
\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234

\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344
\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Trust for "Trustwave Global Certification Authority"
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P256 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
```

```
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
```

\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P256 Certification Authority"
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4

```

# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P384 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
# Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:36:43 2017
# Not Valid After : Sat Aug 23 19:36:43 2042
# Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
# Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
```

\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156
\113

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P384 Certification Authority"
Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b
Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:36:43 2017
Not Valid After : Sat Aug 23 19:36:43 2042
Fingerprint (SHA-256):
55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97
Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
END

CKA_ISSUER MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\010\275\205\227\154\231\047\244\200\150\107\073

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "NAVER Global Root Certification Authority"

#

Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Not Valid Before: Fri Aug 18 08:58:42 2017

Not Valid After : Tue Aug 18 23:59:59 2037

Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040

\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104

\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101
\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373

```
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245
\365\165\336\211\367\162
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "NAVER Global Root Certification Authority"
```

```
# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
```

```
# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
```

```
# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
```

```
# Not Valid Before: Fri Aug 18 08:58:42 2017
```

```
# Not Valid After : Tue Aug 18 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65
```

```
# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "NAVER Global Root Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300
\036\170\135\321
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
```

\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157

\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104

\161\370\326\120\115\015

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

#

Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95

Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES

Not Valid Before: Thu Dec 20 09:37:33 2018

Not Valid After : Sun Dec 20 09:37:33 2043

Fingerprint (SHA-256):

55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB

Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061

\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122

\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162

\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124

\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052

\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106

\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122

\105\123\040\123\105\107\125\122\117\123

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061

\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122

\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162

\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124

\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052

\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060
\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162

```
\277\347
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Not Valid Before: Thu Dec 20 09:37:33 2018
# Not Valid After : Sun Dec 20 09:37:33 2043
# Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "GlobalSign Secure Mail Root R45"
#
# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122
\064\065\060\036\027\015\062\060\060\063\061\070\060\060\060\060

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\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225
\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146

\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362
\263\301\366\074

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root R45"

Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc

Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74

Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root E45"
#
# Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a
# Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040

```

```
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
```

```
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "GlobalSign Secure Mail Root E45"

Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```

# Certificate "GlobalSign Root R46"
#
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055

```

\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063
\153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050
\322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021
\053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130
\172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204
\313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075
\024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173
\343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205
\315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370
\266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043
\153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004
\371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155
\164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073
\007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215
\043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106
\214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346
\135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354
\307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154
\235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061
\237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232
\007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252
\133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375
\317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002
\343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246
\325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170
\354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242
\102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116
\074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140
\046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314
\171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166
\304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142

\332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115
\236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241
\134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044
\246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076
\237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351
\320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105
\025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265
\016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156
\115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355
\255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366
\113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263
\164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244
\146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102
\274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256
\045\131\314\177\065\137\010\367\100\105\061\170\052\172

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root R46"

Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

Serial Number: 11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1

Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 20 00:00:00 2019

Not Valid After : Tue Mar 20 00:00:00 2046

Fingerprint (SHA-256):

4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9

Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root R46"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277

\167\303\242\220

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root E46"
#
# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154

```

```
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003  
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040  
\122\157\157\164\040\105\064\066
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204  
\035\230\350\103
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021  
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350  
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061  
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027  
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147  
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003  
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157  
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060  
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060  
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006  
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107  
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061  
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154  
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060  
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000  
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064  
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014  
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352  
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067  
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006  
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135  
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017  
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023  
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035  
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200  
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110  
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220  
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013  
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367  
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074  
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061  
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323  
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root E46"

```

# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
END
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GLOBALTRUST 2020"
#
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
# Not Valid Before: Mon Feb 10 00:00:00 2020
# Not Valid After : Sun Jun 10 00:00:00 2040
# Fingerprint (SHA-256):
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GLOBALTRUST 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125
\123\124\040\062\060\062\060\060\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367
```

\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130
\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373

```
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365
\155\015\277\173\327\222
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GLOBALTRUST 2020"
```

```
# Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5
```

```
# Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT
```

```
# Not Valid Before: Mon Feb 10 00:00:00 2020
```

```
# Not Valid After : Sun Jun 10 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A
```

```
# Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GLOBALTRUST 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
```

```

\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\132\113\275\132\373\117\212\133\372\145\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ANF Secure Server Root CA"
#
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122

```

\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144
\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317

\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101
\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063

```
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211
\240\215\254
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ANF Secure Server Root CA"
```

```
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
```

```
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
```

```
# Not Valid Before: Wed Sep 04 10:00:38 2019
```

```
# Not Valid After : Tue Aug 30 10:00:38 2039
```

```
# Fingerprint (SHA-256):
```

```
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
```

```
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ANF Secure Server Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```

\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum EC-384 CA"
#
# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Mon Mar 26 07:24:54 2018
# Not Valid After : Thu Mar 26 07:24:54 2043
# Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364

```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064
\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum EC-384 CA"

Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

```

# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Mon Mar 26 07:24:54 2018
# Not Valid After : Thu Mar 26 07:24:54 2043
# Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345
\026\074\341\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Root CA"
#
# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number:1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

```

Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040
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\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024
\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170

\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305
\303\270\070\333

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum Trusted Root CA"

Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Not Valid Before: Fri Mar 16 12:10:13 2018

Not Valid After : Mon Mar 16 12:10:13 2043

Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TunTrust Root CA"
#
# Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Serial Number: 13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13
# Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN
# Not Valid Before: Fri Apr 26 08:57:56 2019
# Not Valid After : Tue Apr 26 08:57:56 2044
# Fingerprint (SHA-256):
2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41
# Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TunTrust Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145

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\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376

\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033
\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110

```
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343
\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033
\000\361\025\255\203\053\232
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "TunTrust Root CA"

Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Not Valid Before: Fri Apr 26 08:57:56 2019

Not Valid After : Tue Apr 26 08:57:56 2044

Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TunTrust Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040
\106\064\234\273
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
```

\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "HARICA TLS RSA Root CA 2021"

#

Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 10:55:38 2021

Not Valid After : Mon Feb 13 10:55:37 2045

Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370

\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "HARICA TLS RSA Root CA 2021"
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:55:38 2021
# Not Valid After : Mon Feb 13 10:55:37 2045
# Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA TLS ECC Root CA 2021"
#
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

```

```
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:01:10 2021
# Not Valid After : Mon Feb 13 11:01:09 2045
# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062
```

\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111
\105\346\354\267\023\341\072\154

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS ECC Root CA 2021"

Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 11:01:10 2021

Not Valid After : Mon Feb 13 11:01:09 2045

Fingerprint (SHA-256):

3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01

Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135

```

\156\356\001\110
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client RSA Root CA 2021"
#
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
# Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062

```

```
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350
```

\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270
\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052

```
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HARICA Client RSA Root CA 2021"
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
```

```
# Fingerprint (SHA-256):
```

```
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
```

```
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
```

```
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client ECC Root CA 2021"
#
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:03:34 2021
# Not Valid After : Mon Feb 13 11:03:33 2045
# Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040
\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

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# Trust for "HARICA Client ECC Root CA 2021"
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:03:34 2021
# Not Valid After : Mon Feb 13 11:03:33 2045
# Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:1b:70:e9:d2:ff:ae:6c:71
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Tue Sep 23 15:22:07 2014
# Not Valid After : Mon May 05 15:22:07 2036

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# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
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\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146

\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160
\006\137\244\274\372\040\174\125

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"

Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Serial Number: 1b:70:e9:d2:ff:ae:6c:71

Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

Not Valid Before: Tue Sep 23 15:22:07 2014

Not Valid After : Mon May 05 15:22:07 2036

Fingerprint (SHA-256):

57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A

Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus ECC Root CA"
#
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103

```

\103\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006

```

\030\224\316
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "vTrus ECC Root CA"
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus Root CA"
#
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45

```

```
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:24:05 2018
# Not Valid After : Fri Jul 31 07:24:05 2043
# Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174
```

\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107
\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344

```
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212
\334\346\164\174\140\206\157\207\227\173
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "vTrus Root CA"
```

```
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
```

```
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Not Valid Before: Tue Jul 31 07:24:05 2018
```

```
# Not Valid After : Fri Jul 31 07:24:05 2043
```

```
# Fingerprint (SHA-256):
```

```
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
```

```
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "vTrus Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
```

```
\320\311\024\267
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ISRG Root X2"
#
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Not Valid Before: Fri Sep 04 00:00:00 2020
# Not Valid After : Mon Sep 17 16:00:00 2040
# Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130

```

```
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014
\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ISRG Root X2"
```

```
# Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US
```

```
# Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52
# Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US
# Not Valid Before: Fri Sep 04 00:00:00 2020
# Not Valid After : Mon Sep 17 16:00:00 2040
# Fingerprint (SHA-256):
69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70
# Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307
\132\321\123\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HiPKI Root CA - G1"
#
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Fri Feb 22 09:46:04 2019
# Not Valid After : Thu Dec 31 15:59:59 2037
# Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057
```

\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305
\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340

```
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253
\233\141\374\022\121\065\344\045\375\257\252\152\206\071
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "HiPKI Root CA - G1"
```

```
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
```

```
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
```

```
# Not Valid Before: Fri Feb 22 09:46:04 2019
```

```
# Not Valid After : Thu Dec 31 15:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
```

```
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HiPKI Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
\343\345\322\140
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
```

```
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
```

```
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
```

```

\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R4"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246

END

CKA_VALUE MULTILINE_OCTAL

\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign ECC Root CA - R4"

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4

Not Valid Before: Tue Nov 13 00:00:00 2012

Not Valid After : Tue Jan 19 03:14:07 2038

Fingerprint (SHA-256):

B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2

Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R1"
#
# Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17
# Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040

```

```
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374
```

\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201
\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146

```
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "GTS Root R1"

Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "GTS Root R2"

```
#
# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002
```

\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343
\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316

```
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021
\354\236\355\005\035\344\310\326\035\206\313
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GTS Root R2"
```

```
# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
```

```
# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
```

```
# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
```

```
# Not Valid Before: Wed Jun 22 00:00:00 2016
```

```
# Not Valid After : Sun Jun 22 00:00:00 2036
```

```
# Fingerprint (SHA-256):
```

```
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
```

```
# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334

END

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GTS Root R3"

#

Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246
\225\327\124\131\267\347\021\054\211\324\271\356\027

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R3"

Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

```

# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\35\34\161\200\05\310\222\271\133\203\074\322\062\150\077\011
\315\240\036\106
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R4"
#
# Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52
# Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034

```
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "GTS Root R4"

Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Telia Root CA v2"

#

```
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Not Valid Before: Thu Nov 29 11:55:54 2018
# Not Valid After : Sun Nov 29 11:55:54 2043
# Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006
```

\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074
\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070

```
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200
\254\023\356\120\024\036\230\307
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Telia Root CA v2"
```

```
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
```

```
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Not Valid Before: Thu Nov 29 11:55:54 2018
```

```
# Not Valid After : Sun Nov 29 11:55:54 2043
```

```
# Fingerprint (SHA-256):
```

```
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
```

```
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Telia Root CA v2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
```

```
\240\053\100\315
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST BR Root CA 1 2020"
#
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163

```

\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316

```
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "D-TRUST BR Root CA 1 2020"

Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96

Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

Not Valid Before: Tue Feb 11 09:45:00 2020

Not Valid After : Sun Feb 11 09:44:59 2035

Fingerprint (SHA-256):

E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44

Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "D-TRUST EV Root CA 1 2020"
#
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006
```

\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST EV Root CA 1 2020"
Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
Not Valid Before: Tue Feb 11 10:00:00 2020
Not Valid After : Sun Feb 11 09:59:59 2035
Fingerprint (SHA-256):

```
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
\075\364\335\007
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert TLS ECC P384 Root G5"
#
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053

```
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270
\015\166\103\214\056\123\313\174\337\014\027\226\120
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert TLS ECC P384 Root G5"
```

```
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
```

```
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
```

```
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
```

```
# Not Valid Before: Fri Jan 15 00:00:00 2021
```

```
# Not Valid After : Sun Jan 14 23:59:59 2046
```

```
# Fingerprint (SHA-256):
```

```
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
```

```
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "DigiCert TLS RSA4096 Root G5"
#
# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
```

\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210
\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307

\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214
\332\062\376\303\153\203\077\070\306\176

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert TLS RSA4096 Root G5"

Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a

Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

Not Valid After : Sun Jan 14 23:59:59 2046

Fingerprint (SHA-256):

37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75

Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320

```
\262\245\161\065
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert SMIME ECC P384 Root G5"
#
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
```

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060
\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert SMIME ECC P384 Root G5"

Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef

Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

Not Valid After : Sun Jan 14 23:59:59 2046

Fingerprint (SHA-256):

E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B

Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003

END

CKA_ISSUER MULTILINE_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DigiCert SMIME RSA4096 Root G5"

#

Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

```
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
```

\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352
\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351

```
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331
\014\122\100\037\335\116\017\147\046\026\322\255\027\034
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert SMIME RSA4096 Root G5"
```

```
# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
```

```
# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
```

```
# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
```

```
# Not Valid Before: Fri Jan 15 00:00:00 2021
```

```
# Not Valid After : Sun Jan 14 23:59:59 2046
```

```
# Fingerprint (SHA-256):
```

```
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
```

```
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
```

```
\206\320\127\010
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
```

```

END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certainly Root R1"
#
# Issuer: CN=Certainly Root R1,O=Certainly,C=US
# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
# Subject: CN=Certainly Root R1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000
\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022
\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156
\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162
\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036
\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027
\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047

\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335
\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272
\071\137\212\231\251\101\131\007\260\054\257

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Certainly Root R1"

```
# Issuer: CN=Certainly Root R1,O=Certainly,C=US
# Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0
# Subject: CN=Certainly Root R1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0
# Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272
\314\206\102\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104
\071\267\340
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certainly Root E1"
#
# Issuer: CN=Certainly Root E1,O=Certainly,C=US
# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
# Subject: CN=Certainly Root E1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
```

```
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certainly Root E1"

Issuer: CN=Certainly Root E1,O=Certainly,C=US

Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

Subject: CN=Certainly Root E1,O=Certainly,C=US

Not Valid Before: Thu Apr 01 00:00:00 2021

Not Valid After : Sun Apr 01 00:00:00 2046

Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certainly Root E1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```
# Certificate "E-Tugra Global Root CA RSA v3"
#
# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:07:17 2020
# Not Valid After : Sun Mar 12 09:07:17 2045
# Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013
```

\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123
\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007

\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232
\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA RSA v3"

Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG

A.S.,L=Ankara,C=TR

Not Valid Before: Wed Mar 18 09:07:17 2020

Not Valid After : Sun Mar 12 09:07:17 2045

Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212

\311\272\342\251

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122

\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162

\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165

\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033

\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124

\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006

\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154

\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101

\040\166\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025

\006\064\373\171\020\064

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "E-Tugra Global Root CA ECC v3"

#

Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

```
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147
```

\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161
\276\150\344\043\244\331\255\241\067

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA ECC v3"
Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
Not Valid Before: Wed Mar 18 09:46:58 2020

```

# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 10:50:34 2021
# Not Valid After : Mon Jan 15 10:50:34 2046
# Fingerprint (SHA-256):
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
```

\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365
\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004

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\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236
\176\113\144\244\125\135\053\027\311
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"
```

```
# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
```

```
# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Not Valid Before: Thu Jan 21 10:50:34 2021
```

```
# Not Valid After : Mon Jan 15 10:50:34 2046
```

```
# Fingerprint (SHA-256):
```

```
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
```

```
# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"
#
# Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1
# Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT
# Not Valid Before: Thu Jan 21 11:07:50 2021
# Not Valid After : Mon Jan 15 11:07:50 2046
# Fingerprint (SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104
\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061\061
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026

\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314
\065\352\216\044\233\345\010\131\307\004\214\163\170\376

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

Not Valid Before: Thu Jan 21 11:07:50 2021

Not Valid After : Mon Jan 15 11:07:50 2046

Fingerprint (SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217

END

CKA_ISSUER MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
#
# Certificate "Security Communication RootCA3"
#
# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After : Mon Jan 18 06:17:16 2038
# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066
```

\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164
\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322

\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063
\235\115\146

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication RootCA3"

Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

Serial Number:00:e1:7c:37:40:fd:1b:fe:67

Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP

Not Valid Before: Thu Jun 16 06:17:16 2016

Not Valid After : Mon Jan 18 06:17:16 2038

Fingerprint (SHA-256):

24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94

Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication ECC RootCA1"
#
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After : Mon Jan 18 05:15:28 2038
# Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023

```

```
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
```

```
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Security Communication ECC RootCA1"
```

```
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
```

```
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Not Valid Before: Thu Jun 16 05:15:28 2016
```

```
# Not Valid After : Mon Jan 18 05:15:28 2038
```

```
# Fingerprint (SHA-256):
```

```
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
```

```
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\011\000\326\135\233\263\170\201\056\353
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "BJCA Global Root CA1"
#
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:16:17 2019
# Not Valid After : Mon Dec 12 03:16:17 2044
# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164
```

\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206
\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362

\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362
\257\376\263\160\054\056\246\362

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "BJCA Global Root CA1"

Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20

Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN

Not Valid Before: Thu Dec 19 03:16:17 2019

Not Valid After : Mon Dec 12 03:16:17 2044

Fingerprint (SHA-256):

F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE

Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA2"
#
# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:18:21 2019
# Not Valid After : Mon Dec 12 03:18:21 2044
# Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125

```

\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200

```
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "BJCA Global Root CA2"

Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

Not Valid Before: Thu Dec 19 03:18:21 2019

Not Valid After : Mon Dec 12 03:18:21 2044

Fingerprint (SHA-256):

57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82

Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "BJCA Global Root CA2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Found in path(s):

```
* /opt/cola/permits/1667253608_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt
```

No license file was found, but licenses were detected in source scan.

```
# * You may opt to use, copy, modify, merge, publish, distribute and/or sell
```

```
# * furnished to do so, under the terms of the COPYING file.
```

Found in path(s):

```
* /opt/cola/permits/1667253608_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/mk-ca-bundle.pl
```

No license file was found, but licenses were detected in source scan.

```
/* c_rehash.c - Create hash symlinks for certificates
```

```
* C implementation based on the original Perl and shell versions
```

```
*
```

```
* Copyright (c) 2013-2014 Timo Teräs <timo.teras@iki.fi>
```

```
* All rights reserved.
```

```
*
```

```
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```

```
* Full license available at: http://opensource.org/licenses/MIT
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1667253608_1683577718.267003/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/c_rehash.c
```

1.82 shadow 4.8.1-2ubuntu2.1

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Version 2, June 1991

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1.83 ncurses 6.3-2ubuntu0.1

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1.84 bzip2 1.0.8-5build1

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Julian Seward, jseward@acm.org
bzip2/libbzip2 version 1.0.8 of 13 July 2019

1.85 jackson-databind 2.15.2

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1.86 libudev 249.11-0ubuntu3.9

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1.87 protobuf-java 3.19.6

1.87.1 Available under license :

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Manifest-Version: 1.0

Automatic-Module-Name: com.google.protobuf

Bnd-LastModified: 1664485905970

Build-Jdk: 1.8.0_181-google-v7

Built-By: mkruskal

Bundle-Description: Core Protocol Buffers library. Protocol Buffers are a way of encoding structured data in an efficient yet extensible format.

Bundle-DocURL: <https://developers.google.com/protocol-buffers/>

Bundle-License: <https://opensource.org/licenses/BSD-3-Clause>

Bundle-ManifestVersion: 2

Bundle-Name: Protocol Buffers [Core]

Bundle-SymbolicName: com.google.protobuf

Bundle-Version: 3.19.6

Created-By: Apache Maven Bundle Plugin

Export-Package: com.google.protobuf;version="3.19.6"

Import-Package: sun.misc;resolution:=optional,com.google.protobuf;version="[3.19,4)"

Require-Capability: osgi.ee;filter="(&(osgi.ee=JavaSE)(version=1.7))"

Tool: Bnd-3.0.0.201509101326

Found in path(s):

* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/META-INF/MANIFEST.MF

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```
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/timestamp.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/struct.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/wrappers.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/type.proto
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* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/any.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/descriptor.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/duration.proto
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* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-
jar/google/protobuf/compiler/plugin.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-
jar/google/protobuf/source_context.proto
* /opt/cola/permits/1444789790_1666041710.804059/0/protobuf-java-3-19-6-jar/google/protobuf/api.proto
```

1.88 apt 2.4.9

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1.91 Isb-base 11.1.0ubuntu4

1.91.1 Available under license :

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Upstream-Name: LSB implementation package

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1.92 slf4j 1.6.6

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Found in path(s):

* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/IMarkerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/BasicMDCAdapter.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/MarkerIgnoringBase.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/MDCAdapter.java
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* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/impl/StaticLoggerBinder.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/NOPMDCAdapter.java
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* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/BasicMarkerFactory.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/LocationAwareLogger.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/FormattingTuple.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/MarkerFactoryBinder.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/MessageFormatter.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/NamedLoggerBase.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/spi/LoggerFactoryBinder.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/MDC.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/Util.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/NOPLogger.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/ILoggerFactory.java

* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Logger.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/helpers/NOPLoggerFactory.java
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* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/Marker.java
* /opt/cola/permits/1512417657_1673636624.6005318/0/slf4j-api-1-6-6-sources-jar/org/slf4j/impl/StaticMarkerBinder.java

1.93 libcap 2.44-1ubuntu0.22.04.1

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1.96 j2objc-annotations 1.3

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1.98 protobuf-java-format 1.2

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1.99 okhttp 4.10.0

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1.101 ssl-client 1.35.0-r29

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Version 2.1, February 1999

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[This is the first released version of the Lesser GPL. It also counts
as the successor of the GNU Library Public License, version 2, hence
the version number 2.1.]

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former contains code derived from the library, whereas the latter must be combined with the library in order to run.

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A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

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d) If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.

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<one line to give the library's name and a brief idea of what it does.>
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Also add information on how to contact you by electronic and paper mail.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the library, if necessary. Here is a sample; alter the names:

Yoyodyne, Inc., hereby disclaims all copyright interest in the library `Frob' (a library for tweaking knobs) written by James Random Hacker.

<signature of Ty Coon>, 1 April 1990
Ty Coon, President of Vice

That's all there is to it!

1.103 ca-certificates-bundle 20230506-r0

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```
# * You may opt to use, copy, modify, merge, publish, distribute and/or sell  
# * furnished to do so, under the terms of the COPYING file.
```

Found in path(s):

```
* /opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-  
20230506/mk-ca-bundle.pl
```

No license file was found, but licenses were detected in source scan.

```
/* c_rehash.c - Create hash symlinks for certificates  
* C implementation based on the original Perl and shell versions  
*  
* Copyright (c) 2013-2014 Timo Teräs <timo.teras@iki.fi>  
* All rights reserved.  
*  
* This software is licensed under the MIT License.  
* Full license available at: http://opensource.org/licenses/MIT  
*/
```

Found in path(s):

```
* /opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-  
20230506/c_rehash.c
```

No license file was found, but licenses were detected in source scan.

```
#  
# This Source Code Form is subject to the terms of the Mozilla Public  
# License, v. 2.0. If a copy of the MPL was not distributed with this  
# file, You can obtain one at http://mozilla.org/MPL/2.0/.
```

```
#  
# certdata.txt  
#  
# This file contains the object definitions for the certs and other  
# information "built into" NSS.  
#
```

```

# Object definitions:
#
# Certificates
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_CERTIFICATE
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
# CKA_SUBJECT          DER+base64      (varies)
# CKA_ID               byte array      (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER   DER+base64      (varies)
# CKA_VALUE            DER+base64      (varies)
# CKA_NSS_EMAIL        ASCII7         (unused here)
# CKA_NSS_SERVER_DISTRUST_AFTER DER+base64      (varies)
# CKA_NSS_EMAIL_DISTRUST_AFTER DER+base64      (varies)
#
# Trust
#
# -- Attribute --      -- type --      -- value --
# CKA_CLASS            CK_OBJECT_CLASS  CKO_TRUST
# CKA_TOKEN            CK_BBOOL        CK_TRUE
# CKA_PRIVATE          CK_BBOOL        CK_FALSE
# CKA_MODIFIABLE      CK_BBOOL        CK_FALSE
# CKA_LABEL            UTF8            (varies)
# CKA_ISSUER           DER+base64      (varies)
# CKA_SERIAL_NUMBER   DER+base64      (varies)
# CKA_CERT_HASH        binary+base64    (varies)
# CKA_EXPIRES          CK_DATE          (not used here)
# CKA_TRUST_DIGITAL_SIGNATURE CK_TRUST      (varies)
# CKA_TRUST_NON_REPUDIATION CK_TRUST      (varies)
# CKA_TRUST_KEY_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_DATA_ENCIPHERMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_AGREEMENT CK_TRUST      (varies)
# CKA_TRUST_KEY_CERT_SIGN CK_TRUST      (varies)
# CKA_TRUST_CRL_SIGN   CK_TRUST      (varies)
# CKA_TRUST_SERVER_AUTH CK_TRUST      (varies)
# CKA_TRUST_CLIENT_AUTH CK_TRUST      (varies)
# CKA_TRUST_CODE_SIGNING CK_TRUST      (varies)
# CKA_TRUST_EMAIL_PROTECTION CK_TRUST      (varies)
# CKA_TRUST_IPSEC_END_SYSTEM CK_TRUST      (varies)
# CKA_TRUST_IPSEC_TUNNEL CK_TRUST      (varies)
# CKA_TRUST_IPSEC_USER CK_TRUST      (varies)
# CKA_TRUST_TIME_STAMPING CK_TRUST      (varies)
# CKA_TRUST_STEP_UP_APPROVED CK_BBOOL      (varies)

```

```

# (other trust attributes can be defined)
#

#
# The object to tell NSS that this is a root list and we don't
# have to go looking for others.
#
BEGINDATA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_BUILTIN_ROOT_LIST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Mozilla Builtin Roots"

#
# Certificate "GlobalSign Root CA"
#
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Tue Sep 01 12:00:00 1998
# Not Valid After : Fri Jan 28 12:00:00 2028
# Fingerprint (SHA-256):
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\025\113\132\303\224

END

CKA_VALUE MULTILINE_OCTAL
\060\202\003\165\060\202\002\135\240\003\002\001\002\002\013\004
\000\000\000\000\001\025\113\132\303\224\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\127\061\013\060\011\006
\003\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004
\012\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166
\055\163\141\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\033\060\031\006\003\125\004\003\023\022
\107\154\157\142\141\154\123\151\147\156\040\122\157\157\164\040
\103\101\060\036\027\015\071\070\060\071\060\061\061\062\060\060
\060\060\132\027\015\062\070\060\061\062\070\061\062\060\060\060
\060\132\060\127\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\020\060\016
\006\003\125\004\013\023\007\122\157\157\164\040\103\101\061\033
\060\031\006\003\125\004\003\023\022\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\332\016\346\231
\215\316\243\343\117\212\176\373\361\213\203\045\153\352\110\037
\361\052\260\271\225\021\004\275\360\143\321\342\147\146\317\034
\335\317\033\110\053\356\215\211\216\232\257\051\200\145\253\351
\307\055\022\313\253\034\114\160\007\241\075\012\060\315\025\215
\117\370\335\324\214\120\025\034\357\120\356\304\056\367\374\351
\122\362\221\175\340\155\325\065\060\216\136\103\163\362\101\351
\325\152\343\262\211\072\126\071\070\157\006\074\210\151\133\052
\115\305\247\124\270\154\211\314\233\371\074\312\345\375\211\365
\022\074\222\170\226\326\334\164\156\223\104\141\321\215\307\106
\262\165\016\206\350\031\212\325\155\154\325\170\026\225\242\351
\310\012\070\353\362\044\023\117\163\124\223\023\205\072\033\274
\036\064\265\213\005\214\271\167\213\261\333\037\040\221\253\011
\123\156\220\316\173\067\164\271\160\107\221\042\121\143\026\171
\256\261\256\101\046\010\310\031\053\321\106\252\110\326\144\052
\327\203\064\377\054\052\301\154\031\103\112\007\205\347\323\174
\366\041\150\357\352\362\122\237\177\223\220\317\002\003\001\000
\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\140\173\146\032\105\015\227\312\211\120\057\175\004\315\064
\250\377\374\375\113\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\326\163\347\174\117\166\320
\215\277\354\272\242\276\064\305\050\062\265\174\374\154\234\054
\053\275\011\236\123\277\153\136\252\021\110\266\345\010\243\263
\312\075\141\115\323\106\011\263\076\303\240\343\143\125\033\362
\272\357\255\071\341\103\271\070\243\346\057\212\046\073\357\240

```
\120\126\371\306\012\375\070\315\304\013\160\121\224\227\230\004
\337\303\137\224\325\025\311\024\101\234\304\135\165\144\025\015
\377\125\060\354\206\217\377\015\357\054\271\143\106\366\252\374
\337\274\151\375\056\022\110\144\232\340\225\360\246\357\051\217
\001\261\025\265\014\035\245\376\151\054\151\044\170\036\263\247
\034\161\142\356\312\310\227\254\027\135\212\302\370\107\206\156
\052\304\126\061\225\320\147\211\205\053\371\154\246\135\106\235
\014\252\202\344\231\121\335\160\267\333\126\075\141\344\152\341
\134\326\366\376\075\336\101\314\007\256\143\122\277\123\123\364
\053\351\307\375\266\367\202\137\205\322\101\030\333\201\263\004
\034\305\037\244\200\157\025\040\311\336\014\210\012\035\326\146
\125\342\374\110\311\051\046\151\340
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA"
```

```
# Issuer: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:04:00:00:00:00:01:15:4b:5a:c3:94
```

```
# Subject: CN=GlobalSign Root CA,OU=Root CA,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Tue Sep 01 12:00:00 1998
```

```
# Not Valid After : Fri Jan 28 12:00:00 2028
```

```
# Fingerprint (SHA-256):
```

```
EB:D4:10:40:E4:BB:3E:C7:42:C9:E3:81:D3:1E:F2:A4:1A:48:B6:68:5C:96:E7:CE:F3:C1:DF:6C:D4:33:1C:99
```

```
# Fingerprint (SHA1): B1:BC:96:8B:D4:F4:9D:62:2A:A8:9A:81:F2:15:01:52:A4:1D:82:9C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\261\274\226\213\324\364\235\142\052\250\232\201\362\025\001\122
```

```
\244\035\202\234
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\076\105\122\025\011\121\222\341\267\135\067\237\261\207\051\212
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\127\061\013\060\011\006\003\125\004\006\023\002\102\105\061
```

```
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
```

```
\123\151\147\156\040\156\166\055\163\141\061\020\060\016\006\003
```

```
\125\004\013\023\007\122\157\157\164\040\103\101\061\033\060\031
```

```
\006\003\125\004\003\023\022\107\154\157\142\141\154\123\151\147
```

```
\156\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\013\004\000\000\000\000\001\025\113\132\303\224
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 1 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4
# Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145

```

\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\032\060\202\003\002\002\021\000\213\133\165\126\204
\124\205\013\000\317\257\070\110\316\261\244\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145
\162\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164
\167\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050
\143\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156
\054\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123
\151\147\156\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060
\061\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066
\062\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012
\023\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056
\061\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123
\151\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162
\153\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040
\061\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111
\156\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060
\103\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156
\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143\040
\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\335\204\324\271\264\371\247\330\363\004\170
\234\336\075\334\154\023\026\331\172\335\044\121\146\300\307\046
\131\015\254\006\010\302\224\321\063\037\360\203\065\037\156\033

\310\336\252\156\025\116\124\047\357\304\155\032\354\013\343\016
\360\104\245\127\307\100\130\036\243\107\037\161\354\140\366\155
\224\310\030\071\355\376\102\030\126\337\344\114\111\020\170\116
\001\166\065\143\022\066\335\146\274\001\004\066\243\125\150\325
\242\066\011\254\253\041\046\124\006\255\077\312\024\340\254\312
\255\006\035\225\342\370\235\361\340\140\377\302\177\165\053\114
\314\332\376\207\231\041\352\272\376\076\124\327\322\131\170\333
\074\156\317\240\023\000\032\270\047\241\344\276\147\226\312\240
\305\263\234\335\311\165\236\353\060\232\137\243\315\331\256\170
\031\077\043\351\134\333\051\275\255\125\310\033\124\214\143\366
\350\246\352\307\067\022\134\243\051\036\002\331\333\037\073\264
\327\017\126\107\201\025\004\112\257\203\047\321\305\130\210\301
\335\366\252\247\243\030\332\150\252\155\021\121\341\277\145\153
\237\226\166\321\075\002\003\001\000\001\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\253\146
\215\327\263\272\307\232\266\346\125\320\005\361\237\061\215\132
\252\331\252\106\046\017\161\355\245\255\123\126\142\001\107\052
\104\351\376\077\164\013\023\233\271\364\115\033\262\321\137\262
\266\322\210\134\263\237\315\313\324\247\331\140\225\204\072\370
\301\067\035\141\312\347\260\305\345\221\332\124\246\254\061\201
\256\227\336\315\010\254\270\300\227\200\177\156\162\244\347\151
\023\225\145\037\304\223\074\375\171\217\004\324\076\117\352\367
\236\316\315\147\174\117\145\002\377\221\205\124\163\307\377\066
\367\206\055\354\320\136\117\377\021\237\162\006\326\270\032\361
\114\015\046\145\342\104\200\036\307\237\343\335\350\012\332\354
\245\040\200\151\150\241\117\176\341\153\317\007\101\372\203\216
\274\070\335\260\056\021\261\153\262\102\314\232\274\371\110\042
\171\112\031\017\262\034\076\040\164\331\152\303\276\362\050\170
\023\126\171\117\155\120\352\033\260\265\127\261\067\146\130\043
\363\334\017\337\012\207\304\357\206\005\325\070\024\140\231\243
\113\336\006\226\161\054\362\333\266\037\244\357\077\356

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

For Email Distrust After: Wed Aug 31 00:00:00 2022

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Verisign Class 1 Public Primary Certification Authority - G3"

Issuer: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Serial Number:00:8b:5b:75:56:84:54:85:0b:00:cf:af:38:48:ce:b1:a4

Subject: CN=VeriSign Class 1 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US

Not Valid Before: Fri Oct 01 00:00:00 1999

Not Valid After : Wed Jul 16 23:59:59 2036

Fingerprint (SHA-256):

```
CB:B5:AF:18:5E:94:2A:24:02:F9:EA:CB:C0:ED:5B:B8:76:EE:A3:C1:22:36:23:D0:04:47:E4:F3:BA:55:4B:65
# Fingerprint (SHA1): 20:42:85:DC:F7:EB:76:41:95:57:8E:13:6B:D4:B7:D1:E9:8E:46:A5
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 1 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\040\102\205\334\367\353\166\101\225\127\216\023\153\324\267\321
\351\216\106\245
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\261\107\274\030\127\321\030\240\170\055\354\161\350\052\225\163
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\061\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\213\133\165\126\204\124\205\013\000\317\257\070\110
\316\261\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Verisign Class 2 Public Primary Certification Authority - G3"
#
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
```

```
# Fingerprint (SHA-256):
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\031\060\202\003\001\002\020\141\160\313\111\214\137
\230\105\051\347\260\246\331\120\133\172\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\060\201\312\061\013\060\011
```

\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003\125
\004\012\023\016\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\061\037\060\035\006\003\125\004\013\023\026\126\145\162
\151\123\151\147\156\040\124\162\165\163\164\040\116\145\164\167
\157\162\153\061\072\060\070\006\003\125\004\013\023\061\050\143
\051\040\061\071\071\071\040\126\145\162\151\123\151\147\156\054
\040\111\156\143\056\040\055\040\106\157\162\040\141\165\164\150
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061
\105\060\103\006\003\125\004\003\023\074\126\145\162\151\123\151
\147\156\040\103\154\141\163\163\040\062\040\120\165\142\154\151
\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\063\060\036\027\015\071\071\061\060\060\061
\060\060\060\060\060\060\132\027\015\063\066\060\067\061\066\062
\063\065\071\065\071\132\060\201\312\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\027\060\025\006\003\125\004\012\023
\016\126\145\162\151\123\151\147\156\054\040\111\156\143\056\061
\037\060\035\006\003\125\004\013\023\026\126\145\162\151\123\151
\147\156\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\072\060\070\006\003\125\004\013\023\061\050\143\051\040\061
\071\071\071\040\126\145\162\151\123\151\147\156\054\040\111\156
\143\056\040\055\040\106\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\105\060\103
\006\003\125\004\003\023\074\126\145\162\151\123\151\147\156\040
\103\154\141\163\163\040\062\040\120\165\142\154\151\143\040\120
\162\151\155\141\162\171\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\063\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\257\012\015\302\325\054\333\147\271\055\345\224
\047\335\245\276\340\260\115\217\263\141\126\074\326\174\303\364
\315\076\206\313\242\210\342\341\330\244\151\305\265\342\277\301
\246\107\120\136\106\071\213\325\226\272\265\157\024\277\020\316
\047\023\236\005\107\233\061\172\023\330\037\331\323\002\067\213
\255\054\107\360\216\201\006\247\015\060\014\353\367\074\017\040
\035\334\162\106\356\245\002\310\133\303\311\126\151\114\305\030
\301\221\173\013\325\023\000\233\274\357\303\110\076\106\140\040
\205\052\325\220\266\315\213\240\314\062\335\267\375\100\125\262
\120\034\126\256\314\215\167\115\307\040\115\247\061\166\357\150
\222\212\220\036\010\201\126\262\255\151\243\122\320\313\034\304
\043\075\037\231\376\114\350\026\143\216\306\010\216\366\061\366
\322\372\345\166\335\265\034\222\243\111\315\315\001\315\150\315
\251\151\272\243\353\035\015\234\244\040\246\301\240\305\321\106
\114\027\155\322\254\146\077\226\214\340\204\324\066\377\042\131
\305\371\021\140\250\137\004\175\362\032\366\045\102\141\017\304
\112\270\076\211\002\003\001\000\001\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\001\001\000\064\046\025
\074\300\215\115\103\111\035\275\351\041\222\327\146\234\267\336

```
\305\270\320\344\135\137\166\042\300\046\371\204\072\072\371\214
\265\373\354\140\361\350\316\004\260\310\335\247\003\217\060\363
\230\337\244\346\244\061\337\323\034\013\106\334\162\040\077\256
\356\005\074\244\063\077\013\071\254\160\170\163\113\231\053\337
\060\302\124\260\250\073\125\241\376\026\050\315\102\275\164\156
\200\333\047\104\247\316\104\135\324\033\220\230\015\036\102\224
\261\000\054\004\320\164\243\002\005\042\143\143\315\203\265\373
\301\155\142\153\151\165\375\135\160\101\271\365\277\174\337\276
\301\062\163\042\041\213\130\201\173\025\221\172\272\343\144\110
\260\177\373\066\045\332\225\320\361\044\024\027\335\030\200\153
\106\043\071\124\365\216\142\011\004\035\224\220\246\233\346\045
\342\102\105\252\270\220\255\276\010\217\251\013\102\030\224\317
\162\071\341\261\103\340\050\317\267\347\132\154\023\153\111\263
\377\343\030\174\211\213\063\135\254\063\327\247\371\332\072\125
\311\130\020\371\252\357\132\266\317\113\113\337\052
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
# For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132
END
```

```
# Trust for "Verisign Class 2 Public Primary Certification Authority - G3"
# Issuer: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Serial Number:61:70:cb:49:8c:5f:98:45:29:e7:b0:a6:d9:50:5b:7a
# Subject: CN=VeriSign Class 2 Public Primary Certification Authority - G3,OU="(c) 1999 VeriSign, Inc. - For
authorized use only",OU=VeriSign Trust Network,O="VeriSign, Inc.",C=US
# Not Valid Before: Fri Oct 01 00:00:00 1999
# Not Valid After : Wed Jul 16 23:59:59 2036
# Fingerprint (SHA-256):
```

```
92:A9:D9:83:3F:E1:94:4D:B3:66:E8:BF:AE:7A:95:B6:48:0C:2D:6C:6C:2A:1B:E6:5D:42:36:B6:08:FC:A1:BB
```

```
# Fingerprint (SHA1): 61:EF:43:D7:7F:CA:D4:61:51:BC:98:E0:C3:59:12:AF:9F:EB:63:11
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Verisign Class 2 Public Primary Certification Authority - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\141\357\103\327\177\312\324\141\121\274\230\340\303\131\022\257
\237\353\143\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\276\304\143\042\311\250\106\164\213\270\035\036\112\053\366
END
```

```
CKA_ISSUER MULTILINE_OCTAL
\060\201\312\061\013\060\011\006\003\125\004\006\023\002\125\123
```

```
\061\027\060\025\006\003\125\004\012\023\016\126\145\162\151\123
\151\147\156\054\040\111\156\143\056\061\037\060\035\006\003\125
\004\013\023\026\126\145\162\151\123\151\147\156\040\124\162\165
\163\164\040\116\145\164\167\157\162\153\061\072\060\070\006\003
\125\004\013\023\061\050\143\051\040\061\071\071\071\040\126\145
\162\151\123\151\147\156\054\040\111\156\143\056\040\055\040\106
\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163
\145\040\157\156\154\171\061\105\060\103\006\003\125\004\003\023
\074\126\145\162\151\123\151\147\156\040\103\154\141\163\163\040
\062\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\040\055\040\107\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\141\160\313\111\214\137\230\105\051\347\260\246\331\120
\133\172
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust.net Premium 2048 Secure Server CA"

#

Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)

Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net
Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net

Not Valid Before: Fri Dec 24 17:50:51 1999

Not Valid After : Tue Jul 24 14:15:12 2029

Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
```

\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\070\143\336\370

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\052\060\202\003\022\240\003\002\001\002\002\004\070
\143\336\370\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\264\061\024\060\022\006\003\125\004\012\023\013
\105\156\164\162\165\163\164\056\156\145\164\061\100\060\076\006
\003\125\004\013\024\067\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\103\120\123\137\062\060\064\070\040\151
\156\143\157\162\160\056\040\142\171\040\162\145\146\056\040\050
\154\151\155\151\164\163\040\154\151\141\142\056\051\061\045\060
\043\006\003\125\004\013\023\034\050\143\051\040\061\071\071\071
\040\105\156\164\162\165\163\164\056\156\145\164\040\114\151\155
\151\164\145\144\061\063\060\061\006\003\125\004\003\023\052\105
\156\164\162\165\163\164\056\156\145\164\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\050\062\060\064\070\051\060\036\027\015\071\071\061
\062\062\064\061\067\065\060\065\061\132\027\015\062\071\060\067
\062\064\061\064\061\065\061\062\132\060\201\264\061\024\060\022
\006\003\125\004\012\023\013\105\156\164\162\165\163\164\056\156
\145\164\061\100\060\076\006\003\125\004\013\024\067\167\167\167
\056\145\156\164\162\165\163\164\056\156\145\164\057\103\120\123
\137\062\060\064\070\040\151\156\143\157\162\160\056\040\142\171
\040\162\145\146\056\040\050\154\151\155\151\164\163\040\154\151
\141\142\056\051\061\045\060\043\006\003\125\004\013\023\034\050

\143\051\040\061\071\071\071\040\105\156\164\162\165\163\164\056
\156\145\164\040\114\151\155\151\164\145\144\061\063\060\061\006
\003\125\004\003\023\052\105\156\164\162\165\163\164\056\156\145
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\050\062\060\064\070\051
\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001
\000\255\115\113\251\022\206\262\352\243\040\007\025\026\144\052
\053\113\321\277\013\112\115\216\355\200\166\245\147\267\170\100
\300\163\102\310\150\300\333\123\053\335\136\270\166\230\065\223
\213\032\235\174\023\072\016\037\133\267\036\317\345\044\024\036
\261\201\251\215\175\270\314\153\113\003\361\002\014\334\253\245
\100\044\000\177\164\224\241\235\010\051\263\210\013\365\207\167
\235\125\315\344\303\176\327\152\144\253\205\024\206\225\133\227
\062\120\157\075\310\272\146\014\343\374\275\270\111\301\166\211
\111\031\375\300\250\275\211\243\147\057\306\237\274\161\031\140
\270\055\351\054\311\220\166\146\173\224\342\257\170\326\145\123
\135\074\326\234\262\317\051\003\371\057\244\120\262\324\110\316
\005\062\125\212\375\262\144\114\016\344\230\007\165\333\177\337
\271\010\125\140\205\060\051\371\173\110\244\151\206\343\065\077
\036\206\135\172\172\025\275\357\000\216\025\042\124\027\000\220
\046\223\274\016\111\150\221\277\370\107\323\235\225\102\301\016
\115\337\157\046\317\303\030\041\142\146\103\160\326\325\300\007
\341\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\125\344\201\321\021\200\276\330\211\271
\010\243\061\371\241\044\011\026\271\160\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\073\233
\217\126\233\060\347\123\231\174\172\171\247\115\227\327\031\225
\220\373\006\037\312\063\174\106\143\217\226\146\044\372\100\033
\041\047\312\346\162\163\362\117\376\061\231\375\310\014\114\150
\123\306\200\202\023\230\372\266\255\332\135\075\361\316\156\366
\025\021\224\202\014\356\077\225\257\021\253\017\327\057\336\037
\003\217\127\054\036\311\273\232\032\104\225\353\030\117\246\037
\315\175\127\020\057\233\004\011\132\204\265\156\330\035\072\341
\326\236\321\154\171\136\171\034\024\305\343\320\114\223\073\145
\074\355\337\075\276\246\345\225\032\303\265\031\303\275\136\133
\273\377\043\357\150\031\313\022\223\047\134\003\055\157\060\320
\036\266\032\254\336\132\367\321\252\250\047\246\376\171\201\304
\171\231\063\127\272\022\260\251\340\102\154\223\312\126\336\376
\155\204\013\010\213\176\215\352\327\230\041\306\363\347\074\171
\057\136\234\321\114\025\215\341\354\042\067\314\232\103\013\227
\334\200\220\215\263\147\233\157\110\010\025\126\317\277\361\053
\174\136\232\166\351\131\220\305\174\203\065\021\145\121

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust.net Premium 2048 Secure Server CA"

Issuer: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net
Serial Number: 946069240 (0x3863def8)

Subject: CN=Entrust.net Certification Authority (2048),OU=(c) 1999 Entrust.net Limited,OU=www.entrust.net/CPS_2048 incorp. by ref. (limits liab.),O=Entrust.net

Not Valid Before: Fri Dec 24 17:50:51 1999

Not Valid After : Tue Jul 24 14:15:12 2029

Fingerprint (SHA-256):

6D:C4:71:72:E0:1C:BC:B0:BF:62:58:0D:89:5F:E2:B8:AC:9A:D4:F8:73:80:1E:0C:10:B9:C8:37:D2:1E:B1:77

Fingerprint (SHA1): 50:30:06:09:1D:97:D4:F5:AE:39:F7:CB:E7:92:7D:7D:65:2D:34:31

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust.net Premium 2048 Secure Server CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\120\060\006\011\035\227\324\365\256\071\367\313\347\222\175\175
\145\055\064\061

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\356\051\061\274\062\176\232\346\350\265\367\121\264\064\161\220

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\264\061\024\060\022\006\003\125\004\012\023\013\105\156
\164\162\165\163\164\056\156\145\164\061\100\060\076\006\003\125
\004\013\024\067\167\167\167\056\145\156\164\162\165\163\164\056
\156\145\164\057\103\120\123\137\062\060\064\070\040\151\156\143
\157\162\160\056\040\142\171\040\162\145\146\056\040\050\154\151
\155\151\164\163\040\154\151\141\142\056\051\061\045\060\043\006
\003\125\004\013\023\034\050\143\051\040\061\071\071\071\040\105
\156\164\162\165\163\164\056\156\145\164\040\114\151\155\151\164
\145\144\061\063\060\061\006\003\125\004\003\023\052\105\156\164
\162\165\163\164\056\156\145\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\050\062\060\064\070\051

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\070\143\336\370

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

```
# Certificate "Baltimore CyberTrust Root"
#
# Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
# Serial Number: 33554617 (0x20000b9)
# Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE
# Not Valid Before: Fri May 12 18:46:00 2000
# Not Valid After : Mon May 12 23:59:00 2025
# Fingerprint (SHA-256):
16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB
# Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Baltimore CyberTrust Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\002\000\000\271
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\004\002
\000\000\271\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\111
\105\061\022\060\020\006\003\125\004\012\023\011\102\141\154\164
\151\155\157\162\145\061\023\060\021\006\003\125\004\013\023\012
\103\171\142\145\162\124\162\165\163\164\061\042\060\040\006\003
\125\004\003\023\031\102\141\154\164\151\155\157\162\145\040\103
\171\142\145\162\124\162\165\163\164\040\122\157\157\164\060\036
\027\015\060\060\060\065\061\062\061\070\064\066\060\060\132\027
\015\062\065\060\065\061\062\062\063\065\071\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\111\105\061\022\060
```

\020\006\003\125\004\012\023\011\102\141\154\164\151\155\157\162
\145\061\023\060\021\006\003\125\004\013\023\012\103\171\142\145
\162\124\162\165\163\164\061\042\060\040\006\003\125\004\003\023
\031\102\141\154\164\151\155\157\162\145\040\103\171\142\145\162
\124\162\165\163\164\040\122\157\157\164\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\243\004\273\042\253
\230\075\127\350\046\162\232\265\171\324\051\342\341\350\225\200
\261\260\343\133\216\053\051\232\144\337\241\135\355\260\011\005
\155\333\050\056\316\142\242\142\376\264\210\332\022\353\070\353
\041\235\300\101\053\001\122\173\210\167\323\034\217\307\272\271
\210\265\152\011\347\163\350\021\100\247\321\314\312\142\215\055
\345\217\013\246\120\322\250\120\303\050\352\365\253\045\207\212
\232\226\034\251\147\270\077\014\325\367\371\122\023\057\302\033
\325\160\160\360\217\300\022\312\006\313\232\341\331\312\063\172
\167\326\370\354\271\361\150\104\102\110\023\322\300\302\244\256
\136\140\376\266\246\005\374\264\335\007\131\002\324\131\030\230
\143\365\245\143\340\220\014\175\135\262\006\172\363\205\352\353
\324\003\256\136\204\076\137\377\025\355\151\274\371\071\066\162
\165\317\167\122\115\363\311\220\054\271\075\345\311\043\123\077
\037\044\230\041\134\007\231\051\275\306\072\354\347\156\206\072
\153\227\164\143\063\275\150\030\061\360\170\215\166\277\374\236
\216\135\052\206\247\115\220\334\047\032\071\002\003\001\000\001
\243\105\060\103\060\035\006\003\125\035\016\004\026\004\024\345
\235\131\060\202\107\130\314\254\372\010\124\066\206\173\072\265
\004\115\360\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\003\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\205\014\135\216\344
\157\121\150\102\005\240\335\273\117\047\045\204\003\275\367\144
\375\055\327\060\343\244\020\027\353\332\051\051\266\171\077\166
\366\031\023\043\270\020\012\371\130\244\324\141\160\275\004\141
\152\022\212\027\325\012\275\305\274\060\174\326\351\014\045\215
\206\100\117\354\314\243\176\070\306\067\021\117\355\335\150\061
\216\114\322\263\001\164\356\276\165\136\007\110\032\177\160\377
\026\134\204\300\171\205\270\005\375\177\276\145\021\243\017\300
\002\264\370\122\067\071\004\325\251\061\172\030\277\240\052\364
\022\231\367\243\105\202\343\074\136\365\235\236\265\310\236\174
\056\310\244\236\116\010\024\113\155\375\160\155\153\032\143\275
\144\346\037\267\316\360\362\237\056\273\033\267\362\120\210\163
\222\302\342\343\026\215\232\062\002\253\216\030\335\351\020\021
\356\176\065\253\220\257\076\060\224\172\320\063\075\247\145\017
\365\374\216\236\142\317\107\104\054\001\135\273\035\265\062\322
\107\322\070\056\320\376\201\334\062\152\036\265\356\074\325\374
\347\201\035\031\303\044\102\352\143\071\251

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "Baltimore CyberTrust Root"

Issuer: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Serial Number: 33554617 (0x20000b9)

Subject: CN=Baltimore CyberTrust Root,OU=CyberTrust,O=Baltimore,C=IE

Not Valid Before: Fri May 12 18:46:00 2000

Not Valid After : Mon May 12 23:59:00 2025

Fingerprint (SHA-256):

16:AF:57:A9:F6:76:B0:AB:12:60:95:AA:5E:BA:DE:F2:2A:B3:11:19:D6:44:AC:95:CD:4B:93:DB:F3:F2:6A:EB

Fingerprint (SHA1): D4:DE:20:D0:5E:66:FC:53:FE:1A:50:88:2C:78:DB:28:52:CA:E4:74

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Baltimore CyberTrust Root"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\324\336\040\320\136\146\374\123\376\032\120\210\054\170\333\050
\122\312\344\164

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\254\266\224\245\234\027\340\327\221\122\233\261\227\006\246\344

END

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\111\105\061
\022\060\020\006\003\125\004\012\023\011\102\141\154\164\151\155
\157\162\145\061\023\060\021\006\003\125\004\013\023\012\103\171
\142\145\162\124\162\165\163\164\061\042\060\040\006\003\125\004
\003\023\031\102\141\154\164\151\155\157\162\145\040\103\171\142
\145\162\124\162\165\163\164\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\002\000\000\271

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority"

#

Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US

Serial Number: 1164660820 (0x456b5054)

Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is
incorporated by reference,O="Entrust, Inc.",C=US

Not Valid Before: Mon Nov 27 20:23:42 2006

Not Valid After : Fri Nov 27 20:53:42 2026

Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\105\153\120\124
```

END

CKA_VALUE MULTILINE_OCTAL

```
\060\202\004\221\060\202\003\171\240\003\002\001\002\002\004\105
\153\120\124\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\060\201\260\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\071\060\067\006\003
```

\125\004\013\023\060\167\167\167\056\145\156\164\162\165\163\164
\056\156\145\164\057\103\120\123\040\151\163\040\151\156\143\157
\162\160\157\162\141\164\145\144\040\142\171\040\162\145\146\145
\162\145\156\143\145\061\037\060\035\006\003\125\004\013\023\026
\050\143\051\040\062\060\060\066\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\061\055\060\053\006\003\125\004\003\023
\044\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\060\066\061\061\062\067\062
\060\062\063\064\062\132\027\015\062\066\061\061\062\067\062\060
\065\063\064\062\132\060\201\260\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\026\060\024\006\003\125\004\012\023\015
\105\156\164\162\165\163\164\054\040\111\156\143\056\061\071\060
\067\006\003\125\004\013\023\060\167\167\167\056\145\156\164\162
\165\163\164\056\156\145\164\057\103\120\123\040\151\163\040\151
\156\143\157\162\160\157\162\141\164\145\144\040\142\171\040\162
\145\146\145\162\145\156\143\145\061\037\060\035\006\003\125\004
\013\023\026\050\143\051\040\062\060\060\066\040\105\156\164\162
\165\163\164\054\040\111\156\143\056\061\055\060\053\006\003\125
\004\003\023\044\105\156\164\162\165\163\164\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\266\225\266\103\102\372\306
\155\052\157\110\337\224\114\071\127\005\356\303\171\021\101\150
\066\355\354\376\232\001\217\241\070\050\374\367\020\106\146\056
\115\036\032\261\032\116\306\321\300\225\210\260\311\377\061\213
\063\003\333\267\203\173\076\040\204\136\355\262\126\050\247\370
\340\271\100\161\067\305\313\107\016\227\052\150\300\042\225\142
\025\333\107\331\365\320\053\377\202\113\311\255\076\336\114\333
\220\200\120\077\011\212\204\000\354\060\012\075\030\315\373\375
\052\131\232\043\225\027\054\105\236\037\156\103\171\155\014\134
\230\376\110\247\305\043\107\134\136\375\156\347\036\264\366\150
\105\321\206\203\133\242\212\215\261\343\051\200\376\045\161\210
\255\276\274\217\254\122\226\113\252\121\215\344\023\061\031\350
\116\115\237\333\254\263\152\325\274\071\124\161\312\172\172\177
\220\335\175\035\200\331\201\273\131\046\302\021\376\346\223\342
\367\200\344\145\373\064\067\016\051\200\160\115\257\070\206\056
\236\177\127\257\236\027\256\353\034\313\050\041\137\266\034\330
\347\242\004\042\371\323\332\330\313\002\003\001\000\001\243\201
\260\060\201\255\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\053\006\003\125\035\020\004\044\060\042
\200\017\062\060\060\066\061\061\062\067\062\060\062\063\064\062
\132\201\017\062\060\062\066\061\061\062\067\062\060\065\063\064
\062\132\060\037\006\003\125\035\043\004\030\060\026\200\024\150
\220\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373
\204\275\155\060\035\006\003\125\035\016\004\026\004\024\150\220

```
\344\147\244\246\123\200\307\206\146\244\361\367\113\103\373\204
\275\155\060\035\006\011\052\206\110\206\366\175\007\101\000\004
\020\060\016\033\010\126\067\056\061\072\064\056\060\003\002\004
\220\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\223\324\060\260\327\003\040\052\320\371\143
\350\221\014\005\040\251\137\031\312\173\162\116\324\261\333\320
\226\373\124\132\031\054\014\010\367\262\274\205\250\235\177\155
\073\122\263\052\333\347\324\204\214\143\366\017\313\046\001\221
\120\154\364\137\024\342\223\164\300\023\236\060\072\120\343\264
\140\305\034\360\042\104\215\161\107\254\310\032\311\351\233\232
\000\140\023\377\160\176\137\021\115\111\033\263\025\122\173\311
\124\332\277\235\225\257\153\232\330\236\351\361\344\103\215\342
\021\104\072\277\257\275\203\102\163\122\213\252\273\247\051\317
\365\144\034\012\115\321\274\252\254\237\052\320\377\177\177\332
\175\352\261\355\060\045\301\204\332\064\322\133\170\203\126\354
\234\066\303\046\342\021\366\147\111\035\222\253\214\373\353\377
\172\356\205\112\247\120\200\360\247\134\112\224\056\137\005\231
\074\122\101\340\315\264\143\317\001\103\272\234\203\334\217\140
\073\363\132\264\264\173\256\332\013\220\070\165\357\201\035\146
\322\367\127\160\066\263\277\374\050\257\161\045\205\133\023\376
\036\177\132\264\074
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority"

Issuer: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Serial Number: 1164660820 (0x456b5054)

Subject: CN=Entrust Root Certification Authority,OU="(c) 2006 Entrust, Inc.",OU=www.entrust.net/CPS is incorporated by reference,O="Entrust, Inc.",C=US

Not Valid Before: Mon Nov 27 20:23:42 2006

Not Valid After : Fri Nov 27 20:53:42 2026

Fingerprint (SHA-256):

73:C1:76:43:4F:1B:C6:D5:AD:F4:5B:0E:76:E7:27:28:7C:8D:E5:76:16:C1:E6:E6:14:1A:2B:2C:BC:7D:8E:4C

Fingerprint (SHA1): B3:1E:B1:B7:40:E3:6C:84:02:DA:DC:37:D4:4D:F5:D4:67:49:52:F9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\263\036\261\267\100\343\154\204\002\332\334\067\324\115\365\324
\147\111\122\371
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\326\245\303\355\135\335\076\000\301\075\207\222\037\035\077\344
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\260\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\071\060\067\006\003\125\004
\013\023\060\167\167\167\056\145\156\164\162\165\163\164\056\156
\145\164\057\103\120\123\040\151\163\040\151\156\143\157\162\160
\157\162\141\164\145\144\040\142\171\040\162\145\146\145\162\145
\156\143\145\061\037\060\035\006\003\125\004\013\023\026\050\143
\051\040\062\060\060\066\040\105\156\164\162\165\163\164\054\040
\111\156\143\056\061\055\060\053\006\003\125\004\003\023\044\105
\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\105\153\120\124

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certum Root CA"

#

Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

Serial Number: 65568 (0x10020)

Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL

Not Valid Before: Tue Jun 11 10:46:39 2002

Not Valid After : Fri Jun 11 10:46:39 2027

Fingerprint (SHA-256):

D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24

Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certum Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\001\000\040

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\014\060\202\001\364\240\003\002\001\002\002\003\001
\000\040\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\036\027\015\060\062\060\066\061\061\061\060\064\066\063
\071\132\027\015\062\067\060\066\061\061\061\060\064\066\063\071
\132\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145
\164\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060
\020\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\316\261\301\056\323\117\174\315\045\316\030\076\117\304
\214\157\200\152\163\310\133\121\370\233\322\334\273\000\134\261
\240\374\165\003\356\201\360\210\356\043\122\351\346\025\063\215
\254\055\011\305\166\371\053\071\200\211\344\227\113\220\245\250
\170\370\163\103\173\244\141\260\330\130\314\341\154\146\176\234
\363\011\136\125\143\204\325\250\357\363\261\056\060\150\263\304
\074\330\254\156\215\231\132\220\116\064\334\066\232\217\201\210
\120\267\155\226\102\011\363\327\225\203\015\101\113\260\152\153
\370\374\017\176\142\237\147\304\355\046\137\020\046\017\010\117
\360\244\127\050\316\217\270\355\105\366\156\356\045\135\252\156
\071\276\344\223\057\331\107\240\162\353\372\246\133\257\312\123
\077\342\016\306\226\126\021\156\367\351\146\251\046\330\177\225
\123\355\012\205\210\272\117\051\245\102\214\136\266\374\205\040
\000\252\150\013\241\032\205\001\234\304\106\143\202\210\266\042
\261\356\376\252\106\131\176\317\065\054\325\266\332\135\367\110
\063\024\124\266\353\331\157\316\315\210\326\253\033\332\226\073
\035\131\002\003\001\000\001\243\023\060\021\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\270\215\316\357\347\024\272\317\356\260\104\222\154\264\071\076
\242\204\156\255\270\041\167\322\324\167\202\207\346\040\101\201
\356\342\370\021\267\143\321\027\067\276\031\166\044\034\004\032
\114\353\075\252\147\157\055\324\315\376\145\061\160\305\033\246
\002\012\272\140\173\155\130\302\232\111\376\143\062\013\153\343
\072\300\254\253\073\260\350\323\011\121\214\020\203\306\064\340

```
\305\053\340\032\266\140\024\047\154\062\167\214\274\262\162\230
\317\315\314\077\271\310\044\102\024\326\127\374\346\046\103\251
\035\345\200\220\316\003\124\050\076\367\077\323\370\115\355\152
\012\072\223\023\233\073\024\043\023\143\234\077\321\207\047\171
\345\114\121\343\001\255\205\135\032\073\261\325\163\020\244\323
\362\274\156\144\365\132\126\220\250\307\016\114\164\017\056\161
\073\367\310\107\364\151\157\025\362\021\136\203\036\234\174\122
\256\375\002\332\022\250\131\147\030\333\274\160\335\233\261\151
\355\200\316\211\100\110\152\016\065\312\051\146\025\041\224\054
\350\140\052\233\205\112\100\363\153\212\044\354\006\026\054\163
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certum Root CA"
```

```
# Issuer: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Serial Number: 65568 (0x10020)
```

```
# Subject: CN=Certum CA,O=Unizeto Sp. z o.o.,C=PL
```

```
# Not Valid Before: Tue Jun 11 10:46:39 2002
```

```
# Not Valid After : Fri Jun 11 10:46:39 2027
```

```
# Fingerprint (SHA-256):
```

```
D8:E0:FE:BC:1D:B2:E3:8D:00:94:0F:37:D2:7D:41:34:4D:99:3E:73:4B:99:D5:65:6D:97:78:D4:D8:14:36:24
```

```
# Fingerprint (SHA1): 62:52:DC:40:F7:11:43:A2:2F:DE:9E:F7:34:8E:06:42:51:B1:81:18
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\142\122\334\100\367\021\103\242\057\336\236\367\064\216\006\102
\121\261\201\030
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\054\217\237\146\035\030\220\261\107\046\235\216\206\202\214\251
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\076\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\033\060\031\006\003\125\004\012\023\022\125\156\151\172\145\164
\157\040\123\160\056\040\172\040\157\056\157\056\061\022\060\020
\006\003\125\004\003\023\011\103\145\162\164\165\155\040\103\101
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\003\001\000\040
```

```
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Comodo AAA Services root"

#

Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

Serial Number: 1 (0x1)

Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB

Not Valid Before: Thu Jan 01 00:00:00 2004

Not Valid After : Sun Dec 31 23:59:59 2028

Fingerprint (SHA-256):

D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4

Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Comodo AAA Services root"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\062\060\202\003\032\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145\162

\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040\103
\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003\125
\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151\143
\141\164\145\040\123\145\162\166\151\143\145\163\060\036\027\015
\060\064\060\061\060\061\060\060\060\060\060\060\132\027\015\062
\070\061\062\063\061\062\063\065\071\065\071\132\060\173\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\014\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
\007\014\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\014\021\103\157\155\157\144\157\040\103\101\040\114
\151\155\151\164\145\144\061\041\060\037\006\003\125\004\003\014
\030\101\101\101\040\103\145\162\164\151\146\151\143\141\164\145
\040\123\145\162\166\151\143\145\163\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\276\100\235\364\156\341
\352\166\207\034\115\105\104\216\276\106\310\203\006\235\301\052
\376\030\037\216\344\002\372\363\253\135\120\212\026\061\013\232
\006\320\305\160\042\315\111\055\124\143\314\266\156\150\106\013
\123\352\313\114\044\300\274\162\116\352\361\025\256\364\124\232
\022\012\303\172\262\063\140\342\332\211\125\363\042\130\363\336
\334\317\357\203\206\242\214\224\117\237\150\362\230\220\106\204
\047\307\166\277\343\314\065\054\213\136\007\144\145\202\300\110
\260\250\221\371\141\237\166\040\120\250\221\307\146\265\353\170
\142\003\126\360\212\032\023\352\061\243\036\240\231\375\070\366
\366\047\062\130\157\007\365\153\270\373\024\053\257\267\252\314
\326\143\137\163\214\332\005\231\250\070\250\313\027\170\066\121
\254\351\236\364\170\072\215\317\017\331\102\342\230\014\253\057
\237\016\001\336\357\237\231\111\361\055\337\254\164\115\033\230
\265\107\305\345\051\321\371\220\030\307\142\234\276\203\307\046
\173\076\212\045\307\300\335\235\346\065\150\020\040\235\217\330
\336\322\303\204\234\015\136\350\057\311\002\003\001\000\001\243
\201\300\060\201\275\060\035\006\003\125\035\016\004\026\004\024
\240\021\012\043\076\226\361\007\354\342\257\051\357\202\245\177
\320\060\244\264\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\173\006\003\125\035\037\004\164\060\162
\060\070\240\066\240\064\206\062\150\164\164\160\072\057\057\143
\162\154\056\143\157\155\157\144\157\143\141\056\143\157\155\057
\101\101\101\103\145\162\164\151\146\151\143\141\164\145\123\145
\162\166\151\143\145\163\056\143\162\154\060\066\240\064\240\062
\206\060\150\164\164\160\072\057\057\143\162\154\056\143\157\155
\157\144\157\056\156\145\164\057\101\101\101\103\145\162\164\151
\146\151\143\141\164\145\123\145\162\166\151\143\145\163\056\143
\162\154\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\003\202\001\001\000\010\126\374\002\360\233\350\377\244\372

```
\326\173\306\104\200\316\117\304\305\366\000\130\314\246\266\274
\024\111\150\004\166\350\346\356\135\354\002\017\140\326\215\120
\030\117\046\116\001\343\346\260\245\356\277\274\164\124\101\277
\375\374\022\270\307\117\132\364\211\140\005\177\140\267\005\112
\363\366\361\302\277\304\271\164\206\266\055\175\153\314\322\363
\106\335\057\306\340\152\303\303\064\003\054\175\226\335\132\302
\016\247\012\231\301\005\213\253\014\057\363\134\072\317\154\067
\125\011\207\336\123\100\154\130\357\374\266\253\145\156\004\366
\033\334\074\340\132\025\306\236\331\361\131\110\060\041\145\003
\154\354\351\041\163\354\233\003\241\340\067\255\240\025\030\217
\372\272\002\316\247\054\251\020\023\054\324\345\010\046\253\042
\227\140\370\220\136\164\324\242\232\123\275\362\251\150\340\242
\156\302\327\154\261\243\017\236\277\353\150\347\126\362\256\362
\343\053\070\072\011\201\265\153\205\327\276\055\355\077\032\267
\262\143\342\365\142\054\202\324\152\000\101\120\361\071\203\237
\225\351\066\226\230\156
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Comodo AAA Services root"
```

```
# Issuer: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=AAA Certificate Services,O=Comodo CA Limited,L=Salford,ST=Greater Manchester,C=GB
```

```
# Not Valid Before: Thu Jan 01 00:00:00 2004
```

```
# Not Valid After : Sun Dec 31 23:59:59 2028
```

```
# Fingerprint (SHA-256):
```

```
D7:A7:A0:FB:5D:7E:27:31:D7:71:E9:48:4E:BC:DE:F7:1D:5F:0C:3E:0A:29:48:78:2B:C8:3E:E0:EA:69:9E:F4
```

```
# Fingerprint (SHA1): D1:EB:23:A4:6D:17:D6:8F:D9:25:64:C2:F1:F1:60:17:64:D8:E3:49
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Comodo AAA Services root"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\321\353\043\244\155\027\326\217\331\045\144\302\361\361\140\027
\144\330\343\111
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\111\171\004\260\353\207\031\254\107\260\274\021\121\233\164\320
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\173\061\013\060\011\006\003\125\004\006\023\002\107\102\061
\033\060\031\006\003\125\004\010\014\022\107\162\145\141\164\145
\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016
\006\003\125\004\007\014\007\123\141\154\146\157\162\144\061\032
\060\030\006\003\125\004\012\014\021\103\157\155\157\144\157\040
```

```

\103\101\040\114\151\155\151\164\145\144\061\041\060\037\006\003
\125\004\003\014\030\101\101\101\040\103\145\162\164\151\146\151
\143\141\164\145\040\123\145\162\166\151\143\145\163
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2"
#
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\267\060\202\003\237\240\003\002\001\002\002\002\005
\011\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\060\036\027\015\060\066\061\061\062
\064\061\070\062\067\060\060\132\027\015\063\061\061\061\062\064
\061\070\062\063\063\063\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\062\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\232
\030\312\113\224\015\000\055\257\003\051\212\360\017\201\310\256
\114\031\205\035\010\237\253\051\104\205\363\057\201\255\062\036
\220\106\277\243\206\046\032\036\376\176\034\030\072\134\234\140
\027\052\072\164\203\063\060\175\141\124\021\313\355\253\340\346
\322\242\176\365\153\157\030\267\012\013\055\375\351\076\357\012
\306\263\020\351\334\302\106\027\370\135\375\244\332\377\236\111
\132\234\346\063\346\044\226\367\077\272\133\053\034\172\065\302
\326\147\376\253\146\120\213\155\050\140\053\357\327\140\303\307
\223\274\215\066\221\363\177\370\333\021\023\304\234\167\166\301
\256\267\002\152\201\172\251\105\203\342\005\346\271\126\301\224
\067\217\110\161\143\042\354\027\145\007\225\212\113\337\217\306
\132\012\345\260\343\137\136\153\021\253\014\371\205\353\104\351
\370\004\163\362\351\376\134\230\214\365\163\257\153\264\176\315
\324\134\002\053\114\071\341\262\225\225\055\102\207\327\325\263
\220\103\267\154\023\361\336\335\366\304\370\211\077\321\165\365
\222\303\221\325\212\210\320\220\354\334\155\336\211\302\145\161
\226\213\015\003\375\234\277\133\026\254\222\333\352\376\171\174
\255\353\257\367\026\313\333\315\045\053\345\037\373\232\237\342
\121\314\072\123\014\110\346\016\275\311\264\166\006\122\346\021
\023\205\162\143\003\004\340\004\066\053\040\031\002\350\164\247
\037\266\311\126\146\360\165\045\334\147\301\016\141\140\210\263
\076\321\250\374\243\332\035\260\321\261\043\124\337\104\166\155
\355\101\330\301\262\042\266\123\034\337\065\035\334\241\167\052
\061\344\055\365\345\345\333\310\340\377\345\200\327\013\143\240
\377\063\241\017\272\054\025\025\352\227\263\322\242\265\276\362
\214\226\036\032\217\035\154\244\141\067\271\206\163\063\327\227
\226\236\043\175\202\244\114\201\342\241\321\272\147\137\225\007
\243\047\021\356\026\020\173\274\105\112\114\262\004\322\253\357
\325\375\014\121\316\120\152\010\061\371\221\332\014\217\144\134
\003\303\072\213\040\077\156\215\147\075\072\326\376\175\133\210
\311\136\373\314\141\334\213\063\167\323\104\062\065\011\142\004
\222\026\020\330\236\047\107\373\073\041\343\370\353\035\133\002
\003\001\000\001\243\201\260\060\201\255\060\017\006\003\125\035

\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003\125
\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\032\204\142\274\110\114\063\045\004\324\356\320\366
\003\304\031\106\321\224\153\060\156\006\003\125\035\043\004\147
\060\145\200\024\032\204\142\274\110\114\063\045\004\324\356\320
\366\003\304\031\106\321\224\153\241\111\244\107\060\105\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\033\060\031\006\003\125\004\003\023
\022\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\202\002\005\011\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\002\001\000\076\012\026\115\237
\006\133\250\256\161\135\057\005\057\147\346\023\105\203\304\066
\366\363\300\046\014\015\265\107\144\135\370\264\162\311\106\245
\003\030\047\125\211\170\175\166\352\226\064\200\027\040\334\347
\203\370\215\374\007\270\332\137\115\056\147\262\204\375\331\104
\374\167\120\201\346\174\264\311\015\013\162\123\370\166\007\007
\101\107\226\014\373\340\202\046\223\125\214\376\042\037\140\145
\174\137\347\046\263\367\062\220\230\120\324\067\161\125\366\222
\041\170\367\225\171\372\370\055\046\207\146\126\060\167\246\067
\170\063\122\020\130\256\077\141\216\362\152\261\357\030\176\112
\131\143\312\215\242\126\325\247\057\274\126\037\317\071\301\342
\373\012\250\025\054\175\115\172\143\306\154\227\104\074\322\157
\303\112\027\012\370\220\322\127\242\031\121\245\055\227\101\332
\007\117\251\120\332\220\215\224\106\341\076\360\224\375\020\000
\070\365\073\350\100\341\264\156\126\032\040\314\157\130\215\355
\056\105\217\326\351\223\077\347\261\054\337\072\326\042\214\334
\204\273\042\157\320\370\344\306\071\351\004\210\074\303\272\353
\125\172\155\200\231\044\365\154\001\373\370\227\260\224\133\353
\375\322\157\361\167\150\015\065\144\043\254\270\125\241\003\321
\115\102\031\334\370\165\131\126\243\371\250\111\171\370\257\016
\271\021\240\174\267\152\355\064\320\266\046\142\070\032\207\014
\370\350\375\056\323\220\177\007\221\052\035\326\176\134\205\203
\231\260\070\010\077\351\136\371\065\007\344\311\142\156\127\177
\247\120\225\367\272\310\233\346\216\242\001\305\326\146\277\171
\141\363\074\034\341\271\202\134\135\240\303\351\330\110\275\031
\242\021\024\031\156\262\206\033\150\076\110\067\032\210\267\135
\226\136\234\307\357\047\142\010\342\221\031\134\322\361\041\335
\272\027\102\202\227\161\201\123\061\251\237\366\175\142\277\162
\341\243\223\035\314\212\046\132\011\070\320\316\327\015\200\026
\264\170\245\072\207\114\215\212\245\325\106\227\362\054\020\271
\274\124\042\300\001\120\151\103\236\364\262\357\155\370\354\332
\361\343\261\357\337\221\217\124\052\013\045\301\046\031\304\122
\020\005\145\325\202\020\352\302\061\315\056

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```
# Trust for "QuoVadis Root CA 2"
# Issuer: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Serial Number: 1289 (0x509)
# Subject: CN=QuoVadis Root CA 2,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 18:27:00 2006
# Not Valid After : Mon Nov 24 18:23:33 2031
# Fingerprint (SHA-256):
85:A0:DD:7D:D7:20:AD:B7:FF:05:F8:3D:54:2B:20:9D:C7:FF:45:28:F7:D6:77:B1:83:89:FE:A5:E5:C4:9E:86
# Fingerprint (SHA1): CA:3A:FB:CF:12:40:36:4B:44:B2:16:20:88:80:48:39:19:93:7C:F7
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\312\072\373\317\022\100\066\113\104\262\026\040\210\200\110\071
\031\223\174\367
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\071\173\335\370\272\354\202\351\254\142\272\014\124\000\053
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\011
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 3"
#
# Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Serial Number: 1478 (0x5c6)
# Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
# Not Valid Before: Fri Nov 24 19:11:23 2006
# Not Valid After : Mon Nov 24 19:06:44 2031
# Fingerprint (SHA-256):
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\235\060\202\004\205\240\003\002\001\002\002\002\005
\306\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\060\036\027\015\060\066\061\061\062
\064\061\071\061\061\062\063\132\027\015\063\061\061\061\062\064
\061\071\060\066\064\064\132\060\105\061\013\060\011\006\003\125
\004\006\023\002\102\115\061\031\060\027\006\003\125\004\012\023
\020\121\165\157\126\141\144\151\163\040\114\151\155\151\164\145
\144\061\033\060\031\006\003\125\004\003\023\022\121\165\157\126
\141\144\151\163\040\122\157\157\164\040\103\101\040\063\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\314
\127\102\026\124\234\346\230\323\323\115\356\376\355\307\237\103
\071\112\145\263\350\026\210\064\333\015\131\221\164\317\222\270
\004\100\255\002\113\061\253\274\215\221\150\330\040\016\032\001
\342\032\173\116\027\135\342\212\267\077\231\032\315\353\141\253
\302\145\246\037\267\267\275\267\217\374\375\160\217\013\240\147
\276\001\242\131\317\161\346\017\051\166\377\261\126\171\105\053
\037\236\172\124\350\243\051\065\150\244\001\117\017\244\056\067
\357\033\277\343\217\020\250\162\253\130\127\347\124\206\310\311
```

\363\133\332\054\332\135\216\156\074\243\076\332\373\202\345\335
\362\134\262\005\063\157\212\066\316\320\023\116\377\277\112\014
\064\114\246\303\041\275\120\004\125\353\261\273\235\373\105\036
\144\025\336\125\001\214\002\166\265\313\241\077\102\151\274\057
\275\150\103\026\126\211\052\067\141\221\375\246\256\116\300\313
\024\145\224\067\113\222\006\357\004\320\310\234\210\333\013\173
\201\257\261\075\052\304\145\072\170\266\356\334\200\261\322\323
\231\234\072\356\153\132\153\263\215\267\325\316\234\302\276\245
\113\057\026\261\236\150\073\006\157\256\175\237\370\336\354\314
\051\247\230\243\045\103\057\357\361\137\046\341\210\115\370\136
\156\327\331\024\156\031\063\151\247\073\204\211\223\304\123\125
\023\241\121\170\100\370\270\311\242\356\173\272\122\102\203\236
\024\355\005\122\132\131\126\247\227\374\235\077\012\051\330\334
\117\221\016\023\274\336\225\244\337\213\231\276\254\233\063\210
\357\265\201\257\033\306\042\123\310\366\307\356\227\024\260\305
\174\170\122\310\360\316\156\167\140\204\246\351\052\166\040\355
\130\001\027\060\223\351\032\213\340\163\143\331\152\222\224\111
\116\264\255\112\205\304\243\042\060\374\011\355\150\042\163\246
\210\014\125\041\130\305\341\072\237\052\335\312\341\220\340\331
\163\253\154\200\270\350\013\144\223\240\234\214\031\377\263\322
\014\354\221\046\207\212\263\242\341\160\217\054\012\345\315\155
\150\121\353\332\077\005\177\213\062\346\023\134\153\376\137\100
\342\042\310\264\264\144\117\326\272\175\110\076\250\151\014\327
\273\206\161\311\163\270\077\073\235\045\113\332\377\100\353\002
\003\001\000\001\243\202\001\225\060\202\001\221\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\201\341
\006\003\125\035\040\004\201\331\060\201\326\060\201\323\006\011
\053\006\001\004\001\276\130\000\003\060\201\305\060\201\223\006
\010\053\006\001\005\005\007\002\002\060\201\206\032\201\203\101
\156\171\040\165\163\145\040\157\146\040\164\150\151\163\040\103
\145\162\164\151\146\151\143\141\164\145\040\143\157\156\163\164
\151\164\165\164\145\163\040\141\143\143\145\160\164\141\156\143
\145\040\157\146\040\164\150\145\040\121\165\157\126\141\144\151
\163\040\122\157\157\164\040\103\101\040\063\040\103\145\162\164
\151\146\151\143\141\164\145\040\120\157\154\151\143\171\040\057
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\120
\162\141\143\164\151\143\145\040\123\164\141\164\145\155\145\156
\164\056\060\055\006\010\053\006\001\005\005\007\002\001\026\041
\150\164\164\160\072\057\057\167\167\167\056\161\165\157\166\141
\144\151\163\147\154\157\142\141\154\056\143\157\155\057\143\160
\163\060\013\006\003\125\035\017\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\362\300\023\340\202\103\076
\373\356\057\147\062\226\065\134\333\270\313\002\320\060\156\006
\003\125\035\043\004\147\060\145\200\024\362\300\023\340\202\103
\076\373\356\057\147\062\226\065\134\333\270\313\002\320\241\111
\244\107\060\105\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\033\060\031

\006\003\125\004\003\023\022\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\202\002\005\306\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\117\255\240\054\114\372\300\362\157\367\146\125\253\043\064
\356\347\051\332\303\133\266\260\203\331\320\320\342\041\373\363
\140\247\073\135\140\123\047\242\233\366\010\042\052\347\277\240
\162\345\234\044\152\061\261\220\172\047\333\204\021\211\047\246
\167\132\070\327\277\254\206\374\356\135\203\274\006\306\321\167
\153\017\155\044\057\113\172\154\247\007\226\312\343\204\237\255
\210\213\035\253\026\215\133\146\027\331\026\364\213\200\322\335
\370\262\166\303\374\070\023\252\014\336\102\151\053\156\363\074
\353\200\047\333\365\246\104\015\237\132\125\131\013\325\015\122
\110\305\256\237\362\057\200\305\352\062\120\065\022\227\056\301
\341\377\361\043\210\121\070\237\362\146\126\166\347\017\121\227
\245\122\014\115\111\121\225\066\075\277\242\113\014\020\035\206
\231\114\252\363\162\021\223\344\352\366\233\332\250\135\247\115
\267\236\002\256\163\000\310\332\043\003\350\371\352\031\164\142
\000\224\313\042\040\276\224\247\131\265\202\152\276\231\171\172
\251\362\112\044\122\367\164\375\272\116\346\250\035\002\156\261
\015\200\104\301\256\323\043\067\137\273\205\174\053\222\056\350
\176\245\213\335\231\341\277\047\157\055\135\252\173\207\376\012
\335\113\374\216\365\046\344\156\160\102\156\063\354\061\236\173
\223\301\344\311\151\032\075\300\153\116\042\155\356\253\130\115
\306\320\101\301\053\352\117\022\207\136\353\105\330\154\365\230
\002\323\240\330\125\212\006\231\031\242\240\167\321\060\236\254
\314\165\356\203\365\260\142\071\317\154\127\342\114\322\221\013
\016\165\050\033\232\277\375\032\103\361\312\167\373\073\217\141
\270\151\050\026\102\004\136\160\052\034\041\330\217\341\275\043
\133\055\164\100\222\331\143\031\015\163\335\151\274\142\107\274
\340\164\053\262\353\175\276\101\033\265\300\106\305\241\042\313
\137\116\301\050\222\336\030\272\325\052\050\273\021\213\027\223
\230\231\140\224\134\043\317\132\047\227\136\013\005\006\223\067
\036\073\151\066\353\251\236\141\035\217\062\332\216\014\326\164
\076\173\011\044\332\001\167\107\304\073\315\064\214\231\365\312
\341\045\141\063\262\131\033\342\156\327\067\127\266\015\251\022
\332

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 3"
Issuer: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Serial Number: 1478 (0x5c6)
Subject: CN=QuoVadis Root CA 3,O=QuoVadis Limited,C=BM
Not Valid Before: Fri Nov 24 19:11:23 2006
Not Valid After : Mon Nov 24 19:06:44 2031
Fingerprint (SHA-256):

```
18:F1:FC:7F:20:5D:F8:AD:DD:EB:7F:E0:07:DD:57:E3:AF:37:5A:9C:4D:8D:73:54:6B:F4:F1:FE:D1:E1:8D:35
# Fingerprint (SHA1): 1F:49:14:F7:D8:74:95:1D:DD:AE:02:C0:BE:FD:3A:2D:82:75:51:85
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\111\024\367\330\164\225\035\335\256\002\300\276\375\072\055
\202\165\121\205
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\061\205\074\142\224\227\143\271\252\375\211\116\257\157\340\317
END
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\033\060\031\006\003
\125\004\003\023\022\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\005\306
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication Root CA"
#
# Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Serial Number: 0 (0x0)
# Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP
# Not Valid Before: Tue Sep 30 04:20:49 2003
# Not Valid After : Sat Sep 30 04:20:49 2023
# Fingerprint (SHA-256):
E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C
# Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
```

\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\132\060\202\002\102\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061\030
\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040\124
\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125\004
\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155\155
\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103\101
\061\060\036\027\015\060\063\060\071\063\060\060\064\062\060\064
\071\132\027\015\062\063\060\071\063\060\060\064\062\060\064\071
\132\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120
\061\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115
\040\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003
\125\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164
\103\101\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\263\263\376\177\323\155\261\357\026\174\127\245
\014\155\166\212\057\113\277\144\373\114\356\212\360\363\051\174
\365\377\356\052\340\351\351\272\133\144\042\232\232\157\054\072
\046\151\121\005\231\046\334\325\034\152\161\306\232\175\036\235
\335\174\154\306\214\147\147\112\076\370\161\260\031\047\251\011
\014\246\225\277\113\214\014\372\125\230\073\330\350\042\241\113
\161\070\171\254\227\222\151\263\211\176\352\041\150\006\230\024
\226\207\322\141\066\274\155\047\126\236\127\356\300\300\126\375
\062\317\244\331\216\302\043\327\215\250\363\330\045\254\227\344
\160\070\364\266\072\264\235\073\227\046\103\243\241\274\111\131
\162\114\043\060\207\001\130\366\116\276\034\150\126\146\257\315
\101\135\310\263\115\052\125\106\253\037\332\036\342\100\075\333
\315\175\271\222\200\234\067\335\014\226\144\235\334\042\367\144

\213\337\141\336\025\224\122\025\240\175\122\311\113\250\041\311
\306\261\355\313\303\225\140\321\017\360\253\160\370\337\313\115
\176\354\326\372\253\331\275\177\124\362\245\351\171\372\331\326
\166\044\050\163\002\003\001\000\001\243\077\060\075\060\035\006
\003\125\035\016\004\026\004\024\240\163\111\231\150\334\205\133
\145\343\233\050\057\127\237\275\063\274\007\110\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\001\001\000\150\100
\251\250\273\344\117\135\171\263\005\265\027\263\140\023\353\306
\222\135\340\321\323\152\376\373\276\233\155\277\307\005\155\131
\040\304\034\360\267\332\204\130\002\143\372\110\026\357\117\245
\013\367\112\230\362\077\236\033\255\107\153\143\316\010\107\353
\122\077\170\234\257\115\256\370\325\117\317\232\230\052\020\101
\071\122\304\335\331\233\016\357\223\001\256\262\056\312\150\102
\044\102\154\260\263\072\076\315\351\332\110\304\025\313\351\371
\007\017\222\120\111\212\335\061\227\137\311\351\067\252\073\131
\145\227\224\062\311\263\237\076\072\142\130\305\111\255\142\016
\161\245\062\252\057\306\211\166\103\100\023\023\147\075\242\124
\045\020\313\361\072\362\331\372\333\111\126\273\246\376\247\101
\065\303\340\210\141\311\210\307\337\066\020\042\230\131\352\260
\112\373\126\026\163\156\254\115\367\042\241\117\255\035\172\055
\105\047\345\060\301\136\362\332\023\313\045\102\121\225\107\003
\214\154\041\314\164\102\355\123\377\063\213\217\017\127\001\026
\057\317\246\356\311\160\042\024\275\375\276\154\013\003

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication Root CA"

Issuer: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

Serial Number: 0 (0x0)

Subject: OU=Security Communication RootCA1,O=SECOM Trust.net,C=JP

Not Valid Before: Tue Sep 30 04:20:49 2003

Not Valid After : Sat Sep 30 04:20:49 2023

Fingerprint (SHA-256):

E7:5E:72:ED:9F:56:0E:EC:6E:B4:80:00:73:A4:3F:C3:AD:19:19:5A:39:22:82:01:78:95:97:4A:99:02:6B:6C

Fingerprint (SHA1): 36:B1:2B:49:F9:81:9E:D7:4C:9E:BC:38:0F:C6:56:8F:5D:AC:B2:F7

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Security Communication Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\066\261\053\111\371\201\236\327\114\236\274\070\017\306\126\217
\135\254\262\367

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\361\274\143\152\124\340\265\047\365\315\347\032\343\115\156\112
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\030\060\026\006\003\125\004\012\023\017\123\105\103\117\115\040
\124\162\165\163\164\056\156\145\164\061\047\060\045\006\003\125
\004\013\023\036\123\145\143\165\162\151\164\171\040\103\157\155
\155\165\156\151\143\141\164\151\157\156\040\122\157\157\164\103
\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Camerfirma Chambers of Commerce Root"
#
# Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Serial Number: 0 (0x0)
# Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU
# Not Valid Before: Tue Sep 30 16:13:43 2003
# Not Valid After : Wed Sep 30 16:13:44 2037
# Fingerprint (SHA-256):
0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3
# Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\275\060\202\003\245\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061\047
\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155\145
\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101\070
\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004\013
\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150\141
\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060\040
\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163\040
\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157\164
\060\036\027\015\060\063\060\071\063\060\061\066\061\063\064\064\132
\132\027\015\063\067\060\071\063\060\061\066\061\063\064\064\132
\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164\060\202\001\040\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\015\000\060\202\001\010\002\202\001
\001\000\267\066\125\345\245\135\030\060\340\332\211\124\221\374
\310\307\122\370\057\120\331\357\261\165\163\145\107\175\033\133
\272\165\305\374\241\210\044\372\057\355\312\010\112\071\124\304
\121\172\265\332\140\352\070\074\201\262\313\361\273\331\221\043
\077\110\001\160\165\251\005\052\255\037\161\363\311\124\075\035
\006\152\100\076\263\014\205\356\134\033\171\302\142\304\270\066
\216\065\135\001\014\043\004\107\065\252\233\140\116\240\146\075
\313\046\012\234\100\241\364\135\230\277\161\253\245\000\150\052
\355\203\172\017\242\024\265\324\042\263\200\260\074\014\132\121

\151\055\130\030\217\355\231\236\361\256\342\225\346\366\107\250
\326\014\017\260\130\130\333\303\146\067\236\233\221\124\063\067
\322\224\034\152\110\311\311\362\245\332\245\014\043\367\043\016
\234\062\125\136\161\234\204\005\121\232\055\375\346\116\052\064
\132\336\312\100\067\147\014\124\041\125\167\332\012\014\314\227
\256\200\334\224\066\112\364\076\316\066\023\036\123\344\254\116
\072\005\354\333\256\162\234\070\213\320\071\073\211\012\076\167
\376\165\002\001\003\243\202\001\104\060\202\001\100\060\022\006
\003\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001
\014\060\074\006\003\125\035\037\004\065\060\063\060\061\240\057
\240\055\206\053\150\164\164\160\072\057\057\143\162\154\056\143
\150\141\155\142\145\162\163\151\147\156\056\157\162\147\057\143
\150\141\155\142\145\162\163\162\157\157\164\056\143\162\154\060
\035\006\003\125\035\016\004\026\004\024\343\224\365\261\115\351
\333\241\051\133\127\213\115\166\006\166\341\321\242\212\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\021
\006\011\140\206\110\001\206\370\102\001\001\004\004\003\002\000
\007\060\047\006\003\125\035\021\004\040\060\036\201\034\143\150
\141\155\142\145\162\163\162\157\157\164\100\143\150\141\155\142
\145\162\163\151\147\156\056\157\162\147\060\047\006\003\125\035
\022\004\040\060\036\201\034\143\150\141\155\142\145\162\163\162
\157\157\164\100\143\150\141\155\142\145\162\163\151\147\156\056
\157\162\147\060\130\006\003\125\035\040\004\121\060\117\060\115
\006\013\053\006\001\004\001\201\207\056\012\003\001\060\076\060
\074\006\010\053\006\001\005\005\007\002\001\026\060\150\164\164
\160\072\057\057\143\160\163\056\143\150\141\155\142\145\162\163
\151\147\156\056\157\162\147\057\143\160\163\057\143\150\141\155
\142\145\162\163\162\157\157\164\056\150\164\155\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\014\101\227\302\032\206\300\042\174\237\373\220\363\032\321
\003\261\357\023\371\041\137\004\234\332\311\245\215\047\154\226
\207\221\276\101\220\001\162\223\347\036\175\137\366\211\306\135
\247\100\011\075\254\111\105\105\334\056\215\060\150\262\011\272
\373\303\057\314\272\013\337\077\167\173\106\175\072\022\044\216
\226\217\074\005\012\157\322\224\050\035\155\014\300\056\210\042
\325\330\317\035\023\307\360\110\327\327\005\247\317\307\107\236
\073\074\064\310\200\117\324\024\273\374\015\120\367\372\263\354
\102\137\251\335\155\310\364\165\317\173\301\162\046\261\001\034
\134\054\375\172\116\264\001\305\005\127\271\347\074\252\005\331
\210\351\007\106\101\316\357\101\201\256\130\337\203\242\256\312
\327\167\037\347\000\074\235\157\216\344\062\011\035\115\170\064
\170\064\074\224\233\046\355\117\161\306\031\172\275\040\042\110
\132\376\113\175\003\267\347\130\276\306\062\116\164\036\150\335
\250\150\133\263\076\356\142\175\331\200\350\012\165\172\267\356
\264\145\232\041\220\340\252\320\230\274\070\265\163\074\213\370
\334

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

For Email Distrust After: Mon Mar 01 00:00:00 2021

CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL

\062\061\060\063\060\061\060\060\060\060\060\060\132

END

Trust for "Camerfirma Chambers of Commerce Root"

Issuer: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Serial Number: 0 (0x0)

Subject: CN=Chambers of Commerce Root,OU=http://www.chambersign.org,O=AC Camerfirma SA CIF
A82743287,C=EU

Not Valid Before: Tue Sep 30 16:13:43 2003

Not Valid After : Wed Sep 30 16:13:44 2037

Fingerprint (SHA-256):

0C:25:8A:12:A5:67:4A:EF:25:F2:8B:A7:DC:FA:EC:EE:A3:48:E5:41:E6:F5:CC:4E:E6:3B:71:B3:61:60:6A:C3

Fingerprint (SHA1): 6E:3A:55:A4:19:0C:19:5C:93:84:3C:C0:DB:72:2E:31:30:61:F0:B1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Camerfirma Chambers of Commerce Root"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\156\072\125\244\031\014\031\134\223\204\074\300\333\162\056\061
\060\141\360\261

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\260\001\356\024\331\257\051\030\224\166\216\361\151\063\052\204

END

CKA_ISSUER MULTILINE_OCTAL

\060\177\061\013\060\011\006\003\125\004\006\023\002\105\125\061
\047\060\045\006\003\125\004\012\023\036\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\101\040\103\111\106\040\101
\070\062\067\064\063\062\070\067\061\043\060\041\006\003\125\004
\013\023\032\150\164\164\160\072\057\057\167\167\167\056\143\150
\141\155\142\145\162\163\151\147\156\056\157\162\147\061\042\060
\040\006\003\125\004\003\023\031\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```

#
# Certificate "XRamp Global CA Root"
#
# Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad
# Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US
# Not Valid Before: Mon Nov 01 17:14:04 2004
# Not Valid After : Mon Jan 01 05:37:19 2035
# Fingerprint (SHA-256):
CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2
# Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "XRamp Global CA Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\060\060\202\003\030\240\003\002\001\002\002\020\120

```

\224\154\354\030\352\325\234\115\325\227\357\165\217\240\255\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\202\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036
\060\034\006\003\125\004\013\023\025\167\167\167\056\170\162\141
\155\160\163\145\143\165\162\151\164\171\056\143\157\155\061\044
\060\042\006\003\125\004\012\023\033\130\122\141\155\160\040\123
\145\143\165\162\151\164\171\040\123\145\162\166\151\143\145\163
\040\111\156\143\061\055\060\053\006\003\125\004\003\023\044\130
\122\141\155\160\040\107\154\157\142\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\064\061\061\060\061\061\067\061
\064\060\064\132\027\015\063\065\060\061\060\061\060\065\063\067
\061\071\132\060\201\202\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\036\060\034\006\003\125\004\013\023\025\167\167
\167\056\170\162\141\155\160\163\145\143\165\162\151\164\171\056
\143\157\155\061\044\060\042\006\003\125\004\012\023\033\130\122
\141\155\160\040\123\145\143\165\162\151\164\171\040\123\145\162
\166\151\143\145\163\040\111\156\143\061\055\060\053\006\003\125
\004\003\023\044\130\122\141\155\160\040\107\154\157\142\141\154
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\230\044\036\275\025\264\272
\337\307\214\245\047\266\070\013\151\363\266\116\250\054\056\041
\035\134\104\337\041\135\176\043\164\376\136\176\264\112\267\246
\255\037\256\340\006\026\342\233\133\331\147\164\153\135\200\217
\051\235\206\033\331\234\015\230\155\166\020\050\130\344\145\260
\177\112\230\171\237\340\303\061\176\200\053\265\214\300\100\073
\021\206\320\313\242\206\066\140\244\325\060\202\155\331\156\320
\017\022\004\063\227\137\117\141\132\360\344\371\221\253\347\035
\073\274\350\317\364\153\055\064\174\342\110\141\034\216\363\141
\104\314\157\240\112\251\224\260\115\332\347\251\064\172\162\070
\250\101\314\074\224\021\175\353\310\246\214\267\206\313\312\063
\073\331\075\067\213\373\172\076\206\054\347\163\327\012\127\254
\144\233\031\353\364\017\004\010\212\254\003\027\031\144\364\132
\045\042\215\064\054\262\366\150\035\022\155\323\212\036\024\332
\304\217\246\342\043\205\325\172\015\275\152\340\351\354\354\027
\273\102\033\147\252\045\355\105\203\041\374\301\311\174\325\142
\076\372\362\305\055\323\375\324\145\002\003\001\000\001\243\201
\237\060\201\234\060\023\006\011\053\006\001\004\001\202\067\024
\002\004\006\036\004\000\103\000\101\060\013\006\003\125\035\017
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\306\117\242\075\006\143\204\011\234\316\142\344\004\254
\215\134\265\351\266\033\060\066\006\003\125\035\037\004\057\060
\055\060\053\240\051\240\047\206\045\150\164\164\160\072\057\057
\143\162\154\056\170\162\141\155\160\163\145\143\165\162\151\164
\171\056\143\157\155\057\130\107\103\101\056\143\162\154\060\020

\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\221\025\071\003\001\033\147\373\112\034\371\012
\140\133\241\332\115\227\142\371\044\123\047\327\202\144\116\220
\056\303\111\033\053\232\334\374\250\170\147\065\361\035\360\021
\275\267\110\343\020\366\015\337\077\322\311\266\252\125\244\110
\272\002\333\336\131\056\025\133\073\235\026\175\107\327\067\352
\137\115\166\022\066\273\037\327\241\201\004\106\040\243\054\155
\251\236\001\176\077\051\316\000\223\337\375\311\222\163\211\211
\144\236\347\053\344\034\221\054\322\271\316\175\316\157\061\231
\323\346\276\322\036\220\360\011\024\171\134\043\253\115\322\332
\041\037\115\231\171\235\341\317\047\237\020\233\034\210\015\260
\212\144\101\061\270\016\154\220\044\244\233\134\161\217\272\273
\176\034\033\333\152\200\017\041\274\351\333\246\267\100\364\262
\213\251\261\344\357\232\032\320\075\151\231\356\250\050\243\341
\074\263\360\262\021\234\317\174\100\346\335\347\103\175\242\330
\072\265\251\215\362\064\231\304\324\020\341\006\375\011\204\020
\073\356\304\114\364\354\047\174\102\302\164\174\202\212\011\311
\264\003\045\274

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "XRamp Global CA Root"

Issuer: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US

Serial Number:50:94:6c:ec:18:ea:d5:9c:4d:d5:97:ef:75:8f:a0:ad

Subject: CN=XRamp Global Certification Authority,O=XRamp Security Services
Inc,OU=www.xrampsecurity.com,C=US

Not Valid Before: Mon Nov 01 17:14:04 2004

Not Valid After : Mon Jan 01 05:37:19 2035

Fingerprint (SHA-256):

CE:CD:DC:90:50:99:D8:DA:DF:C5:B1:D2:09:B7:37:CB:E2:C1:8C:FB:2C:10:C0:FF:0B:CF:0D:32:86:FC:1A:A2

Fingerprint (SHA1): B8:01:86:D1:EB:9C:86:A5:41:04:CF:30:54:F3:4C:52:B7:E5:58:C6

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "XRamp Global CA Root"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\270\001\206\321\353\234\206\245\101\004\317\060\124\363\114\122
\267\345\130\306

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\241\013\104\263\312\020\330\000\156\235\017\330\017\222\012\321

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\036\060\034\006\003\125\004\013\023\025\167\167\167\056\170
\162\141\155\160\163\145\143\165\162\151\164\171\056\143\157\155
\061\044\060\042\006\003\125\004\012\023\033\130\122\141\155\160
\040\123\145\143\165\162\151\164\171\040\123\145\162\166\151\143
\145\163\040\111\156\143\061\055\060\053\006\003\125\004\003\023
\044\130\122\141\155\160\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\120\224\154\354\030\352\325\234\115\325\227\357\165\217
\240\255
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Go Daddy Class 2 CA"

#

Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Not Valid Before: Tue Jun 29 17:06:20 2004

Not Valid After : Thu Jun 29 17:06:20 2034

Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Go Daddy Class 2 CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157
\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040
\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\000\060\202\002\350\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061\041
\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157\040
\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156\143
\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040\104
\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\036\027\015\060\064\060\066\062\071\061\067
\060\066\062\060\132\027\015\063\064\060\066\062\071\061\067\060
\066\062\060\132\060\143\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\041\060\037\006\003\125\004\012\023\030\124\150
\145\040\107\157\040\104\141\144\144\171\040\107\162\157\165\160
\054\040\111\156\143\056\061\061\060\057\006\003\125\004\013\023
\050\107\157\040\104\141\144\144\171\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\202\001\040\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\015
\000\060\202\001\010\002\202\001\001\000\336\235\327\352\127\030
\111\241\133\353\327\137\110\206\352\276\335\377\344\357\147\034
\364\145\150\263\127\161\240\136\167\273\355\233\111\351\160\200
\075\126\030\143\010\157\332\362\314\320\077\177\002\124\042\124
\020\330\262\201\324\300\165\075\113\177\307\167\303\076\170\253
\032\003\265\040\153\057\152\053\261\305\210\176\304\273\036\260
\301\330\105\047\157\252\067\130\367\207\046\327\330\055\366\251
\027\267\037\162\066\116\246\027\077\145\230\222\333\052\156\135
\242\376\210\340\013\336\177\345\215\025\341\353\313\072\325\342
\022\242\023\055\330\216\257\137\022\075\240\010\005\010\266\134
\245\145\070\004\105\231\036\243\140\140\164\305\101\245\162\142
\033\142\305\037\157\137\032\102\276\002\121\145\250\256\043\030
\152\374\170\003\251\115\177\200\303\372\253\132\374\241\100\244
\312\031\026\376\262\310\357\136\163\015\356\167\275\232\366\171
\230\274\261\007\147\242\025\015\335\240\130\306\104\173\012\076
\142\050\137\272\101\007\123\130\317\021\176\070\164\305\370\377
\265\151\220\217\204\164\352\227\033\257\002\001\003\243\201\300
\060\201\275\060\035\006\003\125\035\016\004\026\004\024\322\304
\260\322\221\324\114\021\161\263\141\313\075\241\376\335\250\152

\324\343\060\201\215\006\003\125\035\043\004\201\205\060\201\202
\200\024\322\304\260\322\221\324\114\021\161\263\141\313\075\241
\376\335\250\152\324\343\241\147\244\145\060\143\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\041\060\037\006\003\125
\004\012\023\030\124\150\145\040\107\157\040\104\141\144\144\171
\040\107\162\157\165\160\054\040\111\156\143\056\061\061\060\057
\006\003\125\004\013\023\050\107\157\040\104\141\144\144\171\040
\103\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202
\001\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\062\113\363\262\312\076\221\374\022\306\241\007
\214\216\167\240\063\006\024\134\220\036\030\367\010\246\075\012
\031\371\207\200\021\156\151\344\226\027\060\377\064\221\143\162
\070\356\314\034\001\243\035\224\050\244\061\366\172\304\124\327
\366\345\061\130\003\242\314\316\142\333\224\105\163\265\277\105
\311\044\265\325\202\002\255\043\171\151\215\270\266\115\316\317
\114\312\063\043\350\034\210\252\235\213\101\156\026\311\040\345
\211\236\315\073\332\160\367\176\231\046\040\024\124\045\253\156
\163\205\346\233\041\235\012\154\202\016\250\370\302\014\372\020
\036\154\226\357\207\015\304\017\141\213\255\356\203\053\225\370
\216\222\204\162\071\353\040\352\203\355\203\315\227\156\010\274
\353\116\046\266\163\053\344\323\366\114\376\046\161\342\141\021
\164\112\377\127\032\207\017\165\110\056\317\121\151\027\240\002
\022\141\225\325\321\100\262\020\114\356\304\254\020\103\246\245
\236\012\325\225\142\232\015\317\210\202\305\062\014\344\053\237
\105\346\015\237\050\234\261\271\052\132\127\255\067\017\257\035
\177\333\275\237

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Class 2 CA"

Issuer: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Go Daddy Class 2 Certification Authority,O="The Go Daddy Group, Inc.",C=US

Not Valid Before: Tue Jun 29 17:06:20 2004

Not Valid After : Thu Jun 29 17:06:20 2034

Fingerprint (SHA-256):

C3:84:6B:F2:4B:9E:93:CA:64:27:4C:0E:C6:7C:1E:CC:5E:02:4F:FC:AC:D2:D7:40:19:35:0E:81:FE:54:6A:E4

Fingerprint (SHA1): 27:96:BA:E6:3F:18:01:E2:77:26:1B:A0:D7:77:70:02:8F:20:EE:E4

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Go Daddy Class 2 CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\047\226\272\346\077\030\001\342\167\046\033\240\327\167\160\002

\217\040\356\344

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\221\336\006\045\253\332\375\062\027\014\273\045\027\052\204\147

END

CKA_ISSUER MULTILINE_OCTAL

\060\143\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\041\060\037\006\003\125\004\012\023\030\124\150\145\040\107\157

\040\104\141\144\144\171\040\107\162\157\165\160\054\040\111\156

\143\056\061\061\060\057\006\003\125\004\013\023\050\107\157\040

\104\141\144\144\171\040\103\154\141\163\163\040\062\040\103\145

\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150

\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Starfield Class 2 CA"

#

Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Not Valid Before: Tue Jun 29 17:39:16 2004

Not Valid After : Thu Jun 29 17:39:16 2034

Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Class 2 CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151

\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163

\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023

\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163

\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156

\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\017\060\202\002\367\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061\045
\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151\145
\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163\054
\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023\051
\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163\040
\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\060\064\060
\066\062\071\061\067\063\071\061\066\132\027\015\063\064\060\066
\062\071\061\067\063\071\061\066\132\060\150\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\013\023\051\123\164\141\162\146\151
\145\154\144\040\103\154\141\163\163\040\062\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\202\001\040\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\015\000\060\202\001\010\002
\202\001\001\000\267\062\310\376\351\161\246\004\205\255\014\021
\144\337\316\115\357\310\003\030\207\077\241\253\373\074\246\237
\360\303\241\332\324\330\156\053\123\220\373\044\244\076\204\360
\236\350\137\354\345\047\104\365\050\246\077\173\336\340\052\360
\310\257\123\057\236\312\005\001\223\036\217\146\034\071\247\115
\372\132\266\163\004\045\146\353\167\177\347\131\306\112\231\045
\024\124\353\046\307\363\177\031\325\060\160\217\257\260\106\052
\377\255\353\051\355\327\237\252\004\207\243\324\371\211\245\064
\137\333\103\221\202\066\331\146\074\261\270\271\202\375\234\072
\076\020\310\073\357\006\145\146\172\233\031\030\075\377\161\121
\074\060\056\137\276\075\167\163\262\135\006\154\303\043\126\232
\053\205\046\222\034\247\002\263\344\077\015\257\010\171\202\270
\066\075\352\234\323\065\263\274\151\312\365\314\235\350\375\144
\215\027\200\063\156\136\112\135\231\311\036\207\264\235\032\300

\325\156\023\065\043\136\337\233\137\075\357\326\367\166\302\352
\076\273\170\015\034\102\147\153\004\330\370\326\332\157\213\362
\104\240\001\253\002\001\003\243\201\305\060\201\302\060\035\006
\003\125\035\016\004\026\004\024\277\137\267\321\316\335\037\206
\364\133\125\254\334\327\020\302\016\251\210\347\060\201\222\006
\003\125\035\043\004\201\212\060\201\207\200\024\277\137\267\321
\316\335\037\206\364\133\125\254\334\327\020\302\016\251\210\347
\241\154\244\152\060\150\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\045\060\043\006\003\125\004\012\023\034\123\164
\141\162\146\151\145\154\144\040\124\145\143\150\156\157\154\157
\147\151\145\163\054\040\111\156\143\056\061\062\060\060\006\003
\125\004\013\023\051\123\164\141\162\146\151\145\154\144\040\103
\154\141\163\163\040\062\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\202\001
\000\060\014\006\003\125\035\023\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\005\235\077\210\235\321\311\032\125\241\254\151\363
\363\131\332\233\001\207\032\117\127\251\241\171\011\052\333\367
\057\262\036\314\307\136\152\330\203\207\241\227\357\111\065\076
\167\006\101\130\142\277\216\130\270\012\147\077\354\263\335\041
\146\037\311\124\372\162\314\075\114\100\330\201\257\167\236\203
\172\273\242\307\365\064\027\216\331\021\100\364\374\054\052\115
\025\177\247\142\135\056\045\323\000\013\040\032\035\150\371\027
\270\364\275\213\355\050\131\335\115\026\213\027\203\310\262\145
\307\055\172\245\252\274\123\206\155\335\127\244\312\370\040\101
\013\150\360\364\373\164\276\126\135\172\171\365\371\035\205\343
\055\225\276\365\161\220\103\314\215\037\232\000\012\207\051\351
\125\042\130\000\043\352\343\022\103\051\133\107\010\335\214\101
\152\145\006\250\345\041\252\101\264\225\041\225\271\175\321\064
\253\023\326\255\274\334\342\075\071\315\275\076\165\160\241\030
\131\003\311\042\264\217\234\325\136\052\327\245\266\324\012\155
\370\267\100\021\106\232\037\171\016\142\277\017\227\354\340\057
\037\027\224

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Class 2 CA"

Issuer: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Serial Number: 0 (0x0)

Subject: OU=Starfield Class 2 Certification Authority,O="Starfield Technologies, Inc.",C=US

Not Valid Before: Tue Jun 29 17:39:16 2004

Not Valid After : Thu Jun 29 17:39:16 2034

Fingerprint (SHA-256):

14:65:FA:20:53:97:B8:76:FA:A6:F0:A9:95:8E:55:90:E4:0F:CC:7F:AA:4F:B7:C2:C8:67:75:21:FB:5F:B6:58

Fingerprint (SHA1): AD:7E:1C:28:B0:64:EF:8F:60:03:40:20:14:C3:D0:E3:37:0E:B5:8A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Class 2 CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\255\176\034\050\260\144\357\217\140\003\100\040\024\303\320\343
\067\016\265\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\062\112\113\273\310\143\151\233\276\164\232\306\335\035\106\044
END
CKA_ISSUER MULTILINE_OCTAL
\060\150\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\045\060\043\006\003\125\004\012\023\034\123\164\141\162\146\151
\145\154\144\040\124\145\143\150\156\157\154\157\147\151\145\163
\054\040\111\156\143\056\061\062\060\060\006\003\125\004\013\023
\051\123\164\141\162\146\151\145\154\144\040\103\154\141\163\163
\040\062\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root CA"
#
# Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39
# Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C
# Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

```

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\267\060\202\002\237\240\003\002\001\002\002\020\014
\347\340\345\027\330\106\376\217\345\140\374\033\360\060\071\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\103\101\060\036\027\015\060\066\061\061\061\060\060
\060\060\060\060\060\132\027\015\063\061\061\061\061\060\060\060
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\255\016\025
\316\344\103\200\134\261\207\363\267\140\371\161\022\245\256\334
\046\224\210\252\364\316\365\040\071\050\130\140\014\370\200\332
\251\025\225\062\141\074\265\261\050\204\212\212\334\237\012\014
\203\027\172\217\220\254\212\347\171\123\134\061\204\052\366\017
\230\062\066\166\314\336\335\074\250\242\357\152\373\041\362\122
\141\337\237\040\327\037\342\261\331\376\030\144\322\022\133\137
\371\130\030\065\274\107\315\241\066\371\153\177\324\260\070\076

\301\033\303\214\063\331\330\057\030\376\050\017\263\247\203\326
\303\156\104\300\141\065\226\026\376\131\234\213\166\155\327\361
\242\113\015\053\377\013\162\332\236\140\320\216\220\065\306\170
\125\207\040\241\317\345\155\012\310\111\174\061\230\063\154\042
\351\207\320\062\132\242\272\023\202\021\355\071\027\235\231\072
\162\241\346\372\244\331\325\027\061\165\256\205\175\042\256\077
\001\106\206\366\050\171\310\261\332\344\127\027\304\176\034\016
\260\264\222\246\126\263\275\262\227\355\252\247\360\267\305\250
\077\225\026\320\377\241\226\353\010\137\030\167\117\002\003\001
\000\001\243\143\060\141\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\105\353\242\257\364\222\313\202\061\055\121\213\247\247
\041\235\363\155\310\017\060\037\006\003\125\035\043\004\030\060
\026\200\024\105\353\242\257\364\222\313\202\061\055\121\213\247
\247\041\235\363\155\310\017\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\003\202\001\001\000\242\016\274\337\342
\355\360\343\162\163\172\144\224\277\367\162\146\330\062\344\102
\165\142\256\207\353\362\325\331\336\126\263\237\314\316\024\050
\271\015\227\140\134\022\114\130\344\323\075\203\111\105\130\227
\065\151\032\250\107\352\126\306\171\253\022\330\147\201\204\337
\177\011\074\224\346\270\046\054\040\275\075\263\050\211\367\137
\377\042\342\227\204\037\351\145\357\207\340\337\301\147\111\263
\135\353\262\011\052\353\046\355\170\276\175\077\053\363\267\046
\065\155\137\211\001\266\111\133\237\001\005\233\253\075\045\301
\314\266\177\302\361\157\206\306\372\144\150\353\201\055\224\353
\102\267\372\214\036\335\142\361\276\120\147\267\154\275\363\361
\037\153\014\066\007\026\177\067\174\251\133\155\172\361\022\106
\140\203\327\047\004\276\113\316\227\276\303\147\052\150\021\337
\200\347\014\063\146\277\023\015\024\156\363\177\037\143\020\036
\372\215\033\045\155\154\217\245\267\141\001\261\322\243\046\241
\020\161\235\255\342\303\371\303\231\121\267\053\007\010\316\056
\346\120\262\247\372\012\105\057\242\360\362

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root CA"

Issuer: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0c:e7:e0:e5:17:d8:46:fe:8f:e5:60:fc:1b:f0:30:39

Subject: CN=DigiCert Assured ID Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

3E:90:99:B5:01:5E:8F:48:6C:00:BC:EA:9D:11:1E:E7:21:FA:BA:35:5A:89:BC:F1:DF:69:56:1E:3D:C6:32:5C

Fingerprint (SHA1): 05:63:B8:63:0D:62:D7:5A:BB:C8:AB:1E:4B:DF:B5:A8:99:B2:4D:43

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\005\143\270\143\015\142\327\132\273\310\253\036\113\337\265\250
\231\262\115\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\207\316\013\173\052\016\111\000\341\130\161\233\067\250\223\162
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\347\340\345\027\330\106\376\217\345\140\374\033\360
\060\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root CA"
#
# Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a
# Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61
# Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\257\060\202\002\227\240\003\002\001\002\002\020\010
\073\340\126\220\102\106\261\241\165\152\311\131\221\307\112\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\060\036\027\015\060\066\061\061\061\060\060\060\060\060\060
\060\132\027\015\063\061\061\061\061\060\060\060\060\060\060\060
\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\103\101\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\342\073\341\021\162\336\250\244\323\243\127
\252\120\242\217\013\167\220\311\242\245\356\022\316\226\133\001
\011\040\314\001\223\247\116\060\267\123\367\103\304\151\000\127
\235\342\215\042\335\207\006\100\000\201\011\316\316\033\203\277
\337\315\073\161\106\342\326\146\307\005\263\166\047\026\217\173
\236\036\225\175\356\267\110\243\010\332\326\257\172\014\071\006
\145\177\112\135\037\274\027\370\253\276\356\050\327\164\177\172

\170\231\131\205\150\156\134\043\062\113\277\116\300\350\132\155
\343\160\277\167\020\277\374\001\366\205\331\250\104\020\130\062
\251\165\030\325\321\242\276\107\342\047\152\364\232\063\370\111
\010\140\213\324\137\264\072\204\277\241\252\112\114\175\076\317
\117\137\154\166\136\240\113\067\221\236\334\042\346\155\316\024
\032\216\152\313\376\315\263\024\144\027\307\133\051\236\062\277
\362\356\372\323\013\102\324\253\267\101\062\332\014\324\357\370
\201\325\273\215\130\077\265\033\350\111\050\242\160\332\061\004
\335\367\262\026\362\114\012\116\007\250\355\112\075\136\265\177
\243\220\303\257\047\002\003\001\000\001\243\143\060\141\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\003\336\120\065\126\321
\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060\037
\006\003\125\035\043\004\030\060\026\200\024\003\336\120\065\126
\321\114\273\146\360\243\342\033\033\303\227\262\075\321\125\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003\202
\001\001\000\313\234\067\252\110\023\022\012\372\335\104\234\117
\122\260\364\337\256\004\365\171\171\010\243\044\030\374\113\053
\204\300\055\271\325\307\376\364\301\037\130\313\270\155\234\172
\164\347\230\051\253\021\265\343\160\240\241\315\114\210\231\223
\214\221\160\342\253\017\034\276\223\251\377\143\325\344\007\140
\323\243\277\235\133\011\361\325\216\343\123\364\216\143\372\077
\247\333\264\146\337\142\146\326\321\156\101\215\362\055\265\352
\167\112\237\235\130\342\053\131\300\100\043\355\055\050\202\105
\076\171\124\222\046\230\340\200\110\250\067\357\360\326\171\140
\026\336\254\350\016\315\156\254\104\027\070\057\111\332\341\105
\076\052\271\066\123\317\072\120\006\367\056\350\304\127\111\154
\141\041\030\325\004\255\170\074\054\072\200\153\247\353\257\025
\024\351\330\211\301\271\070\154\342\221\154\212\377\144\271\167
\045\127\060\300\033\044\243\341\334\351\337\107\174\265\264\044
\010\005\060\354\055\275\013\277\105\277\120\271\251\363\353\230
\001\022\255\310\210\306\230\064\137\215\012\074\306\351\325\225
\225\155\336

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root CA"

Issuer: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:08:3b:e0:56:90:42:46:b1:a1:75:6a:c9:59:91:c7:4a

Subject: CN=DigiCert Global Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

43:48:A0:E9:44:4C:78:CB:26:5E:05:8D:5E:89:44:B4:D8:4F:96:62:BD:26:DB:25:7F:89:34:A4:43:C7:01:61

Fingerprint (SHA1): A8:98:5D:3A:65:E5:E5:C4:B2:D7:D6:6D:40:C6:DD:2F:B1:9C:54:36

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\250\230\135\072\145\345\345\304\262\327\326\155\100\306\335\057
\261\234\124\066
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\171\344\251\204\015\175\072\226\327\300\117\342\103\114\211\056
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\073\340\126\220\102\106\261\241\165\152\311\131\221
\307\112
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert High Assurance EV Root CA"
#
# Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77
# Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Fri Nov 10 00:00:00 2006
# Not Valid After : Mon Nov 10 00:00:00 2031
# Fingerprint (SHA-256):
74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\305\060\202\002\255\240\003\002\001\002\002\020\002
\254\134\046\152\013\100\233\217\013\171\362\256\106\045\167\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\053\060\051\006\003\125\004\003\023\042\104\151\147\151\103\145
\162\164\040\110\151\147\150\040\101\163\163\165\162\141\156\143
\145\040\105\126\040\122\157\157\164\040\103\101\060\036\027\015
\060\066\061\061\061\060\060\060\060\060\060\060\060\132\027\015\063
\061\061\061\061\060\060\060\060\060\060\060\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006
\003\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111
\156\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167
\056\144\151\147\151\143\145\162\164\056\143\157\155\061\053\060
\051\006\003\125\004\003\023\042\104\151\147\151\103\145\162\164
\040\110\151\147\150\040\101\163\163\165\162\141\156\143\145\040
\105\126\040\122\157\157\164\040\103\101\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\306\314\345\163\346
\373\324\273\345\055\055\062\246\337\345\201\077\311\315\045\111
\266\161\052\303\325\224\064\147\242\012\034\260\137\151\246\100
\261\304\267\262\217\320\230\244\251\101\131\072\323\334\224\326
\074\333\164\070\244\112\314\115\045\202\367\112\245\123\022\070

\356\363\111\155\161\221\176\143\266\253\246\137\303\244\204\370
\117\142\121\276\370\305\354\333\070\222\343\006\345\010\221\014
\304\050\101\125\373\313\132\211\025\176\161\350\065\277\115\162
\011\075\276\072\070\120\133\167\061\033\215\263\307\044\105\232
\247\254\155\000\024\132\004\267\272\023\353\121\012\230\101\101
\042\116\145\141\207\201\101\120\246\171\134\211\336\031\112\127
\325\056\346\135\034\123\054\176\230\315\032\006\026\244\150\163
\320\064\004\023\134\241\161\323\132\174\125\333\136\144\341\067
\207\060\126\004\345\021\264\051\200\022\361\171\071\210\242\002
\021\174\047\146\267\210\267\170\362\312\012\250\070\253\012\144
\302\277\146\135\225\204\301\241\045\036\207\135\032\120\013\040
\022\314\101\273\156\013\121\070\270\113\313\002\003\001\000\001
\243\143\060\141\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002\357
\143\144\053\303\060\037\006\003\125\035\043\004\030\060\026\200
\024\261\076\303\151\003\370\277\107\001\324\230\046\032\010\002
\357\143\144\053\303\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\003\202\001\001\000\034\032\006\227\334\327\234
\237\074\210\146\006\010\127\041\333\041\107\370\052\147\252\277
\030\062\166\100\020\127\301\212\363\172\331\021\145\216\065\372
\236\374\105\265\236\331\114\061\113\270\221\350\103\054\216\263
\170\316\333\343\123\171\161\326\345\041\224\001\332\125\207\232
\044\144\366\212\146\314\336\234\067\315\250\064\261\151\233\043
\310\236\170\042\053\160\103\343\125\107\061\141\031\357\130\305
\205\057\116\060\366\240\061\026\043\310\347\342\145\026\063\313
\277\032\033\240\075\370\312\136\213\061\213\140\010\211\055\014
\006\134\122\267\304\371\012\230\321\025\137\237\022\276\174\066
\143\070\275\104\244\177\344\046\053\012\304\227\151\015\351\214
\342\300\020\127\270\310\166\022\221\125\362\110\151\330\274\052
\002\133\017\104\324\040\061\333\364\272\160\046\135\220\140\236
\274\113\027\011\057\264\313\036\103\150\311\007\047\301\322\134
\367\352\041\271\150\022\234\074\234\277\236\374\200\134\233\143
\315\354\107\252\045\047\147\240\067\363\000\202\175\124\327\251
\370\351\056\023\243\167\350\037\112

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert High Assurance EV Root CA"

Issuer: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:02:ac:5c:26:6a:0b:40:9b:8f:0b:79:f2:ae:46:25:77

Subject: CN=DigiCert High Assurance EV Root CA,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Fri Nov 10 00:00:00 2006

Not Valid After : Mon Nov 10 00:00:00 2031

Fingerprint (SHA-256):

```

74:31:E5:F4:C3:C1:CE:46:90:77:4F:0B:61:E0:54:40:88:3B:A9:A0:1E:D0:0B:A6:AB:D7:80:6E:D3:B1:18:CF
# Fingerprint (SHA1): 5F:B7:EE:06:33:E2:59:DB:AD:0C:4C:9A:E6:D3:8F:1A:61:C7:DC:25
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert High Assurance EV Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\267\356\006\063\342\131\333\255\014\114\232\346\323\217\032
\141\307\334\045
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\324\164\336\127\134\071\262\323\234\205\203\305\300\145\111\212
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\053\060\051\006\003\125\004\003\023\042\104\151\147\151
\103\145\162\164\040\110\151\147\150\040\101\163\163\165\162\141
\156\143\145\040\105\126\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\002\254\134\046\152\013\100\233\217\013\171\362\256\106
\045\167
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Gold CA - G2"
#
# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:30:35 2006
# Not Valid After : Sat Oct 25 08:30:35 2036
# Fingerprint (SHA-256):
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Gold CA - G2"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\273\100\034\103\365\136\117\260

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\272\060\202\003\242\240\003\002\001\002\002\011\000
\273\100\034\103\365\136\117\260\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\105\061\013\060\011\006\003\125
\004\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023
\014\123\167\151\163\163\123\151\147\156\040\101\107\061\037\060
\035\006\003\125\004\003\023\026\123\167\151\163\163\123\151\147
\156\040\107\157\154\144\040\103\101\040\055\040\107\062\060\036
\027\015\060\066\061\060\062\065\060\070\063\060\063\065\132\027
\015\063\066\061\060\062\065\060\070\063\060\063\065\132\060\105
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025\060
\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151\147
\156\040\101\107\061\037\060\035\006\003\125\004\003\023\026\123
\167\151\163\163\123\151\147\156\040\107\157\154\144\040\103\101
\040\055\040\107\062\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\257\344\356\176\213\044\016\022\156\251
\120\055\026\104\073\222\222\134\312\270\135\204\222\102\023\052
\274\145\127\202\100\076\127\044\315\120\213\045\052\267\157\374
\357\242\320\300\037\002\044\112\023\226\217\043\023\346\050\130
\000\243\107\307\006\247\204\043\053\273\275\226\053\177\125\314
\213\301\127\037\016\142\145\017\335\075\126\212\163\332\256\176
\155\272\201\034\176\102\214\040\065\331\103\115\204\372\204\333
\122\054\363\016\047\167\013\153\277\021\057\162\170\237\056\330
\076\346\030\067\132\052\162\371\332\142\220\222\225\312\037\234
\351\263\074\053\313\363\001\023\277\132\317\301\265\012\140\275
\335\265\231\144\123\270\240\226\263\157\342\046\167\221\214\340
\142\020\002\237\064\017\244\325\222\063\121\336\276\215\272\204
\172\140\074\152\333\237\053\354\336\336\001\077\156\115\345\120

\206\313\264\257\355\104\100\305\312\132\214\332\322\053\174\250
\356\276\246\345\012\252\016\245\337\005\122\267\125\307\042\135
\062\152\227\227\143\023\333\311\333\171\066\173\205\072\112\305
\122\211\371\044\347\235\167\251\202\377\125\034\245\161\151\053
\321\002\044\362\263\046\324\153\332\004\125\345\301\012\307\155
\060\067\220\052\344\236\024\063\136\026\027\125\305\133\265\313
\064\211\222\361\235\046\217\241\007\324\306\262\170\120\333\014
\014\013\174\013\214\101\327\271\351\335\214\210\367\243\115\262
\062\314\330\027\332\315\267\316\146\235\324\375\136\377\275\227
\076\051\165\347\176\247\142\130\257\045\064\245\101\307\075\274
\015\120\312\003\003\017\010\132\037\225\163\170\142\277\257\162
\024\151\016\245\345\003\016\170\216\046\050\102\360\007\013\142
\040\020\147\071\106\372\251\003\314\004\070\172\146\357\040\203
\265\214\112\126\216\221\000\374\216\134\202\336\210\240\303\342
\150\156\175\215\357\074\335\145\364\135\254\121\357\044\200\256
\252\126\227\157\371\255\175\332\141\077\230\167\074\245\221\266
\034\214\046\332\145\242\011\155\301\342\124\343\271\312\114\114
\200\217\167\173\140\232\036\337\266\362\110\036\016\272\116\124
\155\230\340\341\242\032\242\167\120\317\304\143\222\354\107\031
\235\353\346\153\316\301\002\003\001\000\001\243\201\254\060\201
\251\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\035\006\003\125\035\016\004\026\004\024\133\045\173
\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347\360
\356\060\037\006\003\125\035\043\004\030\060\026\200\024\133\045
\173\226\244\145\121\176\270\071\363\300\170\146\136\350\072\347
\360\356\060\106\006\003\125\035\040\004\077\060\075\060\073\006
\011\140\205\164\001\131\001\002\001\001\060\056\060\054\006\010
\053\006\001\005\005\007\002\001\026\040\150\164\164\160\072\057
\057\162\145\160\157\163\151\164\157\162\171\056\163\167\151\163
\163\163\151\147\156\056\143\157\155\057\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\047\272
\343\224\174\361\256\300\336\027\346\345\330\325\365\124\260\203
\364\273\315\136\005\173\117\237\165\146\257\074\350\126\176\374
\162\170\070\003\331\053\142\033\000\271\370\351\140\315\314\316
\121\212\307\120\061\156\341\112\176\030\057\151\131\266\075\144
\201\053\343\203\204\346\042\207\216\175\340\356\002\231\141\270
\036\364\270\053\210\022\026\204\302\061\223\070\226\061\246\271
\073\123\077\303\044\223\126\133\151\222\354\305\301\273\070\000
\343\354\027\251\270\334\307\174\001\203\237\062\107\272\122\042
\064\035\062\172\011\126\247\174\045\066\251\075\113\332\300\202
\157\012\273\022\310\207\113\047\021\371\036\055\307\223\077\236
\333\137\046\153\122\331\056\212\361\024\306\104\215\025\251\267
\277\275\336\246\032\356\256\055\373\110\167\027\376\273\354\257
\030\365\052\121\360\071\204\227\225\154\156\033\303\053\304\164
\140\171\045\260\012\047\337\337\136\322\071\317\105\175\102\113
\337\263\054\036\305\306\135\312\125\072\240\234\151\232\217\332
\357\262\260\074\237\207\154\022\053\145\160\025\122\061\032\044

```
\317\157\061\043\120\037\214\117\217\043\303\164\101\143\034\125
\250\024\335\076\340\121\120\317\361\033\060\126\016\222\260\202
\205\330\203\313\042\144\274\055\270\045\325\124\242\270\006\352
\255\222\244\044\240\301\206\265\112\023\152\107\317\056\013\126
\225\124\313\316\232\333\152\264\246\262\333\101\010\206\047\167
\367\152\240\102\154\013\070\316\327\165\120\062\222\302\337\053
\060\042\110\320\325\101\070\045\135\244\351\135\237\306\224\165
\320\105\375\060\227\103\217\220\253\012\307\206\163\140\112\151
\055\336\245\170\327\006\332\152\236\113\076\167\072\040\023\042
\001\320\277\150\236\143\140\153\065\115\013\155\272\241\075\300
\223\340\177\043\263\125\255\162\045\116\106\371\322\026\357\260
\144\301\001\236\351\312\240\152\230\016\317\330\140\362\057\111
\270\344\102\341\070\065\026\364\310\156\117\367\201\126\350\272
\243\276\043\257\256\375\157\003\340\002\073\060\166\372\033\155
\101\317\001\261\351\270\311\146\364\333\046\363\072\244\164\362
\111\044\133\311\260\320\127\301\372\076\172\341\227\311
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SwissSign Gold CA - G2"
```

```
# Issuer: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
```

```
# Serial Number:00:bb:40:1c:43:f5:5e:4f:b0
```

```
# Subject: CN=SwissSign Gold CA - G2,O=SwissSign AG,C=CH
```

```
# Not Valid Before: Wed Oct 25 08:30:35 2006
```

```
# Not Valid After : Sat Oct 25 08:30:35 2036
```

```
# Fingerprint (SHA-256):
```

```
62:DD:0B:E9:B9:F5:0A:16:3E:A0:F8:E7:5C:05:3B:1E:CA:57:EA:55:C8:68:8F:64:7C:68:81:F2:C8:35:7B:95
```

```
# Fingerprint (SHA1): D8:C5:38:8A:B7:30:1B:1B:6E:D4:7A:E6:45:25:3A:6F:9F:1A:27:61
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SwissSign Gold CA - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\305\070\212\267\060\033\033\156\324\172\346\105\045\072\157
\237\032\047\141
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\044\167\331\250\221\321\073\372\210\055\302\377\370\315\063\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\037\060\035\006\003\125\004\003\023
\026\123\167\151\163\163\123\151\147\156\040\107\157\154\144\040
\103\101\040\055\040\107\062
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\273\100\034\103\365\136\117\260
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SwissSign Silver CA - G2"
#
# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\275\060\202\003\245\240\003\002\001\002\002\010\117
\033\324\057\124\273\057\113\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\107\061\013\060\011\006\003\125\004

```

\006\023\002\103\110\061\025\060\023\006\003\125\004\012\023\014
\123\167\151\163\163\123\151\147\156\040\101\107\061\041\060\037
\006\003\125\004\003\023\030\123\167\151\163\163\123\151\147\156
\040\123\151\154\166\145\162\040\103\101\040\055\040\107\062\060
\036\027\015\060\066\061\060\062\065\060\070\063\062\064\066\132
\027\015\063\066\061\060\062\065\060\070\063\062\064\066\132\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061\025
\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123\151
\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023\030
\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145\162
\040\103\101\040\055\040\107\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\304\361\207\177\323\170\061
\367\070\311\370\303\231\103\274\307\367\274\067\347\116\161\272
\113\217\245\163\035\134\156\230\256\003\127\256\070\067\103\057
\027\075\037\310\316\150\020\301\170\256\031\003\053\020\372\054
\171\203\366\350\271\150\271\125\362\004\104\247\071\371\374\004
\213\036\361\242\115\047\371\141\173\272\267\345\242\023\266\353
\141\076\320\154\321\346\373\372\136\355\035\264\236\240\065\133
\241\222\313\360\111\222\376\205\012\005\076\346\331\013\342\117
\273\334\225\067\374\221\351\062\065\042\321\037\072\116\047\205
\235\260\025\224\062\332\141\015\107\115\140\102\256\222\107\350
\203\132\120\130\351\212\213\271\135\241\334\335\231\112\037\066
\147\273\110\344\203\266\067\353\110\072\257\017\147\217\027\007
\350\004\312\357\152\061\207\324\300\266\371\224\161\173\147\144
\270\266\221\112\102\173\145\056\060\152\014\365\220\356\225\346
\362\315\202\354\331\241\112\354\366\262\113\345\105\205\346\155
\170\223\004\056\234\202\155\066\251\304\061\144\037\206\203\013
\052\364\065\012\170\311\125\317\101\260\107\351\060\237\231\276
\141\250\006\204\271\050\172\137\070\331\033\251\070\260\203\177
\163\301\303\073\110\052\202\017\041\233\270\314\250\065\303\204
\033\203\263\076\276\244\225\151\001\072\211\000\170\004\331\311
\364\231\031\253\126\176\133\213\206\071\025\221\244\020\054\011
\062\200\140\263\223\300\052\266\030\013\235\176\215\111\362\020
\112\177\371\325\106\057\031\222\243\231\247\046\254\273\214\074
\346\016\274\107\007\334\163\121\361\160\144\057\010\371\264\107
\035\060\154\104\352\051\067\205\222\150\146\274\203\070\376\173
\071\056\323\120\360\037\373\136\140\266\251\246\372\047\101\361
\233\030\162\362\365\204\164\112\311\147\304\124\256\110\144\337
\214\321\156\260\035\341\007\217\010\036\231\234\161\351\114\330
\245\367\107\022\037\164\321\121\236\206\363\302\242\043\100\013
\163\333\113\246\347\163\006\214\301\240\351\301\131\254\106\372
\346\057\370\317\161\234\106\155\271\304\025\215\070\171\003\105
\110\357\304\135\327\010\356\207\071\042\206\262\015\017\130\103
\367\161\251\110\056\375\352\326\037\002\003\001\000\001\243\201
\254\060\201\251\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024

\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034\302
\230\372\206\130\060\037\006\003\125\035\043\004\030\060\026\200
\024\027\240\315\301\344\101\266\072\133\073\313\105\235\275\034
\302\230\372\206\130\060\106\006\003\125\035\040\004\077\060\075
\060\073\006\011\140\205\164\001\131\001\003\001\001\060\056\060
\054\006\010\053\006\001\005\005\007\002\001\026\040\150\164\164
\160\072\057\057\162\145\160\157\163\151\164\157\162\171\056\163
\167\151\163\163\163\151\147\156\056\143\157\155\057\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\002\001
\000\163\306\201\340\047\322\055\017\340\225\060\342\232\101\177
\120\054\137\137\142\141\251\206\152\151\030\014\164\111\326\135
\204\352\101\122\030\157\130\255\120\126\040\152\306\275\050\151
\130\221\334\221\021\065\251\072\035\274\032\245\140\236\330\037
\177\105\221\151\331\176\273\170\162\301\006\017\052\316\217\205
\160\141\254\240\315\013\270\071\051\126\204\062\116\206\273\075
\304\052\331\327\037\162\356\376\121\241\042\101\261\161\002\143
\032\202\260\142\253\136\127\022\037\337\313\335\165\240\300\135
\171\220\214\033\340\120\346\336\061\376\230\173\160\137\245\220
\330\255\370\002\266\157\323\140\335\100\113\042\305\075\255\072
\172\237\032\032\107\221\171\063\272\202\334\062\151\003\226\156
\037\113\360\161\376\343\147\162\240\261\277\134\213\344\372\231
\042\307\204\271\033\215\043\227\077\355\045\340\317\145\273\365
\141\004\357\335\036\262\132\101\042\132\241\237\135\054\350\133
\311\155\251\014\014\170\252\140\306\126\217\001\132\014\150\274
\151\031\171\304\037\176\227\005\277\305\351\044\121\136\324\325
\113\123\355\331\043\132\066\003\145\243\301\003\255\101\060\363
\106\033\205\220\257\145\265\325\261\344\026\133\170\165\035\227
\172\155\131\251\052\217\173\336\303\207\211\020\231\111\163\170
\310\075\275\121\065\164\052\325\361\176\151\033\052\273\073\275
\045\270\232\132\075\162\141\220\146\207\356\014\326\115\324\021
\164\013\152\376\013\003\374\243\125\127\211\376\112\313\256\133
\027\005\310\362\215\043\061\123\070\322\055\152\077\202\271\215
\010\152\367\136\101\164\156\303\021\176\007\254\051\140\221\077
\070\312\127\020\015\275\060\057\307\245\346\101\240\332\256\005
\207\232\240\244\145\154\114\011\014\211\272\270\323\271\300\223
\212\060\372\215\345\232\153\025\001\116\147\252\332\142\126\076
\204\010\146\322\304\066\175\247\076\020\374\210\340\324\200\345
\000\275\252\363\116\006\243\172\152\371\142\162\343\011\117\353
\233\016\001\043\361\237\273\174\334\334\154\021\227\045\262\362
\264\143\024\322\006\052\147\214\203\365\316\352\007\330\232\152
\036\354\344\012\273\052\114\353\011\140\071\316\312\142\330\056
\156

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "SwissSign Silver CA - G2"

```

# Issuer: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Serial Number:4f:1b:d4:2f:54:bb:2f:4b
# Subject: CN=SwissSign Silver CA - G2,O=SwissSign AG,C=CH
# Not Valid Before: Wed Oct 25 08:32:46 2006
# Not Valid After : Sat Oct 25 08:32:46 2036
# Fingerprint (SHA-256):
BE:6C:4D:A2:BB:B9:BA:59:B6:F3:93:97:68:37:42:46:C3:C0:05:99:3F:A9:8F:02:0D:1D:ED:BE:D4:8A:81:D5
# Fingerprint (SHA1): 9B:AA:E5:9F:56:EE:21:CB:43:5A:BE:25:93:DF:A7:F0:40:D1:1D:CB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SwissSign Silver CA - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\233\252\345\237\126\356\041\313\103\132\276\045\223\337\247\360
\100\321\035\313
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\340\006\241\311\175\317\311\374\015\300\126\165\226\330\142\023
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\025\060\023\006\003\125\004\012\023\014\123\167\151\163\163\123
\151\147\156\040\101\107\061\041\060\037\006\003\125\004\003\023
\030\123\167\151\163\163\123\151\147\156\040\123\151\154\166\145
\162\040\103\101\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\117\033\324\057\124\273\057\113
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureTrust CA"
#
# Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0
# Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:31:18 2006
# Not Valid After : Mon Dec 31 19:40:55 2029
# Fingerprint (SHA-256):
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\270\060\202\002\240\240\003\002\001\002\002\020\014
\360\216\134\010\026\245\255\102\177\360\353\047\030\131\320\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\110
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\027\060\025\006\003\125\004\003\023\016\123\145\143\165\162\145
\124\162\165\163\164\040\103\101\060\036\027\015\060\066\061\061
\060\067\061\071\063\061\061\070\132\027\015\062\071\061\062\063
\061\061\071\064\060\065\065\132\060\110\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\040\060\036\006\003\125\004\012
\023\027\123\145\143\165\162\145\124\162\165\163\164\040\103\157
\162\160\157\162\141\164\151\157\156\061\027\060\025\006\003\125
\004\003\023\016\123\145\143\165\162\145\124\162\165\163\164\040
\103\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\253\244\201\345\225\315\365\366\024\216\302\117\312
\324\342\170\225\130\234\101\341\015\231\100\044\027\071\221\063
\146\351\276\341\203\257\142\134\211\321\374\044\133\141\263\340
\021\021\101\034\035\156\360\270\273\370\336\247\201\272\246\110
\306\237\035\275\276\216\251\101\076\270\224\355\051\032\324\216
\322\003\035\003\357\155\015\147\034\127\327\006\255\312\310\365
\376\016\257\146\045\110\004\226\013\135\243\272\026\303\010\117
\321\106\370\024\134\362\310\136\001\231\155\375\210\314\206\250
```

\301\157\061\102\154\122\076\150\313\363\031\064\337\273\207\030
\126\200\046\304\320\334\300\157\337\336\240\302\221\026\240\144
\021\113\104\274\036\366\347\372\143\336\146\254\166\244\161\243
\354\066\224\150\172\167\244\261\347\016\057\201\172\342\265\162
\206\357\242\153\213\360\017\333\323\131\077\272\162\274\104\044
\234\343\163\263\367\257\127\057\102\046\235\251\164\272\000\122
\362\113\315\123\174\107\013\066\205\016\146\251\010\227\026\064
\127\301\146\367\200\343\355\160\124\307\223\340\056\050\025\131
\207\272\273\002\003\001\000\001\243\201\235\060\201\232\060\023
\006\011\053\006\001\004\001\202\067\024\002\004\006\036\004\000
\103\000\101\060\013\006\003\125\035\017\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\102\062\266\026
\372\004\375\376\135\113\172\303\375\367\114\100\035\132\103\257
\060\064\006\003\125\035\037\004\055\060\053\060\051\240\047\240
\045\206\043\150\164\164\160\072\057\057\143\162\154\056\163\145
\143\165\162\145\164\162\165\163\164\056\143\157\155\057\123\124
\103\101\056\143\162\154\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\060\355\117\112
\341\130\072\122\162\133\265\246\243\145\030\246\273\121\073\167
\351\235\352\323\237\134\340\105\145\173\015\312\133\342\160\120
\262\224\005\024\256\111\307\215\101\007\022\163\224\176\014\043
\041\375\274\020\177\140\020\132\162\365\230\016\254\354\271\177
\335\172\157\135\323\034\364\377\210\005\151\102\251\005\161\310
\267\254\046\350\056\264\214\152\377\161\334\270\261\337\231\274
\174\041\124\053\344\130\242\273\127\051\256\236\251\243\031\046
\017\231\056\010\260\357\375\151\317\231\032\011\215\343\247\237
\053\311\066\064\173\044\263\170\114\225\027\244\006\046\036\266
\144\122\066\137\140\147\331\234\305\005\164\013\347\147\043\322
\010\374\210\351\256\213\177\341\060\364\067\176\375\306\062\332
\055\236\104\060\060\154\356\007\336\322\064\374\322\377\100\366
\113\364\146\106\006\124\246\362\062\012\143\046\060\153\233\321
\334\213\107\272\341\271\325\142\320\242\240\364\147\005\170\051
\143\032\157\004\326\370\306\114\243\232\261\067\264\215\345\050
\113\035\236\054\302\270\150\274\355\002\356\061

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SecureTrust CA"

Issuer: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

Serial Number:0c:f0:8e:5c:08:16:a5:ad:42:7f:f0:eb:27:18:59:d0

Subject: CN=SecureTrust CA,O=SecureTrust Corporation,C=US

Not Valid Before: Tue Nov 07 19:31:18 2006

Not Valid After : Mon Dec 31 19:40:55 2029

Fingerprint (SHA-256):

```
F1:C1:B5:0A:E5:A2:0D:D8:03:0E:C9:F6:BC:24:82:3D:D3:67:B5:25:57:59:B4:E7:1B:61:FC:E9:F7:37:5D:73
# Fingerprint (SHA1): 87:82:C6:C3:04:35:3B:CF:D2:96:92:D2:59:3E:7D:44:D9:34:FF:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureTrust CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\207\202\306\303\004\065\073\317\322\226\222\322\131\076\175\104
\331\064\377\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\334\062\303\247\155\045\127\307\150\011\235\352\055\251\242\321
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\027\060\025\006\003\125\004\003\023\016\123\145\143\165
\162\145\124\162\165\163\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\014\360\216\134\010\026\245\255\102\177\360\353\047\030
\131\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Secure Global CA"
#
# Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5
# Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US
# Not Valid Before: Tue Nov 07 19:42:28 2006
# Not Valid After : Mon Dec 31 19:52:06 2029
# Fingerprint (SHA-256):
42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69
# Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\274\060\202\002\244\240\003\002\001\002\002\020\007
\126\042\244\350\324\212\211\115\364\023\310\360\370\352\245\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\040\060
\036\006\003\125\004\012\023\027\123\145\143\165\162\145\124\162
\165\163\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\031\060\027\006\003\125\004\003\023\020\123\145\143\165\162\145
\040\107\154\157\142\141\154\040\103\101\060\036\027\015\060\066
\061\061\060\067\061\071\064\062\062\070\132\027\015\062\071\061
\062\063\061\061\071\065\062\060\066\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\040\060\036\006\003\125
\004\012\023\027\123\145\143\165\162\145\124\162\165\163\164\040
\103\157\162\160\157\162\141\164\151\157\156\061\031\060\027\006
\003\125\004\003\023\020\123\145\143\165\162\145\040\107\154\157
\142\141\154\040\103\101\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\257\065\056\330\254\154\125\151\006
\161\345\023\150\044\263\117\330\314\041\107\370\361\140\070\211
\211\003\351\275\352\136\106\123\011\334\134\365\132\350\367\105
\052\002\353\061\141\327\051\063\114\316\307\174\012\067\176\017
\272\062\230\341\035\227\257\217\307\334\311\070\226\363\333\032
\374\121\355\150\306\320\156\244\174\044\321\256\102\310\226\120
\143\056\340\376\165\376\230\247\137\111\056\225\343\071\063\144
\216\036\244\137\220\322\147\074\262\331\376\101\271\125\247\011
\216\162\005\036\213\335\104\205\202\102\320\111\300\035\140\360
\321\027\054\225\353\366\245\301\222\243\305\302\247\010\140\015
\140\004\020\226\171\236\026\064\346\251\266\372\045\105\071\310
\036\145\371\223\365\252\361\122\334\231\230\075\245\206\032\014
\065\063\372\113\245\004\006\025\034\061\200\357\252\030\153\302

\173\327\332\316\371\063\040\325\365\275\152\063\055\201\004\373
\260\134\324\234\243\342\134\035\343\251\102\165\136\173\324\167
\357\071\124\272\311\012\030\033\022\231\111\057\210\113\375\120
\142\321\163\347\217\172\103\002\003\001\000\001\243\201\235\060
\201\232\060\023\006\011\053\006\001\004\001\202\067\024\002\004
\006\036\004\000\103\000\101\060\013\006\003\125\035\017\004\004
\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\257\104\004\302\101\176\110\203\333\116\071\002\354\354\204\172
\346\316\311\244\060\064\006\003\125\035\037\004\055\060\053\060
\051\240\047\240\045\206\043\150\164\164\160\072\057\057\143\162
\154\056\163\145\143\165\162\145\164\162\165\163\164\056\143\157
\155\057\123\107\103\101\056\143\162\154\060\020\006\011\053\006
\001\004\001\202\067\025\001\004\003\002\001\000\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\143\032\010\100\175\244\136\123\015\167\330\172\256\037\015\013
\121\026\003\357\030\174\310\343\257\152\130\223\024\140\221\262
\204\334\210\116\276\071\212\072\363\346\202\211\135\001\067\263
\253\044\244\025\016\222\065\132\112\104\136\116\127\372\165\316
\037\110\316\146\364\074\100\046\222\230\154\033\356\044\106\014
\027\263\122\245\333\245\221\221\317\067\323\157\347\047\010\072
\116\031\037\072\247\130\134\027\317\171\077\213\344\247\323\046
\043\235\046\017\130\151\374\107\176\262\320\215\213\223\277\051
\117\103\151\164\166\147\113\317\007\214\346\002\367\265\341\264
\103\265\113\055\024\237\371\334\046\015\277\246\107\164\006\330
\210\321\072\051\060\204\316\322\071\200\142\033\250\307\127\111
\274\152\125\121\147\025\112\276\065\007\344\325\165\230\067\171
\060\024\333\051\235\154\305\151\314\107\125\242\060\367\314\134
\177\302\303\230\034\153\116\026\200\353\172\170\145\105\242\000
\032\257\014\015\125\144\064\110\270\222\271\361\264\120\051\362
\117\043\037\332\154\254\037\104\341\335\043\170\121\133\307\026
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Secure Global CA"

Issuer: CN=Secure Global CA,O=SecureTrust Corporation,C=US

Serial Number:07:56:22:a4:e8:d4:8a:89:4d:f4:13:c8:f0:f8:ea:a5

Subject: CN=Secure Global CA,O=SecureTrust Corporation,C=US

Not Valid Before: Tue Nov 07 19:42:28 2006

Not Valid After : Mon Dec 31 19:52:06 2029

Fingerprint (SHA-256):

42:00:F5:04:3A:C8:59:0E:BB:52:7D:20:9E:D1:50:30:29:FB:CB:D4:1C:A1:B5:06:EC:27:F1:5A:DE:7D:AC:69

Fingerprint (SHA1): 3A:44:73:5A:E5:81:90:1F:24:86:61:46:1E:3B:9C:C4:5F:F5:3A:1B

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Secure Global CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\072\104\163\132\345\201\220\037\044\206\141\106\036\073\234\304
\137\365\072\033
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\317\364\047\015\324\355\334\145\026\111\155\075\332\277\156\336
END
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\040\060\036\006\003\125\004\012\023\027\123\145\143\165\162\145
\124\162\165\163\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\031\060\027\006\003\125\004\003\023\020\123\145\143\165
\162\145\040\107\154\157\142\141\154\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\007\126\042\244\350\324\212\211\115\364\023\310\360\370
\352\245
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO Certification Authority"
#
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060

```

\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\035\060\202\003\005\240\003\002\001\002\002\020\116
\201\055\212\202\145\340\013\002\356\076\065\002\106\345\075\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\201\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\047\060\045\006\003\125
\004\003\023\036\103\117\115\117\104\117\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\060\036\027\015\060\066\061\062\060\061\060\060\060\060
\060\060\132\027\015\062\071\061\062\063\061\062\063\065\071\065
\071\132\060\201\201\061\013\060\011\006\003\125\004\006\023\002
\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162\145
\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162\061
\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157\162
\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115\117
\104\117\040\103\101\040\114\151\155\151\164\145\144\061\047\060
\045\006\003\125\004\003\023\036\103\117\115\117\104\117\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\202\001\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202
\001\012\002\202\001\001\000\320\100\213\213\162\343\221\033\367

\121\301\033\124\004\230\323\251\277\301\346\212\135\073\207\373
\273\210\316\015\343\057\077\006\226\360\242\051\120\231\256\333
\073\241\127\260\164\121\161\315\355\102\221\115\101\376\251\310
\330\152\206\167\104\273\131\146\227\120\136\264\324\054\160\104
\317\332\067\225\102\151\074\060\304\161\263\122\360\041\115\241
\330\272\071\174\034\236\243\044\235\362\203\026\230\252\026\174
\103\233\025\133\267\256\064\221\376\324\142\046\030\106\232\077
\353\301\371\361\220\127\353\254\172\015\213\333\162\060\152\146
\325\340\106\243\160\334\150\331\377\004\110\211\167\336\265\351
\373\147\155\101\351\274\071\275\062\331\142\002\361\261\250\075
\156\067\234\342\057\342\323\242\046\213\306\270\125\103\210\341
\043\076\245\322\044\071\152\107\253\000\324\241\263\251\045\376
\015\077\247\035\272\323\121\301\013\244\332\254\070\357\125\120
\044\005\145\106\223\064\117\055\215\255\306\324\041\031\322\216
\312\005\141\161\007\163\107\345\212\031\022\275\004\115\316\116
\234\245\110\254\273\046\367\002\003\001\000\001\243\201\216\060
\201\213\060\035\006\003\125\035\016\004\026\004\024\013\130\345
\213\306\114\025\067\244\100\251\060\251\041\276\107\066\132\126
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\111\006\003\125\035\037\004\102\060\100\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\143\157\155\157\144\157\143\141\056\143\157\155\057\103\117\115
\117\104\117\103\145\162\164\151\146\151\143\141\164\151\157\156
\101\165\164\150\157\162\151\164\171\056\143\162\154\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\076\230\236\233\366\033\351\327\071\267\170\256\035\162\030
\111\323\207\344\103\202\353\077\311\252\365\250\265\357\125\174
\041\122\145\371\325\015\341\154\364\076\214\223\163\221\056\002
\304\116\007\161\157\300\217\070\141\010\250\036\201\012\300\057
\040\057\101\213\221\334\110\105\274\361\306\336\272\166\153\063
\310\000\055\061\106\114\355\347\235\317\210\224\377\063\300\126
\350\044\206\046\270\330\070\070\337\052\153\335\022\314\307\077
\107\027\114\242\302\006\226\011\326\333\376\077\074\106\101\337
\130\342\126\017\074\073\301\034\223\065\331\070\122\254\356\310
\354\056\060\116\224\065\264\044\037\113\170\151\332\362\002\070
\314\225\122\223\360\160\045\131\234\040\147\304\356\371\213\127
\141\364\222\166\175\077\204\215\125\267\350\345\254\325\361\365
\031\126\246\132\373\220\034\257\223\353\345\034\324\147\227\135
\004\016\276\013\203\246\027\203\271\060\022\240\305\063\025\005
\271\015\373\307\005\166\343\330\112\215\374\064\027\243\306\041
\050\276\060\105\061\036\307\170\276\130\141\070\254\073\342\001
\145
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "COMODO Certification Authority"
# Issuer: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4e:81:2d:8a:82:65:e0:0b:02:ee:3e:35:02:46:e5:3d
# Subject: CN=COMODO Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Fri Dec 01 00:00:00 2006
# Not Valid After : Mon Dec 31 23:59:59 2029
# Fingerprint (SHA-256):
0C:2C:D6:3D:F7:80:6F:A3:99:ED:E8:09:11:6B:57:5B:F8:79:89:F0:65:18:F9:80:8C:86:05:03:17:8B:AF:66
# Fingerprint (SHA1): 66:31:BF:9E:F7:4F:9E:B6:C9:D5:A6:0C:BA:6A:BE:D1:F7:BD:EF:7B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\146\061\277\236\367\117\236\266\311\325\246\014\272\152\276\321
\367\275\357\173
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\134\110\334\367\102\162\354\126\224\155\034\314\161\065\200\165
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\201\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\047\060\045\006
\003\125\004\003\023\036\103\117\115\117\104\117\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\116\201\055\212\202\145\340\013\002\356\076\065\002\106
\345\075
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO ECC Certification Authority"
#
# Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB

```

```
# Serial Number:1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
# Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Thu Mar 06 00:00:00 2008
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\211\060\202\002\017\240\003\002\001\002\002\020\037
\107\257\252\142\000\160\120\124\114\001\236\233\143\231\052\060
\012\006\010\052\206\110\316\075\004\003\003\060\201\205\061\013
\060\011\006\003\125\004\006\023\002\107\102\061\033\060\031\006
\003\125\004\010\023\022\107\162\145\141\164\145\162\040\115\141
\156\143\150\145\163\164\145\162\061\020\060\016\006\003\125\004
```

\007\023\007\123\141\154\146\157\162\144\061\032\060\030\006\003
\125\004\012\023\021\103\117\115\117\104\117\040\103\101\040\114
\151\155\151\164\145\144\061\053\060\051\006\003\125\004\003\023
\042\103\117\115\117\104\117\040\105\103\103\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\060\036\027\015\060\070\060\063\060\066\060\060\060
\060\060\060\132\027\015\063\070\060\061\061\070\062\063\065\071
\065\071\132\060\201\205\061\013\060\011\006\003\125\004\006\023
\002\107\102\061\033\060\031\006\003\125\004\010\023\022\107\162
\145\141\164\145\162\040\115\141\156\143\150\145\163\164\145\162
\061\020\060\016\006\003\125\004\007\023\007\123\141\154\146\157
\162\144\061\032\060\030\006\003\125\004\012\023\021\103\117\115
\117\104\117\040\103\101\040\114\151\155\151\164\145\144\061\053
\060\051\006\003\125\004\003\023\042\103\117\115\117\104\117\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\003\107\173\057\165\311\202\025\205\373\165\344\221
\026\324\253\142\231\365\076\122\013\006\316\101\000\177\227\341
\012\044\074\035\001\004\356\075\322\215\011\227\014\340\165\344
\372\373\167\212\052\365\003\140\113\066\213\026\043\026\255\011
\161\364\112\364\050\120\264\376\210\034\156\077\154\057\057\011
\131\133\245\133\013\063\231\342\303\075\211\371\152\054\357\262
\323\006\351\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\165\161\247\031\110\031\274\235\235\352\101\107\337\224
\304\110\167\231\323\171\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\357\003\133\172\254
\267\170\012\162\267\210\337\377\265\106\024\011\012\372\240\346
\175\010\306\032\207\275\030\250\163\275\046\312\140\014\235\316
\231\237\317\134\017\060\341\276\024\061\352\002\060\024\364\223
\074\111\247\063\172\220\106\107\263\143\175\023\233\116\267\157
\030\067\200\123\376\335\040\340\065\232\066\321\307\001\271\346
\334\335\363\377\035\054\072\026\127\331\222\071\326

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "COMODO ECC Certification Authority"
Issuer: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Serial Number: 1f:47:af:aa:62:00:70:50:54:4c:01:9e:9b:63:99:2a
Subject: CN=COMODO ECC Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
Not Valid Before: Thu Mar 06 00:00:00 2008
Not Valid After : Mon Jan 18 23:59:59 2038

```

# Fingerprint (SHA-256):
17:93:92:7A:06:14:54:97:89:AD:CE:2F:8F:34:F7:F0:B6:6D:0F:3A:E3:A3:B8:4D:21:EC:15:DB:BA:4F:AD:C7
# Fingerprint (SHA1): 9F:74:4E:9F:2B:4D:BA:EC:0F:31:2C:50:B6:56:3B:8E:2D:93:C3:11
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\237\164\116\237\053\115\272\354\017\061\054\120\266\126\073\216
\055\223\303\021
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\142\377\164\235\061\123\136\150\112\325\170\252\036\277\043
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\105\103\103
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\037\107\257\252\142\000\160\120\124\114\001\236\233\143
\231\052
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GA CA"
#
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)
2005,O=WISeKey,C=CH
# Not Valid Before: Sun Dec 11 16:03:44 2005
# Not Valid After : Fri Dec 11 16:09:51 2037
# Fingerprint (SHA-256):
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124
\337\232
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\361\060\202\002\331\240\003\002\001\002\002\020\101
\075\162\307\364\153\037\201\103\175\361\322\050\124\337\232\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\201
\212\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020
\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171
\061\033\060\031\006\003\125\004\013\023\022\103\157\160\171\162
\151\147\150\164\040\050\143\051\040\062\060\060\065\061\042\060
\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157
\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145
\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124
\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154
\040\122\157\157\164\040\107\101\040\103\101\060\036\027\015\060
\065\061\062\061\061\061\066\060\063\064\064\132\027\015\063\067
\061\062\061\061\061\066\060\071\065\061\132\060\201\212\061\013
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\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006
\003\125\004\012\023\007\127\111\123\145\113\145\171\061\033\060
\031\006\003\125\004\013\023\022\103\157\160\171\162\151\147\150
\164\040\050\143\051\040\062\060\060\065\061\042\060\040\006\003
\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156\144
\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061\050
\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040\127
\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122\157
\157\164\040\107\101\040\103\101\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\313\117\263\000\233\075\066
\335\371\321\111\152\153\020\111\037\354\330\053\262\306\370\062
\201\051\103\225\114\232\031\043\041\025\105\336\343\310\034\121
\125\133\256\223\350\067\377\053\153\351\324\352\276\052\335\250
\121\053\327\146\303\141\134\140\002\310\365\316\162\173\073\270
\362\116\145\010\232\315\244\152\031\301\001\273\163\246\327\366
\303\335\315\274\244\213\265\231\141\270\001\242\243\324\115\324
\005\075\221\255\370\264\010\161\144\257\160\361\034\153\176\366
\303\167\235\044\163\173\344\014\214\341\331\066\341\231\213\005
\231\013\355\105\061\011\312\302\000\333\367\162\240\226\252\225
\207\320\216\307\266\141\163\015\166\146\214\334\033\264\143\242
\237\177\223\023\060\361\241\047\333\331\377\054\125\210\221\240
\340\117\007\260\050\126\214\030\033\227\104\216\211\335\340\027
\156\347\052\357\217\071\012\061\204\202\330\100\024\111\056\172
\101\344\247\376\343\144\314\301\131\161\113\054\041\247\133\175
\340\035\321\056\201\233\303\330\150\367\275\226\033\254\160\261
\026\024\013\333\140\271\046\001\005\002\003\001\000\001\243\121
\060\117\060\013\006\003\125\035\017\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\263\003\176\256\066
\274\260\171\321\334\224\046\266\021\276\041\262\151\206\224\060
\020\006\011\053\006\001\004\001\202\067\025\001\004\003\002\001
\000\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\003\202\001\001\000\113\241\377\013\207\156\263\371\301\103\261
\110\363\050\300\035\056\311\011\101\372\224\000\034\244\244\253
\111\117\217\075\036\357\115\157\275\274\244\366\362\046\060\311
\020\312\035\210\373\164\031\037\205\105\275\260\154\121\371\066
\176\333\365\114\062\072\101\117\133\107\317\350\013\055\266\304
\031\235\164\305\107\306\073\152\017\254\024\333\074\364\163\234
\251\005\337\000\334\164\170\372\370\065\140\131\002\023\030\174
\274\373\115\260\040\155\103\273\140\060\172\147\063\134\305\231
\321\370\055\071\122\163\373\214\252\227\045\134\162\331\010\036
\253\116\074\343\201\061\237\003\246\373\300\376\051\210\125\332
\204\325\120\003\266\342\204\243\246\066\252\021\072\001\341\030
\113\326\104\150\263\075\371\123\164\204\263\106\221\106\226\000
\267\200\054\266\341\343\020\342\333\242\347\050\217\001\226\142
\026\076\000\343\034\245\066\201\030\242\114\122\166\300\021\243
\156\346\035\272\343\132\276\066\123\305\076\165\217\206\151\051

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\130\123\265\234\273\157\237\134\305\030\354\335\057\341\230\311  
\374\276\337\012\015
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END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE  
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE  
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISeKey Global Root GA CA"
```

```
# Issuer: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH
```

```
# Serial Number:41:3d:72:c7:f4:6b:1f:81:43:7d:f1:d2:28:54:df:9a
```

```
# Subject: CN=OISTE WISeKey Global Root GA CA,OU=OISTE Foundation Endorsed,OU=Copyright (c)  
2005,O=WISeKey,C=CH
```

```
# Not Valid Before: Sun Dec 11 16:03:44 2005
```

```
# Not Valid After : Fri Dec 11 16:09:51 2037
```

```
# Fingerprint (SHA-256):
```

```
41:C9:23:86:6A:B4:CA:D6:B7:AD:57:80:81:58:2E:02:07:97:A6:CB:DF:4F:FF:78:CE:83:96:B3:89:37:D7:F5
```

```
# Fingerprint (SHA1): 59:22:A1:E1:5A:EA:16:35:21:F8:98:39:6A:46:46:B0:44:1B:0F:A9
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\042\241\341\132\352\026\065\041\370\230\071\152\106\106\260  
\104\033\017\251
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\274\154\121\063\247\351\323\146\143\124\025\162\033\041\222\223
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\212\061\013\060\011\006\003\125\004\006\023\002\103\110  
\061\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113  
\145\171\061\033\060\031\006\003\125\004\013\023\022\103\157\160  
\171\162\151\147\150\164\040\050\143\051\040\062\060\060\065\061  
\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040  
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162  
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111  
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142  
\141\154\040\122\157\157\164\040\107\101\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\101\075\162\307\364\153\037\201\103\175\361\322\050\124  
\337\232
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certigna"

#

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\376\334\343\001\017\311\110\377

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\250\060\202\002\220\240\003\002\001\002\002\011\000
\376\334\343\001\017\311\110\377\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\064\061\013\060\011\006\003\125
\004\006\023\002\106\122\061\022\060\020\006\003\125\004\012\014
\011\104\150\151\155\171\157\164\151\163\061\021\060\017\006\003
\125\004\003\014\010\103\145\162\164\151\147\156\141\060\036\027
\015\060\067\060\066\062\071\061\065\061\063\060\065\132\027\015
\062\067\060\066\062\071\061\065\061\063\060\065\132\060\064\061
\013\060\011\006\003\125\004\006\023\002\106\122\061\022\060\020
\006\003\125\004\012\014\011\104\150\151\155\171\157\164\151\163
\061\021\060\017\006\003\125\004\003\014\010\103\145\162\164\151
\147\156\141\060\202\001\042\060\015\006\011\052\206\110\206\367

\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\310\150\361\311\326\326\263\064\165\046\202\036
\354\264\276\352\134\341\046\355\021\107\141\341\242\174\026\170
\100\041\344\140\236\132\310\143\341\304\261\226\222\377\030\155
\151\043\341\053\142\367\335\342\066\057\221\007\271\110\317\016
\354\171\266\054\347\064\113\160\010\045\243\074\207\033\031\362
\201\007\017\070\220\031\323\021\376\206\264\362\321\136\036\036
\226\315\200\154\316\073\061\223\266\362\240\320\251\225\022\175
\245\232\314\153\310\204\126\212\063\251\347\042\025\123\026\360
\314\027\354\127\137\351\242\012\230\011\336\343\137\234\157\334
\110\343\205\013\025\132\246\272\237\254\110\343\011\262\367\364
\062\336\136\064\276\034\170\135\102\133\316\016\042\217\115\220
\327\175\062\030\263\013\054\152\277\216\077\024\021\211\040\016
\167\024\265\075\224\010\207\367\045\036\325\262\140\000\354\157
\052\050\045\156\052\076\030\143\027\045\077\076\104\040\026\366
\046\310\045\256\005\112\264\347\143\054\363\214\026\123\176\134
\373\021\032\010\301\106\142\237\042\270\361\302\215\151\334\372
\072\130\006\337\002\003\001\000\001\243\201\274\060\201\271\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\032\355\376\101\071
\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021\060
\144\006\003\125\035\043\004\135\060\133\200\024\032\355\376\101
\071\220\264\044\131\276\001\362\122\325\105\366\132\071\334\021
\241\070\244\066\060\064\061\013\060\011\006\003\125\004\006\023
\002\106\122\061\022\060\020\006\003\125\004\012\014\011\104\150
\151\155\171\157\164\151\163\061\021\060\017\006\003\125\004\003
\014\010\103\145\162\164\151\147\156\141\202\011\000\376\334\343
\001\017\311\110\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\021\006\011\140\206\110\001\206\370\102
\001\001\004\004\003\002\000\007\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\205\003\036\222
\161\366\102\257\341\243\141\236\353\363\300\017\362\245\324\332
\225\346\326\276\150\066\075\176\156\037\114\212\357\321\017\041
\155\136\245\122\143\316\022\370\357\052\332\157\353\067\376\023
\002\307\313\073\076\042\153\332\141\056\177\324\162\075\335\060
\341\036\114\100\031\214\017\327\234\321\203\060\173\230\131\334
\175\306\271\014\051\114\241\063\242\353\147\072\145\204\323\226
\342\355\166\105\160\217\265\053\336\371\043\326\111\156\074\024
\265\306\237\065\036\120\320\301\217\152\160\104\002\142\313\256
\035\150\101\247\252\127\350\123\252\007\322\006\366\325\024\006
\013\221\003\165\054\154\162\265\141\225\232\015\213\271\015\347
\365\337\124\315\336\346\330\326\011\010\227\143\345\301\056\260
\267\104\046\300\046\300\257\125\060\236\073\325\066\052\031\004
\364\134\036\377\317\054\267\377\320\375\207\100\021\325\021\043
\273\110\300\041\251\244\050\055\375\025\370\260\116\053\364\060
\133\041\374\021\221\064\276\101\357\173\235\227\165\377\227\225
\300\226\130\057\352\273\106\327\273\344\331\056

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certigna"

Issuer: CN=Certigna,O=Dhimyotis,C=FR

Serial Number:00:fe:dc:e3:01:0f:c9:48:ff

Subject: CN=Certigna,O=Dhimyotis,C=FR

Not Valid Before: Fri Jun 29 15:13:05 2007

Not Valid After : Tue Jun 29 15:13:05 2027

Fingerprint (SHA-256):

E3:B6:A2:DB:2E:D7:CE:48:84:2F:7A:C5:32:41:C7:B7:1D:54:14:4B:FB:40:C1:1F:3F:1D:0B:42:F5:EE:A1:2D

Fingerprint (SHA1): B1:2E:13:63:45:86:A4:6F:1A:B2:60:68:37:58:2D:C4:AC:FD:94:97

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certigna"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\261\056\023\143\105\206\244\157\032\262\140\150\067\130\055\304
\254\375\224\227

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\253\127\246\133\175\102\202\031\265\330\130\046\050\136\375\377

END

CKA_ISSUER MULTILINE_OCTAL

\060\064\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\021\060\017\006\003\125\004\003\014\010\103\145
\162\164\151\147\156\141

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\376\334\343\001\017\311\110\377

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ePKI Root Certification Authority"

#

Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number:15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Mon Dec 20 02:31:27 2004

Not Valid After : Wed Dec 20 02:31:27 2034

Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\260\060\202\003\230\240\003\002\001\002\002\020\025
\310\275\145\107\134\257\270\227\000\136\344\006\322\274\235\060
\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036
\027\015\060\064\061\062\062\060\060\062\063\061\062\067\132\027
\015\063\064\061\062\062\060\060\062\063\061\062\067\132\060\136
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\052\060\050\006\003\125\004\013\014\041\145\120\113
\111\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005

\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\341
\045\017\356\215\333\210\063\165\147\315\255\037\175\072\116\155
\235\323\057\024\363\143\164\313\001\041\152\067\352\204\120\007
\113\046\133\011\103\154\041\236\152\310\325\003\365\140\151\217
\314\360\042\344\037\347\367\152\042\061\267\054\025\362\340\376
\000\152\103\377\207\145\306\265\032\301\247\114\155\042\160\041
\212\061\362\227\164\211\011\022\046\034\236\312\331\022\242\225
\074\332\351\147\277\010\240\144\343\326\102\267\105\357\227\364
\366\365\327\265\112\025\002\130\175\230\130\113\140\274\315\327
\015\232\023\063\123\321\141\371\172\325\327\170\263\232\063\367
\000\206\316\035\115\224\070\257\250\354\170\121\160\212\134\020
\203\121\041\367\021\075\064\206\136\345\110\315\227\201\202\065
\114\031\354\145\366\153\305\005\241\356\107\023\326\263\041\047
\224\020\012\331\044\073\272\276\104\023\106\060\077\227\074\330
\327\327\152\356\073\070\343\053\324\227\016\271\033\347\007\111
\177\067\052\371\167\170\317\124\355\133\106\235\243\200\016\221
\103\301\326\133\137\024\272\237\246\215\044\107\100\131\277\162
\070\262\066\154\067\377\231\321\135\016\131\012\253\151\367\300
\262\004\105\172\124\000\256\276\123\366\265\347\341\370\074\243
\061\322\251\376\041\122\144\305\246\147\360\165\007\006\224\024
\201\125\306\047\344\001\217\027\301\152\161\327\276\113\373\224
\130\175\176\021\063\261\102\367\142\154\030\326\317\011\150\076
\177\154\366\036\217\142\255\245\143\333\011\247\037\042\102\101
\036\157\231\212\076\327\371\077\100\172\171\260\245\001\222\322
\235\075\010\025\245\020\001\055\263\062\166\250\225\015\263\172
\232\373\007\020\170\021\157\341\217\307\272\017\045\032\164\052
\345\034\230\101\231\337\041\207\350\225\006\152\012\263\152\107
\166\145\366\072\317\217\142\027\031\173\012\050\315\032\322\203
\036\041\307\054\277\276\377\141\150\267\147\033\273\170\115\215
\316\147\345\344\301\216\267\043\146\342\235\220\165\064\230\251
\066\053\212\232\224\271\235\354\314\212\261\370\045\211\134\132
\266\057\214\037\155\171\044\247\122\150\303\204\065\342\146\215
\143\016\045\115\325\031\262\346\171\067\247\042\235\124\061\002
\003\001\000\001\243\152\060\150\060\035\006\003\125\035\016\004
\026\004\024\036\014\367\266\147\362\341\222\046\011\105\300\125
\071\056\167\077\102\112\242\060\014\006\003\125\035\023\004\005
\060\003\001\001\377\060\071\006\004\147\052\007\000\004\061\060
\057\060\055\002\001\000\060\011\006\005\053\016\003\002\032\005
\000\060\007\006\005\147\052\003\000\000\004\024\105\260\302\307
\012\126\174\356\133\170\014\225\371\030\123\301\246\034\330\020
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\002\001\000\011\263\203\123\131\001\076\225\111\271\361\201
\272\371\166\040\043\265\047\140\164\324\152\231\064\136\154\000
\123\331\237\362\246\261\044\007\104\152\052\306\245\216\170\022
\350\107\331\130\033\023\052\136\171\233\237\012\052\147\246\045
\077\006\151\126\163\303\212\146\110\373\051\201\127\164\006\312
\234\352\050\350\070\147\046\053\361\325\265\077\145\223\370\066
\135\216\215\215\100\040\207\031\352\357\047\300\075\264\071\017

\045\173\150\120\164\125\234\014\131\175\132\075\101\224\045\122
\010\340\107\054\025\061\031\325\277\007\125\306\273\022\265\227
\364\137\203\205\272\161\301\331\154\201\021\166\012\012\260\277
\202\227\367\352\075\372\372\354\055\251\050\224\073\126\335\322
\121\056\256\300\275\010\025\214\167\122\064\226\326\233\254\323
\035\216\141\017\065\173\233\256\071\151\013\142\140\100\040\066
\217\257\373\066\356\055\010\112\035\270\277\233\134\370\352\245
\033\240\163\246\330\370\156\340\063\004\137\150\252\047\207\355
\331\301\220\234\355\275\343\152\065\257\143\337\253\030\331\272
\346\351\112\352\120\212\017\141\223\036\342\055\031\342\060\224
\065\222\135\016\266\007\257\031\200\217\107\220\121\113\056\115
\335\205\342\322\012\122\012\027\232\374\032\260\120\002\345\001
\243\143\067\041\114\104\304\233\121\231\021\016\163\234\006\217
\124\056\247\050\136\104\071\207\126\055\067\275\205\104\224\341
\014\113\054\234\303\222\205\064\141\313\017\270\233\112\103\122
\376\064\072\175\270\351\051\334\166\251\310\060\370\024\161\200
\306\036\066\110\164\042\101\134\207\202\350\030\161\213\101\211
\104\347\176\130\133\250\270\215\023\351\247\154\303\107\355\263
\032\235\142\256\215\202\352\224\236\335\131\020\303\255\335\342
\115\343\061\325\307\354\350\362\260\376\222\036\026\012\032\374
\331\363\370\047\266\311\276\035\264\154\144\220\177\364\344\304
\133\327\067\256\102\016\335\244\032\157\174\210\124\305\026\156
\341\172\150\056\370\072\277\015\244\074\211\073\170\247\116\143
\203\004\041\010\147\215\362\202\111\320\133\375\261\315\017\203
\204\324\076\040\205\367\112\075\053\234\375\052\012\011\115\352
\201\370\021\234

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ePKI Root Certification Authority"

Issuer: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number: 15:c8:bd:65:47:5c:af:b8:97:00:5e:e4:06:d2:bc:9d

Subject: OU=ePKI Root Certification Authority,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Mon Dec 20 02:31:27 2004

Not Valid After : Wed Dec 20 02:31:27 2034

Fingerprint (SHA-256):

C0:A6:F4:DC:63:A2:4B:FD:CF:54:EF:2A:6A:08:2A:0A:72:DE:35:80:3E:2F:F5:FF:52:7A:E5:D8:72:06:DF:D5

Fingerprint (SHA1): 67:65:0D:F1:7E:8E:7E:5B:82:40:A4:F4:56:4B:CF:E2:3D:69:C6:F0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ePKI Root Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\147\145\015\361\176\216\176\133\202\100\244\364\126\113\317\342

\075\151\306\360

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\056\000\312\046\006\220\075\255\376\157\025\150\323\153\263
END
CKA_ISSUER MULTILINE_OCTAL
\060\136\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\052\060\050\006\003\125\004\013\014\041\145
\120\113\111\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\025\310\275\145\107\134\257\270\227\000\136\344\006\322
\274\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "certSIGN ROOT CA"
#
# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Serial Number:20:06:05:16:70:02
# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
# Not Valid Before: Tue Jul 04 17:20:04 2006
# Not Valid After : Fri Jul 04 17:20:04 2031
# Fingerprint (SHA-256):
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN ROOT CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111

```

\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\040\006\005\026\160\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\070\060\202\002\040\240\003\002\001\002\002\006\040
\006\005\026\160\002\060\015\006\011\052\206\110\206\367\015\001
\001\005\005\000\060\073\061\013\060\011\006\003\125\004\006\023
\002\122\117\061\021\060\017\006\003\125\004\012\023\010\143\145
\162\164\123\111\107\116\061\031\060\027\006\003\125\004\013\023
\020\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103
\101\060\036\027\015\060\066\060\067\060\064\061\067\062\060\060
\064\132\027\015\063\061\060\067\060\064\061\067\062\060\060\064
\132\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117
\061\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123
\111\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145
\162\164\123\111\107\116\040\122\117\117\124\040\103\101\060\202
\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000\267
\063\271\176\310\045\112\216\265\333\264\050\033\252\127\220\350
\321\042\323\144\272\323\223\350\324\254\206\141\100\152\140\127
\150\124\204\115\274\152\124\002\005\377\337\233\232\052\256\135
\007\217\112\303\050\177\357\373\053\372\171\361\307\255\360\020
\123\044\220\213\146\311\250\210\253\257\132\243\000\351\276\272
\106\356\133\163\173\054\027\202\201\136\142\054\241\002\145\263
\275\305\053\000\176\304\374\003\063\127\015\355\342\372\316\135
\105\326\070\315\065\266\262\301\320\234\201\112\252\344\262\001
\134\035\217\137\231\304\261\255\333\210\041\353\220\010\202\200
\363\060\243\103\346\220\202\256\125\050\111\355\133\327\251\020
\070\016\376\217\114\133\233\106\352\101\365\260\010\164\303\320
\210\063\266\174\327\164\337\334\204\321\103\016\165\071\241\045
\100\050\352\170\313\016\054\056\071\235\214\213\156\026\034\057
\046\202\020\342\343\145\224\012\004\300\136\367\135\133\370\020
\342\320\272\172\113\373\336\067\000\000\032\133\050\343\322\234
\163\076\062\207\230\241\311\121\057\327\336\254\063\263\117\002
\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\306\060\035\006\003\125\035\016
\004\026\004\024\340\214\233\333\045\111\263\361\174\206\326\262
\102\207\013\320\153\240\331\344\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\001\001\000\076\322\034\211
\056\065\374\370\165\335\346\177\145\210\364\162\114\311\054\327
\062\116\363\335\031\171\107\275\216\073\133\223\017\120\111\044
\023\153\024\006\162\357\011\323\241\241\343\100\204\311\347\030
\062\164\074\110\156\017\237\113\324\367\036\323\223\206\144\124
\227\143\162\120\325\125\317\372\040\223\002\242\233\303\043\223

```
\116\026\125\166\240\160\171\155\315\041\037\317\057\055\274\031
\343\210\061\370\131\032\201\011\310\227\246\164\307\140\304\133
\314\127\216\262\165\375\033\002\011\333\131\157\162\223\151\367
\061\101\326\210\070\277\207\262\275\026\171\371\252\344\276\210
\045\335\141\047\043\034\265\061\007\004\066\264\032\220\275\240
\164\161\120\211\155\274\024\343\017\206\256\361\253\076\307\240
\011\314\243\110\321\340\333\144\347\222\265\317\257\162\103\160
\213\371\303\204\074\023\252\176\222\233\127\123\223\372\160\302
\221\016\061\371\233\147\135\351\226\070\136\137\263\163\116\210
\025\147\336\236\166\020\142\040\276\125\151\225\103\000\071\115
\366\356\260\132\116\111\104\124\130\137\102\203
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "certSIGN ROOT CA"
```

```
# Issuer: OU=certSIGN ROOT CA,O=certSIGN,C=RO
```

```
# Serial Number:20:06:05:16:70:02
```

```
# Subject: OU=certSIGN ROOT CA,O=certSIGN,C=RO
```

```
# Not Valid Before: Tue Jul 04 17:20:04 2006
```

```
# Not Valid After : Fri Jul 04 17:20:04 2031
```

```
# Fingerprint (SHA-256):
```

```
EA:A9:62:C4:FA:4A:6B:AF:EB:E4:15:19:6D:35:1C:CD:88:8D:4F:53:F3:FA:8A:E6:D7:C4:66:A9:4E:60:42:BB
```

```
# Fingerprint (SHA1): FA:B7:EE:36:97:26:62:FB:2D:B0:2A:F6:BF:03:FD:E8:7C:4B:2F:9B
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "certSIGN ROOT CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\372\267\356\066\227\046\142\373\055\260\052\366\277\003\375\350
\174\113\057\233
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\030\230\300\326\351\072\374\371\260\365\014\367\113\001\104\027
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\021\060\017\006\003\125\004\012\023\010\143\145\162\164\123\111
\107\116\061\031\060\027\006\003\125\004\013\023\020\143\145\162
\164\123\111\107\116\040\122\117\117\124\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\006\040\006\005\026\160\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "NetLock Arany (Class Gold) Ftanúsítvány"

#

Issuer: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

Serial Number:49:41:2c:e4:00:10

Subject: CN=NetLock Arany (Class Gold) F..tan..s..tv..ny,OU=Tan..s..tv..nykiad..k (Certification Services),O=NetLock Kft.,L=Budapest,C=HU

Not Valid Before: Thu Dec 11 15:08:21 2008

Not Valid After : Wed Dec 06 15:08:21 2028

Fingerprint (SHA-256):

6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98

Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\006\111\101\054\344\000\020

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\025\060\202\002\375\240\003\002\001\002\002\006\111
\101\054\344\000\020\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\060\201\247\061\013\060\011\006\003\125\004\006
\023\002\110\125\061\021\060\017\006\003\125\004\007\014\010\102
\165\144\141\160\145\163\164\061\025\060\023\006\003\125\004\012
\014\014\116\145\164\114\157\143\153\040\113\146\164\056\061\067
\060\065\006\003\125\004\013\014\056\124\141\156\303\272\163\303
\255\164\166\303\241\156\171\153\151\141\144\303\263\153\040\050
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\051\061\065\060\063\006\003\125\004\003
\014\054\116\145\164\114\157\143\153\040\101\162\141\156\171\040
\050\103\154\141\163\163\040\107\157\154\144\051\040\106\305\221
\164\141\156\303\272\163\303\255\164\166\303\241\156\171\060\036
\027\015\060\070\061\062\061\061\061\065\060\070\062\061\132\027
\015\062\070\061\062\060\066\061\065\060\070\062\061\132\060\201
\247\061\013\060\011\006\003\125\004\006\023\002\110\125\061\021
\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145\163
\164\061\025\060\023\006\003\125\004\012\014\014\116\145\164\114
\157\143\153\040\113\146\164\056\061\067\060\065\006\003\125\004
\013\014\056\124\141\156\303\272\163\303\255\164\166\303\241\156
\171\153\151\141\144\303\263\153\040\050\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163
\051\061\065\060\063\006\003\125\004\003\014\054\116\145\164\114
\157\143\153\040\101\162\141\156\171\040\050\103\154\141\163\163
\040\107\157\154\144\051\040\106\305\221\164\141\156\303\272\163
\303\255\164\166\303\241\156\171\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\304\044\136\163\276\113\155
\024\303\241\364\343\227\220\156\322\060\105\036\074\356\147\331
\144\340\032\212\177\312\060\312\203\343\040\301\343\364\072\323
\224\137\032\174\133\155\277\060\117\204\047\366\237\037\111\274
\306\231\012\220\362\017\365\177\103\204\067\143\121\213\172\245
\160\374\172\130\315\216\233\355\303\106\154\204\160\135\332\363
\001\220\043\374\116\060\251\176\341\047\143\347\355\144\074\240
\270\311\063\143\376\026\220\377\260\270\375\327\250\300\300\224
\103\013\266\325\131\246\236\126\320\044\037\160\171\257\333\071
\124\015\145\165\331\025\101\224\001\257\136\354\366\215\361\377
\255\144\376\040\232\327\134\353\376\246\037\010\144\243\213\166
\125\255\036\073\050\140\056\207\045\350\252\257\037\306\144\106
\040\267\160\177\074\336\110\333\226\123\267\071\167\344\032\342
\307\026\204\166\227\133\057\273\031\025\205\370\151\205\365\231
\247\251\362\064\247\251\266\246\003\374\157\206\075\124\174\166
\004\233\153\371\100\135\000\064\307\056\231\165\235\345\210\003

```
\252\115\370\003\322\102\166\300\033\002\003\000\250\213\243\105
\060\103\060\022\006\003\125\035\023\001\001\377\004\010\060\006
\001\001\377\002\001\004\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\314\372\147\223\360\266\270\320\245\300\036\363\123\375\214
\123\337\203\327\226\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\253\177\356\034\026\251\234
\074\121\000\240\300\021\010\005\247\231\346\157\001\210\124\141
\156\361\271\030\255\112\255\376\201\100\043\224\057\373\165\174
\057\050\113\142\044\201\202\013\365\141\361\034\156\270\141\070
\353\201\372\142\241\073\132\142\323\224\145\304\341\346\155\202
\370\057\045\160\262\041\046\301\162\121\037\214\054\303\204\220
\303\132\217\272\317\364\247\145\245\353\230\321\373\005\262\106
\165\025\043\152\157\205\143\060\200\360\325\236\037\051\034\302
\154\260\120\131\135\220\133\073\250\015\060\317\277\175\177\316
\361\235\203\275\311\106\156\040\246\371\141\121\272\041\057\173
\276\245\025\143\241\324\225\207\361\236\271\363\211\363\075\205
\270\270\333\276\265\271\051\371\332\067\005\000\111\224\003\204
\104\347\277\103\061\317\165\213\045\321\364\246\144\365\222\366
\253\005\353\075\351\245\013\066\142\332\314\006\137\066\213\266
\136\061\270\052\373\136\366\161\337\104\046\236\304\346\015\221
\264\056\165\225\200\121\152\113\060\246\260\142\241\223\361\233
\330\316\304\143\165\077\131\107\261
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "NetLock Arany (Class Gold) Ftanúsítvány"
```

```
# Issuer: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
```

```
# Serial Number:49:41:2c:e4:00:10
```

```
# Subject: CN=NetLock Arany (Class Gold) F..tan...s..tv..ny,OU=Tan...s..tv..nykiad..k (Certification
Services),O=NetLock Kft.,L=Budapest,C=HU
```

```
# Not Valid Before: Thu Dec 11 15:08:21 2008
```

```
# Not Valid After : Wed Dec 06 15:08:21 2028
```

```
# Fingerprint (SHA-256):
```

```
6C:61:DA:C3:A2:DE:F0:31:50:6B:E0:36:D2:A6:FE:40:19:94:FB:D1:3D:F9:C8:D4:66:59:92:74:C4:46:EC:98
```

```
# Fingerprint (SHA1): 06:08:3F:59:3F:15:A1:04:A0:69:A4:6B:A9:03:D0:06:B7:97:09:91
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "NetLock Arany (Class Gold) Ftanúsítvány"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\006\010\077\131\077\025\241\004\240\151\244\153\251\003\320\006
\267\227\011\221
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\241\267\377\163\335\326\327\064\062\030\337\374\074\255\210
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\247\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\025\060\023\006\003\125\004\012\014\014\116\145
\164\114\157\143\153\040\113\146\164\056\061\067\060\065\006\003
\125\004\013\014\056\124\141\156\303\272\163\303\255\164\166\303
\241\156\171\153\151\141\144\303\263\153\040\050\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\123\145\162\166\151\143
\145\163\051\061\065\060\063\006\003\125\004\003\014\054\116\145
\164\114\157\143\153\040\101\162\141\156\171\040\050\103\154\141
\163\163\040\107\157\154\144\051\040\106\305\221\164\141\156\303
\272\163\303\255\164\166\303\241\156\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\006\111\101\054\344\000\020
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 1"
#
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Serial Number: 1000 (0x3e8)
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
# Not Valid Before: Thu May 15 05:13:14 2003
# Not Valid After : Mon May 15 04:52:29 2023
# Fingerprint (SHA-256):
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
END

```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\002\003\350

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\060\060\202\002\030\240\003\002\001\002\002\002\003
\350\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061\060\036\027\015\060\063\060
\065\061\065\060\065\061\063\061\064\132\027\015\062\063\060\065
\061\065\060\064\065\062\062\071\132\060\107\061\013\060\011\006
\003\125\004\006\023\002\110\113\061\026\060\024\006\003\125\004
\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164
\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153
\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101
\040\061\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\254\377\070\266\351\146\002\111\343\242\264\341\220
\371\100\217\171\371\342\275\171\376\002\275\356\044\222\035\042
\366\332\205\162\151\376\327\077\011\324\335\221\265\002\234\320
\215\132\341\125\303\120\206\271\051\046\302\343\331\240\361\151
\003\050\040\200\105\042\055\126\247\073\124\225\126\042\131\037
\050\337\037\040\075\155\242\066\276\043\240\261\156\265\261\047
\077\071\123\011\352\253\152\350\164\262\302\145\134\216\277\174
\303\170\204\315\236\026\374\365\056\117\040\052\010\237\167\363
\305\036\304\232\122\146\036\110\136\343\020\006\217\042\230\341
\145\216\033\135\043\146\073\270\245\062\121\310\206\252\241\251
\236\177\166\224\302\246\154\267\101\360\325\310\006\070\346\324
\014\342\363\073\114\155\120\214\304\203\047\301\023\204\131\075
\236\165\164\266\330\002\136\072\220\172\300\102\066\162\354\152
\115\334\357\304\000\337\023\030\127\137\046\170\310\326\012\171
\167\277\367\257\267\166\271\245\013\204\027\135\020\352\157\341
\253\225\021\137\155\074\243\134\115\203\133\362\263\031\212\200
\213\013\207\002\003\001\000\001\243\046\060\044\060\022\006\003
\125\035\023\001\001\377\004\010\060\006\001\001\377\002\001\003
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\306
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\003
\202\001\001\000\016\106\325\074\256\342\207\331\136\201\213\002

```
\230\101\010\214\114\274\332\333\356\047\033\202\347\152\105\354
\026\213\117\205\240\363\262\160\275\132\226\272\312\156\155\356
\106\213\156\347\052\056\226\263\031\063\353\264\237\250\262\067
\356\230\250\227\266\056\266\147\047\324\246\111\375\034\223\145
\166\236\102\057\334\042\154\232\117\362\132\025\071\261\161\327
\053\121\350\155\034\230\300\331\052\364\241\202\173\325\311\101
\242\043\001\164\070\125\213\017\271\056\147\242\040\004\067\332
\234\013\323\027\041\340\217\227\171\064\157\204\110\002\040\063
\033\346\064\104\237\221\160\364\200\136\204\103\302\051\322\154
\022\024\344\141\215\254\020\220\236\204\120\273\360\226\157\105
\237\212\363\312\154\117\372\021\072\025\025\106\303\315\037\203
\133\055\101\022\355\120\147\101\023\075\041\253\224\212\252\116
\174\301\261\373\247\326\265\047\057\227\253\156\340\035\342\321
\034\054\037\104\342\374\276\221\241\234\373\326\051\123\163\206
\237\123\330\103\016\135\326\143\202\161\035\200\164\312\366\342
\002\153\331\132
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hongkong Post Root CA 1"
```

```
# Issuer: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
```

```
# Serial Number: 1000 (0x3e8)
```

```
# Subject: CN=Hongkong Post Root CA 1,O=Hongkong Post,C=HK
```

```
# Not Valid Before: Thu May 15 05:13:14 2003
```

```
# Not Valid After : Mon May 15 04:52:29 2023
```

```
# Fingerprint (SHA-256):
```

```
F9:E6:7D:33:6C:51:00:2A:C0:54:C6:32:02:2D:66:DD:A2:E7:E3:FF:F1:0A:D0:61:ED:31:D8:BB:B4:10:CF:B2
```

```
# Fingerprint (SHA1): D6:DA:A8:20:8D:09:D2:15:4D:24:B5:2F:CB:34:6E:B2:58:B2:8A:58
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hongkong Post Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\326\332\250\040\215\011\322\025\115\044\265\057\313\064\156\262
\130\262\212\130
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\250\015\157\071\170\271\103\155\167\102\155\230\132\314\043\312
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\026\060\024\006\003\125\004\012\023\015\110\157\156\147\153\157
\156\147\040\120\157\163\164\061\040\060\036\006\003\125\004\003
\023\027\110\157\156\147\153\157\156\147\040\120\157\163\164\040
\122\157\157\164\040\103\101\040\061
```

```

END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\003\350
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SecureSign RootCA11"
#
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Serial Number: 1 (0x1)
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
# Not Valid Before: Wed Apr 08 04:56:47 2009
# Not Valid After : Sun Apr 08 04:56:47 2029
# Fingerprint (SHA-256):
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SecureSign RootCA11"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\155\060\202\002\125\240\003\002\001\002\002\001\001

```

\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061\053
\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145\162
\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032\006
\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147\156
\040\122\157\157\164\103\101\061\061\060\036\027\015\060\071\060
\064\060\070\060\064\065\066\064\067\132\027\015\062\071\060\064
\060\070\060\064\065\066\064\067\132\060\130\061\013\060\011\006
\003\125\004\006\023\002\112\120\061\053\060\051\006\003\125\004
\012\023\042\112\141\160\141\156\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\123\145\162\166\151\143\145\163\054
\040\111\156\143\056\061\034\060\032\006\003\125\004\003\023\023
\123\145\143\165\162\145\123\151\147\156\040\122\157\157\164\103
\101\061\061\060\202\001\042\060\015\006\011\052\206\110\206\367
\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\375\167\252\245\034\220\005\073\313\114\233\063
\213\132\024\105\244\347\220\026\321\337\127\322\041\020\244\027
\375\337\254\326\037\247\344\333\174\367\354\337\270\003\332\224
\130\375\135\162\174\214\077\137\001\147\164\025\226\343\002\074
\207\333\256\313\001\216\302\363\146\306\205\105\364\002\306\072
\265\142\262\257\372\234\277\244\346\324\200\060\230\363\015\266
\223\217\251\324\330\066\362\260\374\212\312\054\241\025\063\225
\061\332\300\033\362\356\142\231\206\143\077\277\335\223\052\203
\250\166\271\023\037\267\316\116\102\205\217\042\347\056\032\362
\225\011\262\005\265\104\116\167\241\040\275\251\362\116\012\175
\120\255\365\005\015\105\117\106\161\375\050\076\123\373\004\330
\055\327\145\035\112\033\372\317\073\260\061\232\065\156\310\213
\006\323\000\221\362\224\010\145\114\261\064\006\000\172\211\342
\360\307\003\131\317\325\326\350\247\062\263\346\230\100\206\305
\315\047\022\213\314\173\316\267\021\074\142\140\007\043\076\053
\100\156\224\200\011\155\266\263\157\167\157\065\010\120\373\002
\207\305\076\211\002\003\001\000\001\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\133\370\115\117\262\245\206\324
\072\322\361\143\232\240\276\011\366\127\267\336\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\015\006
\011\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001
\000\240\241\070\026\146\056\247\126\037\041\234\006\372\035\355
\271\042\305\070\046\330\116\117\354\243\177\171\336\106\041\241
\207\167\217\007\010\232\262\244\305\257\017\062\230\013\174\146
\051\266\233\175\045\122\111\103\253\114\056\053\156\172\160\257
\026\016\343\002\154\373\102\346\030\235\105\330\125\310\350\073
\335\347\341\364\056\013\034\064\134\154\130\112\373\214\210\120
\137\225\034\277\355\253\042\265\145\263\205\272\236\017\270\255
\345\172\033\212\120\072\035\275\015\274\173\124\120\013\271\102
\257\125\240\030\201\255\145\231\357\276\344\234\277\304\205\253
\101\262\124\157\334\045\315\355\170\342\216\014\215\011\111\335

```
\143\173\132\151\226\002\041\250\275\122\131\351\175\065\313\310
\122\312\177\201\376\331\153\323\367\021\355\045\337\370\347\371
\244\372\162\227\204\123\015\245\320\062\030\121\166\131\024\154
\017\353\354\137\200\214\165\103\203\303\205\230\377\114\236\055
\015\344\167\203\223\116\265\226\007\213\050\023\233\214\031\215
\101\047\111\100\356\336\346\043\104\071\334\241\042\326\272\003
\362
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SecureSign RootCA11"
```

```
# Issuer: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=SecureSign RootCA11,O="Japan Certification Services, Inc.",C=JP
```

```
# Not Valid Before: Wed Apr 08 04:56:47 2009
```

```
# Not Valid After : Sun Apr 08 04:56:47 2029
```

```
# Fingerprint (SHA-256):
```

```
BF:0F:EE:FB:9E:3A:58:1A:D5:F9:E9:DB:75:89:98:57:43:D2:61:08:5C:4D:31:4F:6F:5D:72:59:AA:42:16:12
```

```
# Fingerprint (SHA1): 3B:C4:9F:48:F8:F3:73:A0:9C:1E:BD:F8:5B:B1:C3:65:C7:D8:11:B3
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SecureSign RootCA11"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\073\304\237\110\370\363\163\240\234\036\275\370\133\261\303\145
\307\330\021\263
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\267\122\164\342\222\264\200\223\362\165\344\314\327\362\352\046
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\130\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\053\060\051\006\003\125\004\012\023\042\112\141\160\141\156\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\123\145
\162\166\151\143\145\163\054\040\111\156\143\056\061\034\060\032
\006\003\125\004\003\023\023\123\145\143\165\162\145\123\151\147
\156\040\122\157\157\164\103\101\061\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\001
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "Microsec e-Szigno Root CA 2009"
#
# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:00:c2:7e:43:04:4e:47:3f:19
# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Jun 16 11:30:18 2009
# Not Valid After : Sun Dec 30 11:30:18 2029
# Fingerprint (SHA-256):
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\012\060\202\002\362\240\003\002\001\002\002\011\000
\302\176\103\004\116\107\077\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003
```

\125\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007
\014\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003
\125\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164
\144\056\061\047\060\045\006\003\125\004\003\014\036\115\151\143
\162\157\163\145\143\040\145\055\123\172\151\147\156\157\040\122
\157\157\164\040\103\101\040\062\060\060\071\061\037\060\035\006
\011\052\206\110\206\367\015\001\011\001\026\020\151\156\146\157
\100\145\055\163\172\151\147\156\157\056\150\165\060\036\027\015
\060\071\060\066\061\066\061\061\063\060\061\070\132\027\015\062
\071\061\062\063\060\061\061\063\060\061\070\132\060\201\202\061
\013\060\011\006\003\125\004\006\023\002\110\125\061\021\060\017
\006\003\125\004\007\014\010\102\165\144\141\160\145\163\164\061
\026\060\024\006\003\125\004\012\014\015\115\151\143\162\157\163
\145\143\040\114\164\144\056\061\047\060\045\006\003\125\004\003
\014\036\115\151\143\162\157\163\145\143\040\145\055\123\172\151
\147\156\157\040\122\157\157\164\040\103\101\040\062\060\060\071
\061\037\060\035\006\011\052\206\110\206\367\015\001\011\001\026
\020\151\156\146\157\100\145\055\163\172\151\147\156\157\056\150
\165\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\351\370\217\363\143\255\332\206\330\247\340\102\373\317
\221\336\246\046\370\231\245\143\160\255\233\256\312\063\100\175
\155\226\156\241\016\104\356\341\023\235\224\102\122\232\275\165
\205\164\054\250\016\035\223\266\030\267\214\054\250\317\373\134
\161\271\332\354\376\350\176\217\344\057\035\262\250\165\207\330
\267\241\345\073\317\231\112\106\320\203\031\175\300\241\022\034
\225\155\112\364\330\307\245\115\063\056\205\071\100\165\176\024
\174\200\022\230\120\307\101\147\270\240\200\141\124\246\154\116
\037\340\235\016\007\351\311\272\063\347\376\300\125\050\054\002
\200\247\031\365\236\334\125\123\003\227\173\007\110\377\231\373
\067\212\044\304\131\314\120\020\143\216\252\251\032\260\204\032
\206\371\137\273\261\120\156\244\321\012\314\325\161\176\037\247
\033\174\365\123\156\042\137\313\053\346\324\174\135\256\326\302
\306\114\345\005\001\331\355\127\374\301\043\171\374\372\310\044
\203\225\363\265\152\121\001\320\167\326\351\022\241\371\032\203
\373\202\033\271\260\227\364\166\006\063\103\111\240\377\013\265
\372\265\002\003\001\000\001\243\201\200\060\176\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\313\017\306\337\102\103\314\075
\313\265\110\043\241\032\172\246\052\273\064\150\060\037\006\003
\125\035\043\004\030\060\026\200\024\313\017\306\337\102\103\314
\075\313\265\110\043\241\032\172\246\052\273\064\150\060\033\006
\003\125\035\021\004\024\060\022\201\020\151\156\146\157\100\145
\055\163\172\151\147\156\157\056\150\165\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\001\001\000\311\321
\016\136\056\325\314\263\174\076\313\374\075\377\015\050\225\223
\004\310\277\332\315\171\270\103\220\360\244\276\357\362\357\041

```
\230\274\324\324\135\006\366\356\102\354\060\154\240\252\251\312
\361\257\212\372\077\013\163\152\076\352\056\100\176\037\256\124
\141\171\353\056\010\067\327\043\363\214\237\276\035\261\341\244
\165\333\240\342\124\024\261\272\034\051\244\030\366\022\272\242
\024\024\343\061\065\310\100\377\267\340\005\166\127\301\034\131
\362\370\277\344\355\045\142\134\204\360\176\176\037\263\276\371
\267\041\021\314\003\001\126\160\247\020\222\036\033\064\201\036
\255\234\032\303\004\074\355\002\141\326\036\006\363\137\072\207
\362\053\361\105\207\345\075\254\321\307\127\204\275\153\256\334
\330\371\266\033\142\160\013\075\066\311\102\362\062\327\172\141
\346\322\333\075\317\310\251\311\233\334\333\130\104\327\157\070
\257\177\170\323\243\255\032\165\272\034\301\066\174\217\036\155
\034\303\165\106\256\065\005\246\366\134\075\041\356\126\360\311
\202\042\055\172\124\253\160\303\175\042\145\202\160\226
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Microsec e-Szigno Root CA 2009"
```

```
# Issuer: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
```

```
# Serial Number:00:c2:7e:43:04:4e:47:3f:19
```

```
# Subject: E=info@e-szigno.hu,CN=Microsec e-Szigno Root CA 2009,O=Microsec Ltd.,L=Budapest,C=HU
```

```
# Not Valid Before: Tue Jun 16 11:30:18 2009
```

```
# Not Valid After : Sun Dec 30 11:30:18 2029
```

```
# Fingerprint (SHA-256):
```

```
3C:5F:81:FE:A5:FA:B8:2C:64:BF:A2:EA:EC:AF:CD:E8:E0:77:FC:86:20:A7:CA:E5:37:16:3D:F3:6E:DB:F3:78
```

```
# Fingerprint (SHA1): 89:DF:74:FE:5C:F4:0F:4A:80:F9:E3:37:7D:54:DA:91:E1:01:31:8E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsec e-Szigno Root CA 2009"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\211\337\164\376\134\364\017\112\200\371\343\067\175\124\332\221
\341\001\061\216
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\370\111\364\003\274\104\055\203\276\110\151\175\051\144\374\261
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\110\125
\061\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160
\145\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151
\143\162\157\163\145\143\040\114\164\144\056\061\047\060\045\006
\003\125\004\003\014\036\115\151\143\162\157\163\145\143\040\145
\055\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040
\062\060\060\071\061\037\060\035\006\011\052\206\110\206\367\015
```

```

\001\011\001\026\020\151\156\146\157\100\145\055\163\172\151\147
\156\157\056\150\165
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\302\176\103\004\116\107\077\031
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root CA - R3"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Serial Number:04:00:00:00:01:21:58:53:08:a2
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
# Not Valid Before: Wed Mar 18 10:00:00 2009
# Not Valid After : Sun Mar 18 10:00:00 2029
# Fingerprint (SHA-256):
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\013\004\000\000\000\000\001\041\130\123\010\242
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\137\060\202\002\107\240\003\002\001\002\002\013\004

```

\000\000\000\000\001\041\130\123\010\242\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\114\061\040\060\036\006
\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147\156
\040\122\157\157\164\040\103\101\040\055\040\122\063\061\023\060
\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123\151
\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154\157
\142\141\154\123\151\147\156\060\036\027\015\060\071\060\063\061
\070\061\060\060\060\060\060\132\027\015\062\071\060\063\061\070
\061\060\060\060\060\060\132\060\114\061\040\060\036\006\003\125
\004\013\023\027\107\154\157\142\141\154\123\151\147\156\040\122
\157\157\164\040\103\101\040\055\040\122\063\061\023\060\021\006
\003\125\004\012\023\012\107\154\157\142\141\154\123\151\147\156
\061\023\060\021\006\003\125\004\003\023\012\107\154\157\142\141
\154\123\151\147\156\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\314\045\166\220\171\006\170\042\026\365
\300\203\266\204\312\050\236\375\005\166\021\305\255\210\162\374
\106\002\103\307\262\212\235\004\137\044\313\056\113\341\140\202
\106\341\122\253\014\201\107\160\154\335\144\321\353\365\054\243
\017\202\075\014\053\256\227\327\266\024\206\020\171\273\073\023
\200\167\214\010\341\111\322\152\142\057\037\136\372\226\150\337
\211\047\225\070\237\006\327\076\311\313\046\131\015\163\336\260
\310\351\046\016\203\025\306\357\133\213\322\004\140\312\111\246
\050\366\151\073\366\313\310\050\221\345\235\212\141\127\067\254
\164\024\334\164\340\072\356\162\057\056\234\373\320\273\277\365
\075\000\341\006\063\350\202\053\256\123\246\072\026\163\214\335
\101\016\040\072\300\264\247\241\351\262\117\220\056\062\140\351
\127\313\271\004\222\150\150\345\070\046\140\165\262\237\167\377
\221\024\357\256\040\111\374\255\100\025\110\321\002\061\141\031
\136\270\227\357\255\167\267\144\232\172\277\137\301\023\357\233
\142\373\015\154\340\124\151\026\251\003\332\156\351\203\223\161
\166\306\151\205\202\027\002\003\001\000\001\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\217\360\113\177\250
\056\105\044\256\115\120\372\143\232\213\336\342\335\033\274\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\100\333\300\120\252\376\310\014\357\367\226\124
\105\111\273\226\000\011\101\254\263\023\206\206\050\007\063\312
\153\346\164\271\272\000\055\256\244\012\323\365\361\361\017\212
\277\163\147\112\203\307\104\173\170\340\257\156\154\157\003\051
\216\063\071\105\303\216\344\271\127\154\252\374\022\226\354\123
\306\055\344\044\154\271\224\143\373\334\123\150\147\126\076\203
\270\317\065\041\303\311\150\376\316\332\302\123\252\314\220\212
\351\360\135\106\214\225\335\172\130\050\032\057\035\336\315\000
\067\101\217\355\104\155\327\123\050\227\176\363\147\004\036\025
\327\212\226\264\323\336\114\047\244\114\033\163\163\166\364\027
\231\302\037\172\016\343\055\010\255\012\034\054\377\074\253\125

```
\016\017\221\176\066\353\303\127\111\276\341\056\055\174\140\213
\303\101\121\023\043\235\316\367\062\153\224\001\250\231\347\054
\063\037\072\073\045\322\206\100\316\073\054\206\170\311\141\057
\024\272\356\333\125\157\337\204\356\005\011\115\275\050\330\162
\316\323\142\120\145\036\353\222\227\203\061\331\263\265\312\107
\130\077\137
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root CA - R3"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Serial Number:04:00:00:00:00:01:21:58:53:08:a2
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R3
```

```
# Not Valid Before: Wed Mar 18 10:00:00 2009
```

```
# Not Valid After : Sun Mar 18 10:00:00 2029
```

```
# Fingerprint (SHA-256):
```

```
CB:B5:22:D7:B7:F1:27:AD:6A:01:13:86:5B:DF:1C:D4:10:2E:7D:07:59:AF:63:5A:7C:F4:72:0D:C9:63:C5:3B
```

```
# Fingerprint (SHA1): D6:9B:56:11:48:F0:1C:77:C5:45:78:C1:09:26:DF:5B:85:69:76:AD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root CA - R3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\326\233\126\021\110\360\034\167\305\105\170\301\011\046\337\133
\205\151\166\255
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\305\337\270\111\312\005\023\125\356\055\272\032\303\076\260\050
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\063\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\013\004\000\000\000\000\001\041\130\123\010\242
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:53:ec:3b:ee:fb:b2:48:5f
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\123
\354\073\356\373\262\110\137\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\060\071\060
\065\062\060\060\070\063\070\061\065\132\027\015\063\060\061\062
\063\061\060\070\063\070\061\065\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
```

\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\022\006\003\125\035\023\001
\001\377\004\010\060\006\001\001\377\002\001\001\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\145\315\353\253\065\036\000\076\176
\325\164\300\034\264\163\107\016\032\144\057\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007

\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\015\006\011\052\206\110\206\367\015\001\001
\005\005\000\003\202\002\001\000\027\175\240\371\264\335\305\305
\353\255\113\044\265\241\002\253\335\245\210\112\262\017\125\113
\053\127\214\073\345\061\335\376\304\062\361\347\133\144\226\066
\062\030\354\245\062\167\327\343\104\266\300\021\052\200\271\075
\152\156\174\233\323\255\374\303\326\243\346\144\051\174\321\341
\070\036\202\053\377\047\145\257\373\026\025\304\056\161\204\345
\265\377\372\244\107\275\144\062\273\366\045\204\242\047\102\365
\040\260\302\023\020\021\315\020\025\272\102\220\052\322\104\341
\226\046\353\061\110\022\375\052\332\311\006\317\164\036\251\113
\325\207\050\371\171\064\222\076\056\104\350\366\217\117\217\065
\077\045\263\071\334\143\052\220\153\040\137\304\122\022\116\227
\054\052\254\235\227\336\110\362\243\146\333\302\322\203\225\246
\146\247\236\045\017\351\013\063\221\145\012\132\303\331\124\022
\335\257\303\116\016\037\046\136\015\334\263\215\354\325\201\160
\336\322\117\044\005\363\154\116\365\114\111\146\215\321\377\322
\013\045\101\110\376\121\204\306\102\257\200\004\317\320\176\144
\111\344\362\337\242\354\261\114\300\052\035\347\264\261\145\242
\304\274\361\230\364\252\160\007\143\264\270\332\073\114\372\100
\042\060\133\021\246\360\005\016\306\002\003\110\253\206\233\205
\335\333\335\352\242\166\200\163\175\365\234\004\304\105\215\347
\271\034\213\236\352\327\165\321\162\261\336\165\104\347\102\175
\342\127\153\175\334\231\274\075\203\050\352\200\223\215\305\114
\145\301\160\201\270\070\374\103\061\262\366\003\064\107\262\254
\373\042\006\313\036\335\027\107\034\137\146\271\323\032\242\332
\021\261\244\274\043\311\344\276\207\377\271\224\266\370\135\040
\112\324\137\347\275\150\173\145\362\025\036\322\072\251\055\351
\330\153\044\254\227\130\104\107\255\131\030\361\041\145\160\336
\316\064\140\250\100\361\363\074\244\303\050\043\214\376\047\063
\103\100\240\027\074\353\352\073\260\162\246\243\271\112\113\136
\026\110\364\262\274\310\214\222\305\235\237\254\162\066\274\064
\200\064\153\251\213\222\300\270\027\355\354\166\123\365\044\001
\214\263\042\350\113\174\125\306\235\372\243\024\273\145\205\156
\156\117\022\176\012\074\235\225

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"
Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
Serial Number:53:ec:3b:ee:fb:b2:48:5f
Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES

```

# Not Valid Before: Wed May 20 08:38:15 2009
# Not Valid After : Tue Dec 31 08:38:15 2030
# Fingerprint (SHA-256):
04:04:80:28:BF:1F:28:64:D4:8F:9A:D4:D8:32:94:36:6A:82:88:56:55:3F:3B:14:30:3F:90:14:7F:5D:40:EF
# Fingerprint (SHA1): AE:C5:FB:3F:C8:E1:BF:C4:E5:4F:03:07:5A:9A:E8:00:B7:F7:B6:FA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\256\305\373\077\310\341\277\304\345\117\003\007\132\232\350\000
\267\367\266\372
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\163\072\164\172\354\273\243\226\246\302\344\342\310\233\300\303
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\123\354\073\356\373\262\110\137
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Izenpe.com"
#
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
# Not Valid Before: Thu Dec 13 13:08:28 2007
# Not Valid After : Sun Dec 13 08:27:25 2037
# Fingerprint (SHA-256):
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "Izenpe.com"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\361\060\202\003\331\240\003\002\001\002\002\020\000
\260\267\132\026\110\137\277\341\313\365\213\327\031\346\175\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\070
\061\013\060\011\006\003\125\004\006\023\002\105\123\061\024\060
\022\006\003\125\004\012\014\013\111\132\105\116\120\105\040\123
\056\101\056\061\023\060\021\006\003\125\004\003\014\012\111\172
\145\156\160\145\056\143\157\155\060\036\027\015\060\067\061\062
\061\063\061\063\060\070\062\070\132\027\015\063\067\061\062\061
\063\060\070\062\067\062\065\132\060\070\061\013\060\011\006\003
\125\004\006\023\002\105\123\061\024\060\022\006\003\125\004\012
\014\013\111\132\105\116\120\105\040\123\056\101\056\061\023\060
\021\006\003\125\004\003\014\012\111\172\145\156\160\145\056\143
\157\155\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\311\323\172\312\017\036\254\247\206\350\026\145\152
\261\302\033\105\062\161\225\331\376\020\133\314\257\347\245\171
\001\217\211\303\312\362\125\161\367\167\276\167\224\363\162\244
\054\104\330\236\222\233\024\072\241\347\044\220\012\012\126\216
\305\330\046\224\341\331\110\341\055\076\332\012\162\335\243\231
\025\332\201\242\207\364\173\156\046\167\211\130\255\326\353\014
\262\101\172\163\156\155\333\172\170\101\351\010\210\022\176\207
\056\146\021\143\154\124\373\074\235\162\300\274\056\377\302\267
\335\015\166\343\072\327\367\264\150\276\242\365\343\201\156\301
\106\157\135\215\340\115\306\124\125\211\032\063\061\012\261\127
\271\243\212\230\303\354\073\064\305\225\101\151\176\165\302\074
\040\305\141\272\121\107\240\040\220\223\241\220\113\363\116\174
\205\105\124\232\321\005\046\101\260\265\115\035\063\276\304\003
\310\045\174\301\160\333\073\364\011\055\124\047\110\254\057\341
```

\304\254\076\310\313\222\114\123\071\067\043\354\323\001\371\340
\011\104\115\115\144\300\341\015\132\207\042\274\255\033\243\376
\046\265\025\363\247\374\204\031\351\354\241\210\264\104\151\204
\203\363\211\321\164\006\251\314\013\326\302\336\047\205\120\046
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\005\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
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\121\170\254\225\023\336\306\375\175\270\032\220\114\253\222\003
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\153\011\252\306\051\356\150\111\147\060\200\044\172\061\026\071
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\371\276\277\052\205\077\300\100\243\072\131\374\131\113\074\050
\044\333\264\025\165\256\015\210\272\056\163\300\275\130\207\345
\102\362\353\136\356\036\060\042\231\313\067\321\304\041\154\201
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\373\215\105\054\332\234\270\176\100\034\141\347\076\242\222\054
\113\362\315\372\230\266\051\377\363\362\173\251\037\056\240\223
\127\053\336\205\003\371\151\067\313\236\170\152\005\264\305\061
\170\211\354\172\247\205\341\271\173\074\336\276\036\171\204\316
\237\160\016\131\302\065\056\220\052\061\331\344\105\172\101\244
\056\023\233\064\016\146\173\111\253\144\227\320\106\303\171\235
\162\120\143\246\230\133\006\275\110\155\330\071\203\160\350\065
\360\005\321\252\274\343\333\310\002\352\174\375\202\332\302\133
\122\065\256\230\072\255\272\065\223\043\247\037\110\335\065\106
\230\262\020\150\344\245\061\302\012\130\056\031\201\020\311\120
\165\374\352\132\026\316\021\327\356\357\120\210\055\141\377\077
\102\163\005\224\103\325\216\074\116\001\072\031\245\037\106\116
\167\320\135\345\201\042\041\207\376\224\175\204\330\223\255\326
\150\103\110\262\333\353\163\044\347\221\177\124\244\266\200\076
\235\243\074\114\162\302\127\304\240\324\314\070\047\316\325\006
\236\242\110\331\351\237\316\202\160\066\223\232\073\337\226\041
\343\131\267\014\332\221\067\360\375\131\132\263\231\310\151\154
\103\046\001\065\143\140\125\211\003\072\165\330\272\112\331\124
\377\356\336\200\330\055\321\070\325\136\055\013\230\175\076\154
\333\374\046\210\307
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Izenpe.com"
```

```
# Issuer: CN=Izenpe.com,O=IZENPE S.A.,C=ES
```

```
# Serial Number:00:b0:b7:5a:16:48:5f:bf:e1:cb:f5:8b:d7:19:e6:7d
```

```
# Subject: CN=Izenpe.com,O=IZENPE S.A.,C=ES
```

```
# Not Valid Before: Thu Dec 13 13:08:28 2007
```

```
# Not Valid After : Sun Dec 13 08:27:25 2037
```

```
# Fingerprint (SHA-256):
```

```
25:30:CC:8E:98:32:15:02:BA:D9:6F:9B:1F:BA:1B:09:9E:2D:29:9E:0F:45:48:BB:91:4F:36:3B:C0:D4:53:1F
```

```
# Fingerprint (SHA1): 2F:78:3D:25:52:18:A7:4A:65:39:71:B5:2C:A2:9C:45:15:6F:E9:19
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Izenpe.com"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\057\170\075\045\122\030\247\112\145\071\161\265\054\242\234\105
\025\157\351\031
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\246\260\315\205\200\332\134\120\064\243\071\220\057\125\147\163
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\070\061\013\060\011\006\003\125\004\006\023\002\105\123\061
```

```
\024\060\022\006\003\125\004\012\014\013\111\132\105\116\120\105
\040\123\056\101\056\061\023\060\021\006\003\125\004\003\014\012
\111\172\145\156\160\145\056\143\157\155
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\000\260\267\132\026\110\137\277\341\313\365\213\327\031
\346\175
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Chambers of Commerce Root - 2008"

#

Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Serial Number:00:a3:da:42:7e:a4:b1:ae:da

Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:29:50 2008

Not Valid After : Sat Jul 31 12:29:50 2038

Fingerprint (SHA-256):

06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0

Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\243\332\102\176\244\261\256\332

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\117\060\202\005\067\240\003\002\001\002\002\011\000
\243\332\102\176\244\261\256\332\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\201\256\061\013\060\011\006\003
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165
\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\051\060
\047\006\003\125\004\003\023\040\103\150\141\155\142\145\162\163
\040\157\146\040\103\157\155\155\145\162\143\145\040\122\157\157
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\165\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141
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\021\263\167\076\040\226\065\041\153\263\010\331\160\056\144\367
\204\222\123\326\016\260\220\212\212\343\207\215\006\323\275\220
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\166\021\011\015\166\105\304\251\256\075\152\257\265\175\145\057
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\211\365\320\265\275\176\340\120\304\022\211\263\043\232\020\061
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\202\001\154\060\202\001\150\060\022\006\003\125\035\023\001\001
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\035\016\004\026\004\024\371\044\254\017\262\265\370\171\300\372
\140\210\033\304\331\115\002\236\027\031\060\201\343\006\003\125
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\056\143\141\155\145\162\146\151\162\155\141\056\143\157\155\060
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\351\170\174\110\276\077\175\105\222\136\351\332\261\031\374\026
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\306\071\117\026\352\074\176\172\106\324\105\152\106\250\353\165
\202\126\247\253\240\174\150\023\063\366\235\060\360\157\047\071
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\357\214\017\142\112\174\256\323\365\124\370\215\266\232\126\207
\026\202\072\063\253\132\042\010\367\202\272\352\056\340\107\232
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\073\353\321\354\046\330\065\244\060\305\072\254\127\236\263\166
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\032\074\137\212\062\063\133\060\307\211\057\107\230\017\243\003
\306\366\361\254\337\062\360\331\201\032\344\234\275\366\200\024
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\356\016\275\337\051\251\357\064\123\133\323\344\152\023\204\006
\266\062\002\304\122\256\042\322\334\262\041\102\032\332\100\360
\051\311\354\012\014\134\342\320\272\314\110\323\067\012\314\022
\012\212\171\260\075\003\177\151\113\364\064\040\175\263\064\352
\216\113\144\365\076\375\263\043\147\025\015\004\270\360\055\301
\011\121\074\262\154\025\360\245\043\327\203\164\344\345\056\311
\376\230\047\102\306\253\306\236\260\320\133\070\245\233\120\336
\176\030\230\265\105\073\366\171\264\350\367\032\173\006\203\373
\320\213\332\273\307\275\030\253\010\157\074\200\153\100\077\031
\031\272\145\212\346\276\325\134\323\066\327\357\100\122\044\140
\070\147\004\061\354\217\363\202\306\336\271\125\363\073\061\221
\132\334\265\010\025\255\166\045\012\015\173\056\207\342\014\246
\006\274\046\020\155\067\235\354\335\170\214\174\200\305\360\331
\167\110\320

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Chambers of Commerce Root - 2008"

Issuer: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU

Serial Number:00:a3:da:42:7e:a4:b1:ae:da

```
# Subject: CN=Chambers of Commerce Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
# Not Valid Before: Fri Aug 01 12:29:50 2008
# Not Valid After : Sat Jul 31 12:29:50 2038
# Fingerprint (SHA-256):
06:3E:4A:FA:C4:91:DF:D3:32:F3:08:9B:85:42:E9:46:17:D8:93:D7:FE:94:4E:10:A7:93:7E:E2:9D:96:93:C0
# Fingerprint (SHA1): 78:6A:74:AC:76:AB:14:7F:9C:6A:30:50:BA:9E:A8:7E:FE:9A:CE:3C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Chambers of Commerce Root - 2008"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\170\152\164\254\166\253\024\177\234\152\060\120\272\236\250\176
\376\232\316\074
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\200\236\204\132\016\145\013\027\002\363\125\030\052\076\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\256\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\051\060\047\006\003\125\004\003\023
\040\103\150\141\155\142\145\162\163\040\157\146\040\103\157\155
\155\145\162\143\145\040\122\157\157\164\040\055\040\062\060\060
\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\243\332\102\176\244\261\256\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Global Chambersign Root - 2008"
#
# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see
current address at www.camerfirma.com/address),C=EU
# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
```

(see current address at www.camerfirma.com/address),C=EU

Not Valid Before: Fri Aug 01 12:31:40 2008

Not Valid After : Sat Jul 31 12:31:40 2038

Fingerprint (SHA-256):

13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA

Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Global Chambersign Root - 2008"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\311\315\323\351\325\175\043\316

END

CKA_VALUE MULTILINE_OCTAL

\060\202\007\111\060\202\005\061\240\003\002\001\002\002\011\000
\311\315\323\351\325\175\043\316\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\060\201\254\061\013\060\011\006\003
\125\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007
\023\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165

\162\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164
\040\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056
\143\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020
\006\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067
\061\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141
\155\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060
\045\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103
\150\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040
\055\040\062\060\060\070\060\036\027\015\060\070\060\070\060\061
\061\062\063\061\064\060\132\027\015\063\070\060\067\063\061\061
\062\063\061\064\060\132\060\201\254\061\013\060\011\006\003\125
\004\006\023\002\105\125\061\103\060\101\006\003\125\004\007\023
\072\115\141\144\162\151\144\040\050\163\145\145\040\143\165\162
\162\145\156\164\040\141\144\144\162\145\163\163\040\141\164\040
\167\167\167\056\143\141\155\145\162\146\151\162\155\141\056\143
\157\155\057\141\144\144\162\145\163\163\051\061\022\060\020\006
\003\125\004\005\023\011\101\070\062\067\064\063\062\070\067\061
\033\060\031\006\003\125\004\012\023\022\101\103\040\103\141\155
\145\162\146\151\162\155\141\040\123\056\101\056\061\047\060\045
\006\003\125\004\003\023\036\107\154\157\142\141\154\040\103\150
\141\155\142\145\162\163\151\147\156\040\122\157\157\164\040\055
\040\062\060\060\070\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\300\337\126\323\344\072\233\166\105\264
\023\333\377\301\266\031\213\067\101\030\225\122\107\353\027\235
\051\210\216\065\154\006\062\056\107\142\363\111\004\277\175\104
\066\261\161\314\275\132\011\163\325\331\205\104\377\221\127\045
\337\136\066\216\160\321\134\161\103\035\331\332\357\134\322\373
\033\275\072\265\313\255\243\314\104\247\015\256\041\025\077\271
\172\133\222\165\330\244\022\070\211\031\212\267\200\322\342\062
\157\126\234\221\326\210\020\013\263\164\144\222\164\140\363\366
\317\030\117\140\262\043\320\307\073\316\141\113\231\217\302\014
\320\100\262\230\334\015\250\116\243\271\012\256\140\240\255\105
\122\143\272\146\275\150\340\371\276\032\250\201\273\036\101\170
\165\323\301\376\000\125\260\207\124\350\047\220\065\035\114\063
\255\227\374\227\056\230\204\277\054\311\243\277\321\230\021\024
\355\143\370\312\230\210\130\027\231\355\105\003\227\176\074\206
\036\210\214\276\362\221\204\217\145\064\330\000\114\175\267\061
\027\132\051\172\012\030\044\060\243\067\265\172\251\001\175\046
\326\371\016\216\131\361\375\033\063\265\051\073\027\073\101\266
\041\335\324\300\075\245\237\237\037\103\120\311\273\274\154\172
\227\230\356\315\214\037\373\234\121\256\213\160\275\047\237\161
\300\153\254\175\220\146\350\327\135\072\015\260\325\302\215\325
\310\235\235\301\155\320\320\277\121\344\343\370\303\070\066\256
\326\247\165\346\257\204\103\135\223\222\014\152\007\336\073\035
\230\042\326\254\301\065\333\243\240\045\377\162\265\166\035\336
\155\351\054\146\054\122\204\320\105\222\316\034\345\345\063\035
\334\007\123\124\243\252\202\073\232\067\057\334\335\240\144\351

\346\335\275\256\374\144\205\035\074\247\311\006\336\204\377\153
\350\153\032\074\305\242\263\102\373\213\011\076\137\010\122\307
\142\304\324\005\161\277\304\144\344\370\241\203\350\076\022\233
\250\036\324\066\115\057\161\366\215\050\366\203\251\023\322\141
\301\221\273\110\300\064\217\101\214\113\114\333\151\022\377\120
\224\234\040\203\131\163\355\174\241\362\361\375\335\367\111\323
\103\130\240\126\143\312\075\075\345\065\126\131\351\016\312\040
\314\053\113\223\051\017\002\003\001\000\001\243\202\001\152\060
\202\001\146\060\022\006\003\125\035\023\001\001\377\004\010\060
\006\001\001\377\002\001\014\060\035\006\003\125\035\016\004\026
\004\024\271\011\312\234\036\333\323\154\072\153\256\355\124\361
\133\223\006\065\056\136\060\201\341\006\003\125\035\043\004\201
\331\060\201\326\200\024\271\011\312\234\036\333\323\154\072\153
\256\355\124\361\133\223\006\065\056\136\241\201\262\244\201\257
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070\202
\011\000\311\315\323\351\325\175\043\316\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\075\006\003\125\035
\040\004\066\060\064\060\062\006\004\125\035\040\000\060\052\060
\050\006\010\053\006\001\005\005\007\002\001\026\034\150\164\164
\160\072\057\057\160\157\154\151\143\171\056\143\141\155\145\162
\146\151\162\155\141\056\143\157\155\060\015\006\011\052\206\110
\206\367\015\001\001\005\005\000\003\202\002\001\000\200\210\177
\160\336\222\050\331\005\224\106\377\220\127\251\361\057\337\032
\015\153\372\174\016\034\111\044\171\047\330\106\252\157\051\131
\122\210\160\022\352\335\075\365\233\123\124\157\341\140\242\250
\011\271\354\353\131\174\306\065\361\334\030\351\361\147\345\257
\272\105\340\011\336\312\104\017\302\027\016\167\221\105\172\063
\137\137\226\054\150\213\301\107\217\230\233\075\300\354\313\365
\325\202\222\204\065\321\276\066\070\126\162\061\133\107\055\252
\027\244\143\121\353\012\001\255\177\354\165\236\313\241\037\361
\177\022\261\271\344\144\177\147\326\043\052\364\270\071\135\230
\350\041\247\341\275\075\102\032\164\232\160\257\150\154\120\135
\111\317\377\373\016\135\346\054\107\327\201\072\131\000\265\163
\153\143\040\366\061\105\010\071\016\364\160\176\100\160\132\077
\320\153\102\251\164\075\050\057\002\155\165\162\225\011\215\110
\143\306\306\043\127\222\223\136\065\301\215\371\012\367\054\235
\142\034\366\255\174\335\246\061\036\266\261\307\176\205\046\372
\244\152\265\332\143\060\321\357\223\067\262\146\057\175\005\367

```
\347\267\113\230\224\065\300\331\072\051\301\235\262\120\063\035
\112\251\132\246\311\003\357\355\364\347\250\156\212\264\127\204
\353\244\077\320\356\252\252\207\133\143\350\223\342\153\250\324
\270\162\170\153\033\355\071\344\135\313\233\252\207\325\117\116
\000\376\331\152\237\074\061\017\050\002\001\175\230\350\247\260
\242\144\236\171\370\110\362\025\251\314\346\310\104\353\077\170
\231\362\173\161\076\074\361\230\247\305\030\022\077\346\273\050
\063\102\351\105\012\174\155\362\206\171\057\305\202\031\175\011
\211\174\262\124\166\210\256\336\301\363\314\341\156\333\061\326
\223\256\231\240\357\045\152\163\230\211\133\072\056\023\210\036
\277\300\222\224\064\033\343\047\267\213\036\157\102\377\347\351
\067\233\120\035\055\242\371\002\356\313\130\130\072\161\274\150
\343\252\301\257\034\050\037\242\334\043\145\077\201\352\256\231
\323\330\060\317\023\015\117\025\311\204\274\247\110\055\370\060
\043\167\330\106\113\171\155\366\214\355\072\177\140\021\170\364
\351\233\256\325\124\300\164\200\321\013\102\237\301
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Global Chambersign Root - 2008"
```

```
# Issuer: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid (see
current address at www.camerfirma.com/address),C=EU
```

```
# Serial Number:00:c9:cd:d3:e9:d5:7d:23:ce
```

```
# Subject: CN=Global Chambersign Root - 2008,O=AC Camerfirma S.A.,serialNumber=A82743287,L=Madrid
(see current address at www.camerfirma.com/address),C=EU
```

```
# Not Valid Before: Fri Aug 01 12:31:40 2008
```

```
# Not Valid After : Sat Jul 31 12:31:40 2038
```

```
# Fingerprint (SHA-256):
```

```
13:63:35:43:93:34:A7:69:80:16:A0:D3:24:DE:72:28:4E:07:9D:7B:52:20:BB:8F:BD:74:78:16:EE:BE:BA:CA
```

```
# Fingerprint (SHA1): 4A:BD:EE:EC:95:0D:35:9C:89:AE:C7:52:A1:2C:5B:29:F6:D6:AA:0C
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Global Chambersign Root - 2008"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\112\275\356\354\225\015\065\234\211\256\307\122\241\054\133\051
\366\326\252\014
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\236\200\377\170\001\014\056\301\066\275\376\226\220\156\010\363
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\254\061\013\060\011\006\003\125\004\006\023\002\105\125
\061\103\060\101\006\003\125\004\007\023\072\115\141\144\162\151
\144\040\050\163\145\145\040\143\165\162\162\145\156\164\040\141
```

```
\144\144\162\145\163\163\040\141\164\040\167\167\167\056\143\141
\155\145\162\146\151\162\155\141\056\143\157\155\057\141\144\144
\162\145\163\163\051\061\022\060\020\006\003\125\004\005\023\011
\101\070\062\067\064\063\062\070\067\061\033\060\031\006\003\125
\004\012\023\022\101\103\040\103\141\155\145\162\146\151\162\155
\141\040\123\056\101\056\061\047\060\045\006\003\125\004\003\023
\036\107\154\157\142\141\154\040\103\150\141\155\142\145\162\163
\151\147\156\040\122\157\157\164\040\055\040\062\060\060\070
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\011\000\311\315\323\351\325\175\043\316
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Go Daddy Root Certificate Authority - G2"

#

Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012
\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111
\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157
\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164
\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164
\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\305\060\202\002\255\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012\023
\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157\040
\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\036\027\015\060\071\060\071\060\061\060
\060\060\060\060\060\132\027\015\063\067\061\062\063\061\062\063
\065\071\065\071\132\060\201\203\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\020\060\016\006\003\125\004\010\023\007
\101\162\151\172\157\156\141\061\023\060\021\006\003\125\004\007
\023\012\123\143\157\164\164\163\144\141\154\145\061\032\060\030
\006\003\125\004\012\023\021\107\157\104\141\144\144\171\056\143
\157\155\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\023\050\107\157\040\104\141\144\144\171\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062\060\202\001\042\060
\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202
\001\017\000\060\202\001\012\002\202\001\001\000\277\161\142\010
\361\372\131\064\367\033\311\030\243\367\200\111\130\351\042\203
\023\246\305\040\103\001\073\204\361\346\205\111\237\047\352\366
\204\033\116\240\264\333\160\230\307\062\001\261\005\076\007\116
\356\364\372\117\057\131\060\042\347\253\031\126\153\342\200\007
\374\363\026\165\200\071\121\173\345\371\065\266\164\116\251\215
\202\023\344\266\077\251\003\203\372\242\276\212\025\152\177\336
\013\303\266\031\024\005\312\352\303\250\004\224\073\106\174\062
\015\363\000\146\042\310\215\151\155\066\214\021\030\267\323\262
\034\140\264\070\372\002\214\316\323\335\106\007\336\012\076\353
\135\174\310\174\373\260\053\123\244\222\142\151\121\045\005\141
\032\104\201\214\054\251\103\226\043\337\254\072\201\232\016\051

\305\034\251\351\135\036\266\236\236\060\012\071\316\361\210\200
\373\113\135\314\062\354\205\142\103\045\064\002\126\047\001\221
\264\073\160\052\077\156\261\350\234\210\001\175\237\324\371\333
\123\155\140\235\277\054\347\130\253\270\137\106\374\316\304\033
\003\074\011\353\111\061\134\151\106\263\340\107\002\003\001\000
\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\072\232\205\007\020\147\050\266\357\366\275\005\101\156\040
\301\224\332\017\336\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\231\333\135\171\325\371\227
\131\147\003\141\361\176\073\006\061\165\055\241\040\216\117\145
\207\264\367\246\234\274\330\351\057\320\333\132\356\317\164\214
\163\264\070\102\332\005\173\370\002\165\270\375\245\261\327\256
\366\327\336\023\313\123\020\176\212\106\321\227\372\267\056\053
\021\253\220\260\047\200\371\350\237\132\351\067\237\253\344\337
\154\263\205\027\235\075\331\044\117\171\221\065\326\137\004\353
\200\203\253\232\002\055\265\020\364\330\220\307\004\163\100\355
\162\045\240\251\237\354\236\253\150\022\231\127\306\217\022\072
\011\244\275\104\375\006\025\067\301\233\344\062\243\355\070\350
\330\144\363\054\176\024\374\002\352\237\315\377\007\150\027\333
\042\220\070\055\172\215\321\124\361\151\343\137\063\312\172\075
\173\012\343\312\177\137\071\345\342\165\272\305\166\030\063\316
\054\360\057\114\255\367\261\347\316\117\250\304\233\112\124\006
\305\177\175\325\010\017\342\034\376\176\027\270\254\136\366\324
\026\262\103\011\014\115\366\247\153\264\231\204\145\312\172\210
\342\342\104\276\134\367\352\034\365

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Go Daddy Root Certificate Authority - G2"

Issuer: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Go Daddy Root Certificate Authority - G2,O="GoDaddy.com, Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

45:14:0B:32:47:EB:9C:C8:C5:B4:F0:D7:B5:30:91:F7:32:92:08:9E:6E:5A:63:E2:74:9D:D3:AC:A9:19:8E:DA

Fingerprint (SHA1): 47:BE:AB:C9:22:EA:E8:0E:78:78:34:62:A7:9F:45:C2:54:FD:E6:8B

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Go Daddy Root Certificate Authority - G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\107\276\253\311\042\352\350\016\170\170\064\142\247\237\105\302

\124\375\346\213

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\200\072\274\042\301\346\373\215\233\073\047\112\062\033\232\001

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\203\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157

\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157

\164\164\163\144\141\154\145\061\032\060\030\006\003\125\004\012

\023\021\107\157\104\141\144\144\171\056\143\157\155\054\040\111

\156\143\056\061\061\060\057\006\003\125\004\003\023\050\107\157

\040\104\141\144\144\171\040\122\157\157\164\040\103\145\162\164

\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164

\171\040\055\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Starfield Root Certificate Authority - G2"

#

Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Serial Number: 0 (0x0)

Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

Not Valid Before: Tue Sep 01 00:00:00 2009

Not Valid After : Thu Dec 31 23:59:59 2037

Fingerprint (SHA-256):

2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5

Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123

\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157

\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157

\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\335\060\202\002\305\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062\060
\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145\154
\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062\060\036\027\015\060\071\060\071\060\061\060\060\060\060\060
\060\132\027\015\063\067\061\062\063\061\062\063\065\071\065\071
\132\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172
\157\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143
\157\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004
\012\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143
\150\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061
\062\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151
\145\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206\367

\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002
\202\001\001\000\275\355\301\003\374\366\217\374\002\261\157\133
\237\110\331\235\171\342\242\267\003\141\126\030\303\107\266\327
\312\075\065\056\211\103\367\241\151\233\336\212\032\375\023\040
\234\264\111\167\062\051\126\375\271\354\214\335\042\372\162\334
\047\141\227\356\366\132\204\354\156\031\271\211\054\334\204\133
\325\164\373\153\137\305\211\245\020\122\211\106\125\364\270\165
\034\346\177\344\124\256\113\370\125\162\127\002\031\370\027\161
\131\353\036\050\007\164\305\235\110\276\154\264\364\244\260\363
\144\067\171\222\300\354\106\136\177\341\155\123\114\142\257\315
\037\013\143\273\072\235\373\374\171\000\230\141\164\317\046\202
\100\143\363\262\162\152\031\015\231\312\324\016\165\314\067\373
\213\211\301\131\361\142\177\137\263\137\145\060\370\247\267\115
\166\132\036\166\136\064\300\350\226\126\231\212\263\360\177\244
\315\275\334\062\061\174\221\317\340\137\021\370\153\252\111\134
\321\231\224\321\242\343\143\133\011\166\265\126\142\341\113\164
\035\226\324\046\324\010\004\131\320\230\016\016\346\336\374\303
\354\037\220\361\002\003\001\000\001\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\174\014\062\037\247\331\060
\177\304\175\150\243\142\250\241\316\253\007\133\047\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001
\000\021\131\372\045\117\003\157\224\231\073\232\037\202\205\071
\324\166\005\224\136\341\050\223\155\142\135\011\302\240\250\324
\260\165\070\361\064\152\235\344\237\212\206\046\121\346\054\321
\306\055\156\225\040\112\222\001\354\270\212\147\173\061\342\147
\056\214\225\003\046\056\103\235\112\061\366\016\265\014\273\267
\342\067\177\042\272\000\243\016\173\122\373\153\273\073\304\323
\171\121\116\315\220\364\147\007\031\310\074\106\172\015\001\175
\305\130\347\155\346\205\060\027\232\044\304\020\340\004\367\340
\362\177\324\252\012\377\102\035\067\355\224\345\144\131\022\040
\167\070\323\062\076\070\201\165\226\163\372\150\217\261\313\316
\037\305\354\372\234\176\317\176\261\361\007\055\266\374\277\312
\244\277\320\227\005\112\274\352\030\050\002\220\275\124\170\011
\041\161\323\321\175\035\331\026\260\251\141\075\320\012\000\042
\374\307\173\313\011\144\105\013\073\100\201\367\175\174\062\365
\230\312\130\216\175\052\356\220\131\163\144\371\066\164\136\045
\241\365\146\005\056\177\071\025\251\052\373\120\213\216\205\151
\364

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Starfield Root Certificate Authority - G2"
Issuer: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

```

# Serial Number: 0 (0x0)
# Subject: CN=Starfield Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
2C:E1:CB:0B:F9:D2:F9:E1:02:99:3F:BE:21:51:52:C3:B2:DD:0C:AB:DE:1C:68:E5:31:9B:83:91:54:DB:B7:F5
# Fingerprint (SHA1): B5:1C:06:7C:EE:2B:0C:3D:F8:55:AB:2D:92:F4:FE:39:D4:E7:0F:0E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Root Certificate Authority - G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\034\006\174\356\053\014\075\370\125\253\055\222\364\376\071
\324\347\017\016
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\326\071\201\306\122\176\226\151\374\374\312\146\355\005\362\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\217\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\062
\060\060\006\003\125\004\003\023\051\123\164\141\162\146\151\145
\154\144\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\055\040
\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Starfield Services Root Certificate Authority - G2"
#
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
# Serial Number: 0 (0x0)
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US

```

```
# Not Valid Before: Tue Sep 01 00:00:00 2009
# Not Valid After : Thu Dec 31 23:59:59 2037
# Fingerprint (SHA-256):
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\357\060\202\002\327\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157\156
\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157\164
\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012\023
\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150\156
\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073\060
```

\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145\154
\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164\040
\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150
\157\162\151\164\171\040\055\040\107\062\060\036\027\015\060\071
\060\071\060\061\060\060\060\060\060\060\132\027\015\063\067\061
\062\063\061\062\063\065\071\065\071\132\060\201\230\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\020\060\016\006\003
\125\004\010\023\007\101\162\151\172\157\156\141\061\023\060\021
\006\003\125\004\007\023\012\123\143\157\164\164\163\144\141\154
\145\061\045\060\043\006\003\125\004\012\023\034\123\164\141\162
\146\151\145\154\144\040\124\145\143\150\156\157\154\157\147\151
\145\163\054\040\111\156\143\056\061\073\060\071\006\003\125\004
\003\023\062\123\164\141\162\146\151\145\154\144\040\123\145\162
\166\151\143\145\163\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\325\014\072\304\052\371\116\342\365\276
\031\227\137\216\210\123\261\037\077\313\317\237\040\023\155\051
\072\310\017\175\074\367\153\166\070\143\331\066\140\250\233\136
\134\000\200\262\057\131\177\366\207\371\045\103\206\347\151\033
\122\232\220\341\161\343\330\055\015\116\157\366\310\111\331\266
\363\032\126\256\053\266\164\024\353\317\373\046\343\032\272\035
\226\056\152\073\130\224\211\107\126\377\045\240\223\160\123\203
\332\204\164\024\303\147\236\004\150\072\337\216\100\132\035\112
\116\317\103\221\073\347\126\326\000\160\313\122\356\173\175\256
\072\347\274\061\371\105\366\302\140\317\023\131\002\053\200\314
\064\107\337\271\336\220\145\155\002\317\054\221\246\246\347\336
\205\030\111\174\146\116\243\072\155\251\265\356\064\056\272\015
\003\270\063\337\107\353\261\153\215\045\331\233\316\201\321\105
\106\062\226\160\207\336\002\016\111\103\205\266\154\163\273\144
\352\141\101\254\311\324\124\337\207\057\307\042\262\046\314\237
\131\124\150\237\374\276\052\057\304\125\034\165\100\140\027\205
\002\125\071\213\177\005\002\003\001\000\001\243\102\060\100\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\035\006\003\125\035\016\004\026\004\024\234\137\000\337\252
\001\327\060\053\070\210\242\270\155\112\234\362\021\221\203\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\001\001\000\113\066\246\204\167\151\335\073\031\237\147\043\010
\157\016\141\311\375\204\334\137\330\066\201\315\330\033\101\055
\237\140\335\307\032\150\331\321\156\206\341\210\043\317\023\336
\103\317\342\064\263\004\235\037\051\325\277\370\136\310\325\301
\275\356\222\157\062\164\362\221\202\057\275\202\102\172\255\052
\267\040\175\115\274\172\125\022\302\025\352\275\367\152\225\056
\154\164\237\317\034\264\362\305\001\243\205\320\162\076\255\163
\253\013\233\165\014\155\105\267\216\224\254\226\067\265\240\320
\217\025\107\016\343\350\203\335\217\375\357\101\001\167\314\047

```
\251\142\205\063\362\067\010\357\161\317\167\006\336\310\031\035
\210\100\317\175\106\035\377\036\307\341\316\377\043\333\306\372
\215\125\116\251\002\347\107\021\106\076\364\375\275\173\051\046
\273\251\141\142\067\050\266\055\052\366\020\206\144\311\160\247
\322\255\267\051\160\171\352\074\332\143\045\237\375\150\267\060
\354\160\373\165\212\267\155\140\147\262\036\310\271\351\330\250
\157\002\213\147\015\115\046\127\161\332\040\374\301\112\120\215
\261\050\272
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Starfield Services Root Certificate Authority - G2"
```

```
# Issuer: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
```

```
# Serial Number: 0 (0x0)
```

```
# Subject: CN=Starfield Services Root Certificate Authority - G2,O="Starfield Technologies,
Inc.",L=Scottsdale,ST=Arizona,C=US
```

```
# Not Valid Before: Tue Sep 01 00:00:00 2009
```

```
# Not Valid After : Thu Dec 31 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
56:8D:69:05:A2:C8:87:08:A4:B3:02:51:90:ED:CF:ED:B1:97:4A:60:6A:13:C6:E5:29:0F:CB:2A:E6:3E:DA:B5
```

```
# Fingerprint (SHA1): 92:5A:8F:8D:2C:6D:04:E0:66:5F:59:6A:FF:22:D8:63:E8:25:6F:3F
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Starfield Services Root Certificate Authority - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\222\132\217\215\054\155\004\340\146\137\131\152\377\042\330\143
\350\045\157\077
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\027\065\164\257\173\141\034\353\364\371\074\342\356\100\371\242
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\230\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\020\060\016\006\003\125\004\010\023\007\101\162\151\172\157
\156\141\061\023\060\021\006\003\125\004\007\023\012\123\143\157
\164\164\163\144\141\154\145\061\045\060\043\006\003\125\004\012
\023\034\123\164\141\162\146\151\145\154\144\040\124\145\143\150
\156\157\154\157\147\151\145\163\054\040\111\156\143\056\061\073
\060\071\006\003\125\004\003\023\062\123\164\141\162\146\151\145
\154\144\040\123\145\162\166\151\143\145\163\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\040\055\040\107\062
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AffirmTrust Commercial"
#
# Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Serial Number:77:77:06:27:26:a9:b1:7c
# Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:06:06 2010
# Not Valid After : Tue Dec 31 14:06:06 2030
# Fingerprint (SHA-256):
03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7
# Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Commercial"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155
\145\162\143\151\141\154
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\167\167\006\047\046\251\261\174
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\167
\167\006\047\046\251\261\174\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013

```

\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\060\036\027\015
\061\060\060\061\062\071\061\064\060\066\060\066\132\027\015\063
\060\061\062\063\061\061\064\060\066\060\066\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\366\033\117\147\007\053\241\025\365\006\042\313\037
\001\262\343\163\105\006\104\111\054\273\111\045\024\326\316\303
\267\253\054\117\306\101\062\224\127\372\022\247\133\016\342\217
\037\036\206\031\247\252\265\055\271\137\015\212\302\257\205\065
\171\062\055\273\034\142\067\362\261\133\112\075\312\315\161\137
\351\102\276\224\350\310\336\371\042\110\144\306\345\253\306\053
\155\255\005\360\372\325\013\317\232\345\360\120\244\213\073\107
\245\043\133\172\172\370\063\077\270\357\231\227\343\040\301\326
\050\211\317\224\373\271\105\355\343\100\027\021\324\164\360\013
\061\342\053\046\152\233\114\127\256\254\040\076\272\105\172\005
\363\275\233\151\025\256\175\116\040\143\304\065\166\072\007\002
\311\067\375\307\107\356\350\361\166\035\163\025\362\227\244\265
\310\172\171\331\102\252\053\177\134\376\316\046\117\243\146\201
\065\257\104\272\124\036\034\060\062\145\235\346\074\223\136\120
\116\172\343\072\324\156\314\032\373\371\322\067\256\044\052\253
\127\003\042\050\015\111\165\177\267\050\332\165\277\216\343\334
\016\171\061\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\235\223\306\123\213\136\312\257\077
\237\036\017\345\231\225\274\044\366\224\217\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\013\005\000\003\202\001\001\000
\130\254\364\004\016\315\300\015\377\012\375\324\272\026\137\051
\275\173\150\231\130\111\322\264\035\067\115\177\047\175\106\006
\135\103\306\206\056\076\163\262\046\175\117\223\251\266\304\052
\232\253\041\227\024\261\336\214\323\253\211\025\330\153\044\324
\361\026\256\330\244\134\324\177\121\216\355\030\001\261\223\143
\275\274\370\141\200\232\236\261\316\102\160\342\251\175\006\045
\175\047\241\376\157\354\263\036\044\332\343\113\125\032\000\073
\065\264\073\331\327\135\060\375\201\023\211\362\302\006\053\355
\147\304\216\311\103\262\134\153\025\211\002\274\142\374\116\362
\265\063\252\262\157\323\012\242\120\343\366\073\350\056\104\302
\333\146\070\251\063\126\110\361\155\033\063\215\015\214\077\140
\067\235\323\312\155\176\064\176\015\237\162\166\213\033\237\162
\375\122\065\101\105\002\226\057\034\262\232\163\111\041\261\111
\107\105\107\264\357\152\064\021\311\115\232\314\131\267\326\002
\236\132\116\145\265\224\256\033\337\051\260\026\361\277\000\236

\007\072\027\144\265\004\265\043\041\231\012\225\073\227\174\357

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Commercial"

Issuer: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

Serial Number:77:77:06:27:26:a9:b1:7c

Subject: CN=AffirmTrust Commercial,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:06:06 2010

Not Valid After : Tue Dec 31 14:06:06 2030

Fingerprint (SHA-256):

03:76:AB:1D:54:C5:F9:80:3C:E4:B2:E2:01:A0:EE:7E:EF:7B:57:B6:36:E8:A9:3C:9B:8D:48:60:C9:6F:5F:A7

Fingerprint (SHA1): F9:B5:B6:32:45:5F:9C:BE:EC:57:5F:80:DC:E9:6E:2C:C7:B2:78:B7

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AffirmTrust Commercial"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\371\265\266\062\105\137\234\276\354\127\137\200\334\351\156\054

\307\262\170\267

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\202\222\272\133\357\315\212\157\246\075\125\371\204\366\326\267

END

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026

\101\146\146\151\162\155\124\162\165\163\164\040\103\157\155\155

\145\162\143\151\141\154

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\167\167\006\047\046\251\261\174

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "AffirmTrust Networking"

#

Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Serial Number:7c:4f:04:39:1c:d4:99:2d

Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

```
# Not Valid Before: Fri Jan 29 14:08:24 2010
# Not Valid After : Tue Dec 31 14:08:24 2030
# Fingerprint (SHA-256):
0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\114\060\202\002\064\240\003\002\001\002\002\010\174
\117\004\071\034\324\231\055\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\104\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\037\060\035\006
\003\125\004\003\014\026\101\146\146\151\162\155\124\162\165\163
\164\040\116\145\164\167\157\162\153\151\156\147\060\036\027\015
\061\060\060\061\062\071\061\064\060\070\062\064\132\027\015\063
\060\061\062\063\061\061\064\060\070\062\064\132\060\104\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\024\060\022\006
\003\125\004\012\014\013\101\146\146\151\162\155\124\162\165\163
\164\061\037\060\035\006\003\125\004\003\014\026\101\146\146\151
\162\155\124\162\165\163\164\040\116\145\164\167\157\162\153\151
\156\147\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\264\204\314\063\027\056\153\224\154\153\141\122\240
\353\243\317\171\224\114\345\224\200\231\313\125\144\104\145\217
\147\144\342\006\343\134\067\111\366\057\233\204\204\036\055\362
```

\140\235\060\116\314\204\205\342\054\317\036\236\376\066\253\063
\167\065\104\330\065\226\032\075\066\350\172\016\330\325\107\241
\152\151\213\331\374\273\072\256\171\132\325\364\326\161\273\232
\220\043\153\232\267\210\164\207\014\036\137\271\236\055\372\253
\123\053\334\273\166\076\223\114\010\010\214\036\242\043\034\324
\152\255\042\272\231\001\056\155\145\313\276\044\146\125\044\113
\100\104\261\033\327\341\302\205\300\336\020\077\075\355\270\374
\361\361\043\123\334\277\145\227\157\331\371\100\161\215\175\275
\225\324\316\276\240\136\047\043\336\375\246\320\046\016\000\051
\353\074\106\360\075\140\277\077\120\322\334\046\101\121\236\024
\067\102\004\243\160\127\250\033\207\355\055\372\173\356\214\012
\343\251\146\211\031\313\101\371\335\104\066\141\317\342\167\106
\310\175\366\364\222\201\066\375\333\064\361\162\176\363\014\026
\275\264\025\002\003\001\000\001\243\102\060\100\060\035\006\003
\125\035\016\004\026\004\024\007\037\322\347\234\332\302\156\242
\100\264\260\172\120\020\120\164\304\310\275\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011
\052\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000
\211\127\262\026\172\250\302\375\326\331\233\233\064\302\234\264
\062\024\115\247\244\337\354\276\247\276\370\103\333\221\067\316
\264\062\056\120\125\032\065\116\166\103\161\040\357\223\167\116
\025\160\056\207\303\301\035\155\334\313\265\047\324\054\126\321
\122\123\072\104\322\163\310\304\033\005\145\132\142\222\234\356
\101\215\061\333\347\064\352\131\041\325\001\172\327\144\270\144
\071\315\311\355\257\355\113\003\110\247\240\231\001\200\334\145
\243\066\256\145\131\110\117\202\113\310\145\361\127\035\345\131
\056\012\077\154\330\321\365\345\011\264\154\124\000\012\340\025
\115\207\165\155\267\130\226\132\335\155\322\000\240\364\233\110
\276\303\067\244\272\066\340\174\207\205\227\032\025\242\336\056
\242\133\275\257\030\371\220\120\315\160\131\370\047\147\107\313
\307\240\007\072\175\321\054\135\154\031\072\146\265\175\375\221
\157\202\261\276\010\223\333\024\107\361\242\067\307\105\236\074
\307\167\257\144\250\223\337\366\151\203\202\140\362\111\102\064
\355\132\000\124\205\034\026\066\222\014\134\372\246\255\277\333
END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Networking"

Issuer: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Serial Number:7c:4f:04:39:1c:d4:99:2d

Subject: CN=AffirmTrust Networking,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:08:24 2010

Not Valid After : Tue Dec 31 14:08:24 2030

Fingerprint (SHA-256):

0A:81:EC:5A:92:97:77:F1:45:90:4A:F3:8D:5D:50:9F:66:B5:E2:C5:8F:CD:B5:31:05:8B:0E:17:F3:F0:B4:1B

```
# Fingerprint (SHA1): 29:36:21:02:8B:20:ED:02:F5:66:C5:32:D1:D6:ED:90:9F:45:00:2F
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Networking"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\051\066\041\002\213\040\355\002\365\146\305\062\321\326\355\220
\237\105\000\057
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\102\145\312\276\001\232\232\114\251\214\101\111\315\300\325\177
END
CKA_ISSUER MULTILINE_OCTAL
\060\104\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\037\060\035\006\003\125\004\003\014\026
\101\146\146\151\162\155\124\162\165\163\164\040\116\145\164\167
\157\162\153\151\156\147
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\174\117\004\071\034\324\231\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "AffirmTrust Premium"
#
# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Serial Number:6d:8c:14:46:b1:a6:0a:ee
# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:10:36 2010
# Not Valid After : Mon Dec 31 14:10:36 2040
# Fingerprint (SHA-256):
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
```

```
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\155\214\024\106\261\246\012\356
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\010\155
\214\024\106\261\246\012\356\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\060\101\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\024\060\022\006\003\125\004\012\014\013
\101\146\146\151\162\155\124\162\165\163\164\061\034\060\032\006
\003\125\004\003\014\023\101\146\146\151\162\155\124\162\165\163
\164\040\120\162\145\155\151\165\155\060\036\027\015\061\060\060
\061\062\071\061\064\061\060\063\066\132\027\015\064\060\061\062
\063\061\061\064\061\060\063\066\132\060\101\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125\004
\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061\034
\060\032\006\003\125\004\003\014\023\101\146\146\151\162\155\124
\162\165\163\164\040\120\162\145\155\151\165\155\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\304\022\337
\251\137\376\101\335\335\365\237\212\343\366\254\341\074\170\232
\274\330\360\177\172\240\063\052\334\215\040\133\256\055\157\347
\223\331\066\160\152\150\317\216\121\243\205\133\147\004\240\020
\044\157\135\050\202\301\227\127\330\110\051\023\266\341\276\221
\115\337\205\014\123\030\232\036\044\242\117\217\360\242\205\013
\313\364\051\177\322\244\130\356\046\115\311\252\250\173\232\331
\372\070\336\104\127\025\345\370\214\310\331\110\342\015\026\047
\035\036\310\203\205\045\267\272\252\125\101\314\003\042\113\055
\221\215\213\346\211\257\146\307\351\377\053\351\074\254\332\322
\263\303\341\150\234\211\370\172\000\126\336\364\125\225\154\373
\272\144\335\142\213\337\013\167\062\353\142\314\046\232\233\273
\252\142\203\114\264\006\172\060\310\051\277\355\006\115\227\271
\034\304\061\053\325\137\274\123\022\027\234\231\127\051\146\167
\141\041\061\007\056\045\111\235\030\362\356\363\053\161\214\265
\272\071\007\111\167\374\357\056\222\220\005\215\055\057\167\173
\357\103\277\065\273\232\330\371\163\247\054\362\320\127\356\050
\116\046\137\217\220\150\011\057\270\370\334\006\351\056\232\076
```

\121\247\321\042\304\012\247\070\110\154\263\371\377\175\253\206
\127\343\272\326\205\170\167\272\103\352\110\177\366\330\276\043
\155\036\277\321\066\154\130\134\361\356\244\031\124\032\365\003
\322\166\346\341\214\275\074\263\323\110\113\342\310\370\177\222
\250\166\106\234\102\145\076\244\036\301\007\003\132\106\055\270
\227\363\267\325\262\125\041\357\272\334\114\000\227\373\024\225
\047\063\277\350\103\107\106\322\010\231\026\140\073\232\176\322
\346\355\070\352\354\001\036\074\110\126\111\011\307\114\067\000
\236\210\016\300\163\341\157\146\351\162\107\060\076\020\345\013
\003\311\232\102\000\154\305\224\176\141\304\212\337\177\202\032
\013\131\304\131\062\167\263\274\140\151\126\071\375\264\006\173
\054\326\144\066\331\275\110\355\204\037\176\245\042\217\052\270
\102\364\202\267\324\123\220\170\116\055\032\375\201\157\104\327
\073\001\164\226\102\340\000\342\056\153\352\305\356\162\254\273
\277\376\352\252\250\370\334\366\262\171\212\266\147\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\235\300\147\246\014\042\331\046\365\105\253\246\145\122\021
\047\330\105\254\143\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\263\127\115\020\142\116
\072\344\254\352\270\034\257\062\043\310\263\111\132\121\234\166
\050\215\171\252\127\106\027\325\365\122\366\267\104\350\010\104
\277\030\204\322\013\200\315\305\022\375\000\125\005\141\207\101
\334\265\044\236\074\304\330\310\373\160\236\057\170\226\203\040
\066\336\174\017\151\023\210\245\165\066\230\010\246\306\337\254
\316\343\130\326\267\076\336\272\363\353\064\100\330\242\201\365
\170\077\057\325\245\374\331\242\324\136\004\016\027\255\376\101
\360\345\262\162\372\104\202\063\102\350\055\130\367\126\214\142
\077\272\102\260\234\014\134\176\056\145\046\134\123\117\000\262
\170\176\241\015\231\055\215\270\035\216\242\304\260\375\140\320
\060\244\216\310\004\142\251\304\355\065\336\172\227\355\016\070
\136\222\057\223\160\245\251\234\157\247\175\023\035\176\306\010
\110\261\136\147\353\121\010\045\351\346\045\153\122\051\221\234
\322\071\163\010\127\336\231\006\264\133\235\020\006\341\302\000
\250\270\034\112\002\012\024\320\301\101\312\373\214\065\041\175
\202\070\362\251\124\221\031\065\223\224\155\152\072\305\262\320
\273\211\206\223\350\233\311\017\072\247\172\270\241\360\170\106
\372\374\067\057\345\212\204\363\337\376\004\331\241\150\240\057
\044\342\011\225\006\325\225\312\341\044\226\353\174\366\223\005
\273\355\163\351\055\321\165\071\327\347\044\333\330\116\137\103
\217\236\320\024\071\277\125\160\110\231\127\061\264\234\356\112
\230\003\226\060\037\140\006\356\033\043\376\201\140\043\032\107
\142\205\245\314\031\064\200\157\263\254\032\343\237\360\173\110
\255\325\001\331\147\266\251\162\223\352\055\146\265\262\270\344
\075\074\262\357\114\214\352\353\007\277\253\065\232\125\206\274
\030\246\265\250\136\264\203\154\153\151\100\323\237\334\361\303
\151\153\271\341\155\011\364\361\252\120\166\012\172\175\172\027

```
\241\125\226\102\231\061\011\335\140\021\215\005\060\176\346\216
\106\321\235\024\332\307\027\344\005\226\214\304\044\265\033\317
\024\007\262\100\370\243\236\101\206\274\004\320\153\226\310\052
\200\064\375\277\357\006\243\335\130\305\205\075\076\217\376\236
\051\340\266\270\011\150\031\034\030\103
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "AffirmTrust Premium"
```

```
# Issuer: CN=AffirmTrust Premium,O=AffirmTrust,C=US
```

```
# Serial Number:6d:8c:14:46:b1:a6:0a:ee
```

```
# Subject: CN=AffirmTrust Premium,O=AffirmTrust,C=US
```

```
# Not Valid Before: Fri Jan 29 14:10:36 2010
```

```
# Not Valid After : Mon Dec 31 14:10:36 2040
```

```
# Fingerprint (SHA-256):
```

```
70:A7:3F:7F:37:6B:60:07:42:48:90:45:34:B1:14:82:D5:BF:0E:69:8E:CC:49:8D:F5:25:77:EB:F2:E9:3B:9A
```

```
# Fingerprint (SHA1): D8:A6:33:2C:E0:03:6F:B1:85:F6:63:4F:7D:6A:06:65:26:32:28:27
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AffirmTrust Premium"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\330\246\063\054\340\003\157\261\205\366\143\117\175\152\006\145
\046\062\050\047
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\304\135\016\110\266\254\050\060\116\012\274\371\070\026\207\127
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\034\060\032\006\003\125\004\003\014\023
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\155\214\024\106\261\246\012\356
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "AffirmTrust Premium ECC"
```

```
#
# Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Serial Number:74:97:25:8a:c7:3f:7a:54
# Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US
# Not Valid Before: Fri Jan 29 14:20:24 2010
# Not Valid After : Mon Dec 31 14:20:24 2040
# Fingerprint (SHA-256):
BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23
# Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AffirmTrust Premium ECC"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155
\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\376\060\202\001\205\240\003\002\001\002\002\010\164
\227\045\212\307\077\172\124\060\012\006\010\052\206\110\316\075
\004\003\003\060\105\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\024\060\022\006\003\125\004\012\014\013\101\146\146
\151\162\155\124\162\165\163\164\061\040\060\036\006\003\125\004
\003\014\027\101\146\146\151\162\155\124\162\165\163\164\040\120
\162\145\155\151\165\155\040\105\103\103\060\036\027\015\061\060
\060\061\062\071\061\064\062\060\062\064\132\027\015\064\060\061
\062\063\061\061\064\062\060\062\064\132\060\105\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\024\060\022\006\003\125
\004\012\014\013\101\146\146\151\162\155\124\162\165\163\164\061
\040\060\036\006\003\125\004\003\014\027\101\146\146\151\162\155
\124\162\165\163\164\040\120\162\145\155\151\165\155\040\105\103
\103\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
```

\053\201\004\000\042\003\142\000\004\015\060\136\033\025\235\003
\320\241\171\065\267\072\074\222\172\312\025\034\315\142\363\234
\046\134\007\075\345\124\372\243\326\314\022\352\364\024\137\350
\216\031\253\057\056\110\346\254\030\103\170\254\320\067\303\275
\262\315\054\346\107\342\032\346\143\270\075\056\057\170\304\117
\333\364\017\244\150\114\125\162\153\225\035\116\030\102\225\170
\314\067\074\221\342\233\145\053\051\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\232\257\051\172\300\021\065\065
\046\121\060\000\303\152\376\100\325\256\326\074\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060
\027\011\363\207\210\120\132\257\310\300\102\277\107\137\365\154
\152\206\340\304\047\164\344\070\123\327\005\177\033\064\343\306
\057\263\312\011\074\067\235\327\347\270\106\361\375\241\342\161
\002\060\102\131\207\103\324\121\337\272\323\011\062\132\316\210
\176\127\075\234\137\102\153\365\007\055\265\360\202\223\371\131
\157\256\144\372\130\345\213\036\343\143\276\265\201\315\157\002
\214\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AffirmTrust Premium ECC"

Issuer: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Serial Number:74:97:25:8a:c7:3f:7a:54

Subject: CN=AffirmTrust Premium ECC,O=AffirmTrust,C=US

Not Valid Before: Fri Jan 29 14:20:24 2010

Not Valid After : Mon Dec 31 14:20:24 2040

Fingerprint (SHA-256):

BD:71:FD:F6:DA:97:E4:CF:62:D1:64:7A:DD:25:81:B0:7D:79:AD:F8:39:7E:B4:EC:BA:9C:5E:84:88:82:14:23

Fingerprint (SHA1): B8:23:6B:00:2F:1D:16:86:53:01:55:6C:11:A4:37:CA:EB:FF:C3:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "AffirmTrust Premium ECC"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\270\043\153\000\057\035\026\206\123\001\125\154\021\244\067\312
\353\377\303\273

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\144\260\011\125\317\261\325\231\342\276\023\253\246\135\352\115

END

CKA_ISSUER MULTILINE_OCTAL

\060\105\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\024\060\022\006\003\125\004\012\014\013\101\146\146\151\162\155

```

\124\162\165\163\164\061\040\060\036\006\003\125\004\003\014\027
\101\146\146\151\162\155\124\162\165\163\164\040\120\162\145\155
\151\165\155\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\164\227\045\212\307\077\172\124
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA"
#
# Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number: 279744 (0x444c0)
# Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Wed Oct 22 12:07:37 2008
# Not Valid After : Mon Dec 31 12:07:37 2029
# Fingerprint (SHA-256):
5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E
# Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151

```

\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\004\104\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\273\060\202\002\243\240\003\002\001\002\002\003\004
\104\300\060\015\006\011\052\206\110\206\367\015\001\001\005\005
\000\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\036\027\015\060\070\061\060\062\062\061\062\060\067\063
\067\132\027\015\062\071\061\062\063\061\061\062\060\067\063\067
\132\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060
\040\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\343\373\175\243\162\272\302\360\311\024\207\365\153\001
\116\341\156\100\007\272\155\047\135\177\367\133\055\263\132\307
\121\137\253\244\062\246\141\207\266\156\017\206\322\060\002\227
\370\327\151\127\241\030\071\135\152\144\171\306\001\131\254\074
\061\112\070\174\322\004\322\113\050\350\040\137\073\007\242\314
\115\163\333\363\256\117\307\126\325\132\247\226\211\372\363\253
\150\324\043\206\131\047\317\011\047\274\254\156\162\203\034\060
\162\337\340\242\351\322\341\164\165\031\275\052\236\173\025\124
\004\033\327\103\071\255\125\050\305\342\032\273\364\300\344\256
\070\111\063\314\166\205\237\071\105\322\244\236\362\022\214\121
\370\174\344\055\177\365\254\137\353\026\237\261\055\321\272\314
\221\102\167\114\045\311\220\070\157\333\360\314\373\216\036\227
\131\076\325\140\116\346\005\050\355\111\171\023\113\272\110\333
\057\371\162\323\071\312\376\037\330\064\162\365\264\100\317\061
\001\303\354\336\021\055\027\135\037\270\120\321\136\031\247\151
\336\007\063\050\312\120\225\371\247\124\313\124\206\120\105\251
\371\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003

```
\125\035\016\004\026\004\024\010\166\315\313\007\377\044\366\305
\315\355\273\220\274\342\204\067\106\165\367\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\246
\250\255\042\316\001\075\246\243\377\142\320\110\235\213\136\162
\260\170\104\343\334\034\257\011\375\043\110\372\275\052\304\271
\125\004\265\020\243\215\047\336\013\202\143\320\356\336\014\067
\171\101\133\042\262\260\232\101\134\246\160\340\324\320\167\313
\043\323\000\340\154\126\057\341\151\015\015\331\252\277\041\201
\120\331\006\245\250\377\225\067\320\252\376\342\263\365\231\055
\105\204\212\345\102\011\327\164\002\057\367\211\330\231\351\274
\047\324\107\215\272\015\106\034\167\317\024\244\034\271\244\061
\304\234\050\164\003\064\377\063\031\046\245\351\015\164\267\076
\227\306\166\350\047\226\243\146\335\341\256\362\101\133\312\230
\126\203\163\160\344\206\032\322\061\101\272\057\276\055\023\132
\166\157\116\350\116\201\016\077\133\003\042\240\022\276\146\130
\021\112\313\003\304\264\052\052\055\226\027\340\071\124\274\110
\323\166\047\235\232\055\006\246\311\354\071\322\253\333\237\232
\013\047\002\065\051\261\100\225\347\371\350\234\125\210\031\106
\326\267\064\365\176\316\071\232\331\070\361\121\367\117\054
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certum Trusted Network CA"

Issuer: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Serial Number: 279744 (0x444c0)

Subject: CN=Certum Trusted Network CA,OU=Certum Certification Authority,O=Unizeto Technologies S.A.,C=PL

Not Valid Before: Wed Oct 22 12:07:37 2008

Not Valid After : Mon Dec 31 12:07:37 2029

Fingerprint (SHA-256):

5C:58:46:8D:55:F5:8E:49:7E:74:39:82:D2:B5:00:10:B6:D1:65:37:4A:CF:83:A7:D4:A3:2D:B7:68:C4:40:8E

Fingerprint (SHA1): 07:E0:32:E0:20:B7:2C:3F:19:2F:06:28:A2:59:3A:19:A7:0F:06:9E

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Trusted Network CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\007\340\062\340\040\267\054\077\031\057\006\050\242\131\072\031
\247\017\006\236
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\325\351\201\100\305\030\151\374\106\054\211\165\142\017\252\170
```

END

```
CKA_ISSUER MULTILINE_OCTAL
\060\176\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164
\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\042\060\040
\006\003\125\004\003\023\031\103\145\162\164\165\155\040\124\162
\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\004\104\300
END
```

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "TWCA Root Certification Authority"
#
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Serial Number: 1 (0x1)
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
# Not Valid Before: Thu Aug 28 07:24:33 2008
# Not Valid After : Tue Dec 31 15:59:59 2030
# Fingerprint (SHA-256):
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Root Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
END
```

```
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
```

\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\173\060\202\002\143\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061\022
\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116\055
\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157\157
\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041\124
\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\036\027\015\060\070\060\070\062\070\060\067\062\064\063\063
\132\027\015\063\060\061\062\063\061\061\065\065\071\065\071\132
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\202\001\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202\001
\001\000\260\176\162\270\244\003\224\346\247\336\011\070\221\112
\021\100\207\247\174\131\144\024\173\265\021\020\335\376\277\325
\300\273\126\342\205\045\364\065\162\017\370\123\320\101\341\104
\001\302\264\034\303\061\102\026\107\205\063\042\166\262\012\157
\017\345\045\120\117\205\206\276\277\230\056\020\147\036\276\021
\005\206\005\220\304\131\320\174\170\020\260\200\134\267\341\307
\053\165\313\174\237\256\265\321\235\043\067\143\247\334\102\242
\055\222\004\033\120\301\173\270\076\033\311\126\004\213\057\122
\233\255\251\126\351\301\377\255\251\130\207\060\266\201\367\227
\105\374\031\127\073\053\157\344\107\364\231\105\376\035\361\370
\227\243\210\035\067\034\134\217\340\166\045\232\120\370\240\124
\377\104\220\166\043\322\062\306\303\253\006\277\374\373\277\363
\255\175\222\142\002\133\051\323\065\243\223\232\103\144\140\135
\262\372\062\377\073\004\257\115\100\152\371\307\343\357\043\375
\153\313\345\017\213\070\015\356\012\374\376\017\230\237\060\061
\335\154\122\145\371\213\201\276\042\341\034\130\003\272\221\033
\211\007\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\152\070\133\046\215\336\213\132\362

```
\117\172\124\203\031\030\343\010\065\246\272\060\015\006\011\052
\206\110\206\367\015\001\001\005\005\000\003\202\001\001\000\074
\325\167\075\332\337\211\272\207\014\010\124\152\040\120\222\276
\260\101\075\271\046\144\203\012\057\350\100\300\227\050\047\202
\060\112\311\223\377\152\347\246\000\177\211\102\232\326\021\345
\123\316\057\314\362\332\005\304\376\342\120\304\072\206\175\314
\332\176\020\011\073\222\065\052\123\262\376\353\053\005\331\154
\135\346\320\357\323\152\146\236\025\050\205\172\350\202\000\254
\036\247\011\151\126\102\323\150\121\030\276\124\232\277\104\101
\272\111\276\040\272\151\134\356\270\167\315\316\154\037\255\203
\226\030\175\016\265\024\071\204\361\050\351\055\243\236\173\036
\172\162\132\203\263\171\157\357\264\374\320\012\245\130\117\106
\337\373\155\171\131\362\204\042\122\256\017\314\373\174\073\347
\152\312\107\141\303\172\370\323\222\004\037\270\040\204\341\066
\124\026\307\100\336\073\212\163\334\337\306\011\114\337\354\332
\377\324\123\102\241\311\362\142\035\042\203\074\227\305\371\031
\142\047\254\145\042\327\323\074\306\345\216\262\123\314\111\316
\274\060\376\173\016\063\220\373\355\322\024\221\037\007\257
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "TWCA Root Certification Authority"
```

```
# Issuer: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
```

```
# Serial Number: 1 (0x1)
```

```
# Subject: CN=TWCA Root Certification Authority,OU=Root CA,O=TAIWAN-CA,C=TW
```

```
# Not Valid Before: Thu Aug 28 07:24:33 2008
```

```
# Not Valid After : Tue Dec 31 15:59:59 2030
```

```
# Fingerprint (SHA-256):
```

```
BF:D8:8F:E1:10:1C:41:AE:3E:80:1B:F8:BE:56:35:0E:E9:BA:D1:A6:B9:BD:51:5E:DC:5C:6D:5B:87:11:AC:44
```

```
# Fingerprint (SHA1): CF:9E:87:6D:D3:EB:FC:42:26:97:A3:B5:A3:7A:A0:76:A9:06:23:48
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TWCA Root Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\317\236\207\155\323\353\374\102\046\227\243\265\243\172\240\166
\251\006\043\110
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\252\010\217\366\371\173\267\362\261\247\036\233\352\352\275\171
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\014\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\014\007\122\157
```

```
\157\164\040\103\101\061\052\060\050\006\003\125\004\003\014\041
\124\127\103\101\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Explicitly Distrust DigiNotar Root CA"

#

Issuer: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

Serial Number:0f:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff:ff

Subject: E=info@diginotar.nl,CN=DigiNotar Root CA,O=DigiNotar,C=NL

Not Valid Before: Fri Jul 27 17:19:37 2007

Not Valid After : Mon Mar 31 18:19:22 2025

Fingerprint (MD5): 0A:A4:D5:CC:BA:B4:FB:A3:59:E3:E6:01:DD:53:D9:4E

Fingerprint (SHA1): C1:77:CB:4B:E0:B4:26:8E:F5:C7:CF:45:99:22:B9:B0:CE:BA:21:2F

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Explicitly Distrust DigiNotar Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\137\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\022\060\020\006\003\125\004\012\023\011\104\151\147\151\116\157
\164\141\162\061\032\060\030\006\003\125\004\003\023\021\104\151
\147\151\116\157\164\141\162\040\122\157\157\164\040\103\101\061
\040\060\036\006\011\052\206\110\206\367\015\001\011\001\026\021
\151\156\146\157\100\144\151\147\151\156\157\164\141\162\056\156
\154
```

END

\036\007\147\217\221\113\251\212\274\322\146\252\223\001\210\262
\221\372\061\134\325\246\301\122\010\011\315\012\143\242\323\042
\246\350\241\331\071\006\227\365\156\215\002\220\214\024\173\077
\200\315\033\234\272\304\130\162\043\257\266\126\237\306\172\102
\063\051\007\077\202\311\346\037\005\015\315\114\050\066\213\323
\310\076\034\306\210\357\136\356\211\144\351\035\353\332\211\176
\062\246\151\321\335\314\210\237\321\320\311\146\041\334\006\147
\305\224\172\232\155\142\114\175\314\340\144\200\262\236\107\216
\243\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003\125
\035\016\004\026\004\024\210\150\277\340\216\065\304\073\070\153
\142\367\050\073\204\201\310\014\327\115\060\015\006\011\052\206
\110\206\367\015\001\001\005\005\000\003\202\002\001\000\073\002
\215\313\074\060\350\156\240\255\362\163\263\137\236\045\023\004
\005\323\366\343\213\273\013\171\316\123\336\344\226\305\321\257
\163\274\325\303\320\100\125\174\100\177\315\033\137\011\325\362
\174\237\150\035\273\135\316\172\071\302\214\326\230\173\305\203
\125\250\325\175\100\312\340\036\367\211\136\143\135\241\023\302
\135\212\266\212\174\000\363\043\303\355\205\137\161\166\360\150
\143\252\105\041\071\110\141\170\066\334\361\103\223\324\045\307
\362\200\145\341\123\002\165\121\374\172\072\357\067\253\204\050
\127\014\330\324\324\231\126\154\343\242\376\131\204\264\061\350
\063\370\144\224\224\121\227\253\071\305\113\355\332\335\200\013
\157\174\051\015\304\216\212\162\015\347\123\024\262\140\101\075
\204\221\061\150\075\047\104\333\345\336\364\372\143\105\310\114
\076\230\365\077\101\272\116\313\067\015\272\146\230\361\335\313
\237\134\367\124\066\202\153\054\274\023\141\227\102\370\170\273
\314\310\242\237\312\360\150\275\153\035\262\337\215\157\007\235
\332\216\147\307\107\036\312\271\277\052\102\221\267\143\123\146
\361\102\243\341\364\132\115\130\153\265\344\244\063\255\134\160
\035\334\340\362\353\163\024\221\232\003\301\352\000\145\274\007
\374\317\022\021\042\054\256\240\275\072\340\242\052\330\131\351
\051\323\030\065\244\254\021\137\031\265\265\033\377\042\112\134
\306\172\344\027\357\040\251\247\364\077\255\212\247\232\004\045
\235\016\312\067\346\120\375\214\102\051\004\232\354\271\317\113
\162\275\342\010\066\257\043\057\142\345\312\001\323\160\333\174
\202\043\054\026\061\014\306\066\007\220\172\261\037\147\130\304
\073\130\131\211\260\214\214\120\263\330\206\313\150\243\304\012
\347\151\113\040\316\301\036\126\113\225\251\043\150\330\060\330
\303\353\260\125\121\315\345\375\053\270\365\273\021\237\123\124
\366\064\031\214\171\011\066\312\141\027\045\027\013\202\230\163
\014\167\164\303\325\015\307\250\022\114\307\247\124\161\107\056
\054\032\175\311\343\053\073\110\336\047\204\247\143\066\263\175
\217\240\144\071\044\015\075\173\207\257\146\134\164\033\113\163
\262\345\214\360\206\231\270\345\305\337\204\301\267\353

END

Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\167\060\202\002\137\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045
\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124
\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056
\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036
\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151
\143\141\164\151\157\156\040\122\157\157\164\103\101\062\060\036
\027\015\060\071\060\065\062\071\060\065\060\060\063\071\132\027
\015\062\071\060\065\062\071\060\065\060\060\063\071\132\060\135
\061\013\060\011\006\003\125\004\006\023\002\112\120\061\045\060
\043\006\003\125\004\012\023\034\123\105\103\117\115\040\124\162
\165\163\164\040\123\171\163\164\145\155\163\040\103\117\056\054
\114\124\104\056\061\047\060\045\006\003\125\004\013\023\036\123
\145\143\165\162\151\164\171\040\103\157\155\155\165\156\151\143
\141\164\151\157\156\040\122\157\157\164\103\101\062\060\202\001
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\001\017\000\060\202\001\012\002\202\001\001\000\320\025
\071\122\261\122\263\272\305\131\202\304\135\122\256\072\103\145
\200\113\307\362\226\274\333\066\227\326\246\144\214\250\136\360
```

\343\012\034\367\337\227\075\113\256\366\135\354\041\265\101\253
\315\271\176\166\237\276\371\076\066\064\240\073\301\366\061\021
\105\164\223\075\127\200\305\371\211\231\312\345\253\152\324\265
\332\101\220\020\301\326\326\102\211\302\277\364\070\022\225\114
\124\005\367\066\344\105\203\173\024\145\326\334\014\115\321\336
\176\014\253\073\304\025\276\072\126\246\132\157\166\151\122\251
\172\271\310\353\152\232\135\122\320\055\012\153\065\026\011\020
\204\320\152\312\072\006\000\067\107\344\176\127\117\077\213\353
\147\270\210\252\305\276\123\125\262\221\304\175\271\260\205\031
\006\170\056\333\141\032\372\205\365\112\221\241\347\026\325\216
\242\071\337\224\270\160\037\050\077\213\374\100\136\143\203\074
\203\052\032\231\153\317\336\131\152\073\374\157\026\327\037\375
\112\020\353\116\202\026\072\254\047\014\123\361\255\325\044\260
\153\003\120\301\055\074\026\335\104\064\047\032\165\373\002\003
\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\012\205\251\167\145\005\230\174\100\201\370\017\227\054
\070\361\012\354\074\317\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\114\072\243\104\254
\271\105\261\307\223\176\310\013\012\102\337\144\352\034\356\131
\154\010\272\211\137\152\312\112\225\236\172\217\007\305\332\105
\162\202\161\016\072\322\314\157\247\264\241\043\273\366\044\237
\313\027\376\214\246\316\302\322\333\314\215\374\161\374\003\051
\301\154\135\063\137\144\266\145\073\211\157\030\166\170\365\334
\242\110\037\031\077\216\223\353\361\372\027\356\315\116\343\004
\022\125\326\345\344\335\373\076\005\174\342\035\136\306\247\274
\227\117\150\072\365\351\056\012\103\266\257\127\134\142\150\174
\267\375\243\212\204\240\254\142\276\053\011\207\064\360\152\001
\273\233\051\126\074\376\000\067\317\043\154\361\116\252\266\164
\106\022\154\221\356\064\325\354\232\221\347\104\276\220\061\162
\325\111\002\366\002\345\364\037\353\174\331\226\125\251\377\354
\212\371\231\107\377\065\132\002\252\004\313\212\133\207\161\051
\221\275\244\264\172\015\275\232\365\127\043\000\007\041\027\077
\112\071\321\005\111\013\247\266\067\201\245\135\214\252\063\136
\201\050\174\247\175\047\353\000\256\215\067

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication RootCA2"
Issuer: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Serial Number: 0 (0x0)
Subject: OU=Security Communication RootCA2,O="SECOM Trust Systems CO.,LTD.",C=JP
Not Valid Before: Fri May 29 05:00:39 2009
Not Valid After : Tue May 29 05:00:39 2029
Fingerprint (SHA-256):

```
51:3B:2C:EC:B8:10:D4:CD:E5:DD:85:39:1A:DF:C6:C2:DD:60:D8:7B:B7:36:D2:B5:21:48:4A:A4:7A:0E:BE:F6
# Fingerprint (SHA1): 5F:3B:8C:F2:F8:10:B3:7D:78:B4:CE:EC:19:19:C3:73:34:B9:C7:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\137\073\214\362\370\020\263\175\170\264\316\354\031\031\303\163
\064\271\307\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\154\071\175\244\016\125\131\262\077\326\101\261\022\120\336\103
END
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\013\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Actalis Authentication Root CA"
#
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Serial Number:57:0a:11:97:42:c4:e3:cc
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
# Not Valid Before: Thu Sep 22 11:22:02 2011
# Not Valid After : Sun Sep 22 11:22:02 2030
# Fingerprint (SHA-256):
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Actalis Authentication Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
```

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\127\012\021\227\102\304\343\314

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\273\060\202\003\243\240\003\002\001\002\002\010\127
\012\021\227\102\304\343\314\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\153\061\013\060\011\006\003\125\004
\006\023\002\111\124\061\016\060\014\006\003\125\004\007\014\005
\115\151\154\141\156\061\043\060\041\006\003\125\004\012\014\032
\101\143\164\141\154\151\163\040\123\056\160\056\101\056\057\060
\063\063\065\070\065\062\060\071\066\067\061\047\060\045\006\003
\125\004\003\014\036\101\143\164\141\154\151\163\040\101\165\164
\150\145\156\164\151\143\141\164\151\157\156\040\122\157\157\164
\040\103\101\060\036\027\015\061\061\060\071\062\062\061\061\062
\062\060\062\132\027\015\063\060\060\071\062\062\061\061\062\062
\060\062\132\060\153\061\013\060\011\006\003\125\004\006\023\002
\111\124\061\016\060\014\006\003\125\004\007\014\005\115\151\154
\141\156\061\043\060\041\006\003\125\004\012\014\032\101\143\164
\141\154\151\163\040\123\056\160\056\101\056\057\060\063\063\065
\070\065\062\060\071\066\067\061\047\060\045\006\003\125\004\003
\014\036\101\143\164\141\154\151\163\040\101\165\164\150\145\156
\164\151\143\141\164\151\157\156\040\122\157\157\164\040\103\101
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\247\306\304\245\051\244\054\357\345\030\305\260\120\243\157
\121\073\237\012\132\311\302\110\070\012\302\034\240\030\177\221
\265\207\271\100\077\335\035\150\037\010\203\325\055\036\210\240
\370\217\126\217\155\231\002\222\220\026\325\137\010\154\211\327
\341\254\274\040\302\261\340\203\121\212\151\115\000\226\132\157
\057\300\104\176\243\016\344\221\315\130\356\334\373\307\036\105

\107\335\047\271\010\001\237\246\041\035\365\101\055\057\114\375
\050\255\340\212\255\042\264\126\145\216\206\124\217\223\103\051
\336\071\106\170\243\060\043\272\315\360\175\023\127\300\135\322
\203\153\110\114\304\253\237\200\132\133\072\275\311\247\042\077
\200\047\063\133\016\267\212\014\135\007\067\010\313\154\322\172
\107\042\104\065\305\314\314\056\216\335\052\355\267\175\146\015
\137\141\121\042\125\033\343\106\343\343\075\320\065\142\232\333
\257\024\310\133\241\314\211\033\341\060\046\374\240\233\037\201
\247\107\037\004\353\243\071\222\006\237\231\323\277\323\352\117
\120\234\031\376\226\207\036\074\145\366\243\030\044\203\206\020
\347\124\076\250\072\166\044\117\201\041\305\343\017\002\370\223
\224\107\040\273\376\324\016\323\150\271\335\304\172\204\202\343
\123\124\171\335\333\234\322\362\007\233\056\266\274\076\355\205
\155\357\045\021\362\227\032\102\141\367\112\227\350\213\261\020
\007\372\145\201\262\242\071\317\367\074\377\030\373\306\361\132
\213\131\342\002\254\173\222\320\116\024\117\131\105\366\014\136
\050\137\260\350\077\105\317\317\257\233\157\373\204\323\167\132
\225\157\254\224\204\236\356\274\300\112\217\112\223\370\104\041
\342\061\105\141\120\116\020\330\343\065\174\114\031\264\336\005
\277\243\006\237\310\265\315\344\037\327\027\006\015\172\225\164
\125\015\150\032\374\020\033\142\144\235\155\340\225\240\303\224
\007\127\015\024\346\275\005\373\270\237\346\337\213\342\306\347
\176\226\366\123\305\200\064\120\050\130\360\022\120\161\027\060
\272\346\170\143\274\364\262\255\233\053\262\376\341\071\214\136
\272\013\040\224\336\173\203\270\377\343\126\215\267\021\351\073
\214\362\261\301\135\235\244\013\114\053\331\262\030\365\265\237
\113\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\122\330\210\072\310\237\170\146\355\211\363
\173\070\160\224\311\002\002\066\320\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\122\330\210\072\310\237\170\146\355
\211\363\173\070\160\224\311\002\002\066\320\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\013
\173\162\207\300\140\246\111\114\210\130\346\035\210\367\024\144
\110\246\330\130\012\016\117\023\065\337\065\035\324\355\006\061
\310\201\076\152\325\335\073\032\062\356\220\075\021\322\056\364
\216\303\143\056\043\146\260\147\276\157\266\300\023\071\140\252
\242\064\045\223\165\122\336\247\235\255\016\207\211\122\161\152
\026\074\031\035\203\370\232\051\145\276\364\077\232\331\360\363
\132\207\041\161\200\115\313\340\070\233\077\273\372\340\060\115
\317\206\323\145\020\031\030\321\227\002\261\053\162\102\150\254
\240\275\116\132\332\030\277\153\230\201\320\375\232\276\136\025
\110\315\021\025\271\300\051\134\264\350\210\367\076\066\256\267
\142\375\036\142\336\160\170\020\034\110\133\332\274\244\070\272
\147\355\125\076\136\127\337\324\003\100\114\201\244\322\117\143
\247\011\102\011\024\374\000\251\302\200\163\117\056\300\100\331
\021\173\110\352\172\002\300\323\353\050\001\046\130\164\301\300

```
\163\042\155\223\225\375\071\175\273\052\343\366\202\343\054\227
\137\116\037\221\224\372\376\054\243\330\166\032\270\115\262\070
\117\233\372\035\110\140\171\046\342\363\375\251\320\232\350\160
\217\111\172\326\345\275\012\016\333\055\363\215\277\353\343\244
\175\313\307\225\161\350\332\243\174\305\302\370\164\222\004\033
\206\254\244\042\123\100\266\254\376\114\166\317\373\224\062\300
\065\237\166\077\156\345\220\156\240\246\046\242\270\054\276\321
\053\205\375\247\150\310\272\001\053\261\154\164\035\270\163\225
\347\356\267\307\045\360\000\114\000\262\176\266\013\213\034\363
\300\120\236\045\271\340\010\336\066\146\377\067\245\321\273\124
\144\054\311\047\265\113\222\176\145\377\323\055\341\271\116\274
\177\244\101\041\220\101\167\246\071\037\352\236\343\237\320\146
\157\005\354\252\166\176\277\153\026\240\353\265\307\374\222\124
\057\053\021\047\045\067\170\114\121\152\260\363\314\130\135\024
\361\152\110\025\377\302\007\266\261\215\017\216\134\120\106\263
\075\277\001\230\117\262\131\124\107\076\064\173\170\155\126\223
\056\163\352\146\050\170\315\035\024\277\240\217\057\056\270\056
\216\362\024\212\314\351\265\174\373\154\235\014\245\341\226
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Actalis Authentication Root CA"
```

```
# Issuer: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
```

```
# Serial Number:57:0a:11:97:42:c4:e3:cc
```

```
# Subject: CN=Actalis Authentication Root CA,O=Actalis S.p.A./03358520967,L=Milan,C=IT
```

```
# Not Valid Before: Thu Sep 22 11:22:02 2011
```

```
# Not Valid After : Sun Sep 22 11:22:02 2030
```

```
# Fingerprint (SHA-256):
```

```
55:92:60:84:EC:96:3A:64:B9:6E:2A:BE:01:CE:0B:A8:6A:64:FB:FE:BC:C7:AA:B5:AF:C1:55:B3:7F:D7:60:66
```

```
# Fingerprint (SHA1): F3:73:B3:87:06:5A:28:84:8A:F2:F3:4A:CE:19:2B:DD:C7:8E:9C:AC
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Actalis Authentication Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\363\163\263\207\006\132\050\204\212\362\363\112\316\031\053\335
\307\216\234\254
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\301\015\117\007\243\033\303\376\126\075\004\274\021\366\246
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\124\061
\016\060\014\006\003\125\004\007\014\005\115\151\154\141\156\061
\043\060\041\006\003\125\004\012\014\032\101\143\164\141\154\151
```

```

\163\040\123\056\160\056\101\056\057\060\063\063\065\070\065\062
\060\071\066\067\061\047\060\045\006\003\125\004\003\014\036\101
\143\164\141\154\151\163\040\101\165\164\150\145\156\164\151\143
\141\164\151\157\156\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\127\012\021\227\102\304\343\314
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 2 Root CA"
#
# Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END

```

CKA_VALUE MULTILINE_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\063\070\060\063\132
\027\015\064\060\061\060\062\066\060\070\063\070\060\063\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\327\307\136\367\301\007\324\167\373\103\041\364\364\365\151\344
\356\062\001\333\243\206\037\344\131\015\272\347\165\203\122\353
\352\034\141\025\110\273\035\007\312\214\256\260\334\226\235\352
\303\140\222\206\202\050\163\234\126\006\377\113\144\360\014\052
\067\111\265\345\317\014\174\356\361\112\273\163\060\145\363\325
\057\203\266\176\343\347\365\236\253\140\371\323\361\235\222\164
\212\344\034\226\254\133\200\351\265\364\061\207\243\121\374\307
\176\241\157\216\123\167\324\227\301\125\063\222\076\030\057\165
\324\255\206\111\313\225\257\124\006\154\330\006\023\215\133\377
\341\046\031\131\300\044\272\201\161\171\220\104\120\150\044\224
\137\270\263\021\361\051\101\141\243\101\313\043\066\325\301\361
\062\120\020\116\177\364\206\223\354\204\323\216\274\113\277\134
\001\116\007\075\334\024\212\224\012\244\352\163\373\013\121\350
\023\007\030\372\016\361\053\321\124\025\175\074\341\367\264\031
\102\147\142\136\167\340\242\125\354\266\331\151\027\325\072\257
\104\355\112\305\236\344\172\047\174\345\165\327\252\313\045\347
\337\153\012\333\017\115\223\116\250\240\315\173\056\362\131\001
\152\267\015\270\007\201\176\213\070\033\070\346\012\127\231\075
\356\041\350\243\365\014\026\335\213\354\064\216\234\052\034\000
\025\027\215\150\203\322\160\237\030\010\315\021\150\325\311\153
\122\315\304\106\217\334\265\363\330\127\163\036\351\224\071\004
\277\323\336\070\336\264\123\354\151\034\242\176\304\217\344\033
\160\255\362\242\371\373\367\026\144\146\151\237\111\121\242\342
\025\030\147\006\112\177\325\154\265\115\263\063\340\141\353\135
\276\351\230\017\062\327\035\113\074\056\132\001\122\221\011\362
\337\352\215\330\006\100\143\252\021\344\376\303\067\236\024\122
\077\364\342\314\362\141\223\321\375\147\153\327\122\256\277\150
\253\100\103\240\127\065\123\170\360\123\370\141\102\007\144\306
\327\157\233\114\070\015\143\254\142\257\066\213\242\163\012\015
\365\041\275\164\252\115\352\162\003\111\333\307\137\035\142\143
\307\375\335\221\354\063\356\365\155\264\156\060\150\336\310\326

\046\260\165\136\173\264\007\040\230\241\166\062\270\115\154\117
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\311\200\167\340\142\222\202\365\106\234\363
\272\367\114\303\336\270\243\255\071\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\123\137\041
\365\272\260\072\122\071\054\222\260\154\000\311\357\316\040\357
\006\362\226\236\351\244\164\177\172\026\374\267\365\266\373\025
\033\077\253\246\300\162\135\020\261\161\356\274\117\343\255\254
\003\155\056\161\056\257\304\343\255\243\275\014\021\247\264\377
\112\262\173\020\020\037\247\127\101\262\300\256\364\054\131\326
\107\020\210\363\041\121\051\060\312\140\206\257\106\253\035\355
\072\133\260\224\336\104\343\101\010\242\301\354\035\326\375\117
\266\326\107\320\024\013\312\346\312\265\173\167\176\101\037\136
\203\307\266\214\071\226\260\077\226\201\101\157\140\220\342\350
\371\373\042\161\331\175\263\075\106\277\264\204\257\220\034\017
\217\022\152\257\357\356\036\172\256\002\112\212\027\053\166\376
\254\124\211\044\054\117\077\266\262\247\116\214\250\221\227\373
\051\306\173\134\055\271\313\146\266\267\250\133\022\121\205\265
\011\176\142\170\160\376\251\152\140\266\035\016\171\014\375\312
\352\044\200\162\303\227\077\362\167\253\103\042\012\307\353\266
\014\204\202\054\200\153\101\212\010\300\353\245\153\337\231\022
\313\212\325\136\200\014\221\340\046\010\066\110\305\372\070\021
\065\377\045\203\055\362\172\277\332\375\216\376\245\313\105\054
\037\304\210\123\256\167\016\331\232\166\305\216\054\035\243\272
\325\354\062\256\300\252\254\367\321\172\115\353\324\007\342\110
\367\042\216\260\244\237\152\316\216\262\262\140\364\243\042\320
\043\353\224\132\172\151\335\017\277\100\127\254\153\131\120\331
\243\231\341\156\376\215\001\171\047\043\025\336\222\235\173\011
\115\132\347\113\110\060\132\030\346\012\155\346\217\340\322\273
\346\337\174\156\041\202\301\150\071\115\264\230\130\146\142\314
\112\220\136\303\372\047\004\261\171\025\164\231\314\276\255\040
\336\046\140\034\353\126\121\246\243\352\344\243\077\247\377\141
\334\361\132\115\154\062\043\103\356\254\250\356\356\112\022\011
\074\135\161\302\276\171\372\302\207\150\035\013\375\134\151\314
\006\320\232\175\124\231\052\311\071\032\031\257\113\052\103\363
\143\135\132\130\342\057\343\035\344\251\326\320\012\320\236\277
\327\201\011\361\311\307\046\015\254\230\026\126\240

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Buypass Class 2 Root CA"
Issuer: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO
Serial Number: 2 (0x2)
Subject: CN=Buypass Class 2 Root CA,O=Buypass AS-983163327,C=NO

```

# Not Valid Before: Tue Oct 26 08:38:03 2010
# Not Valid After : Fri Oct 26 08:38:03 2040
# Fingerprint (SHA-256):
9A:11:40:25:19:7C:5B:B9:5D:94:E6:3D:55:CD:43:79:08:47:B6:46:B2:3C:DF:11:AD:A4:A0:0E:FF:15:FB:48
# Fingerprint (SHA1): 49:0A:75:74:DE:87:0A:47:FE:58:EE:F6:C7:6B:EB:C6:0B:12:40:99
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 2 Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\111\012\165\164\336\207\012\107\376\130\356\366\307\153\353\306
\013\022\100\231
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\106\247\322\376\105\373\144\132\250\131\220\233\170\104\233\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\062\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Buypass Class 3 Root CA"
#
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Serial Number: 2 (0x2)
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
# Not Valid Before: Tue Oct 26 08:28:58 2010
# Not Valid After : Fri Oct 26 08:28:58 2040
# Fingerprint (SHA-256):
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Buypass Class 3 Root CA"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\131\060\202\003\101\240\003\002\001\002\002\001\002
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\036\027\015\061\060\061\060\062\066\060\070\062\070\065\070\132
\027\015\064\060\061\060\062\066\060\070\062\070\065\070\132\060
\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061\035
\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163\163
\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040\060
\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163\040
\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\245\332\012\225\026\120\343\225\362\136\235\166\061\006\062\172
\233\361\020\166\270\000\232\265\122\066\315\044\107\260\237\030
\144\274\232\366\372\325\171\330\220\142\114\042\057\336\070\075
\326\340\250\351\034\054\333\170\021\351\216\150\121\025\162\307
\363\063\207\344\240\135\013\134\340\127\007\052\060\365\315\304
\067\167\050\115\030\221\346\277\325\122\375\161\055\160\076\347
\306\304\212\343\360\050\013\364\166\230\241\213\207\125\262\072
\023\374\267\076\047\067\216\042\343\250\117\052\357\140\273\075
\267\071\303\016\001\107\231\135\022\117\333\103\372\127\241\355
\371\235\276\021\107\046\133\023\230\253\135\026\212\260\067\034
\127\235\105\377\210\226\066\277\273\312\007\173\157\207\143\327
\320\062\152\326\135\154\014\361\263\156\071\342\153\061\056\071

\000\047\024\336\070\300\354\031\146\206\022\350\235\162\026\023
\144\122\307\251\067\034\375\202\060\355\204\030\035\364\256\134
\377\160\023\000\353\261\365\063\172\113\326\125\370\005\215\113
\151\260\365\263\050\066\134\024\304\121\163\115\153\013\361\064
\007\333\027\071\327\334\050\173\153\365\237\363\056\301\117\027
\052\020\363\314\312\350\353\375\153\253\056\232\237\055\202\156
\004\324\122\001\223\055\075\206\374\176\374\337\357\102\035\246
\153\357\271\040\306\367\275\240\247\225\375\247\346\211\044\330
\314\214\064\154\342\043\057\331\022\032\041\271\125\221\157\013
\221\171\031\014\255\100\210\013\160\342\172\322\016\330\150\110
\273\202\023\071\020\130\351\330\052\007\306\022\333\130\333\322
\073\125\020\107\005\025\147\142\176\030\143\246\106\077\011\016
\124\062\136\277\015\142\172\047\357\200\350\333\331\113\006\132
\067\132\045\320\010\022\167\324\157\011\120\227\075\310\035\303
\337\214\105\060\126\306\323\144\253\146\363\300\136\226\234\303
\304\357\303\174\153\213\072\171\177\263\111\317\075\342\211\237
\240\060\113\205\271\234\224\044\171\217\175\153\251\105\150\017
\053\320\361\332\034\313\151\270\312\111\142\155\310\320\143\142
\335\140\017\130\252\217\241\274\005\245\146\242\317\033\166\262
\204\144\261\114\071\122\300\060\272\360\214\113\002\260\266\267
\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\107\270\315\377\345\157\356\370\262\354\057
\116\016\371\045\260\216\074\153\303\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\003\202\002\001\000\000\040\043
\101\065\004\220\302\100\142\140\357\342\065\114\327\077\254\342
\064\220\270\241\157\166\372\026\026\244\110\067\054\351\220\302
\362\074\370\012\237\330\201\345\273\133\332\045\054\244\247\125
\161\044\062\366\310\013\362\274\152\370\223\254\262\007\302\137
\237\333\314\310\212\252\276\152\157\341\111\020\314\061\327\200
\273\273\310\330\242\016\144\127\352\242\365\302\251\061\025\322
\040\152\354\374\042\001\050\317\206\270\200\036\251\314\021\245
\074\362\026\263\107\235\374\322\200\041\304\313\320\107\160\101
\241\312\203\031\010\054\155\362\135\167\234\212\024\023\324\066
\034\222\360\345\006\067\334\246\346\220\233\070\217\134\153\033
\106\206\103\102\137\076\001\007\123\124\135\145\175\367\212\163
\241\232\124\132\037\051\103\024\047\302\205\017\265\210\173\032
\073\224\267\035\140\247\265\234\347\051\151\127\132\233\223\172
\103\060\033\003\327\142\310\100\246\252\374\144\344\112\327\221
\123\001\250\040\210\156\234\137\104\271\313\140\201\064\354\157
\323\175\332\110\137\353\264\220\274\055\251\034\013\254\034\325
\242\150\040\200\004\326\374\261\217\057\273\112\061\015\112\206
\034\353\342\066\051\046\365\332\330\304\362\165\141\317\176\256
\166\143\112\172\100\145\223\207\370\036\200\214\206\345\206\326
\217\016\374\123\054\140\350\026\141\032\242\076\103\173\315\071
\140\124\152\365\362\211\046\001\150\203\110\242\063\350\311\004
\221\262\021\064\021\076\352\320\103\031\037\003\223\220\014\377

```
\121\075\127\364\101\156\341\313\240\276\353\311\143\315\155\314
\344\370\066\252\150\235\355\275\135\227\160\104\015\266\016\065
\334\341\014\135\273\240\121\224\313\176\026\353\021\057\243\222
\105\310\114\161\331\274\311\231\122\127\106\057\120\317\275\065
\151\364\075\025\316\006\245\054\017\076\366\201\272\224\273\303
\273\277\145\170\322\206\171\377\111\073\032\203\014\360\336\170
\354\310\362\115\114\032\336\202\051\370\301\132\332\355\356\346
\047\136\350\105\320\235\034\121\250\150\253\104\343\320\213\152
\343\370\073\273\334\115\327\144\362\121\276\346\252\253\132\351
\061\356\006\274\163\277\023\142\012\237\307\271\227
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Buypass Class 3 Root CA"
```

```
# Issuer: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Serial Number: 2 (0x2)
```

```
# Subject: CN=Buypass Class 3 Root CA,O=Buypass AS-983163327,C=NO
```

```
# Not Valid Before: Tue Oct 26 08:28:58 2010
```

```
# Not Valid After : Fri Oct 26 08:28:58 2040
```

```
# Fingerprint (SHA-256):
```

```
ED:F7:EB:BC:A2:7A:2A:38:4D:38:7B:7D:40:10:C6:66:E2:ED:B4:84:3E:4C:29:B4:AE:1D:5B:93:32:E6:B2:4D
```

```
# Fingerprint (SHA1): DA:FA:F7:FA:66:84:EC:06:8F:14:50:BD:C7:C2:81:A5:BC:A9:64:57
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Buypass Class 3 Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\332\372\367\372\146\204\354\006\217\024\120\275\307\302\201\245
\274\251\144\127
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\075\073\030\236\054\144\132\350\325\210\316\016\371\067\302\354
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\116\061\013\060\011\006\003\125\004\006\023\002\116\117\061
\035\060\033\006\003\125\004\012\014\024\102\165\171\160\141\163
\163\040\101\123\055\071\070\063\061\066\063\063\062\067\061\040
\060\036\006\003\125\004\003\014\027\102\165\171\160\141\163\163
\040\103\154\141\163\163\040\063\040\122\157\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\001\002
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "T-TeleSec GlobalRoot Class 3"

#

Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Not Valid Before: Wed Oct 01 10:29:56 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\063\060\036\027\015\060\070\061\060\060\061\061\060
\062\071\065\066\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\063\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\275\165\223\360\142\042
\157\044\256\340\172\166\254\175\275\331\044\325\270\267\374\315
\360\102\340\353\170\210\126\136\233\232\124\035\115\014\212\366
\323\317\160\364\122\265\330\223\004\343\106\206\161\101\112\053
\360\052\054\125\003\326\110\303\340\071\070\355\362\134\074\077
\104\274\223\075\141\253\116\315\015\276\360\040\047\130\016\104
\177\004\032\207\245\327\226\024\066\220\320\111\173\241\165\373
\032\153\163\261\370\316\251\011\054\362\123\325\303\024\104\270
\206\245\366\213\053\071\332\243\063\124\331\372\162\032\367\042
\025\034\210\221\153\177\146\345\303\152\200\260\044\363\337\206
\105\210\375\031\177\165\207\037\037\261\033\012\163\044\133\271
\145\340\054\124\310\140\323\146\027\077\341\314\124\063\163\221
\002\072\246\177\173\166\071\242\037\226\266\070\256\265\310\223
\164\035\236\271\264\345\140\235\057\126\321\340\353\136\133\114
\022\160\014\154\104\040\253\021\330\364\031\366\322\234\122\067
\347\372\266\302\061\073\112\324\024\231\255\307\032\365\135\137
\372\007\270\174\015\037\326\203\036\263\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\265
\003\367\166\073\141\202\152\022\252\030\123\353\003\041\224\277
\376\316\312\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\126\075\357\224\325\275\332\163\262
\130\276\256\220\255\230\047\227\376\001\261\260\122\000\270\115
\344\033\041\164\033\176\300\356\136\151\052\045\257\134\326\035

\332\322\171\311\363\227\051\340\206\207\336\004\131\017\361\131
\324\144\205\113\231\257\045\004\036\311\106\251\227\336\202\262
\033\160\237\234\366\257\161\061\335\173\005\245\054\323\271\312
\107\366\312\362\366\347\255\271\110\077\274\026\267\301\155\364
\352\011\257\354\363\265\347\005\236\246\036\212\123\121\326\223
\201\314\164\223\366\271\332\246\045\005\164\171\132\176\100\076
\202\113\046\021\060\156\341\077\101\307\107\000\065\325\365\323
\367\124\076\201\075\332\111\152\232\263\357\020\075\346\353\157
\321\310\042\107\313\314\317\001\061\222\331\030\343\042\276\011
\036\032\076\132\262\344\153\014\124\172\175\103\116\270\211\245
\173\327\242\075\226\206\314\362\046\064\055\152\222\235\232\032
\320\060\342\135\116\004\260\137\213\040\176\167\301\075\225\202
\321\106\232\073\074\170\270\157\241\320\015\144\242\170\036\051
\116\223\303\244\124\024\133

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "T-TeleSec GlobalRoot Class 3"

Issuer: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 3,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE

Not Valid Before: Wed Oct 01 10:29:56 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

FD:73:DA:D3:1C:64:4F:F1:B4:3B:EF:0C:CD:DA:96:71:0B:9C:D9:87:5E:CA:7E:31:70:7A:F3:E9:6D:52:2B:BD

Fingerprint (SHA1): 55:A6:72:3E:CB:F2:EC:CD:C3:23:74:70:19:9D:2A:BE:11:E3:81:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\125\246\162\076\313\362\354\315\303\043\164\160\031\235\052\276
\021\343\201\321

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\312\373\100\250\116\071\222\212\035\376\216\057\304\047\352\357
END

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155

```
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\063
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "D-TRUST Root Class 3 CA 2 2009"

#

Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Serial Number: 623603 (0x983f3)

Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:35:58 2009

Not Valid After : Mon Nov 05 08:35:58 2029

Fingerprint (SHA-256):

```
49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1
```

Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\003\011\203\363
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\063\060\202\003\033\240\003\002\001\002\002\003\011
\203\363\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003
\014\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
\060\036\027\015\060\071\061\061\060\065\060\070\063\065\065\070
\132\027\015\062\071\061\061\060\065\060\070\063\065\065\070\132
\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\323\262\112\317\172\107\357\165\233\043\372\072\057\326\120\105
\211\065\072\306\153\333\376\333\000\150\250\340\003\021\035\067
\120\010\237\115\112\150\224\065\263\123\321\224\143\247\040\126
\257\336\121\170\354\052\075\363\110\110\120\076\012\337\106\125
\213\047\155\303\020\115\015\221\122\103\330\207\340\135\116\066
\265\041\312\137\071\100\004\137\133\176\314\243\306\053\251\100
\036\331\066\204\326\110\363\222\036\064\106\040\044\301\244\121
\216\112\032\357\120\077\151\135\031\177\105\303\307\001\217\121
\311\043\350\162\256\264\274\126\011\177\022\313\034\261\257\051
\220\012\311\125\314\017\323\264\032\355\107\065\132\112\355\234
\163\004\041\320\252\275\014\023\265\000\312\046\154\304\153\014
\224\132\225\224\332\120\232\361\377\245\053\146\061\244\311\070
\240\337\035\037\270\011\056\363\247\350\147\122\253\225\037\340
\106\076\330\244\303\312\132\305\061\200\350\110\232\237\224\151
\376\031\335\330\163\174\201\312\226\336\216\355\263\062\005\145
\204\064\346\346\375\127\020\265\137\166\277\057\260\020\015\305
\002\003\001\000\001\243\202\001\032\060\202\001\026\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\375\332\024\304\237\060\336
\041\275\036\102\071\374\253\143\043\111\340\361\204\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\323
\006\003\125\035\037\004\201\313\060\201\310\060\201\200\240\176
\240\174\206\172\154\144\141\160\072\057\057\144\151\162\145\143
\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164
\057\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157
\157\164\045\062\060\103\154\141\163\163\045\062\060\063\045\062
\060\103\101\045\062\060\062\045\062\060\062\060\060\071\054\117
\075\104\055\124\162\165\163\164\045\062\060\107\155\142\110\054
\103\075\104\105\077\143\145\162\164\151\146\151\143\141\164\145
\162\145\166\157\143\141\164\151\157\156\154\151\163\164\060\103
\240\101\240\077\206\075\150\164\164\160\072\057\057\167\167\167

\056\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154
\057\144\055\164\162\165\163\164\137\162\157\157\164\137\143\154
\141\163\163\137\063\137\143\141\137\062\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\177\227\333\060\310\337\244\234\175
\041\172\200\160\316\024\022\151\210\024\225\140\104\001\254\262
\351\060\117\233\120\302\146\330\176\215\060\265\160\061\351\342
\151\307\363\160\333\040\025\206\320\015\360\276\254\001\165\204
\316\176\237\115\277\267\140\073\234\363\312\035\342\136\150\330
\243\235\227\345\100\140\322\066\041\376\320\264\270\027\332\164
\243\177\324\337\260\230\002\254\157\153\153\054\045\044\162\241
\145\356\045\132\345\346\062\347\362\337\253\111\372\363\220\151
\043\333\004\331\347\134\130\374\145\324\227\276\314\374\056\012
\314\045\052\065\004\370\140\221\025\165\075\101\377\043\037\031
\310\154\353\202\123\004\246\344\114\042\115\215\214\272\316\133
\163\354\144\124\120\155\321\234\125\373\151\303\066\303\214\274
\074\205\246\153\012\046\015\340\223\230\140\256\176\306\044\227
\212\141\137\221\216\146\222\011\207\066\315\213\233\055\076\366
\121\324\120\324\131\050\275\203\362\314\050\173\123\206\155\330
\046\210\160\327\352\221\315\076\271\312\300\220\156\132\306\136
\164\145\327\134\376\243\342

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 2009"

Issuer: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Serial Number: 623603 (0x983f3)

Subject: CN=D-TRUST Root Class 3 CA 2 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:35:58 2009

Not Valid After : Mon Nov 05 08:35:58 2029

Fingerprint (SHA-256):

49:E7:A4:42:AC:F0:EA:62:87:05:00:54:B5:25:64:B6:50:E4:F4:9E:42:E3:48:D6:AA:38:E0:39:E9:57:B1:C1

Fingerprint (SHA1): 58:E8:AB:B0:36:15:33:FB:80:F7:9B:1B:6D:29:D3:FF:8D:5F:00:F0

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\130\350\253\260\066\025\063\373\200\367\233\033\155\051\323\377
\215\137\000\360

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\315\340\045\151\215\107\254\234\211\065\220\367\375\121\075\057

END

CKA_ISSUER MULTILINE_OCTAL

```

\060\115\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\047\060\045\006\003\125\004\003\014
\036\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\062\060\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root Class 3 CA 2 EV 2009"
#
# Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Serial Number: 623604 (0x983f4)
# Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE
# Not Valid Before: Thu Nov 05 08:50:46 2009
# Not Valid After : Mon Nov 05 08:50:46 2029
# Fingerprint (SHA-256):
EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81
# Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\011\203\364

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\103\060\202\003\053\240\003\002\001\002\002\003\011
\203\364\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003
\014\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\154\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062
\060\060\071\060\036\027\015\060\071\061\061\060\065\060\070\065
\060\064\066\132\027\015\062\071\061\061\060\065\060\070\065\060
\064\066\132\060\120\061\013\060\011\006\003\125\004\006\023\002
\104\105\061\025\060\023\006\003\125\004\012\014\014\104\055\124
\162\165\163\164\040\107\155\142\110\061\052\060\050\006\003\125
\004\003\014\041\104\055\124\122\125\123\124\040\122\157\157\164
\040\103\154\141\163\163\040\063\040\103\101\040\062\040\105\126
\040\062\060\060\071\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\231\361\204\064\160\272\057\267\060\240
\216\275\174\004\317\276\142\274\231\375\202\227\322\172\012\147
\226\070\011\366\020\116\225\042\163\231\215\332\025\055\347\005
\374\031\163\042\267\216\230\000\274\074\075\254\241\154\373\326
\171\045\113\255\360\314\144\332\210\076\051\270\017\011\323\064
\335\063\365\142\321\341\315\031\351\356\030\117\114\130\256\342
\036\326\014\133\025\132\330\072\270\304\030\144\036\343\063\262
\265\211\167\116\014\277\331\224\153\023\227\157\022\243\376\231
\251\004\314\025\354\140\150\066\355\010\173\267\365\277\223\355
\146\061\203\214\306\161\064\207\116\027\352\257\213\221\215\034
\126\101\256\042\067\136\067\362\035\331\321\055\015\057\151\121
\247\276\146\246\212\072\052\275\307\032\261\341\024\360\276\072
\035\271\317\133\261\152\376\264\261\106\040\242\373\036\073\160
\357\223\230\175\214\163\226\362\305\357\205\160\255\051\046\374
\036\004\076\034\240\330\017\313\122\203\142\174\356\213\123\225
\220\251\127\242\352\141\005\330\371\115\304\047\372\156\255\355
\371\327\121\367\153\245\002\003\001\000\001\243\202\001\044\060
\202\001\040\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\323
\224\212\114\142\023\052\031\056\314\257\162\212\175\066\327\232
\034\334\147\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\201\335\006\003\125\035\037\004\201\325\060\201
\322\060\201\207\240\201\204\240\201\201\206\177\154\144\141\160
\072\057\057\144\151\162\145\143\164\157\162\171\056\144\055\164
\162\165\163\164\056\156\145\164\057\103\116\075\104\055\124\122
\125\123\124\045\062\060\122\157\157\164\045\062\060\103\154\141
\163\163\045\062\060\063\045\062\060\103\101\045\062\060\062\045
\062\060\105\126\045\062\060\062\060\060\071\054\117\075\104\055

\124\162\165\163\164\045\062\060\107\155\142\110\054\103\075\104
\105\077\143\145\162\164\151\146\151\143\141\164\145\162\145\166
\157\143\141\164\151\157\156\154\151\163\164\060\106\240\104\240
\102\206\100\150\164\164\160\072\057\057\167\167\167\056\144\055
\164\162\165\163\164\056\156\145\164\057\143\162\154\057\144\055
\164\162\165\163\164\137\162\157\157\164\137\143\154\141\163\163
\137\063\137\143\141\137\062\137\145\166\137\062\060\060\071\056
\143\162\154\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\064\355\173\132\074\244\224\210\357
\032\021\165\007\057\263\376\074\372\036\121\046\353\207\366\051
\336\340\361\324\306\044\011\351\301\317\125\033\264\060\331\316
\032\376\006\121\246\025\244\055\357\262\113\277\040\050\045\111
\321\246\066\167\064\350\144\337\122\261\021\307\163\172\315\071
\236\302\255\214\161\041\362\132\153\257\337\074\116\125\257\262
\204\145\024\211\271\167\313\052\061\276\317\243\155\317\157\110
\224\062\106\157\347\161\214\240\246\204\031\067\007\362\003\105
\011\053\206\165\174\337\137\151\127\000\333\156\330\246\162\042
\113\120\324\165\230\126\337\267\030\377\103\103\120\256\172\104
\173\360\171\121\327\103\075\247\323\201\323\360\311\117\271\332
\306\227\206\320\202\303\344\102\155\376\260\342\144\116\016\046
\347\100\064\046\265\010\211\327\010\143\143\070\047\165\036\063
\352\156\250\335\237\231\117\164\115\201\211\200\113\335\232\227
\051\134\057\276\201\101\271\214\377\352\175\140\006\236\315\327
\075\323\056\243\025\274\250\346\046\345\157\303\334\270\003\041
\352\237\026\361\054\124\265

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST Root Class 3 CA 2 EV 2009"

Issuer: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

Serial Number: 623604 (0x983f4)

Subject: CN=D-TRUST Root Class 3 CA 2 EV 2009,O=D-Trust GmbH,C=DE

Not Valid Before: Thu Nov 05 08:50:46 2009

Not Valid After : Mon Nov 05 08:50:46 2029

Fingerprint (SHA-256):

EE:C5:49:6B:98:8C:E9:86:25:B9:34:09:2E:EC:29:08:BE:D0:B0:F3:16:C2:D4:73:0C:84:EA:F1:F3:D3:48:81

Fingerprint (SHA1): 96:C9:1B:0B:95:B4:10:98:42:FA:D0:D8:22:79:FE:60:FA:B9:16:83

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "D-TRUST Root Class 3 CA 2 EV 2009"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\226\311\033\013\225\264\020\230\102\372\320\330\042\171\376\140

\372\271\026\203

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\306\103\054\136\055\315\304\064\300\120\117\021\002\117\266
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\052\060\050\006\003\125\004\003\014
\041\104\055\124\122\125\123\124\040\122\157\157\164\040\103\154
\141\163\163\040\063\040\103\101\040\062\040\105\126\040\062\060
\060\071
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\011\203\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "CA Disig Root R2"
#
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163

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\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\222\270\210\333\260\212\301\143

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\151\060\202\003\121\240\003\002\001\002\002\011\000
\222\270\210\333\260\212\301\143\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\122\061\013\060\011\006\003\125
\004\006\023\002\123\113\061\023\060\021\006\003\125\004\007\023
\012\102\162\141\164\151\163\154\141\166\141\061\023\060\021\006
\003\125\004\012\023\012\104\151\163\151\147\040\141\056\163\056
\061\031\060\027\006\003\125\004\003\023\020\103\101\040\104\151
\163\151\147\040\122\157\157\164\040\122\062\060\036\027\015\061
\062\060\067\061\071\060\071\061\065\063\060\132\027\015\064\062
\060\067\061\071\060\071\061\065\063\060\132\060\122\061\013\060
\011\006\003\125\004\006\023\002\123\113\061\023\060\021\006\003
\125\004\007\023\012\102\162\141\164\151\163\154\141\166\141\061
\023\060\021\006\003\125\004\012\023\012\104\151\163\151\147\040
\141\056\163\056\061\031\060\027\006\003\125\004\003\023\020\103
\101\040\104\151\163\151\147\040\122\157\157\164\040\122\062\060
\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000
\242\243\304\000\011\326\205\135\055\155\024\366\302\303\163\236
\065\302\161\125\176\201\373\253\106\120\340\301\174\111\170\346
\253\171\130\074\332\377\174\034\237\330\227\002\170\076\153\101
\004\351\101\275\276\003\054\105\366\057\144\324\253\135\243\107
\075\144\233\351\150\232\306\314\033\077\272\276\262\213\064\002
\056\230\125\031\374\214\157\252\137\332\114\316\115\003\041\243
\330\322\064\223\126\226\313\114\014\000\026\074\137\032\315\310
\307\154\246\255\323\061\247\274\350\345\341\146\326\322\373\003
\264\101\145\311\020\256\016\005\143\306\200\152\151\060\375\322
\356\220\357\015\047\337\237\225\163\364\341\045\332\154\026\336
\101\070\064\352\213\374\321\350\004\024\141\055\101\176\254\307
\167\116\313\121\124\373\136\222\030\033\004\132\150\306\311\304
\372\267\023\240\230\267\021\053\267\326\127\314\174\236\027\321
\313\045\376\206\116\044\056\126\014\170\115\236\001\022\246\053
\247\001\145\156\174\142\035\204\204\337\352\300\153\265\245\052
\225\203\303\123\021\014\163\035\013\262\106\220\321\102\072\316
\100\156\225\255\377\306\224\255\156\227\204\216\175\157\236\212
\200\015\111\155\163\342\173\222\036\303\363\301\363\353\056\005
\157\331\033\317\067\166\004\310\264\132\344\027\247\313\335\166
\037\320\031\166\350\054\005\263\326\234\064\330\226\334\141\207
\221\005\344\104\010\063\301\332\271\010\145\324\256\262\066\015
\353\272\070\272\014\345\233\236\353\215\146\335\231\317\326\211

|101|366|004|222|212|051|051|155|153|072|034|347|165|175|002|161
|016|363|300|347|275|313|031|335|235|140|262|302|146|140|266|261
|004|356|311|346|206|271|232|146|100|250|347|021|355|201|105|003
|213|366|147|131|350|301|006|021|275|335|317|200|002|117|145|100
|170|134|107|120|310|233|346|037|201|173|344|104|250|133|205|232
|342|336|132|325|307|371|072|104|146|113|344|062|124|174|344|154
|234|263|016|075|027|242|262|064|022|326|176|262|250|111|273|321
|172|050|100|276|242|026|037|337|344|067|037|021|163|373|220|012
|145|103|242|015|174|370|006|001|125|063|175|260|015|270|364|365
|256|245|102|127|174|066|021|214|173|136|304|003|235|214|171|235
|002|003|001|000|001|243|102|060|100|060|017|006|003|125|035|023
|001|001|377|004|005|060|003|001|001|377|060|016|006|003|125|035
|017|001|001|377|004|004|003|002|001|006|060|035|006|003|125|035
|016|004|026|004|024|265|231|370|257|260|224|365|343|040|326|012
|255|316|116|126|244|056|156|102|355|060|015|006|011|052|206|110
|206|367|015|001|001|013|005|000|003|202|002|001|000|046|006|136
|160|347|145|063|310|202|156|331|234|027|072|033|172|146|262|001
|366|170|073|151|136|057|352|377|116|371|050|303|230|052|141|114
|264|044|022|212|175|155|021|024|367|234|265|312|346|274|236|047
|216|114|031|310|251|275|172|300|327|066|016|155|205|162|156|250
|306|242|155|366|372|163|143|177|274|156|171|010|034|235|212|237
|032|212|123|246|330|273|331|065|125|261|021|305|251|003|263|126
|073|271|204|223|042|136|176|301|366|022|122|213|352|054|147|274
|376|066|114|365|270|317|321|263|111|222|073|323|051|016|231|033
|226|367|141|270|073|304|053|266|170|154|264|043|157|360|375|323
|262|136|165|037|231|225|250|254|366|332|341|305|061|173|373|321
|106|263|322|274|147|264|142|124|272|011|367|143|260|223|242|232
|371|351|122|056|213|140|022|253|374|365|140|126|357|020|134|213
|304|032|102|334|203|133|144|016|313|265|274|326|117|301|174|074
|156|215|023|155|373|173|353|060|320|334|115|257|305|325|266|245
|114|133|161|311|350|061|276|350|070|006|110|241|032|342|352|322
|336|022|071|130|032|377|200|016|202|165|346|267|311|007|154|016
|357|377|070|361|230|161|304|267|177|016|025|320|045|151|275|042
|235|053|355|005|366|106|107|254|355|300|360|324|073|342|354|356
|226|133|220|023|116|036|126|072|353|260|357|226|273|226|043|021
|272|362|103|206|164|144|225|310|050|165|337|035|065|272|322|067
|203|070|123|070|066|073|317|154|351|371|153|016|320|373|004|350
|117|167|327|145|001|170|206|014|172|076|041|142|361|177|143|161
|014|311|237|104|333|250|047|242|165|276|156|201|076|327|300|353
|033|230|017|160|134|064|262|212|314|300|205|030|353|156|172|263
|367|132|241|007|277|251|102|222|363|140|042|227|344|024|241|007
|233|116|166|300|216|175|375|244|045|307|107|355|377|037|163|254
|314|303|245|351|157|012|216|233|145|302|120|205|265|243|240|123
|022|314|125|207|141|363|201|256|020|106|141|275|104|041|270|302
|075|164|317|176|044|065|372|034|007|016|233|075|042|312|357|061
|057|214|254|022|275|357|100|050|374|051|147|237|262|023|117|146
|044|304|123|031|351|036|051|025|357|346|155|260|177|055|147|375
|363|154|033|165|106|243|345|112|027|351|244|327|013

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "CA Disig Root R2"
# Issuer: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Serial Number:00:92:b8:88:db:b0:8a:c1:63
# Subject: CN=CA Disig Root R2,O=Disig a.s.,L=Bratislava,C=SK
# Not Valid Before: Thu Jul 19 09:15:30 2012
# Not Valid After : Sat Jul 19 09:15:30 2042
# Fingerprint (SHA-256):
E2:3D:4A:03:6D:7B:70:E9:F5:95:B1:42:20:79:D2:B9:1E:DF:BB:1F:B6:51:A0:63:3E:AA:8A:9D:C5:F8:07:03
# Fingerprint (SHA1): B5:61:EB:EA:A4:DE:E4:25:4B:69:1A:98:A5:57:47:C2:34:C7:D9:71
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "CA Disig Root R2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\265\141\353\352\244\336\344\045\113\151\032\230\245\127\107\302
\064\307\331\161
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\001\373\330\047\247\027\232\105\124\070\032\103\001\073\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\123\113\061
\023\060\021\006\003\125\004\007\023\012\102\162\141\164\151\163
\154\141\166\141\061\023\060\021\006\003\125\004\012\023\012\104
\151\163\151\147\040\141\056\163\056\061\031\060\027\006\003\125
\004\003\023\020\103\101\040\104\151\163\151\147\040\122\157\157
\164\040\122\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\222\270\210\333\260\212\301\143
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "ACCVRAIZ1"
#
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1

```

```
# Not Valid Before: Thu May 05 09:37:37 2011
# Not Valid After : Tue Dec 31 09:37:37 2030
# Fingerprint (SHA-256):
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ACCVRAIZ1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
\023\002\105\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\136\303\267\246\103\177\244\340
END
CKA_VALUE MULTILINE_OCTAL
\060\202\007\323\060\202\005\273\240\003\002\001\002\002\010\136
\303\267\246\103\177\244\340\060\015\006\011\052\206\110\206\367
\015\001\001\005\005\000\060\102\061\022\060\020\006\003\125\004
\003\014\011\101\103\103\126\122\101\111\132\061\061\020\060\016
\006\003\125\004\013\014\007\120\113\111\101\103\103\126\061\015
\060\013\006\003\125\004\012\014\004\101\103\103\126\061\013\060
\011\006\003\125\004\006\023\002\105\123\060\036\027\015\061\061
\060\065\060\065\060\071\063\067\063\067\132\027\015\063\060\061
\062\063\061\060\071\063\067\063\067\132\060\102\061\022\060\020
\006\003\125\004\003\014\011\101\103\103\126\122\101\111\132\061
\061\020\060\016\006\003\125\004\013\014\007\120\113\111\101\103
\103\126\061\015\060\013\006\003\125\004\012\014\004\101\103\103
\126\061\013\060\011\006\003\125\004\006\023\002\105\123\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\233
\251\253\277\141\112\227\257\057\227\146\232\164\137\320\331\226
\375\317\342\344\146\357\037\037\107\063\302\104\243\337\232\336
\037\265\124\335\025\174\151\065\021\157\273\310\014\216\152\030
```

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\044\067\327\243\326\313\011\161\271\361\001\162\204\260\175\333
\115\200\315\374\323\157\311\370\332\266\016\202\322\105\205\250
\033\150\250\075\350\364\104\154\275\241\302\313\003\276\214\076
\023\000\204\337\112\110\300\343\042\012\350\351\067\247\030\114
\261\011\015\043\126\177\004\115\331\027\204\030\245\310\332\100
\224\163\353\316\016\127\074\003\201\072\235\012\241\127\103\151
\254\127\155\171\220\170\345\265\264\073\330\274\114\215\050\241
\247\243\247\272\002\116\045\321\052\256\355\256\003\042\270\153
\040\017\060\050\124\225\177\340\356\316\012\146\235\321\100\055
\156\042\257\235\032\301\005\031\322\157\300\362\237\370\173\263
\002\102\373\120\251\035\055\223\017\043\253\306\301\017\222\377
\320\242\025\365\123\011\161\034\377\105\023\204\346\046\136\370
\340\210\034\012\374\026\266\250\163\006\270\360\143\204\002\240
\306\132\354\347\164\337\160\256\243\203\045\352\326\307\227\207
\223\247\306\212\212\063\227\140\067\020\076\227\076\156\051\025
\326\241\017\321\210\054\022\237\157\252\244\306\102\353\101\242
\343\225\103\323\001\205\155\216\273\073\363\043\066\307\376\073
\340\241\045\007\110\253\311\211\164\377\010\217\200\277\300\226
\145\363\356\354\113\150\275\235\210\303\061\263\100\361\350\317
\366\070\273\234\344\321\177\324\345\130\233\174\372\324\363\016
\233\165\221\344\272\122\056\031\176\321\365\315\132\031\374\272
\006\366\373\122\250\113\231\004\335\370\371\264\213\120\243\116
\142\211\360\207\044\372\203\102\301\207\372\325\055\051\052\132
\161\172\144\152\327\047\140\143\015\333\316\111\365\215\037\220
\211\062\027\370\163\103\270\322\132\223\206\141\326\341\165\012
\352\171\146\166\210\117\161\353\004\045\326\012\132\172\223\345
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\053\006\001\005\005\007\001\001\004\161\060\157\060\114\006\010
\053\006\001\005\005\007\060\002\206\100\150\164\164\160\072\057
\057\167\167\167\056\141\143\143\166\056\145\163\057\146\151\154
\145\141\144\155\151\156\057\101\162\143\150\151\166\157\163\057
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\172\141\143\143\166\061\056\143\162\164\060\037\006\010\053\006
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\143\163\160\056\141\143\143\166\056\145\163\060\035\006\003\125
\035\016\004\026\004\024\322\207\264\343\337\067\047\223\125\366
\126\352\201\345\066\314\214\036\077\275\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\322\207\264\343\337\067\047\223
\125\366\126\352\201\345\066\314\214\036\077\275\060\202\001\163
\006\003\125\035\040\004\202\001\152\060\202\001\146\060\202\001
\142\006\004\125\035\040\000\060\202\001\130\060\202\001\042\006
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\141\000\144\000\040\000\144\000\145\000\040\000\103\000\145\000

\162\000\164\000\151\000\146\000\151\000\143\000\141\000\143\000
\151\000\363\000\156\000\040\000\122\000\141\000\355\000\172\000
\040\000\144\000\145\000\040\000\154\000\141\000\040\000\101\000
\103\000\103\000\126\000\040\000\050\000\101\000\147\000\145\000
\156\000\143\000\151\000\141\000\040\000\144\000\145\000\040\000
\124\000\145\000\143\000\156\000\157\000\154\000\157\000\147\000
\355\000\141\000\040\000\171\000\040\000\103\000\145\000\162\000
\164\000\151\000\146\000\151\000\143\000\141\000\143\000\151\000
\363\000\156\000\040\000\105\000\154\000\145\000\143\000\164\000
\162\000\363\000\156\000\151\000\143\000\141\000\054\000\040\000
\103\000\111\000\106\000\040\000\121\000\064\000\066\000\060\000
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\164\000\164\000\160\000\072\000\057\000\057\000\167\000\167\000
\167\000\056\000\141\000\143\000\143\000\166\000\056\000\145\000
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\164\164\160\072\057\057\167\167\167\056\141\143\143\166\056\145
\163\057\154\145\147\151\163\154\141\143\151\157\156\137\143\056
\150\164\155\060\125\006\003\125\035\037\004\116\060\114\060\112
\240\110\240\106\206\104\150\164\164\160\072\057\057\167\167\167
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\151\156\057\101\162\143\150\151\166\157\163\057\143\145\162\164
\151\146\151\143\141\144\157\163\057\162\141\151\172\141\143\143
\166\061\137\144\145\162\056\143\162\154\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\027\006\003\125\035
\021\004\020\060\016\201\014\141\143\143\166\100\141\143\143\166
\056\145\163\060\015\006\011\052\206\110\206\367\015\001\001\005
\005\000\003\202\002\001\000\227\061\002\237\347\375\103\147\110
\104\024\344\051\207\355\114\050\146\320\217\065\332\115\141\267
\112\227\115\265\333\220\340\005\056\016\306\171\320\362\227\151
\017\275\004\107\331\276\333\265\051\332\233\331\256\251\231\325
\323\074\060\223\365\215\241\250\374\006\215\104\364\312\026\225
\174\063\334\142\213\250\067\370\047\330\011\055\033\357\310\024
\047\040\251\144\104\377\056\326\165\252\154\115\140\100\031\111
\103\124\143\332\342\314\272\146\345\117\104\172\133\331\152\201
\053\100\325\177\371\001\047\130\054\310\355\110\221\174\077\246
\000\317\304\051\163\021\066\336\206\031\076\235\356\031\212\033
\325\260\355\216\075\234\052\300\015\330\075\146\343\074\015\275
\325\224\134\342\342\247\065\033\004\000\366\077\132\215\352\103
\275\137\211\035\251\301\260\314\231\342\115\000\012\332\311\047
\133\347\023\220\134\344\365\063\242\125\155\334\340\011\115\057
\261\046\133\047\165\000\011\304\142\167\051\010\137\236\131\254
\266\176\255\237\124\060\042\003\301\036\161\144\376\371\070\012
\226\030\335\002\024\254\043\313\006\034\036\244\175\215\015\336
\047\101\350\255\332\025\267\260\043\335\053\250\323\332\045\207
\355\350\125\104\115\210\364\066\176\204\232\170\254\367\016\126
\111\016\326\063\045\326\204\120\102\154\040\022\035\052\325\276
\274\362\160\201\244\160\140\276\005\265\233\236\004\104\276\141

```
\043\254\351\245\044\214\021\200\224\132\242\242\271\111\322\301
\334\321\247\355\061\021\054\236\031\246\356\341\125\341\300\352
\317\015\204\344\027\267\242\174\245\336\125\045\006\356\314\300
\207\134\100\332\314\225\077\125\340\065\307\270\204\276\264\135
\315\172\203\001\162\356\207\346\137\035\256\265\205\306\046\337
\346\301\232\351\036\002\107\237\052\250\155\251\133\317\354\105
\167\177\230\047\232\062\135\052\343\204\356\305\230\146\057\226
\040\035\335\330\303\047\327\260\371\376\331\175\315\320\237\217
\013\024\130\121\237\057\213\303\070\055\336\350\217\326\215\207
\244\365\126\103\026\231\054\364\244\126\264\064\270\141\067\311
\302\130\200\033\240\227\241\374\131\215\351\021\366\321\017\113
\125\064\106\052\213\206\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "ACCVRAIZ1"
```

```
# Issuer: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
```

```
# Serial Number:5e:c3:b7:a6:43:7f:a4:e0
```

```
# Subject: C=ES,O=ACCV,OU=PKIACCV,CN=ACCVRAIZ1
```

```
# Not Valid Before: Thu May 05 09:37:37 2011
```

```
# Not Valid After : Tue Dec 31 09:37:37 2030
```

```
# Fingerprint (SHA-256):
```

```
9A:6E:C0:12:E1:A7:DA:9D:BE:34:19:4D:47:8A:D7:C0:DB:18:22:FB:07:1D:F1:29:81:49:6E:D1:04:38:41:13
```

```
# Fingerprint (SHA1): 93:05:7A:88:15:C6:4F:CE:88:2F:FA:91:16:52:28:78:BC:53:64:17
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "ACCVRAIZ1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\223\005\172\210\025\306\117\316\210\057\372\221\026\122\050\170
```

```
\274\123\144\027
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\320\240\132\356\005\266\011\224\041\241\175\361\262\051\202\002
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\102\061\022\060\020\006\003\125\004\003\014\011\101\103\103
```

```
\126\122\101\111\132\061\061\020\060\016\006\003\125\004\013\014
```

```
\007\120\113\111\101\103\103\126\061\015\060\013\006\003\125\004
```

```
\012\014\004\101\103\103\126\061\013\060\011\006\003\125\004\006
```

```
\023\002\105\123
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\136\303\267\246\103\177\244\340
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

```
#  
# Certificate "TWCA Global Root CA"  
#  
# Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW  
# Serial Number: 3262 (0xcbe)  
# Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW  
# Not Valid Before: Wed Jun 27 06:28:33 2012  
# Not Valid After : Tue Dec 31 15:59:59 2030  
# Fingerprint (SHA-256):  
59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B  
# Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65  
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE  
CKA_TOKEN CK_BBOOL CK_TRUE  
CKA_PRIVATE CK_BBOOL CK_FALSE  
CKA_MODIFIABLE CK_BBOOL CK_FALSE  
CKA_LABEL UTF8 "TWCA Global Root CA"  
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509  
CKA_SUBJECT MULTILINE_OCTAL  
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101  
END  
CKA_ID UTF8 "0"  
CKA_ISSUER MULTILINE_OCTAL  
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157  
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023  
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164  
\040\103\101  
END  
CKA_SERIAL_NUMBER MULTILINE_OCTAL  
\002\002\014\276  
END  
CKA_VALUE MULTILINE_OCTAL  
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\002\014  
\276\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000  
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061  
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116  
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
```

\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\060\036\027\015\061\062\060\066\062\067\060\066\062
\070\063\063\132\027\015\063\060\061\062\063\061\061\065\065\071
\065\071\132\060\121\061\013\060\011\006\003\125\004\006\023\002
\124\127\061\022\060\020\006\003\125\004\012\023\011\124\101\111
\127\101\116\055\103\101\061\020\060\016\006\003\125\004\013\023
\007\122\157\157\164\040\103\101\061\034\060\032\006\003\125\004
\003\023\023\124\127\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\260\005\333\310\353\214\304\156\212
\041\357\216\115\234\161\012\037\122\160\355\155\202\234\227\305
\327\114\116\105\111\313\100\102\265\022\064\154\031\302\164\244
\061\137\205\002\227\354\103\063\012\123\322\234\214\216\267\270
\171\333\053\325\152\362\216\146\304\356\053\001\007\222\324\263
\320\002\337\120\366\125\257\146\016\313\340\107\140\057\053\062
\071\065\122\072\050\203\370\173\026\306\030\270\142\326\107\045
\221\316\360\031\022\115\255\143\365\323\077\165\137\051\360\241
\060\034\052\240\230\246\025\275\356\375\031\066\360\342\221\103
\217\372\312\326\020\047\111\114\357\335\301\361\205\160\233\312
\352\250\132\103\374\155\206\157\163\351\067\105\251\360\066\307
\314\210\165\036\273\154\006\377\233\153\076\027\354\141\252\161
\174\306\035\242\367\111\351\025\265\074\326\241\141\365\021\367
\005\157\035\375\021\276\320\060\007\302\051\260\011\116\046\334
\343\242\250\221\152\037\302\221\105\210\134\345\230\270\161\245
\025\031\311\174\165\021\314\160\164\117\055\233\035\221\104\375
\126\050\240\376\273\206\152\310\372\134\013\130\334\306\113\166
\310\253\042\331\163\017\245\364\132\002\211\077\117\236\042\202
\356\242\164\123\052\075\123\047\151\035\154\216\062\054\144\000
\046\143\141\066\116\243\106\267\077\175\263\055\254\155\220\242
\225\242\316\317\332\202\347\007\064\031\226\351\270\041\252\051
\176\246\070\276\216\051\112\041\146\171\037\263\303\265\011\147
\336\326\324\007\106\363\052\332\346\042\067\140\313\201\266\017
\240\017\351\310\225\177\277\125\221\005\172\317\075\025\300\157
\336\011\224\001\203\327\064\033\314\100\245\360\270\233\147\325
\230\221\073\247\204\170\225\046\244\132\010\370\053\164\264\000
\004\074\337\270\024\216\350\337\251\215\154\147\222\063\035\300
\267\322\354\222\310\276\011\277\054\051\005\157\002\153\236\357
\274\277\052\274\133\300\120\217\101\160\161\207\262\115\267\004
\251\204\243\062\257\256\356\153\027\213\262\261\376\154\341\220
\214\210\250\227\110\316\310\115\313\363\006\317\137\152\012\102
\261\036\036\167\057\216\240\346\222\016\006\374\005\042\322\046
\341\061\121\175\062\334\017\002\003\001\000\001\243\043\060\041
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\002\001\000\137\064\201\166\357\226\035\325\345\265\331

\002\143\204\026\301\256\240\160\121\247\367\114\107\065\310\013
\327\050\075\211\161\331\252\063\101\352\024\033\154\041\000\300
\154\102\031\176\237\151\133\040\102\337\242\322\332\304\174\227
\113\215\260\350\254\310\356\245\151\004\231\012\222\246\253\047
\056\032\115\201\277\204\324\160\036\255\107\376\375\112\235\063
\340\362\271\304\105\010\041\012\332\151\151\163\162\015\276\064
\376\224\213\255\303\036\065\327\242\203\357\345\070\307\245\205
\037\253\317\064\354\077\050\376\014\361\127\206\116\311\125\367
\034\324\330\245\175\006\172\157\325\337\020\337\201\116\041\145
\261\266\341\027\171\225\105\006\316\137\314\334\106\211\143\150
\104\215\223\364\144\160\240\075\235\050\005\303\071\160\270\142
\173\040\375\344\333\351\010\241\270\236\075\011\307\117\373\054
\370\223\166\101\336\122\340\341\127\322\235\003\274\167\236\376
\236\051\136\367\301\121\140\037\336\332\013\262\055\165\267\103
\110\223\347\366\171\306\204\135\200\131\140\224\374\170\230\217
\074\223\121\355\100\220\007\337\144\143\044\313\116\161\005\241
\327\224\032\210\062\361\042\164\042\256\245\246\330\022\151\114
\140\243\002\356\053\354\324\143\222\013\136\276\057\166\153\243
\266\046\274\217\003\330\012\362\114\144\106\275\071\142\345\226
\353\064\143\021\050\314\225\361\255\357\357\334\200\130\110\351
\113\270\352\145\254\351\374\200\265\265\310\105\371\254\301\237
\331\271\352\142\210\216\304\361\113\203\022\255\346\213\204\326
\236\302\353\203\030\237\152\273\033\044\140\063\160\314\354\367
\062\363\134\331\171\175\357\236\244\376\311\043\303\044\356\025
\222\261\075\221\117\046\206\275\146\163\044\023\352\244\256\143
\301\255\175\204\003\074\020\170\206\033\171\343\304\363\362\004
\225\040\256\043\202\304\263\072\000\142\277\346\066\044\341\127
\272\307\036\220\165\325\137\077\225\141\053\301\073\315\345\263
\150\141\320\106\046\251\041\122\151\055\353\056\307\353\167\316
\246\072\265\003\063\117\166\321\347\134\124\001\135\313\170\364
\311\014\277\317\022\216\027\055\043\150\224\347\253\376\251\262
\053\006\320\004\315

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TWCA Global Root CA"

Issuer: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Serial Number: 3262 (0xcbe)

Subject: CN=TWCA Global Root CA,OU=Root CA,O=TAIWAN-CA,C=TW

Not Valid Before: Wed Jun 27 06:28:33 2012

Not Valid After : Tue Dec 31 15:59:59 2030

Fingerprint (SHA-256):

59:76:90:07:F7:68:5D:0F:CD:50:87:2F:9F:95:D5:75:5A:5B:2B:45:7D:81:F3:69:2B:61:0A:98:67:2F:0E:1B

Fingerprint (SHA1): 9C:BB:48:53:F6:A4:F6:D3:52:A4:E8:32:52:55:60:13:F5:AD:AF:65

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TWCA Global Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\234\273\110\123\366\244\366\323\122\244\350\062\122\125\140\023
\365\255\257\145
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\371\003\176\317\346\236\074\163\172\052\220\007\151\377\053\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\022\060\020\006\003\125\004\012\023\011\124\101\111\127\101\116
\055\103\101\061\020\060\016\006\003\125\004\013\023\007\122\157
\157\164\040\103\101\061\034\060\032\006\003\125\004\003\023\023
\124\127\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\002\014\276
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TeliaSonera Root CA v1"
#
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Not Valid Before: Thu Oct 18 12:00:50 2007
# Not Valid After : Mon Oct 18 12:00:50 2032
# Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\070\060\202\003\040\240\003\002\001\002\002\021\000
\225\276\026\240\367\056\106\361\173\071\202\162\372\213\315\226
\060\015\006\011\052\206\110\206\367\015\001\001\005\005\000\060
\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154\151
\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004\003
\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122\157
\157\164\040\103\101\040\166\061\060\036\027\015\060\067\061\060
\061\070\061\062\060\060\065\060\132\027\015\063\062\061\060\061
\070\061\062\060\060\065\060\132\060\067\061\024\060\022\006\003
\125\004\012\014\013\124\145\154\151\141\123\157\156\145\162\141
\061\037\060\035\006\003\125\004\003\014\026\124\145\154\151\141
\123\157\156\145\162\141\040\122\157\157\164\040\103\101\040\166
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\276\353\047\360\041\243\363\151\046\125\176\235\305
\125\026\221\134\375\357\041\277\123\200\172\055\322\221\214\143
\061\360\354\044\360\303\245\322\162\174\020\155\364\067\267\345
\346\174\171\352\214\265\202\213\256\110\266\254\000\334\145\165
\354\052\115\137\301\207\365\040\145\053\201\250\107\076\211\043
\225\060\026\220\177\350\127\007\110\347\031\256\277\105\147\261
\067\033\006\052\376\336\371\254\175\203\373\136\272\344\217\227
\147\276\113\216\215\144\007\127\070\125\151\064\066\075\023\110
\357\117\342\323\146\036\244\317\032\267\136\066\063\324\264\006
\275\030\001\375\167\204\120\000\105\365\214\135\350\043\274\176
\376\065\341\355\120\173\251\060\215\031\323\011\216\150\147\135
\277\074\227\030\123\273\051\142\305\312\136\162\301\307\226\324
\333\055\240\264\037\151\003\354\352\342\120\361\014\074\360\254
\363\123\055\360\034\365\355\154\071\071\163\200\026\310\122\260
\043\315\340\076\334\335\074\107\240\273\065\212\342\230\150\213
\276\345\277\162\356\322\372\245\355\022\355\374\230\030\251\046
\166\334\050\113\020\040\034\323\177\026\167\055\355\157\200\367
\111\273\123\005\273\135\150\307\324\310\165\026\077\211\132\213
\367\027\107\324\114\361\322\211\171\076\115\075\230\250\141\336
\072\036\322\370\136\003\340\301\311\034\214\323\215\115\323\225
\066\263\067\137\143\143\233\063\024\360\055\046\153\123\174\211

\214\062\302\156\354\075\041\000\071\311\241\150\342\120\203\056
\260\072\053\363\066\240\254\057\344\157\141\302\121\011\071\076
\213\123\271\273\147\332\334\123\271\166\131\066\235\103\345\040
\340\075\062\140\205\042\121\267\307\063\273\335\025\057\244\170
\246\007\173\201\106\066\004\206\335\171\065\307\225\054\073\260
\243\027\065\345\163\037\264\134\131\357\332\352\020\145\173\172
\320\177\237\263\264\052\067\073\160\213\233\133\271\053\267\354
\262\121\022\227\123\051\132\324\360\022\020\334\117\002\273\022
\222\057\142\324\077\151\103\174\015\326\374\130\165\001\210\235
\130\026\113\336\272\220\377\107\001\211\006\152\366\137\262\220
\152\263\002\246\002\210\277\263\107\176\052\331\325\372\150\170
\065\115\002\003\001\000\001\243\077\060\075\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\013\006\003
\125\035\017\004\004\003\002\001\006\060\035\006\003\125\035\016
\004\026\004\024\360\217\131\070\000\263\365\217\232\226\014\325
\353\372\173\252\027\350\023\022\060\015\006\011\052\206\110\206
\367\015\001\001\005\005\000\003\202\002\001\000\276\344\134\142
\116\044\364\014\010\377\360\323\014\150\344\223\111\042\077\104
\047\157\273\155\336\203\146\316\250\314\015\374\365\232\006\345
\167\024\221\353\235\101\173\231\052\204\345\377\374\041\301\135
\360\344\037\127\267\165\251\241\137\002\046\377\327\307\367\116
\336\117\370\367\034\106\300\172\117\100\054\042\065\360\031\261
\320\153\147\054\260\250\340\300\100\067\065\366\204\134\134\343
\257\102\170\376\247\311\015\120\352\015\204\166\366\121\357\203
\123\306\172\377\016\126\111\056\217\172\326\014\346\047\124\343
\115\012\140\162\142\315\221\007\326\245\277\310\231\153\355\304
\031\346\253\114\021\070\305\157\061\342\156\111\310\077\166\200
\046\003\046\051\340\066\366\366\040\123\343\027\160\064\027\235
\143\150\036\153\354\303\115\206\270\023\060\057\135\106\015\107
\103\325\033\252\131\016\271\134\215\006\110\255\164\207\137\307
\374\061\124\101\023\342\307\041\016\236\340\036\015\341\300\173
\103\205\220\305\212\130\306\145\012\170\127\362\306\043\017\001
\331\040\113\336\017\373\222\205\165\052\134\163\215\155\173\045
\221\312\356\105\256\006\113\000\314\323\261\131\120\332\072\210
\073\051\103\106\136\227\053\124\316\123\157\215\112\347\226\372
\277\161\016\102\213\174\375\050\240\320\110\312\332\304\201\114
\273\242\163\223\046\310\353\014\326\046\210\266\300\044\317\273
\275\133\353\165\175\351\010\216\206\063\054\171\167\011\151\245
\211\374\263\160\220\207\166\217\323\042\273\102\316\275\163\013
\040\046\052\320\233\075\160\036\044\154\315\207\166\251\027\226
\267\317\015\222\373\216\030\251\230\111\321\236\376\140\104\162
\041\271\031\355\302\365\061\361\071\110\210\220\044\165\124\026
\255\316\364\370\151\024\144\071\373\243\270\272\160\100\307\047
\034\277\304\126\123\372\143\145\320\363\034\016\026\365\153\206
\130\115\030\324\344\015\216\245\235\133\221\334\166\044\120\077
\306\052\373\331\267\234\265\326\346\320\331\350\031\213\025\161
\110\255\267\352\330\131\210\324\220\277\026\263\331\351\254\131
\141\124\310\034\272\312\301\312\341\271\040\114\217\072\223\211

```
\245\240\314\277\323\366\165\244\165\226\155\126
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "TeliaSonera Root CA v1"
# Issuer: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Serial Number:00:95:be:16:a0:f7:2e:46:f1:7b:39:82:72:fa:8b:cd:96
# Subject: CN=TeliaSonera Root CA v1,O=TeliaSonera
# Not Valid Before: Thu Oct 18 12:00:50 2007
# Not Valid After : Mon Oct 18 12:00:50 2032
# Fingerprint (SHA-256):
DD:69:36:FE:21:F8:F0:77:C1:23:A1:A5:21:C1:22:24:F7:22:55:B7:3E:03:A7:26:06:93:E8:A2:4B:0F:A3:89
# Fingerprint (SHA1): 43:13:BB:96:F1:D5:86:9B:C1:4E:6A:92:F6:CF:F6:34:69:87:82:37
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TeliaSonera Root CA v1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\103\023\273\226\361\325\206\233\301\116\152\222\366\317\366\064
\151\207\202\067
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\067\101\111\033\030\126\232\046\365\255\302\146\373\100\245\114
END
CKA_ISSUER MULTILINE_OCTAL
\060\067\061\024\060\022\006\003\125\004\012\014\013\124\145\154
\151\141\123\157\156\145\162\141\061\037\060\035\006\003\125\004
\003\014\026\124\145\154\151\141\123\157\156\145\162\141\040\122
\157\157\164\040\103\101\040\166\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\225\276\026\240\367\056\106\361\173\071\202\162\372
\213\315\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Certification Authority"
#
# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A....,L=Ankara,C=TR
# Serial Number:6a:68:3e:9c:51:9b:cb:53
```

```
# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
# Not Valid Before: Tue Mar 05 12:09:48 2013
# Not Valid After : Fri Mar 03 12:09:48 2023
# Fingerprint (SHA-256):
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\152\150\076\234\121\233\313\123
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\113\060\202\004\063\240\003\002\001\002\002\010\152
\150\076\234\121\233\313\123\060\015\006\011\052\206\110\206\367
```

\015\001\001\013\005\000\060\201\262\061\013\060\011\006\003\125
\004\006\023\002\124\122\061\017\060\015\006\003\125\004\007\014
\006\101\156\153\141\162\141\061\100\060\076\006\003\125\004\012
\014\067\105\055\124\165\304\237\162\141\040\105\102\107\040\102
\151\154\151\305\237\151\155\040\124\145\153\156\157\154\157\152
\151\154\145\162\151\040\166\145\040\110\151\172\155\145\164\154
\145\162\151\040\101\056\305\236\056\061\046\060\044\006\003\125
\004\013\014\035\105\055\124\165\147\162\141\040\123\145\162\164
\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145\172
\151\061\050\060\046\006\003\125\004\003\014\037\105\055\124\165
\147\162\141\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\063\060\063\060\065\061\062\060\071\064\070\132\027\015\062\063
\060\063\060\063\061\062\060\071\064\070\132\060\201\262\061\013
\060\011\006\003\125\004\006\023\002\124\122\061\017\060\015\006
\003\125\004\007\014\006\101\156\153\141\162\141\061\100\060\076
\006\003\125\004\012\014\067\105\055\124\165\304\237\162\141\040
\105\102\107\040\102\151\154\151\305\237\151\155\040\124\145\153
\156\157\154\157\152\151\154\145\162\151\040\166\145\040\110\151
\172\155\145\164\154\145\162\151\040\101\056\305\236\056\061\046
\060\044\006\003\125\004\013\014\035\105\055\124\165\147\162\141
\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040\115
\145\162\153\145\172\151\061\050\060\046\006\003\125\004\003\014
\037\105\055\124\165\147\162\141\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\342\365\077\223\005\121\036\205\142\124\136\172\013\365\030
\007\203\256\176\257\174\367\324\212\153\245\143\103\071\271\113
\367\303\306\144\211\075\224\056\124\200\122\071\071\007\113\113
\335\205\007\166\207\314\277\057\225\114\314\175\247\075\274\107
\017\230\160\370\214\205\036\164\216\222\155\033\100\321\231\015
\273\165\156\310\251\153\232\300\204\061\257\312\103\313\353\053
\064\350\217\227\153\001\233\325\016\112\010\252\133\222\164\205
\103\323\200\256\241\210\133\256\263\352\136\313\026\232\167\104
\310\241\366\124\150\316\336\217\227\053\272\133\100\002\014\144
\027\300\265\223\315\341\361\023\146\316\014\171\357\321\221\050
\253\137\240\022\122\060\163\031\216\217\341\214\007\242\303\273
\112\360\352\037\025\250\356\045\314\244\106\370\033\042\357\263
\016\103\272\054\044\270\305\054\134\324\034\370\135\144\275\303
\223\136\050\247\077\047\361\216\036\323\052\120\005\243\125\331
\313\347\071\123\300\230\236\214\124\142\213\046\260\367\175\215
\174\344\306\236\146\102\125\202\107\347\262\130\215\146\367\007
\174\056\066\346\120\034\077\333\103\044\305\277\206\107\171\263
\171\034\367\132\364\023\354\154\370\077\342\131\037\225\356\102
\076\271\255\250\062\205\111\227\106\376\113\061\217\132\313\255
\164\107\037\351\221\267\337\050\004\042\240\324\017\135\342\171
\117\352\154\205\206\275\250\246\316\344\372\303\341\263\256\336

\074\121\356\313\023\174\001\177\204\016\135\121\224\236\023\014
\266\056\245\114\371\071\160\066\157\226\312\056\014\104\125\305
\312\372\135\002\243\337\326\144\214\132\263\001\012\251\265\012
\107\027\377\357\221\100\052\216\241\106\072\061\230\345\021\374
\314\273\111\126\212\374\271\320\141\232\157\145\154\346\303\313
\076\165\111\376\217\247\342\211\305\147\327\235\106\023\116\061
\166\073\044\263\236\021\145\206\253\177\357\035\324\370\274\347
\254\132\134\267\132\107\134\125\316\125\264\042\161\133\133\013
\360\317\334\240\141\144\352\251\327\150\012\143\247\340\015\077
\240\257\323\252\322\176\357\121\240\346\121\053\125\222\025\027
\123\313\267\146\016\146\114\370\371\165\114\220\347\022\160\307
\105\002\003\001\000\001\243\143\060\141\060\035\006\003\125\035
\016\004\026\004\024\056\343\333\262\111\320\234\124\171\134\372
\047\052\376\314\116\322\350\116\124\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125\035
\043\004\030\060\026\200\024\056\343\333\262\111\320\234\124\171
\134\372\047\052\376\314\116\322\350\116\124\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\005
\067\072\364\115\267\105\342\105\165\044\217\266\167\122\350\034
\330\020\223\145\363\362\131\006\244\076\036\051\354\135\321\320
\253\174\340\012\220\110\170\355\116\230\003\231\376\050\140\221
\035\060\035\270\143\174\250\346\065\265\372\323\141\166\346\326
\007\113\312\151\232\262\204\172\167\223\105\027\025\237\044\320
\230\023\022\377\273\240\056\375\116\114\207\370\316\134\252\230
\033\005\340\000\106\112\202\200\245\063\213\050\334\355\070\323
\337\345\076\351\376\373\131\335\141\204\117\322\124\226\023\141
\023\076\217\200\151\276\223\107\265\065\103\322\132\273\075\134
\357\263\102\107\315\073\125\023\006\260\011\333\375\143\366\072
\210\012\231\157\176\341\316\033\123\152\104\146\043\121\010\173
\274\133\122\242\375\006\067\070\100\141\217\112\226\270\220\067
\370\146\307\170\220\000\025\056\213\255\121\065\123\007\250\153
\150\256\371\116\074\007\046\315\010\005\160\314\071\077\166\275
\245\323\147\046\001\206\246\123\322\140\073\174\103\177\125\212
\274\225\032\301\050\071\114\037\103\322\221\364\162\131\212\271
\126\374\077\264\235\332\160\234\166\132\214\103\120\356\216\060
\162\115\337\377\111\367\306\251\147\331\155\254\002\021\342\072
\026\045\247\130\010\313\157\123\101\234\110\070\107\150\063\321
\327\307\217\324\164\041\324\303\005\220\172\377\316\226\210\261
\025\051\135\043\253\320\140\241\022\117\336\364\027\315\062\345
\311\277\310\103\255\375\056\216\361\257\342\364\230\372\022\037
\040\330\300\247\014\205\305\220\364\073\055\226\046\261\054\276
\114\253\353\261\322\212\311\333\170\023\017\036\011\235\155\217
\000\237\002\332\301\372\037\172\172\011\304\112\346\210\052\227
\237\211\213\375\067\137\137\072\316\070\131\206\113\257\161\013
\264\330\362\160\117\237\062\023\343\260\247\127\345\332\332\103
\313\204\064\362\050\304\352\155\364\052\357\301\153\166\332\373
\176\273\205\074\322\123\302\115\276\161\341\105\321\375\043\147

```
\015\023\165\373\317\145\147\042\235\256\260\011\321\011\377\035
\064\277\376\043\227\067\322\071\372\075\015\006\013\264\333\073
\243\253\157\134\035\266\176\350\263\202\064\355\006\134\044
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "E-Tugra Certification Authority"
```

```
# Issuer: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
```

```
# Serial Number:6a:68:3e:9c:51:9b:cb:53
```

```
# Subject: CN=E-Tugra Certification Authority,OU=E-Tugra Sertifikasyon Merkezi,O=E-Tu..ra EBG Bili..im
Teknolojileri ve Hizmetleri A...,L=Ankara,C=TR
```

```
# Not Valid Before: Tue Mar 05 12:09:48 2013
```

```
# Not Valid After : Fri Mar 03 12:09:48 2023
```

```
# Fingerprint (SHA-256):
```

```
B0:BF:D5:2B:B0:D7:D9:BD:92:BF:5D:4D:C1:3D:A2:55:C0:2C:54:2F:37:83:65:EA:89:39:11:F5:5E:55:F2:3C
```

```
# Fingerprint (SHA1): 51:C6:E7:08:49:06:6E:F3:92:D4:5C:A0:0D:6D:A3:62:8F:C3:52:39
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "E-Tugra Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\121\306\347\010\111\006\156\363\222\324\134\240\015\155\243\142
\217\303\122\071
```

```
END
```

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\241\003\143\260\275\041\161\160\212\157\023\072\273\171\111
```

```
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\262\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\014\006\101\156\153\141\162
\141\061\100\060\076\006\003\125\004\012\014\067\105\055\124\165
\304\237\162\141\040\105\102\107\040\102\151\154\151\305\237\151
\155\040\124\145\153\156\157\154\157\152\151\154\145\162\151\040
\166\145\040\110\151\172\155\145\164\154\145\162\151\040\101\056
\305\236\056\061\046\060\044\006\003\125\004\013\014\035\105\055
\124\165\147\162\141\040\123\145\162\164\151\146\151\153\141\163
\171\157\156\040\115\145\162\153\145\172\151\061\050\060\046\006
\003\125\004\003\014\037\105\055\124\165\147\162\141\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171
```

```
END
```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\152\150\076\234\121\233\313\123
```

```
END
```

```

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "T-TeleSec GlobalRoot Class 2"
#
# Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Serial Number: 1 (0x1)
# Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services
GmbH,C=DE
# Not Valid Before: Wed Oct 01 10:40:14 2008
# Not Valid After : Sat Oct 01 23:59:59 2033
# Fingerprint (SHA-256):
91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52
# Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\303\060\202\002\253\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163\164
\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040\123
\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060\035
\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155\163
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045\060
\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123\145
\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154\141
\163\163\040\062\060\036\027\015\060\070\061\060\060\061\061\060
\064\060\061\064\132\027\015\063\063\061\060\060\061\062\063\065
\071\065\071\132\060\201\202\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\053\060\051\006\003\125\004\012\014\042\124
\055\123\171\163\164\145\155\163\040\105\156\164\145\162\160\162
\151\163\145\040\123\145\162\166\151\143\145\163\040\107\155\142
\110\061\037\060\035\006\003\125\004\013\014\026\124\055\123\171
\163\164\145\155\163\040\124\162\165\163\164\040\103\145\156\164
\145\162\061\045\060\043\006\003\125\004\003\014\034\124\055\124
\145\154\145\123\145\143\040\107\154\157\142\141\154\122\157\157
\164\040\103\154\141\163\163\040\062\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\252\137\332\033\137\350
\163\221\345\332\134\364\242\346\107\345\363\150\125\140\005\035
\002\244\263\233\131\363\036\212\257\064\255\374\015\302\331\110
\031\356\151\217\311\040\374\041\252\007\031\355\260\134\254\145
\307\137\355\002\174\173\174\055\033\326\272\271\200\302\030\202
\026\204\372\146\260\010\306\124\043\201\344\315\271\111\077\366
\117\156\067\110\050\070\017\305\276\347\150\160\375\071\227\115
\322\307\230\221\120\252\304\104\263\043\175\071\107\351\122\142
\326\022\223\136\267\061\226\102\005\373\166\247\036\243\365\302
\374\351\172\305\154\251\161\117\352\313\170\274\140\257\307\336
\364\331\313\276\176\063\245\156\224\203\360\064\372\041\253\352
\216\162\240\077\244\336\060\133\357\206\115\152\225\133\103\104
\250\020\025\034\345\001\127\305\230\361\346\006\050\221\252\040
\305\267\123\046\121\103\262\013\021\225\130\341\300\017\166\331
\300\215\174\201\363\162\160\236\157\376\032\216\331\137\065\306
\262\157\064\174\276\110\117\342\132\071\327\330\235\170\236\237
\206\076\003\136\031\213\104\242\325\307\002\003\001\000\001\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\277
\131\040\066\000\171\240\240\042\153\214\325\362\141\322\270\054
\313\202\112\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\061\003\242\141\013\037\164\350\162

```
\066\306\155\371\115\236\372\042\250\341\201\126\317\315\273\237
\352\253\221\031\070\257\252\174\025\115\363\266\243\215\245\364
\216\366\104\251\247\350\041\225\255\076\000\142\026\210\360\002
\272\374\141\043\346\063\233\060\172\153\066\142\173\255\004\043
\204\130\145\342\333\053\212\347\045\123\067\142\123\137\274\332
\001\142\051\242\246\047\161\346\072\042\176\301\157\035\225\160
\040\112\007\064\337\352\377\025\200\345\272\327\172\330\133\165
\174\005\172\051\107\176\100\250\061\023\167\315\100\073\264\121
\107\172\056\021\343\107\021\336\235\146\320\213\325\124\146\372
\203\125\352\174\302\051\211\033\351\157\263\316\342\005\204\311
\057\076\170\205\142\156\311\137\301\170\143\164\130\300\110\030
\014\231\071\353\244\314\032\265\171\132\215\025\234\330\024\015
\366\172\007\127\307\042\203\005\055\074\233\045\046\075\030\263
\251\103\174\310\310\253\144\217\016\243\277\234\033\235\060\333
\332\320\031\056\252\074\361\373\063\200\166\344\315\255\031\117
\005\047\216\023\241\156\302
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "T-TeleSec GlobalRoot Class 2"

Issuer: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Serial Number: 1 (0x1)

Subject: CN=T-TeleSec GlobalRoot Class 2,OU=T-Systems Trust Center,O=T-Systems Enterprise Services GmbH,C=DE

Not Valid Before: Wed Oct 01 10:40:14 2008

Not Valid After : Sat Oct 01 23:59:59 2033

Fingerprint (SHA-256):

91:E2:F5:78:8D:58:10:EB:A7:BA:58:73:7D:E1:54:8A:8E:CA:CD:01:45:98:BC:0B:14:3E:04:1B:17:05:25:52

Fingerprint (SHA1): 59:0D:2D:7D:88:4F:40:2E:61:7E:A5:62:32:17:65:CF:17:D8:94:E9

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "T-TeleSec GlobalRoot Class 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\131\015\055\175\210\117\100\056\141\176\245\142\062\027\145\317
\027\330\224\351
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\053\233\236\344\173\154\037\000\162\032\314\301\167\171\337\152
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\053\060\051\006\003\125\004\012\014\042\124\055\123\171\163
\164\145\155\163\040\105\156\164\145\162\160\162\151\163\145\040
```

```
\123\145\162\166\151\143\145\163\040\107\155\142\110\061\037\060
\035\006\003\125\004\013\014\026\124\055\123\171\163\164\145\155
\163\040\124\162\165\163\164\040\103\145\156\164\145\162\061\045
\060\043\006\003\125\004\003\014\034\124\055\124\145\154\145\123
\145\143\040\107\154\157\142\141\154\122\157\157\164\040\103\154
\141\163\163\040\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\001\001
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Atos TrustedRoot 2011"

#

Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011

Serial Number:5c:33:cb:62:2c:5f:b3:32

Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011

Not Valid Before: Thu Jul 07 14:58:30 2011

Not Valid After : Tue Dec 31 23:59:59 2030

Fingerprint (SHA-256):

F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74

Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Atos TrustedRoot 2011"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\134\063\313\142\054\137\263\062
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\167\060\202\002\137\240\003\002\001\002\002\010\134
\063\313\142\054\137\263\062\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\074\061\036\060\034\006\003\125\004
\003\014\025\101\164\157\163\040\124\162\165\163\164\145\144\122
\157\157\164\040\062\060\061\061\061\015\060\013\006\003\125\004
\012\014\004\101\164\157\163\061\013\060\011\006\003\125\004\006
\023\002\104\105\060\036\027\015\061\061\060\067\060\067\061\064
\065\070\063\060\132\027\015\063\060\061\062\063\061\062\063\065
\071\065\071\132\060\074\061\036\060\034\006\003\125\004\003\014
\025\101\164\157\163\040\124\162\165\163\164\145\144\122\157\157
\164\040\062\060\061\061\061\015\060\013\006\003\125\004\012\014
\004\101\164\157\163\061\013\060\011\006\003\125\004\006\023\002
\104\105\060\202\001\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\001\017\000\060\202\001\012\002\202
\001\001\000\225\205\073\227\157\052\073\056\073\317\246\363\051
\065\276\317\030\254\076\252\331\370\115\240\076\032\107\271\274
\232\337\362\376\314\076\107\350\172\226\302\044\216\065\364\251
\014\374\202\375\155\301\162\142\047\275\352\153\353\347\212\314
\124\076\220\120\317\200\324\225\373\350\265\202\324\024\305\266
\251\125\045\127\333\261\120\366\260\140\144\131\172\151\317\003
\267\157\015\276\312\076\157\164\162\352\252\060\052\163\142\276
\111\221\141\310\021\376\016\003\052\367\152\040\334\002\025\015
\136\025\152\374\343\202\301\265\305\235\144\011\154\243\131\230
\007\047\307\033\226\053\141\164\161\154\103\361\367\065\211\020
\340\236\354\125\241\067\042\242\207\004\005\054\107\175\264\034
\271\142\051\146\050\312\267\341\223\365\244\224\003\231\271\160
\205\265\346\110\352\215\120\374\331\336\314\157\007\016\335\013
\162\235\200\060\026\007\225\077\050\016\375\305\165\117\123\326
\164\232\264\044\056\216\002\221\317\166\305\233\036\125\164\234
\170\041\261\360\055\361\013\237\302\325\226\030\037\360\124\042
\172\214\007\002\003\001\000\001\243\175\060\173\060\035\006\003
\125\035\016\004\026\004\024\247\245\006\261\054\246\011\140\356
\321\227\351\160\256\274\073\031\154\333\041\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\247\245\006\261\054\246\011
\140\356\321\227\351\160\256\274\073\031\154\333\041\060\030\006
\003\125\035\040\004\021\060\017\060\015\006\013\053\006\001\004
\001\260\055\003\004\001\001\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\001\001\000\046\167\064\333\224
\110\206\052\101\235\054\076\006\220\140\304\214\254\013\124\270
\037\271\173\323\007\071\344\372\076\173\262\075\116\355\237\043
\275\227\363\153\134\357\356\375\100\246\337\241\223\241\012\206
\254\357\040\320\171\001\275\170\367\031\330\044\061\064\004\001
\246\272\025\232\303\047\334\330\117\017\314\030\143\377\231\017
\016\221\153\165\026\341\041\374\330\046\307\107\267\246\317\130
\162\161\176\272\341\115\225\107\073\311\257\155\241\264\301\354

```
\211\366\264\017\070\265\342\144\334\045\317\246\333\353\232\134
\231\241\305\010\336\375\346\332\325\326\132\105\014\304\267\302
\265\024\357\264\021\377\016\025\265\365\365\333\306\275\353\132
\247\360\126\042\251\074\145\124\306\025\250\275\206\236\315\203
\226\150\172\161\201\211\341\013\341\352\021\033\150\010\314\151
\236\354\236\101\236\104\062\046\172\342\207\012\161\075\353\344
\132\244\322\333\305\315\306\336\140\177\271\363\117\104\222\357
\052\267\030\076\247\031\331\013\175\261\067\101\102\260\272\140
\035\362\376\011\021\260\360\207\173\247\235
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Atos TrustedRoot 2011"
```

```
# Issuer: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Serial Number:5c:33:cb:62:2c:5f:b3:32
```

```
# Subject: C=DE,O=Atos,CN=Atos TrustedRoot 2011
```

```
# Not Valid Before: Thu Jul 07 14:58:30 2011
```

```
# Not Valid After : Tue Dec 31 23:59:59 2030
```

```
# Fingerprint (SHA-256):
```

```
F3:56:BE:A2:44:B7:A9:1E:B3:5D:53:CA:9A:D7:86:4A:CE:01:8E:2D:35:D5:F8:F9:6D:DF:68:A6:F4:1A:A4:74
```

```
# Fingerprint (SHA1): 2B:B1:F5:3E:55:0C:1D:C5:F1:D4:E6:B7:6A:46:4B:55:06:02:AC:21
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Atos TrustedRoot 2011"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\053\261\365\076\125\014\035\305\361\324\346\267\152\106\113\125
\006\002\254\041
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\256\271\304\062\113\254\177\135\146\314\167\224\273\052\167\126
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\074\061\036\060\034\006\003\125\004\003\014\025\101\164\157
\163\040\124\162\165\163\164\145\144\122\157\157\164\040\062\060
\061\061\061\015\060\013\006\003\125\004\012\014\004\101\164\157
\163\061\013\060\011\006\003\125\004\006\023\002\104\105
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\134\063\313\142\054\137\263\062
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "QuoVadis Root CA 1 G3"
#
# Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93
# Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 17:27:44 2012
# Not Valid After : Sun Jan 12 17:27:44 2042
# Fingerprint (SHA-256):
8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74
# Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\170
\130\137\056\255\054\031\113\343\067\007\065\064\023\050\265\226
\324\145\223\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\061\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\067\062\067\064\064\132\027\015\064
\062\060\061\061\062\061\067\062\067\064\064\132\060\110\061\013

```

\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\061\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\240\276\120\020\216\351\362\154\100
\264\004\234\205\271\061\312\334\055\344\021\251\004\074\033\125
\301\347\130\060\035\044\264\303\357\205\336\214\054\341\301\075
\337\202\346\117\255\107\207\154\354\133\111\301\112\325\273\217
\354\207\254\177\202\232\206\354\075\003\231\122\001\322\065\236
\254\332\360\123\311\146\074\324\254\002\001\332\044\323\073\250
\002\106\257\244\034\343\370\163\130\166\267\366\016\220\015\265
\360\317\314\372\371\306\114\345\303\206\060\012\215\027\176\065
\353\305\337\273\016\234\300\215\207\343\210\070\205\147\372\076
\307\253\340\023\234\005\030\230\317\223\365\261\222\264\374\043
\323\317\325\304\047\111\340\236\074\233\010\243\213\135\052\041
\340\374\071\252\123\332\175\176\317\032\011\123\274\135\005\004
\317\241\112\217\213\166\202\015\241\370\322\307\024\167\133\220
\066\007\201\233\076\006\372\122\136\143\305\246\000\376\245\351
\122\033\122\265\222\071\162\003\011\142\275\260\140\026\156\246
\335\045\302\003\146\335\363\004\321\100\342\116\213\206\364\157
\345\203\240\047\204\136\004\301\365\220\275\060\075\304\357\250
\151\274\070\233\244\244\226\321\142\332\151\300\001\226\256\313
\304\121\064\352\014\252\377\041\216\131\217\112\134\344\141\232
\247\322\351\052\170\215\121\075\072\025\356\242\131\216\251\134
\336\305\371\220\042\345\210\105\161\335\221\231\154\172\237\075
\075\230\174\136\366\276\026\150\240\136\256\013\043\374\132\017
\252\042\166\055\311\241\020\035\344\323\104\043\220\210\237\306
\052\346\327\365\232\263\130\036\057\060\211\010\033\124\242\265
\230\043\354\010\167\034\225\135\141\321\313\211\234\137\242\112
\221\232\357\041\252\111\026\010\250\275\141\050\061\311\164\255
\205\366\331\305\261\213\321\345\020\062\115\137\213\040\072\074
\111\037\063\205\131\015\333\313\011\165\103\151\163\373\153\161
\175\360\337\304\114\175\306\243\056\310\225\171\313\163\242\216
\116\115\044\373\136\344\004\276\162\033\246\047\055\111\132\231
\172\327\134\011\040\267\177\224\271\117\361\015\034\136\210\102
\033\021\267\347\221\333\236\154\364\152\337\214\006\230\003\255
\314\050\357\245\107\363\123\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\243\227\326\363
\136\242\020\341\253\105\237\074\027\144\074\356\001\160\234\314
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\030\372\133\165\374\076\172\307\137\167\307\312
\337\317\137\303\022\304\100\135\324\062\252\270\152\327\325\025
\025\106\230\043\245\346\220\133\030\231\114\343\255\102\243\202
\061\066\210\315\351\373\304\004\226\110\213\001\307\215\001\317

\133\063\006\226\106\146\164\035\117\355\301\266\271\264\015\141
\314\143\176\327\056\167\214\226\034\052\043\150\153\205\127\166
\160\063\023\376\341\117\246\043\167\030\372\032\214\350\275\145
\311\317\077\364\311\027\334\353\307\274\300\004\056\055\106\057
\151\146\303\033\217\376\354\076\323\312\224\277\166\012\045\015
\251\173\002\034\251\320\073\137\013\300\201\072\075\144\341\277
\247\055\116\275\115\304\330\051\306\042\030\320\305\254\162\002
\202\077\252\072\242\072\042\227\061\335\010\143\303\165\024\271
\140\050\055\133\150\340\026\251\146\202\043\121\365\353\123\330
\061\233\173\351\267\235\113\353\210\026\317\371\135\070\212\111
\060\217\355\361\353\031\364\167\032\061\030\115\147\124\154\057
\157\145\371\333\075\354\041\354\136\364\364\213\312\140\145\124
\321\161\144\364\371\246\243\201\063\066\063\161\360\244\170\137
\116\255\203\041\336\064\111\215\350\131\254\235\362\166\132\066
\362\023\364\257\340\011\307\141\052\154\367\340\235\256\273\206
\112\050\157\056\356\264\171\315\220\063\303\263\166\372\365\360
\154\235\001\220\372\236\220\366\234\162\317\107\332\303\037\344
\065\040\123\362\124\321\337\141\203\246\002\342\045\070\336\205
\062\055\136\163\220\122\135\102\304\316\075\113\341\371\031\204
\035\325\242\120\314\101\373\101\024\303\275\326\311\132\243\143
\146\002\200\275\005\072\073\107\234\354\000\046\114\365\210\121
\277\250\043\177\030\007\260\013\355\213\046\241\144\323\141\112
\353\134\237\336\263\257\147\003\263\037\335\155\135\151\150\151
\253\136\072\354\174\151\274\307\073\205\116\236\025\271\264\025
\117\303\225\172\130\327\311\154\351\154\271\363\051\143\136\264
\054\360\055\075\355\132\145\340\251\133\100\302\110\231\201\155
\236\037\006\052\074\022\264\213\017\233\242\044\360\246\215\326
\172\340\113\266\144\226\143\225\204\302\112\315\034\056\044\207
\063\140\345\303

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "QuoVadis Root CA 1 G3"

Issuer: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Serial Number:78:58:5f:2e:ad:2c:19:4b:e3:37:07:35:34:13:28:b5:96:d4:65:93

Subject: CN=QuoVadis Root CA 1 G3,O=QuoVadis Limited,C=BM

Not Valid Before: Thu Jan 12 17:27:44 2012

Not Valid After : Sun Jan 12 17:27:44 2042

Fingerprint (SHA-256):

8A:86:6F:D1:B2:76:B5:7E:57:8E:92:1C:65:82:8A:2B:ED:58:E9:F2:F2:88:05:41:34:B7:F1:F4:BF:C9:CC:74

Fingerprint (SHA1): 1B:8E:EA:57:96:29:1A:C9:39:EA:B8:0A:81:1A:73:73:C0:93:79:67

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "QuoVadis Root CA 1 G3"

```

CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\033\216\352\127\226\051\032\311\071\352\270\012\201\032\163\163
\300\223\171\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\244\274\133\077\376\067\232\372\144\360\342\372\005\075\013\253
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\061\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\170\130\137\056\255\054\031\113\343\067\007\065\064\023
\050\265\226\324\145\223
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "QuoVadis Root CA 2 G3"
#
# Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28
# Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 18:59:32 2012
# Not Valid After : Sun Jan 12 18:59:32 2042
# Fingerprint (SHA-256):
8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40
# Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\062\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
\133\247\046\360\165\050

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\104
\127\064\044\133\201\211\233\065\362\316\270\053\073\133\247\046
\360\165\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\062\040\107\063\060\036\027\015
\061\062\060\061\061\062\061\070\065\071\063\062\132\027\015\064
\062\060\061\061\062\061\070\065\071\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
\101\040\062\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\241\256\045\262\001\030\334\127\210
\077\106\353\371\257\342\353\043\161\342\232\321\141\146\041\137
\252\257\047\121\345\156\033\026\324\055\175\120\260\123\167\275
\170\072\140\342\144\002\233\174\206\233\326\032\216\255\377\037
\025\177\325\225\036\022\313\346\024\204\004\301\337\066\263\026
\237\212\343\311\333\230\064\316\330\063\027\050\106\374\247\311
\360\322\264\325\115\011\162\111\371\362\207\343\251\332\175\241
\175\153\262\072\045\251\155\122\104\254\370\276\156\373\334\246
\163\221\220\141\246\003\024\040\362\347\207\243\210\255\255\240
\214\377\246\013\045\122\045\347\026\001\325\313\270\065\201\014
\243\073\360\341\341\374\132\135\316\200\161\155\370\111\253\076
\073\272\270\327\200\001\373\245\353\133\263\305\136\140\052\061
\240\257\067\350\040\072\237\250\062\054\014\314\011\035\323\236
\216\135\274\114\230\356\305\032\150\173\354\123\246\351\024\065
\243\337\315\200\237\014\110\373\034\364\361\277\112\270\372\325
\214\161\112\307\037\255\376\101\232\263\203\135\362\204\126\357
\245\127\103\316\051\255\214\253\125\277\304\373\133\001\335\043
\041\241\130\000\216\303\320\152\023\355\023\343\022\053\200\334
\147\346\225\262\315\036\042\156\052\370\101\324\362\312\024\007
\215\212\125\022\306\151\365\270\206\150\057\123\136\260\322\252

\041\301\230\346\060\343\147\125\307\233\156\254\031\250\125\246
\105\006\320\043\072\333\353\145\135\052\021\021\360\073\117\312
\155\364\064\304\161\344\377\000\132\366\134\256\043\140\205\163
\361\344\020\261\045\256\325\222\273\023\301\014\340\071\332\264
\071\127\265\253\065\252\162\041\073\203\065\347\061\337\172\041
\156\270\062\010\175\035\062\221\025\112\142\162\317\343\167\241
\274\325\021\033\166\001\147\010\340\101\013\303\353\025\156\370
\244\031\331\242\253\257\342\047\122\126\053\002\212\054\024\044
\371\277\102\002\277\046\310\306\217\340\156\070\175\123\055\345
\355\230\263\225\143\150\177\371\065\364\337\210\305\140\065\222
\300\174\151\034\141\225\026\320\353\336\013\257\076\004\020\105
\145\130\120\070\257\110\362\131\266\026\362\074\015\220\002\306
\160\056\001\255\074\025\327\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\355\347\157\166
\132\277\140\354\111\133\306\245\167\273\162\026\161\233\304\075
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\221\337\200\077\103\011\176\161\302\367\353\263
\210\217\341\121\262\274\075\165\371\050\135\310\274\231\233\173
\135\252\345\312\341\012\367\350\262\323\237\335\147\061\176\272
\001\252\307\152\101\073\220\324\010\134\262\140\152\220\360\310
\316\003\142\371\213\355\373\156\052\334\006\115\074\051\017\211
\026\212\130\114\110\017\350\204\141\352\074\162\246\167\344\102
\256\210\243\103\130\171\176\256\312\245\123\015\251\075\160\275
\040\031\141\244\154\070\374\103\062\341\301\107\377\370\354\361
\021\042\062\226\234\302\366\133\151\226\173\040\014\103\101\232
\133\366\131\031\210\336\125\210\067\121\013\170\134\012\036\243
\102\375\307\235\210\017\300\362\170\002\044\124\223\257\211\207
\210\311\112\200\035\352\320\156\076\141\056\066\273\065\016\047
\226\375\146\064\073\141\162\163\361\026\134\107\006\124\111\000
\172\130\022\260\012\357\205\375\261\270\063\165\152\223\034\022
\346\140\136\157\035\177\311\037\043\313\204\141\237\036\202\104
\371\137\255\142\125\044\232\122\230\355\121\347\241\176\227\072
\346\057\037\021\332\123\200\054\205\236\253\065\020\333\042\137
\152\305\136\227\123\362\062\002\011\060\243\130\360\015\001\325
\162\306\261\174\151\173\303\365\066\105\314\141\156\136\114\224
\305\136\256\350\016\136\213\277\367\315\340\355\241\016\033\063
\356\124\030\376\017\276\357\176\204\153\103\343\160\230\333\135
\165\262\015\131\007\205\025\043\071\326\361\337\251\046\017\326
\110\307\263\246\042\365\063\067\132\225\107\237\173\272\030\025
\157\377\326\024\144\203\111\322\012\147\041\333\017\065\143\140
\050\042\343\261\225\203\315\205\246\335\057\017\347\147\122\156
\273\057\205\174\365\112\163\347\305\076\300\275\041\022\005\077
\374\267\003\111\002\133\310\045\346\342\124\070\365\171\207\214
\035\123\262\116\205\173\006\070\307\054\370\370\260\162\215\045
\345\167\122\364\003\034\110\246\120\137\210\040\060\156\362\202
\103\253\075\227\204\347\123\373\041\301\117\017\042\232\206\270

```
\131\052\366\107\075\031\210\055\350\205\341\236\354\205\010\152
\261\154\064\311\035\354\110\053\073\170\355\146\304\216\171\151
\203\336\177\214
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "QuoVadis Root CA 2 G3"

Issuer: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

Serial Number:44:57:34:24:5b:81:89:9b:35:f2:ce:b8:2b:3b:5b:a7:26:f0:75:28

Subject: CN=QuoVadis Root CA 2 G3,O=QuoVadis Limited,C=BM

Not Valid Before: Thu Jan 12 18:59:32 2012

Not Valid After : Sun Jan 12 18:59:32 2042

Fingerprint (SHA-256):

8F:E4:FB:0A:F9:3A:4D:0D:67:DB:0B:EB:B2:3E:37:C7:1B:F3:25:DC:BC:DD:24:0E:A0:4D:AF:58:B4:7E:18:40

Fingerprint (SHA1): 09:3C:61:F3:8B:8B:DC:7D:55:DF:75:38:02:05:00:E1:25:F5:C8:36

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 2 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\011\074\141\363\213\213\334\175\125\337\165\070\002\005\000\341
```

```
\045\365\310\066
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\257\014\206\156\277\100\055\177\013\076\022\120\272\022\075\006
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
```

```
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
```

```
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
```

```
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
```

```
\157\164\040\103\101\040\062\040\107\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\104\127\064\044\133\201\211\233\065\362\316\270\053\073
```

```
\133\247\046\360\165\050
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "QuoVadis Root CA 3 G3"

#

```
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
# Not Valid Before: Thu Jan 12 20:26:32 2012
# Not Valid After : Sun Jan 12 20:26:32 2042
# Fingerprint (SHA-256):
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\024\056
\365\233\002\050\247\333\172\377\325\243\251\356\275\003\240\317
\022\152\035\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\110\061\013\060\011\006\003\125\004\006\023\002\102
\115\061\031\060\027\006\003\125\004\012\023\020\121\165\157\126
\141\144\151\163\040\114\151\155\151\164\145\144\061\036\060\034
\006\003\125\004\003\023\025\121\165\157\126\141\144\151\163\040
\122\157\157\164\040\103\101\040\063\040\107\063\060\036\027\015
\061\062\060\061\061\062\062\060\062\066\063\062\132\027\015\064
\062\060\061\061\062\062\060\062\066\063\062\132\060\110\061\013
\060\011\006\003\125\004\006\023\002\102\115\061\031\060\027\006
\003\125\004\012\023\020\121\165\157\126\141\144\151\163\040\114
\151\155\151\164\145\144\061\036\060\034\006\003\125\004\003\023
\025\121\165\157\126\141\144\151\163\040\122\157\157\164\040\103
```

\101\040\063\040\107\063\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\263\313\016\020\147\216\352\024\227
\247\062\052\012\126\066\177\150\114\307\263\157\072\043\024\221
\377\031\177\245\312\254\356\263\166\235\172\351\213\033\253\153
\061\333\372\013\123\114\257\305\245\032\171\074\212\114\377\254
\337\045\336\116\331\202\062\013\104\336\312\333\214\254\243\156
\026\203\073\246\144\113\062\211\373\026\026\070\176\353\103\342
\323\164\112\302\142\012\163\012\335\111\263\127\322\260\012\205
\235\161\074\336\243\313\300\062\363\001\071\040\103\033\065\321
\123\263\261\356\305\223\151\202\076\026\265\050\106\241\336\352
\211\011\355\103\270\005\106\212\206\365\131\107\276\033\157\001
\041\020\271\375\251\322\050\312\020\071\011\312\023\066\317\234
\255\255\100\164\171\053\002\077\064\377\372\040\151\175\323\356
\141\365\272\263\347\060\320\067\043\206\162\141\105\051\110\131
\150\157\167\246\056\201\276\007\115\157\257\316\304\105\023\221
\024\160\006\217\037\237\370\207\151\261\016\357\303\211\031\353
\352\034\141\374\172\154\212\334\326\003\013\236\046\272\022\335
\324\124\071\253\046\243\063\352\165\201\332\055\315\017\117\344
\003\321\357\025\227\033\153\220\305\002\220\223\146\002\041\261
\107\336\213\232\112\200\271\125\217\265\242\057\300\326\063\147
\332\176\304\247\264\004\104\353\107\373\346\130\271\367\014\360
\173\053\261\300\160\051\303\100\142\055\073\110\151\334\043\074
\110\353\173\011\171\251\155\332\250\060\230\317\200\162\003\210
\246\133\106\256\162\171\174\010\003\041\145\256\267\341\034\245
\261\052\242\061\336\146\004\367\300\164\350\161\336\377\075\131
\314\226\046\022\213\205\225\127\032\253\153\165\013\104\075\021
\050\074\173\141\267\342\217\147\117\345\354\074\114\140\200\151
\127\070\036\001\133\215\125\350\307\337\300\314\167\043\064\111
\165\174\366\230\021\353\055\336\355\101\056\024\005\002\177\340
\376\040\353\065\347\021\254\042\316\127\075\336\311\060\155\020
\003\205\315\361\377\214\026\265\301\262\076\210\154\140\177\220
\117\225\367\366\055\255\001\071\007\004\372\165\200\175\277\111
\120\355\357\311\304\174\034\353\200\176\333\266\320\335\023\376
\311\323\234\327\262\227\251\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\035\006\003\125\035\016\004\026\004\024\306\027\320\274
\250\352\002\103\362\033\006\231\135\053\220\040\271\327\234\344
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\064\141\331\126\265\022\207\125\115\335\243\065
\061\106\273\244\007\162\274\137\141\142\350\245\373\013\067\261
\074\266\263\372\051\235\177\002\365\244\311\250\223\267\172\161
\050\151\217\163\341\122\220\332\325\276\072\345\267\166\152\126
\200\041\337\135\346\351\072\236\345\076\366\242\151\307\052\012
\260\030\107\334\040\160\175\122\243\076\131\174\301\272\311\310
\025\100\141\312\162\326\160\254\322\267\360\034\344\206\051\360
\316\357\150\143\320\265\040\212\025\141\232\176\206\230\264\311

```
\302\166\373\314\272\060\026\314\243\141\306\164\023\345\153\357
\243\025\352\003\376\023\213\144\344\323\301\322\350\204\373\111
\321\020\115\171\146\353\252\375\364\215\061\036\160\024\255\334
\336\147\023\114\201\025\141\274\267\331\221\167\161\031\201\140
\273\360\130\245\265\234\013\367\217\042\125\047\300\113\001\155
\073\231\015\324\035\233\143\147\057\320\356\015\312\146\274\224
\117\246\255\355\374\356\143\254\127\077\145\045\317\262\206\217
\320\010\377\270\166\024\156\336\345\047\354\253\170\265\123\271
\266\077\350\040\371\322\250\276\141\106\312\207\214\204\363\371
\361\240\150\233\042\036\201\046\233\020\004\221\161\300\006\037
\334\240\323\271\126\247\343\230\055\177\203\235\337\214\053\234
\062\216\062\224\360\001\074\042\052\237\103\302\056\303\230\071
\007\070\173\374\136\000\102\037\363\062\046\171\203\204\366\345
\360\301\121\022\300\013\036\004\043\014\124\245\114\057\111\305
\112\321\266\156\140\015\153\374\153\213\205\044\144\267\211\016
\253\045\107\133\074\317\176\111\275\307\351\012\306\332\367\176
\016\027\010\323\110\227\320\161\222\360\017\071\076\064\152\034
\175\330\362\042\256\273\151\364\063\264\246\110\125\321\017\016
\046\350\354\266\013\055\247\205\065\315\375\131\310\237\321\315
\076\132\051\064\271\075\204\316\261\145\324\131\221\221\126\165
\041\301\167\236\371\172\341\140\235\323\255\004\030\364\174\353
\136\223\217\123\112\042\051\370\110\053\076\115\206\254\133\177
\313\006\231\131\140\330\130\145\225\215\104\321\367\177\176\047
\177\175\256\200\365\007\114\266\076\234\161\124\231\004\113\375
\130\371\230\364
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "QuoVadis Root CA 3 G3"
```

```
# Issuer: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
```

```
# Serial Number:2e:f5:9b:02:28:a7:db:7a:ff:d5:a3:a9:ee:bd:03:a0:cf:12:6a:1d
```

```
# Subject: CN=QuoVadis Root CA 3 G3,O=QuoVadis Limited,C=BM
```

```
# Not Valid Before: Thu Jan 12 20:26:32 2012
```

```
# Not Valid After : Sun Jan 12 20:26:32 2042
```

```
# Fingerprint (SHA-256):
```

```
88:EF:81:DE:20:2E:B0:18:45:2E:43:F8:64:72:5C:EA:5F:BD:1F:C2:D9:D2:05:73:07:09:C5:D8:B8:69:0F:46
```

```
# Fingerprint (SHA1): 48:12:BD:92:3C:A8:C4:39:06:E7:30:6D:27:96:E6:A4:CF:22:2E:7D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "QuoVadis Root CA 3 G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\110\022\275\222\074\250\304\071\006\347\060\155\047\226\346\244
\317\042\056\175
```

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\337\175\271\255\124\157\150\241\337\211\127\003\227\103\260\327
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\102\115\061
\031\060\027\006\003\125\004\012\023\020\121\165\157\126\141\144
\151\163\040\114\151\155\151\164\145\144\061\036\060\034\006\003
\125\004\003\023\025\121\165\157\126\141\144\151\163\040\122\157
\157\164\040\103\101\040\063\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\056\365\233\002\050\247\333\172\377\325\243\251\356\275
\003\240\317\022\152\035
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Assured ID Root G2"
#
# Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b
# Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85
# Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\226\060\202\002\176\240\003\002\001\002\002\020\013
\223\034\072\326\071\147\352\147\043\277\303\257\232\364\113\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\145
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\044\060\042\006\003\125\004\003\023\033\104\151\147\151\103\145
\162\164\040\101\163\163\165\162\145\144\040\111\104\040\122\157
\157\164\040\107\062\060\036\027\015\061\063\060\070\060\061\061
\062\060\060\060\060\132\027\015\063\070\060\061\061\065\061\062
\060\060\060\060\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\025\060\023\006\003\125\004\012\023\014\104
\151\147\151\103\145\162\164\040\111\156\143\061\031\060\027\006
\003\125\004\013\023\020\167\167\167\056\144\151\147\151\143\145
\162\164\056\143\157\155\061\044\060\042\006\003\125\004\003\023
\033\104\151\147\151\103\145\162\164\040\101\163\163\165\162\145
\144\040\111\104\040\122\157\157\164\040\107\062\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\331\347\050
\057\122\077\066\162\111\210\223\064\363\370\152\036\061\124\200
\237\255\124\101\265\107\337\226\250\324\257\200\055\271\012\317
\165\375\211\245\175\044\372\343\042\014\053\274\225\027\013\063
\277\031\115\101\006\220\000\275\014\115\020\376\007\265\347\034
\156\042\125\061\145\227\275\323\027\322\036\142\363\333\352\154
\120\214\077\204\014\226\317\267\313\003\340\312\155\241\024\114
\033\211\335\355\000\260\122\174\257\221\154\261\070\023\321\351
\022\010\300\000\260\034\053\021\332\167\160\066\233\256\316\171
\207\334\202\160\346\011\164\160\125\151\257\243\150\237\277\335
\266\171\263\362\235\160\051\125\364\253\377\225\141\363\311\100
\157\035\321\276\223\273\323\210\052\273\235\277\162\132\126\161
\073\077\324\363\321\012\376\050\357\243\356\331\231\257\003\323
\217\140\267\362\222\241\261\275\211\211\037\060\315\303\246\056
\142\063\256\026\002\167\104\132\347\201\012\074\247\104\056\171
\270\077\004\274\134\240\207\341\033\257\121\216\315\354\054\372
\370\376\155\360\072\174\252\213\344\147\225\061\215\002\003\001

```
\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026
\004\024\316\303\112\271\231\125\362\270\333\140\277\251\176\275
\126\265\227\066\247\326\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\312\245\125\214\343\310
\101\156\151\047\247\165\021\357\074\206\066\157\322\235\306\170
\070\035\151\226\242\222\151\056\070\154\233\175\004\324\211\245
\261\061\067\212\311\041\314\253\154\315\213\034\232\326\277\110
\322\062\146\301\212\300\363\057\072\357\300\343\324\221\206\321
\120\343\003\333\163\167\157\112\071\123\355\336\046\307\265\175
\257\053\102\321\165\142\343\112\053\002\307\120\113\340\151\342
\226\154\016\104\146\020\104\217\255\005\353\370\171\254\246\033
\350\067\064\235\123\311\141\252\242\122\257\112\160\026\206\302
\072\310\261\023\160\066\330\317\356\364\012\064\325\133\114\375
\007\234\242\272\331\001\162\134\363\115\301\335\016\261\034\015
\304\143\276\255\364\024\373\211\354\242\101\016\114\314\310\127
\100\320\156\003\252\315\014\216\211\231\231\154\360\074\060\257
\070\337\157\274\243\276\051\040\047\253\164\377\023\042\170\336
\227\122\125\036\203\265\124\040\003\356\256\300\117\126\336\067
\314\303\177\252\004\047\273\323\167\270\142\333\027\174\234\050
\042\023\163\154\317\046\365\212\051\347
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Assured ID Root G2"

Issuer: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0b:93:1c:3a:d6:39:67:ea:67:23:bf:c3:af:9a:f4:4b

Subject: CN=DigiCert Assured ID Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

7D:05:EB:B6:82:33:9F:8C:94:51:EE:09:4E:EB:FE:FA:79:53:A1:14:ED:B2:F4:49:49:45:2F:AB:7D:2F:C1:85

Fingerprint (SHA1): A1:4B:48:D9:43:EE:0A:0E:40:90:4F:3C:E0:A4:C0:91:93:51:5D:3F

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Assured ID Root G2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\241\113\110\331\103\356\012\016\100\220\117\074\340\244\300\221
```

```
\223\121\135\077
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\222\070\271\370\143\044\202\145\054\127\063\346\376\201\217\235
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\223\034\072\326\071\147\352\147\043\277\303\257\232
\364\113

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DigiCert Assured ID Root G3"

#

Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec

Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2

Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Assured ID Root G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145

\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\106\060\202\001\315\240\003\002\001\002\002\020\013
\241\132\372\035\337\240\265\111\104\257\315\044\240\154\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\044\060\042
\006\003\125\004\003\023\033\104\151\147\151\103\145\162\164\040
\101\163\163\165\162\145\144\040\111\104\040\122\157\157\164\040
\107\063\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\044\060\042\006\003\125\004\003\023\033\104\151
\147\151\103\145\162\164\040\101\163\163\165\162\145\144\040\111
\104\040\122\157\157\164\040\107\063\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\031\347\274\254\104\145\355\315\270\077\130\373\215\261\127
\251\104\055\005\025\362\357\013\377\020\164\237\265\142\122\137
\146\176\037\345\334\033\105\171\013\314\306\123\012\235\215\135
\002\331\251\131\336\002\132\366\225\052\016\215\070\112\212\111
\306\274\306\003\070\007\137\125\332\176\011\156\342\177\136\320
\105\040\017\131\166\020\326\240\044\360\055\336\066\362\154\051
\071\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\035\006\003\125\035\016\004\026\004
\024\313\320\275\251\341\230\005\121\241\115\067\242\203\171\316
\215\035\052\344\204\060\012\006\010\052\206\110\316\075\004\003
\003\003\147\000\060\144\002\060\045\244\201\105\002\153\022\113
\165\164\117\310\043\343\160\362\165\162\336\174\211\360\317\221
\162\141\236\136\020\222\131\126\271\203\307\020\347\070\351\130
\046\066\175\325\344\064\206\071\002\060\174\066\123\360\060\345
\142\143\072\231\342\266\243\073\233\064\372\036\332\020\222\161
\136\221\023\247\335\244\156\222\314\062\326\365\041\146\307\057
\352\226\143\152\145\105\222\225\001\264

```

END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Assured ID Root G3"
# Issuer: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:0b:a1:5a:fa:1d:df:a0:b5:49:44:af:cd:24:a0:6c:ec
# Subject: CN=DigiCert Assured ID Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
7E:37:CB:8B:4C:47:09:0C:AB:36:55:1B:A6:F4:5D:B8:40:68:0F:BA:16:6A:95:2D:B1:00:71:7F:43:05:3F:C2
# Fingerprint (SHA1): F5:17:A2:4F:9A:48:C6:C9:F8:A2:00:26:9F:DC:0F:48:2C:AB:30:89
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Assured ID Root G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\365\027\242\117\232\110\306\311\370\242\000\046\237\334\017\110
\054\253\060\211
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\174\177\145\061\014\201\337\215\272\076\231\342\134\255\156\373
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\044\060\042\006\003\125\004\003\023\033\104\151\147\151
\103\145\162\164\040\101\163\163\165\162\145\144\040\111\104\040
\122\157\157\164\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\013\241\132\372\035\337\240\265\111\104\257\315\044\240
\154\354
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root G2"
#
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US

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# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\216\060\202\002\166\240\003\002\001\002\002\020\003
\072\361\346\247\021\251\240\273\050\144\261\035\011\372\345\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\062\060\036\027\015\061\063\060\070\060\061\061\062\060\060\060
\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060\060
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\132\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103
\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013
\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143
\157\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147
\151\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157
\164\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\273\067\315\064\334\173\153\311\262\150\220
\255\112\165\377\106\272\041\012\010\215\365\031\124\311\373\210
\333\363\256\362\072\211\221\074\172\346\253\006\032\153\317\254
\055\350\136\011\044\104\272\142\232\176\326\243\250\176\340\124
\165\040\005\254\120\267\234\143\032\154\060\334\332\037\031\261
\327\036\336\375\327\340\313\224\203\067\256\354\037\103\116\335
\173\054\322\275\056\245\057\344\251\270\255\072\324\231\244\266
\045\351\233\153\000\140\222\140\377\117\041\111\030\367\147\220
\253\141\006\234\217\362\272\351\264\351\222\062\153\265\363\127
\350\135\033\315\214\035\253\225\004\225\111\363\065\055\226\343
\111\155\335\167\343\373\111\113\264\254\125\007\251\217\225\263
\264\043\273\114\155\105\360\366\251\262\225\060\264\375\114\125
\214\047\112\127\024\174\202\235\315\163\222\323\026\112\006\014
\214\120\321\217\036\011\276\027\241\346\041\312\375\203\345\020
\274\203\245\012\304\147\050\366\163\024\024\075\106\166\303\207
\024\211\041\064\115\257\017\105\014\246\111\241\272\273\234\305
\261\063\203\051\205\002\003\001\000\001\243\102\060\100\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\035\006\003\125\035\016\004\026\004\024\116\042\124\040\030\225
\346\343\156\346\017\372\372\271\022\355\006\027\217\071\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\140\147\050\224\157\016\110\143\353\061\335\352\147\030
\325\211\175\074\305\213\112\177\351\276\333\053\027\337\260\137
\163\167\052\062\023\071\201\147\102\204\043\362\105\147\065\354
\210\277\370\217\260\141\014\064\244\256\040\114\204\306\333\370
\065\341\166\331\337\246\102\273\307\104\010\206\177\066\164\044
\132\332\154\015\024\131\065\275\362\111\335\266\037\311\263\015
\107\052\075\231\057\273\134\273\265\324\040\341\231\137\123\106
\025\333\150\233\360\363\060\325\076\061\342\215\204\236\343\212
\332\332\226\076\065\023\245\137\360\371\160\120\160\107\101\021
\127\031\116\300\217\256\006\304\225\023\027\057\033\045\237\165
\362\261\216\231\241\157\023\261\101\161\376\210\052\310\117\020
\040\125\327\363\024\105\345\340\104\364\352\207\225\062\223\016
\376\123\106\372\054\235\377\213\042\271\113\331\011\105\244\336
\244\270\232\130\335\033\175\122\237\216\131\103\210\201\244\236
\046\325\157\255\335\015\306\067\175\355\003\222\033\345\167\137
\166\356\074\215\304\135\126\133\242\331\146\156\263\065\067\345
\062\266

END

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CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "DigiCert Global Root G2"
# Issuer: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:03:3a:f1:e6:a7:11:a9:a0:bb:28:64:b1:1d:09:fa:e5
# Subject: CN=DigiCert Global Root G2,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
CB:3C:CB:B7:60:31:E5:E0:13:8F:8D:D3:9A:23:F9:DE:47:FF:C3:5E:43:C1:14:4C:EA:27:D4:6A:5A:B1:CB:5F
# Fingerprint (SHA1): DF:3C:24:F9:BF:D6:66:76:1B:26:80:73:FE:06:D1:CC:8D:4F:82:A4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\337\074\044\371\277\326\146\166\033\046\200\163\376\006\321\314
\215\117\202\244
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\344\246\212\310\124\254\122\102\106\012\375\162\110\033\052\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\003\072\361\346\247\021\251\240\273\050\144\261\035\011
\372\345
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Global Root G3"
#
# Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

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# Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:DO
# Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Global Root G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\077\060\202\001\305\240\003\002\001\002\002\020\005
\125\126\274\362\136\244\065\065\303\244\017\325\253\105\162\060
\012\006\010\052\206\110\316\075\004\003\003\060\141\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\025\060\023\006\003
\125\004\012\023\014\104\151\147\151\103\145\162\164\040\111\156
\143\061\031\060\027\006\003\125\004\013\023\020\167\167\167\056
\144\151\147\151\143\145\162\164\056\143\157\155\061\040\060\036
\006\003\125\004\003\023\027\104\151\147\151\103\145\162\164\040
\107\154\157\142\141\154\040\122\157\157\164\040\107\063\060\036
\027\015\061\063\060\070\060\061\061\062\060\060\060\060\132\027
\015\063\070\060\061\061\065\061\062\060\060\060\060\132\060\141
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
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\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\040\060\036\006\003\125\004\003\023\027\104\151\147\151\103\145
\162\164\040\107\154\157\142\141\154\040\122\157\157\164\040\107
\063\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\335\247\331\273\212\270\013
\373\013\177\041\322\360\276\276\163\363\063\135\032\274\064\352
\336\306\233\274\320\225\366\360\314\320\013\272\141\133\121\106
\176\236\055\237\356\216\143\014\027\354\007\160\365\317\204\056
\100\203\234\350\077\101\155\073\255\323\244\024\131\066\170\235
\003\103\356\020\023\154\162\336\256\210\247\241\153\265\103\316
\147\334\043\377\003\034\243\342\076\243\102\060\100\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\035
\006\003\125\035\016\004\026\004\024\263\333\110\244\371\241\305
\330\256\066\101\314\021\143\151\142\051\274\113\306\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061
\000\255\274\362\154\077\022\112\321\055\071\303\012\011\227\163
\364\210\066\214\210\047\273\346\210\215\120\205\247\143\371\236
\062\336\146\223\017\361\314\261\011\217\335\154\253\372\153\177
\240\002\060\071\146\133\302\144\215\270\236\120\334\250\325\111
\242\355\307\334\321\111\177\027\001\270\310\206\217\116\214\210
\053\250\232\251\212\305\321\000\275\370\124\342\232\345\133\174
\263\047\027

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert Global Root G3"

Issuer: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Serial Number:05:55:56:bc:f2:5e:a4:35:35:c3:a4:0f:d5:ab:45:72

Subject: CN=DigiCert Global Root G3,OU=www.digicert.com,O=DigiCert Inc,C=US

Not Valid Before: Thu Aug 01 12:00:00 2013

Not Valid After : Fri Jan 15 12:00:00 2038

Fingerprint (SHA-256):

31:AD:66:48:F8:10:41:38:C7:38:F3:9E:A4:32:01:33:39:3E:3A:18:CC:02:29:6E:F9:7C:2A:C9:EF:67:31:D0

Fingerprint (SHA1): 7E:04:DE:89:6A:3E:66:6D:00:E6:87:D3:3F:FA:D9:3B:E8:3D:34:9E

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert Global Root G3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\176\004\336\211\152\076\146\155\000\346\207\323\077\372\331\073
\350\075\064\236

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\365\135\244\120\245\373\050\176\036\017\015\314\226\127\126\312
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\040\060\036\006\003\125\004\003\023\027\104\151\147\151
\103\145\162\164\040\107\154\157\142\141\154\040\122\157\157\164
\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\125\126\274\362\136\244\065\065\303\244\017\325\253
\105\162
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert Trusted Root G4"
#
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
# Not Valid Before: Thu Aug 01 12:00:00 2013
# Not Valid After : Fri Jan 15 12:00:00 2038
# Fingerprint (SHA-256):
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\220\060\202\003\170\240\003\002\001\002\002\020\005
\233\033\127\236\216\041\062\342\071\007\275\247\167\165\134\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\142
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\025\060
\023\006\003\125\004\012\023\014\104\151\147\151\103\145\162\164
\040\111\156\143\061\031\060\027\006\003\125\004\013\023\020\167
\167\167\056\144\151\147\151\143\145\162\164\056\143\157\155\061
\041\060\037\006\003\125\004\003\023\030\104\151\147\151\103\145
\162\164\040\124\162\165\163\164\145\144\040\122\157\157\164\040
\107\064\060\036\027\015\061\063\060\070\060\061\061\062\060\060
\060\060\132\027\015\063\070\060\061\061\065\061\062\060\060\060
\060\132\060\142\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\025\060\023\006\003\125\004\012\023\014\104\151\147\151
\103\145\162\164\040\111\156\143\061\031\060\027\006\003\125\004
\013\023\020\167\167\167\056\144\151\147\151\143\145\162\164\056
\143\157\155\061\041\060\037\006\003\125\004\003\023\030\104\151
\147\151\103\145\162\164\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\107\064\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\277\346\220\163\150\336\273\344\135
\112\074\060\042\060\151\063\354\302\247\045\056\311\041\075\362
\212\330\131\302\341\051\247\075\130\253\166\232\315\256\173\033
\204\015\304\060\037\363\033\244\070\026\353\126\306\227\155\035
\253\262\171\362\312\021\322\344\137\326\005\074\122\017\122\037
\306\236\025\245\176\276\237\251\127\026\131\125\162\257\150\223
\160\302\262\272\165\231\152\163\062\224\321\020\104\020\056\337
\202\363\007\204\346\164\073\155\161\342\055\014\033\356\040\325
\311\040\035\143\051\055\316\354\136\116\310\223\370\041\141\233
\064\353\005\306\136\354\133\032\274\353\311\317\315\254\064\100
\137\261\172\146\356\167\310\110\250\146\127\127\237\124\130\216
\014\053\267\117\247\060\331\126\356\312\173\135\343\255\311\117
\136\345\065\347\061\313\332\223\136\334\216\217\200\332\266\221
\230\100\220\171\303\170\307\266\261\304\265\152\030\070\003\020
\215\330\324\067\244\056\005\175\210\365\202\076\020\221\160\253

\125\202\101\062\327\333\004\163\052\156\221\001\174\041\114\324
\274\256\033\003\165\135\170\146\331\072\061\104\232\063\100\277
\010\327\132\111\244\302\346\251\240\147\335\244\047\274\241\117
\071\265\021\130\027\367\044\134\106\217\144\367\301\151\210\166
\230\166\075\131\135\102\166\207\211\227\151\172\110\360\340\242
\022\033\146\232\164\312\336\113\036\347\016\143\256\346\324\357
\222\222\072\236\075\334\000\344\105\045\211\266\232\104\031\053
\176\300\224\264\322\141\155\353\063\331\305\337\113\004\000\314
\175\034\225\303\217\367\041\262\262\021\267\273\177\362\325\214
\160\054\101\140\252\261\143\030\104\225\032\166\142\176\366\200
\260\373\350\144\246\063\321\211\007\341\275\267\346\103\244\030
\270\246\167\001\341\017\224\014\041\035\262\124\051\045\211\154
\345\016\122\121\107\164\276\046\254\266\101\165\336\172\254\137
\215\077\311\274\323\101\021\022\133\345\020\120\353\061\305\312
\162\026\042\011\337\174\114\165\077\143\354\041\137\304\040\121
\153\157\261\253\206\213\117\302\326\105\137\235\040\374\241\036
\305\300\217\242\261\176\012\046\231\365\344\151\057\230\035\055
\365\331\251\262\035\345\033\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\354\327\343\202
\322\161\135\144\114\337\056\147\077\347\272\230\256\034\017\117
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\273\141\331\175\251\154\276\027\304\221\033\303
\241\242\000\215\343\144\150\017\126\317\167\256\160\371\375\232
\112\231\271\311\170\134\014\014\137\344\346\024\051\126\013\066
\111\135\104\143\340\255\234\226\030\146\033\043\015\075\171\351
\155\153\326\124\370\322\074\301\103\100\256\035\120\365\122\374
\220\073\273\230\231\151\153\307\301\247\250\150\244\047\334\235
\371\047\256\060\205\271\366\147\115\072\076\217\131\071\042\123
\104\353\310\135\003\312\355\120\172\175\142\041\012\200\310\163
\146\321\240\005\140\137\350\245\264\247\257\250\367\155\065\234
\174\132\212\326\242\070\231\363\170\213\364\115\322\040\013\336
\004\356\214\233\107\201\162\015\300\024\062\357\060\131\056\256
\340\161\362\126\344\152\227\157\222\120\155\226\215\150\172\232
\262\066\024\172\006\362\044\271\011\021\120\327\010\261\270\211
\172\204\043\141\102\051\345\243\315\242\040\101\327\321\234\144
\331\352\046\241\213\024\327\114\031\262\120\101\161\075\077\115
\160\043\206\014\112\334\201\322\314\062\224\204\015\010\011\227
\034\117\300\356\153\040\164\060\322\340\071\064\020\205\041\025
\001\010\350\125\062\336\161\111\331\050\027\120\115\346\276\115
\321\165\254\320\312\373\101\270\103\245\252\323\303\005\104\117
\054\066\233\342\372\342\105\270\043\123\154\006\157\147\125\177
\106\265\114\077\156\050\132\171\046\322\244\250\142\227\322\036
\342\355\112\213\274\033\375\107\112\015\337\147\146\176\262\133
\101\320\073\344\364\073\364\004\143\351\357\302\124\000\121\240
\212\052\311\316\170\314\325\352\207\004\030\263\316\257\111\210
\257\363\222\231\266\263\346\141\017\322\205\000\347\120\032\344

```
\033\225\235\031\241\271\234\261\233\261\000\036\357\320\017\117
\102\154\311\012\274\356\103\372\072\161\245\310\115\046\245\065
\375\211\135\274\205\142\035\062\322\240\053\124\355\232\127\301
\333\372\020\317\031\267\213\112\033\217\001\266\047\225\123\350
\266\211\155\133\274\150\324\043\350\213\121\242\126\371\360\246
\200\240\326\036\263\274\017\017\123\165\051\252\352\023\167\344
\336\214\201\041\255\007\020\107\021\255\207\075\007\321\165\274
\317\363\146\176
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert Trusted Root G4"
```

```
# Issuer: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Serial Number:05:9b:1b:57:9e:8e:21:32:e2:39:07:bd:a7:77:75:5c
```

```
# Subject: CN=DigiCert Trusted Root G4,OU=www.digicert.com,O=DigiCert Inc,C=US
```

```
# Not Valid Before: Thu Aug 01 12:00:00 2013
```

```
# Not Valid After : Fri Jan 15 12:00:00 2038
```

```
# Fingerprint (SHA-256):
```

```
55:2F:7B:DC:F1:A7:AF:9E:6C:E6:72:01:7F:4F:12:AB:F7:72:40:C7:8E:76:1A:C2:03:D1:D9:D2:0A:C8:99:88
```

```
# Fingerprint (SHA1): DD:FB:16:CD:49:31:C9:73:A2:03:7D:3F:C8:3A:4D:7D:77:5D:05:E4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert Trusted Root G4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\335\373\026\315\111\061\311\163\242\003\175\077\310\072\115\175
\167\135\005\344
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\170\362\374\252\140\037\057\264\353\311\067\272\123\056\165\111
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\025\060\023\006\003\125\004\012\023\014\104\151\147\151\103\145
\162\164\040\111\156\143\061\031\060\027\006\003\125\004\013\023
\020\167\167\167\056\144\151\147\151\143\145\162\164\056\143\157
\155\061\041\060\037\006\003\125\004\003\023\030\104\151\147\151
\103\145\162\164\040\124\162\165\163\164\145\144\040\122\157\157
\164\040\107\064
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\005\233\033\127\236\216\041\062\342\071\007\275\247\167
\165\134
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "COMODO RSA Certification Authority"
#
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003

```

\206\235

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\330\060\202\003\300\240\003\002\001\002\002\020\114
\252\371\312\333\143\157\340\037\367\116\330\133\003\206\235\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\205\061\013\060\011\006\003\125\004\006\023\002\107\102\061\033
\060\031\006\003\125\004\010\023\022\107\162\145\141\164\145\162
\040\115\141\156\143\150\145\163\164\145\162\061\020\060\016\006
\003\125\004\007\023\007\123\141\154\146\157\162\144\061\032\060
\030\006\003\125\004\012\023\021\103\117\115\117\104\117\040\103
\101\040\114\151\155\151\164\145\144\061\053\060\051\006\003\125
\004\003\023\042\103\117\115\117\104\117\040\122\123\101\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\061\061\071
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\205\061\013\060\011\006\003\125
\004\006\023\002\107\102\061\033\060\031\006\003\125\004\010\023
\022\107\162\145\141\164\145\162\040\115\141\156\143\150\145\163
\164\145\162\061\020\060\016\006\003\125\004\007\023\007\123\141
\154\146\157\162\144\061\032\060\030\006\003\125\004\012\023\021
\103\117\115\117\104\117\040\103\101\040\114\151\155\151\164\145
\144\061\053\060\051\006\003\125\004\003\023\042\103\117\115\117
\104\117\040\122\123\101\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\221
\350\124\222\322\012\126\261\254\015\044\335\305\317\104\147\164
\231\053\067\243\175\043\160\000\161\274\123\337\304\372\052\022
\217\113\177\020\126\275\237\160\162\267\141\177\311\113\017\027
\247\075\343\260\004\141\356\377\021\227\307\364\206\076\012\372
\076\134\371\223\346\064\172\331\024\153\347\234\263\205\240\202
\172\166\257\161\220\327\354\375\015\372\234\154\372\337\260\202
\364\024\176\371\276\304\246\057\117\177\231\177\265\374\147\103
\162\275\014\000\326\211\353\153\054\323\355\217\230\034\024\253
\176\345\343\156\374\330\250\344\222\044\332\103\153\142\270\125
\375\352\301\274\154\266\213\363\016\215\232\344\233\154\151\231
\370\170\110\060\105\325\255\341\015\074\105\140\374\062\226\121
\047\274\147\303\312\056\266\153\352\106\307\307\040\240\261\037
\145\336\110\010\272\244\116\251\362\203\106\067\204\353\350\314
\201\110\103\147\116\162\052\233\134\275\114\033\050\212\134\042
\173\264\253\230\331\356\340\121\203\303\011\106\116\155\076\231
\372\225\027\332\174\063\127\101\074\215\121\355\013\266\134\257
\054\143\032\337\127\310\077\274\351\135\304\233\257\105\231\342
\243\132\044\264\272\251\126\075\317\157\252\377\111\130\276\360
\250\377\364\270\255\351\067\373\272\270\364\013\072\371\350\103
\102\036\211\330\204\313\023\361\331\273\341\211\140\270\214\050
\126\254\024\035\234\012\347\161\353\317\016\335\075\251\226\241

\110\275\074\367\257\265\015\042\114\300\021\201\354\126\073\366
\323\242\342\133\267\262\004\042\122\225\200\223\151\350\216\114
\145\361\221\003\055\160\164\002\352\213\147\025\051\151\122\002
\273\327\337\120\152\125\106\277\240\243\050\141\177\160\320\303
\242\252\054\041\252\107\316\050\234\006\105\166\277\202\030\047
\264\325\256\264\313\120\346\153\364\114\206\161\060\351\246\337
\026\206\340\330\377\100\335\373\320\102\210\177\243\063\072\056
\134\036\101\021\201\143\316\030\161\153\053\354\246\212\267\061
\134\072\152\107\340\303\171\131\326\040\032\257\362\152\230\252
\162\274\127\112\322\113\235\273\020\374\260\114\101\345\355\035
\075\136\050\235\234\314\277\263\121\332\247\107\345\204\123\002
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
\026\004\024\273\257\176\002\075\372\246\361\074\204\216\255\356
\070\230\354\331\062\062\324\060\016\006\003\125\035\017\001\001
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\377\004\005\060\003\001\001\377\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\012\361\325\106
\204\267\256\121\273\154\262\115\101\024\000\223\114\234\313\345
\300\124\317\240\045\216\002\371\375\260\242\015\365\040\230\074
\023\055\254\126\242\260\326\176\021\222\351\056\272\236\056\232
\162\261\275\031\104\154\141\065\242\232\264\026\022\151\132\214
\341\327\076\244\032\350\057\003\364\256\141\035\020\033\052\244
\213\172\305\376\005\246\341\300\326\310\376\236\256\217\053\272
\075\231\370\330\163\011\130\106\156\246\234\364\327\047\323\225
\332\067\203\162\034\323\163\340\242\107\231\003\070\135\325\111
\171\000\051\034\307\354\233\040\034\007\044\151\127\170\262\071
\374\072\204\240\265\234\174\215\277\056\223\142\047\267\071\332
\027\030\256\275\074\011\150\377\204\233\074\325\326\013\003\343
\127\236\024\367\321\353\117\310\275\207\043\267\266\111\103\171
\205\134\272\353\222\013\241\306\350\150\250\114\026\261\032\231
\012\350\123\054\222\273\241\011\030\165\014\145\250\173\313\043
\267\032\302\050\205\303\033\377\320\053\142\357\244\173\011\221
\230\147\214\024\001\315\150\006\152\143\041\165\003\200\210\212
\156\201\306\205\362\251\244\055\347\364\245\044\020\107\203\312
\315\364\215\171\130\261\006\233\347\032\052\331\235\001\327\224
\175\355\003\112\312\360\333\350\251\001\076\365\126\231\311\036
\216\111\075\273\345\011\271\340\117\111\222\075\026\202\100\314
\314\131\306\346\072\355\022\056\151\074\154\225\261\375\252\035
\173\177\206\276\036\016\062\106\373\373\023\217\165\177\114\213
\113\106\143\376\000\064\100\160\301\303\271\241\335\246\160\342
\004\263\101\274\351\200\221\352\144\234\172\341\042\003\251\234
\156\157\016\145\117\154\207\207\136\363\156\240\371\165\245\233
\100\350\123\262\047\235\112\271\300\167\041\215\377\207\362\336
\274\214\357\027\337\267\111\013\321\362\156\060\013\032\016\116
\166\355\021\374\365\351\126\262\175\277\307\155\012\223\214\245
\320\300\266\035\276\072\116\224\242\327\156\154\013\302\212\174
\372\040\363\304\344\345\315\015\250\313\221\222\261\174\205\354
\265\024\151\146\016\202\347\315\316\310\055\246\121\177\041\301

```
\065\123\205\006\112\135\237\255\273\033\137\164
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "COMODO RSA Certification Authority"
# Issuer: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Serial Number:4c:aa:f9:ca:db:63:6f:e0:1f:f7:4e:d8:5b:03:86:9d
# Subject: CN=COMODO RSA Certification Authority,O=COMODO CA Limited,L=Salford,ST=Greater
Manchester,C=GB
# Not Valid Before: Tue Jan 19 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
52:F0:E1:C4:E5:8E:C6:29:29:1B:60:31:7F:07:46:71:B8:5D:7E:A8:0D:5B:07:27:34:63:53:4B:32:B4:02:34
# Fingerprint (SHA1): AF:E5:D2:44:A8:D1:19:42:30:FF:47:9F:E2:F8:97:BB:CD:7A:8C:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "COMODO RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\257\345\322\104\250\321\031\102\060\377\107\237\342\370\227\273
\315\172\214\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\061\260\161\100\066\314\024\066\221\255\304\076\375\354\030
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\205\061\013\060\011\006\003\125\004\006\023\002\107\102
\061\033\060\031\006\003\125\004\010\023\022\107\162\145\141\164
\145\162\040\115\141\156\143\150\145\163\164\145\162\061\020\060
\016\006\003\125\004\007\023\007\123\141\154\146\157\162\144\061
\032\060\030\006\003\125\004\012\023\021\103\117\115\117\104\117
\040\103\101\040\114\151\155\151\164\145\144\061\053\060\051\006
\003\125\004\003\023\042\103\117\115\117\104\117\040\122\123\101
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\114\252\371\312\333\143\157\340\037\367\116\330\133\003
\206\235
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```

#
# Certificate "USERTrust RSA Certification Authority"
#
# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\336\060\202\003\306\240\003\002\001\002\002\020\001
\375\155\060\374\243\312\121\250\033\274\144\016\065\003\055\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\201
\210\061\013\060\011\006\003\125\004\006\023\002\125\123\061\023
\060\021\006\003\125\004\010\023\012\116\145\167\040\112\145\162
\163\145\171\061\024\060\022\006\003\125\004\007\023\013\112\145
\162\163\145\171\040\103\151\164\171\061\036\060\034\006\003\125
\004\012\023\025\124\150\145\040\125\123\105\122\124\122\125\123
\124\040\116\145\164\167\157\162\153\061\056\060\054\006\003\125
\004\003\023\045\125\123\105\122\124\162\165\163\164\040\122\123
\101\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\060\036\027\015\061\060\060
\062\060\061\060\060\060\060\060\060\132\027\015\063\070\060\061
\061\070\062\063\065\071\065\071\132\060\201\210\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125
\004\010\023\012\116\145\167\040\112\145\162\163\145\171\061\024
\060\022\006\003\125\004\007\023\013\112\145\162\163\145\171\040
\103\151\164\171\061\036\060\034\006\003\125\004\012\023\025\124
\150\145\040\125\123\105\122\124\122\125\123\124\040\116\145\164
\167\157\162\153\061\056\060\054\006\003\125\004\003\023\045\125
\123\105\122\124\162\165\163\164\040\122\123\101\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\200\022\145\027\066\016\303\333\010\263\320
\254\127\015\166\355\315\047\323\114\255\120\203\141\342\252\040
\115\011\055\144\011\334\316\211\237\314\075\251\354\366\317\301
\334\361\323\261\326\173\067\050\021\053\107\332\071\306\274\072
\031\264\137\246\275\175\235\243\143\102\266\166\362\251\073\053
\221\370\342\157\320\354\026\040\220\011\076\342\350\164\311\030
\264\221\324\142\144\333\177\243\006\361\210\030\152\220\042\074
\274\376\023\360\207\024\173\366\344\037\216\324\344\121\306\021
\147\106\010\121\313\206\024\124\077\274\063\376\176\154\234\377
\026\235\030\275\121\216\065\246\247\146\310\162\147\333\041\146
\261\324\233\170\003\300\120\072\350\314\360\334\274\236\114\376
\257\005\226\065\037\127\132\267\377\316\371\075\267\054\266\366
\124\335\310\347\022\072\115\256\114\212\267\134\232\264\267\040
\075\312\177\042\064\256\176\073\150\146\001\104\347\001\116\106
\123\233\063\140\367\224\276\123\067\220\163\103\363\062\303\123
\357\333\252\376\164\116\151\307\153\214\140\223\336\304\307\014
\337\341\062\256\314\223\073\121\170\225\147\213\356\075\126\376
\014\320\151\017\033\017\363\045\046\153\063\155\367\156\107\372
\163\103\345\176\016\245\146\261\051\174\062\204\143\125\211\304
\015\301\223\124\060\031\023\254\323\175\067\247\353\135\072\154
\065\134\333\101\327\022\332\251\111\013\337\330\200\212\011\223
\142\216\265\146\317\045\210\315\204\270\261\077\244\071\017\331
\002\236\353\022\114\225\174\363\153\005\251\136\026\203\314\270
\147\342\350\023\235\314\133\202\323\114\263\355\133\377\336\345

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\317\124\200\341\330\233\300\235\362\262\003\146\313\060\016\006
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\001\000\134\324\174\015\317\367\001\175\101\231\145\014\163\305
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\166\374\123\120\300\204\233\306\153\116\272\214\041\117\242\216
\125\142\221\363\151\025\330\274\210\343\304\252\013\375\357\250
\351\113\125\052\006\040\155\125\170\051\031\356\137\060\134\113
\044\021\125\377\044\232\156\136\052\053\356\013\115\237\177\367
\001\070\224\024\225\103\007\011\373\140\251\356\034\253\022\214
\240\232\136\247\230\152\131\155\213\077\010\373\310\321\105\257
\030\025\144\220\022\017\163\050\056\305\342\044\116\374\130\354
\360\364\105\376\042\263\353\057\216\322\331\105\141\005\301\227
\157\250\166\162\217\213\214\066\257\277\015\005\316\161\215\346
\246\157\037\154\246\161\142\305\330\320\203\162\014\361\147\021
\211\014\234\023\114\162\064\337\274\325\161\337\252\161\335\341
\271\154\214\074\022\135\145\332\275\127\022\266\103\153\377\345
\336\115\146\021\121\317\231\256\354\027\266\350\161\221\214\336
\111\376\335\065\161\242\025\047\224\034\317\141\343\046\273\157
\243\147\045\041\135\346\335\035\013\056\150\033\073\202\257\354
\203\147\205\324\230\121\164\261\271\231\200\211\377\177\170\031
\134\171\112\140\056\222\100\256\114\067\052\054\311\307\142\310
\016\135\367\066\133\312\340\045\045\001\264\335\032\007\234\167
\000\077\320\334\325\354\075\324\372\273\077\314\205\326\157\177
\251\055\337\271\002\367\365\227\232\265\065\332\303\147\260\207
\112\251\050\236\043\216\377\134\047\153\341\260\117\363\007\356
\000\056\324\131\207\313\122\101\225\352\364\107\327\356\144\101
\125\174\215\131\002\225\335\142\235\302\271\356\132\050\164\204
\245\233\267\220\307\014\007\337\365\211\066\164\062\326\050\301
\260\260\013\340\234\114\303\034\326\374\343\151\265\107\106\201
\057\242\202\253\323\143\104\160\304\215\377\055\063\272\255\217
\173\265\160\210\256\076\031\317\100\050\330\374\310\220\273\135
\231\042\365\122\346\130\305\037\210\061\103\356\210\035\327\306
\216\074\103\152\035\247\030\336\175\075\026\361\142\371\312\220
\250\375

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "USERTrust RSA Certification Authority"
# Issuer: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:01:fd:6d:30:fc:a3:ca:51:a8:1b:bc:64:0e:35:03:2d
# Subject: CN=USERTrust RSA Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
E7:93:C9:B0:2F:D8:AA:13:E2:1C:31:22:8A:CC:B0:81:19:64:3B:74:9C:89:89:64:B1:74:6D:46:C3:D4:CB:D2
# Fingerprint (SHA1): 2B:8F:1B:57:33:0D:BB:A2:D0:7A:6C:51:F7:0E:E9:0D:DA:B9:AD:8E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust RSA Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\053\217\033\127\063\015\273\242\320\172\154\121\367\016\351\015
\332\271\255\216
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\033\376\151\321\221\267\031\063\243\162\250\017\341\125\345\265
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\122\123\101\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\001\375\155\060\374\243\312\121\250\033\274\144\016\065
\003\055
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
```

```
# Certificate "USERTrust ECC Certification Authority"
#
# Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\217\060\202\002\025\240\003\002\001\002\002\020\134
\213\231\305\132\224\305\322\161\126\336\315\211\200\314\046\060
```

\012\006\010\052\206\110\316\075\004\003\003\060\201\210\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\023\060\021\006
\003\125\004\010\023\012\116\145\167\040\112\145\162\163\145\171
\061\024\060\022\006\003\125\004\007\023\013\112\145\162\163\145
\171\040\103\151\164\171\061\036\060\034\006\003\125\004\012\023
\025\124\150\145\040\125\123\105\122\124\122\125\123\124\040\116
\145\164\167\157\162\153\061\056\060\054\006\003\125\004\003\023
\045\125\123\105\122\124\162\165\163\164\040\105\103\103\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\060\036\027\015\061\060\060\062\060\061
\060\060\060\060\060\060\132\027\015\063\070\060\061\061\070\062
\063\065\071\065\071\132\060\201\210\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\023\060\021\006\003\125\004\010\023
\012\116\145\167\040\112\145\162\163\145\171\061\024\060\022\006
\003\125\004\007\023\013\112\145\162\163\145\171\040\103\151\164
\171\061\036\060\034\006\003\125\004\012\023\025\124\150\145\040
\125\123\105\122\124\122\125\123\124\040\116\145\164\167\157\162
\153\061\056\060\054\006\003\125\004\003\023\045\125\123\105\122
\124\162\165\163\164\040\105\103\103\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\032\254\124\132\251\371\150
\043\347\172\325\044\157\123\306\132\330\113\253\306\325\266\321
\346\163\161\256\335\234\326\014\141\375\333\240\211\003\270\005
\024\354\127\316\356\135\077\342\041\263\316\367\324\212\171\340
\243\203\176\055\227\320\141\304\361\231\334\045\221\143\253\177
\060\243\264\160\342\307\241\063\234\363\277\056\134\123\261\137
\263\175\062\177\212\064\343\171\171\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\072\341\011\206\324\317\031\302
\226\166\164\111\166\334\340\065\306\143\143\232\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\066\147\241\026\010\334\344\227\000\101\035\116\276\341\143\001
\317\073\252\102\021\144\240\235\224\071\002\021\171\134\173\035
\372\144\271\356\026\102\263\277\212\302\011\304\354\344\261\115
\002\061\000\351\052\141\107\214\122\112\113\116\030\160\366\326
\104\326\156\365\203\272\155\130\275\044\331\126\110\352\357\304
\242\106\201\210\152\072\106\321\251\233\115\311\141\332\321\135
\127\152\030

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "USERTrust ECC Certification Authority"

Issuer: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New Jersey,C=US

```
# Serial Number:5c:8b:99:c5:5a:94:c5:d2:71:56:de:cd:89:80:cc:26
# Subject: CN=USERTrust ECC Certification Authority,O=The USERTRUST Network,L=Jersey City,ST=New
Jersey,C=US
# Not Valid Before: Mon Feb 01 00:00:00 2010
# Not Valid After : Mon Jan 18 23:59:59 2038
# Fingerprint (SHA-256):
4F:F4:60:D5:4B:9C:86:DA:BF:BC:FC:57:12:E0:40:0D:2B:ED:3F:BC:4D:4F:BD:AA:86:E0:6A:DC:D2:A9:AD:7A
# Fingerprint (SHA1): D1:CB:CA:5D:B2:D5:2A:7F:69:3B:67:4D:E5:F0:5A:1D:0C:95:7D:F0
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "USERTrust ECC Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\321\313\312\135\262\325\052\177\151\073\147\115\345\360\132\035
\014\225\175\360
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\372\150\274\331\265\177\255\375\311\035\006\203\050\314\044\301
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\010\023\012\116\145\167\040\112
\145\162\163\145\171\061\024\060\022\006\003\125\004\007\023\013
\112\145\162\163\145\171\040\103\151\164\171\061\036\060\034\006
\003\125\004\012\023\025\124\150\145\040\125\123\105\122\124\122
\125\123\124\040\116\145\164\167\157\162\153\061\056\060\054\006
\003\125\004\003\023\045\125\123\105\122\124\162\165\163\164\040
\105\103\103\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\134\213\231\305\132\224\305\322\161\126\336\315\211\200
\314\046
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign ECC Root CA - R5"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
```

```
# Fingerprint (SHA-256):
17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24
# Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\036\060\202\001\244\240\003\002\001\002\002\021\140
\131\111\340\046\056\273\125\371\012\167\212\161\371\112\330\154
\060\012\006\010\052\206\110\316\075\004\003\003\060\120\061\044
\060\042\006\003\125\004\013\023\033\107\154\157\142\141\154\123
\151\147\156\040\105\103\103\040\122\157\157\164\040\103\101\040
\055\040\122\065\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156\060\036
\027\015\061\062\061\061\061\063\060\060\060\060\060\060\132\027
\015\063\070\060\061\061\071\060\063\061\064\060\067\132\060\120
\061\044\060\042\006\003\125\004\013\023\033\107\154\157\142\141
\154\123\151\147\156\040\105\103\103\040\122\157\157\164\040\103
\101\040\055\040\122\065\061\023\060\021\006\003\125\004\012\023
\012\107\154\157\142\141\154\123\151\147\156\061\023\060\021\006
\003\125\004\003\023\012\107\154\157\142\141\154\123\151\147\156
\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053
\201\004\000\042\003\142\000\004\107\105\016\226\373\175\135\277
```

```
\351\071\321\041\370\237\013\266\325\173\036\222\072\110\131\034
\360\142\061\055\300\172\050\376\032\247\134\263\266\314\227\347
\105\324\130\372\321\167\155\103\242\300\207\145\064\012\037\172
\335\353\074\063\241\305\235\115\244\157\101\225\070\177\311\036
\204\353\321\236\111\222\207\224\207\014\072\205\112\146\237\235
\131\223\115\227\141\006\206\112\243\102\060\100\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006
\003\125\035\016\004\026\004\024\075\346\051\110\233\352\007\312
\041\104\112\046\336\156\336\322\203\320\237\131\060\012\006\010
\052\206\110\316\075\004\003\003\003\150\000\060\145\002\061\000
\345\151\022\311\156\333\306\061\272\011\101\341\227\370\373\375
\232\342\175\022\311\355\174\144\323\313\005\045\213\126\331\240
\347\136\135\116\013\203\234\133\166\051\240\011\046\041\152\142
\002\060\161\322\265\217\134\352\073\341\170\011\205\250\165\222
\073\310\134\375\110\357\015\164\042\250\010\342\156\305\111\316
\307\014\274\247\141\151\361\367\073\341\052\313\371\053\363\146
\220\067
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign ECC Root CA - R5"

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

Serial Number:60:59:49:e0:26:2e:bb:55:f9:0a:77:8a:71:f9:4a:d8:6c

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R5

Not Valid Before: Tue Nov 13 00:00:00 2012

Not Valid After : Tue Jan 19 03:14:07 2038

Fingerprint (SHA-256):

17:9F:BC:14:8A:3D:D0:0F:D2:4E:A1:34:58:CC:43:BF:A7:F5:9C:81:82:D7:83:A5:13:F6:EB:EC:10:0C:89:24

Fingerprint (SHA1): 1F:24:C6:30:CD:A4:18:EF:20:69:FF:AD:4F:DD:5F:46:3A:1B:69:AA

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign ECC Root CA - R5"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\037\044\306\060\315\244\030\357\040\151\377\255\117\335\137\106
\072\033\151\252
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\237\255\073\034\002\036\212\272\027\164\070\201\014\242\274\010
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\065\061\023\060\021\006\003\125\004
```

```
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\021\140\131\111\340\046\056\273\125\371\012\167\212\161\371
\112\330\154
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Staat der Nederlanden Root CA - G3"

#

Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Serial Number: 10003001 (0x98a239)

Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL

Not Valid Before: Thu Nov 14 11:28:42 2013

Not Valid After : Mon Nov 13 23:00:00 2028

Fingerprint (SHA-256):

3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28

Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\000\230\242\071

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\004\000
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\005\000\060\132\061\013\060\011\006\003\125\004\006\023\002\116
\114\061\036\060\034\006\003\125\004\012\014\025\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\061\053\060\051\006\003\125\004\003\014\042\123\164\141\141
\164\040\144\145\162\040\116\145\144\145\162\154\141\156\144\145
\156\040\122\157\157\164\040\103\101\040\055\040\107\063\060\036
\027\015\061\063\061\061\061\064\061\061\062\070\064\062\132\027
\015\062\070\061\061\061\063\062\063\060\060\060\060\132\060\132
\061\013\060\011\006\003\125\004\006\023\002\116\114\061\036\060
\034\006\003\125\004\012\014\025\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\061\053\060
\051\006\003\125\004\003\014\042\123\164\141\141\164\040\144\145
\162\040\116\145\144\145\162\154\141\156\144\145\156\040\122\157
\157\164\040\103\101\040\055\040\107\063\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\276\062\242\124\017
\160\373\054\134\131\353\154\304\244\121\350\205\052\263\314\112
\064\362\260\137\363\016\307\034\075\123\036\210\010\150\330\157
\075\255\302\236\314\202\147\007\047\207\150\161\072\237\165\226
\042\106\005\260\355\255\307\133\236\052\336\234\374\072\306\225
\247\365\027\147\030\347\057\111\010\014\134\317\346\314\064\355
\170\373\120\261\334\153\062\360\242\376\266\074\344\354\132\227
\307\077\036\160\010\060\240\334\305\263\155\157\320\202\162\021
\253\322\201\150\131\202\027\267\170\222\140\372\314\336\077\204
\353\215\070\063\220\012\162\043\372\065\314\046\161\061\321\162
\050\222\331\133\043\155\146\265\155\007\102\353\246\063\316\222
\333\300\366\154\143\170\315\312\116\075\265\345\122\233\361\276
\073\346\124\140\260\146\036\011\253\007\376\124\211\021\102\321
\367\044\272\140\170\032\230\367\311\021\375\026\301\065\032\124
\165\357\103\323\345\256\116\316\347\173\303\306\116\141\121\113
\253\232\105\113\241\037\101\275\110\123\025\161\144\013\206\263
\345\056\276\316\244\033\301\051\204\242\265\313\010\043\166\103
\042\044\037\027\004\324\156\234\306\374\177\053\146\032\354\212
\345\326\317\115\365\143\011\267\025\071\326\173\254\353\343\174
\351\116\374\165\102\310\355\130\225\014\006\102\242\234\367\344
\160\263\337\162\157\132\067\100\211\330\205\244\327\361\013\336
\103\031\324\112\130\054\214\212\071\236\277\204\207\361\026\073
\066\014\351\323\264\312\154\031\101\122\011\241\035\260\152\277
\202\357\160\121\041\062\334\005\166\214\313\367\144\344\003\120
\257\214\221\147\253\305\362\356\130\330\336\276\367\347\061\317
\154\311\073\161\301\325\210\265\145\274\300\350\027\027\007\022
\265\134\322\253\040\223\264\346\202\203\160\066\305\315\243\215
\255\213\354\243\301\103\207\346\103\342\064\276\225\213\065\355

\007\071\332\250\035\172\237\066\236\022\260\014\145\022\220\025
\140\331\046\100\104\343\126\140\245\020\324\152\074\375\101\334
\016\132\107\266\357\227\141\165\117\331\376\307\262\035\324\355
\135\111\263\251\152\313\146\204\023\325\134\240\334\337\156\167
\006\321\161\165\310\127\157\257\017\167\133\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024
\124\255\372\307\222\127\256\312\065\234\056\022\373\344\272\135
\040\334\224\127\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\060\231\235\005\062\310\136\016
\073\230\001\072\212\244\347\007\367\172\370\347\232\337\120\103
\123\227\052\075\312\074\107\230\056\341\025\173\361\222\363\141
\332\220\045\026\145\300\237\124\135\016\003\073\133\167\002\234
\204\266\015\230\137\064\335\073\143\302\303\050\201\302\234\051
\056\051\342\310\303\001\362\063\352\052\252\314\011\010\367\145
\147\306\315\337\323\266\053\247\275\314\321\016\160\137\270\043
\321\313\221\116\012\364\310\172\345\331\143\066\301\324\337\374
\042\227\367\140\135\352\051\057\130\262\275\130\275\215\226\117
\020\165\277\110\173\075\121\207\241\074\164\042\302\374\007\177
\200\334\304\254\376\152\301\160\060\260\351\216\151\342\054\151
\201\224\011\272\335\376\115\300\203\214\224\130\300\106\040\257
\234\037\002\370\065\125\111\057\106\324\300\360\240\226\002\017
\063\305\161\363\236\043\175\224\267\375\072\323\011\203\006\041
\375\140\075\256\062\300\322\356\215\246\360\347\264\202\174\012
\314\160\311\171\200\370\376\114\367\065\204\031\212\061\373\012
\331\327\177\233\360\242\232\153\303\005\112\355\101\140\024\060
\321\252\021\102\156\323\043\002\004\013\306\145\335\335\122\167
\332\201\153\262\250\372\001\070\271\226\352\052\154\147\227\211
\224\236\274\341\124\325\344\152\170\357\112\275\053\232\075\100
\176\306\300\165\322\156\373\150\060\354\354\213\235\371\111\065
\232\032\054\331\263\225\071\325\036\222\367\246\271\145\057\345
\075\155\072\110\114\010\334\344\050\022\050\276\175\065\134\352
\340\026\176\023\033\152\327\076\327\236\374\055\165\262\301\024
\325\043\003\333\133\157\013\076\170\057\015\336\063\215\026\267
\110\347\203\232\201\017\173\301\103\115\125\004\027\070\112\121
\325\131\242\211\164\323\237\276\036\113\327\306\155\267\210\044
\157\140\221\244\202\205\133\126\101\274\320\104\253\152\023\276
\321\054\130\267\022\063\130\262\067\143\334\023\365\224\035\077
\100\121\365\117\365\072\355\310\305\353\302\036\035\026\225\172
\307\176\102\161\223\156\113\025\267\060\337\252\355\127\205\110
\254\035\152\335\071\151\344\341\171\170\276\316\005\277\241\014
\367\200\173\041\147\047\060\131

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "Staat der Nederlanden Root CA - G3"
# Issuer: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Serial Number: 10003001 (0x98a239)
# Subject: CN=Staat der Nederlanden Root CA - G3,O=Staat der Nederlanden,C=NL
# Not Valid Before: Thu Nov 14 11:28:42 2013
# Not Valid After : Mon Nov 13 23:00:00 2028
# Fingerprint (SHA-256):
3C:4F:B0:B9:5A:B8:B3:00:32:F4:32:B8:6F:53:5F:E1:72:C1:85:D0:FD:39:86:58:37:CF:36:18:7F:A6:F4:28
# Fingerprint (SHA1): D8:EB:6B:41:51:92:59:E0:F3:E7:85:00:C0:3D:B6:88:97:C9:EE:FC
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Staat der Nederlanden Root CA - G3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\330\353\153\101\121\222\131\340\363\347\205\000\300\075\266\210
\227\311\356\374
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\013\106\147\007\333\020\057\031\214\065\120\140\321\013\364\067
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\116\114\061
\036\060\034\006\003\125\004\012\014\025\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\061
\053\060\051\006\003\125\004\003\014\042\123\164\141\141\164\040
\144\145\162\040\116\145\144\145\162\154\141\156\144\145\156\040
\122\157\157\164\040\103\101\040\055\040\107\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\000\230\242\071
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Commercial Root CA 1"
#
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 18:12:23 2014
# Not Valid After : Mon Jan 16 18:12:23 2034
# Fingerprint (SHA-256):
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25

```

```
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 ""
CKA_ISSUER MULTILINE_OCTAL
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\140\060\202\003\110\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\310\104\265\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\112
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\047\060\045\006\003\125\004\003\023\036\111\144\145\156
\124\162\165\163\164\040\103\157\155\155\145\162\143\151\141\154
\040\122\157\157\164\040\103\101\040\061\060\036\027\015\061\064
\060\061\061\066\061\070\061\062\062\063\132\027\015\063\064\060
\061\061\066\061\070\061\062\062\063\132\060\112\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\111\144\145\156\124\162\165\163\164\061\047\060
\045\006\003\125\004\003\023\036\111\144\145\156\124\162\165\163
\164\040\103\157\155\155\145\162\143\151\141\154\040\122\157\157
\164\040\103\101\040\061\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\247\120\031\336\077\231\075\324\063
\106\361\157\121\141\202\262\251\117\217\147\211\135\204\331\123
\335\014\050\331\327\360\377\256\225\103\162\231\371\265\135\174
\212\301\102\341\061\120\164\321\201\015\174\315\233\041\253\103
\342\254\255\136\206\156\363\011\212\037\132\062\275\242\353\224
\371\350\134\012\354\377\230\322\257\161\263\264\123\237\116\207
```

\357\222\274\275\354\117\062\060\210\113\027\136\127\304\123\302
\366\002\227\215\331\142\053\277\044\037\142\215\337\303\270\051
\113\111\170\074\223\140\210\042\374\231\332\066\310\302\242\324
\054\124\000\147\065\156\163\277\002\130\360\244\335\345\260\242
\046\172\312\340\066\245\031\026\365\375\267\357\256\077\100\365
\155\132\004\375\316\064\312\044\334\164\043\033\135\063\023\022
\135\304\001\045\366\060\335\002\135\237\340\325\107\275\264\353
\033\241\273\111\111\330\237\133\002\363\212\344\044\220\344\142
\117\117\301\257\213\016\164\027\250\321\162\210\152\172\001\111
\314\264\106\171\306\027\261\332\230\036\007\131\372\165\041\205
\145\335\220\126\316\373\253\245\140\235\304\235\371\122\260\213
\275\207\371\217\053\043\012\043\166\073\367\063\341\311\000\363
\151\371\113\242\340\116\274\176\223\071\204\007\367\104\160\176
\376\007\132\345\261\254\321\030\314\362\065\345\111\111\010\312
\126\311\075\373\017\030\175\213\073\301\023\302\115\217\311\117
\016\067\351\037\241\016\152\337\142\056\313\065\006\121\171\054
\310\045\070\364\372\113\247\211\134\234\322\343\015\071\206\112
\164\174\325\131\207\302\077\116\014\134\122\364\075\367\122\202
\361\352\243\254\375\111\064\032\050\363\101\210\072\023\356\350
\336\377\231\035\137\272\313\350\036\362\271\120\140\300\061\323
\163\345\357\276\240\355\063\013\164\276\040\040\304\147\154\360
\010\003\172\125\200\177\106\116\226\247\364\036\076\341\366\330
\011\341\063\144\053\143\327\062\136\237\371\300\173\017\170\157
\227\274\223\232\371\234\022\220\170\172\200\207\025\327\162\164
\234\125\164\170\261\272\341\156\160\004\272\117\240\272\150\303
\173\377\061\360\163\075\075\224\052\261\013\101\016\240\376\115
\210\145\153\171\063\264\327\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\355\104\031\300
\323\360\006\213\356\244\173\276\102\347\046\124\310\216\066\166
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\002\001\000\015\256\220\062\366\246\113\174\104\166\031\141
\036\047\050\315\136\124\357\045\274\343\010\220\371\051\327\256
\150\010\341\224\000\130\357\056\056\176\123\122\214\266\134\007
\352\210\272\231\213\120\224\327\202\200\337\141\011\000\223\255
\015\024\346\316\301\362\067\224\170\260\137\234\263\242\163\270
\217\005\223\070\315\215\076\260\270\373\300\317\261\362\354\055
\055\033\314\354\252\232\263\252\140\202\033\055\073\303\204\075
\127\212\226\036\234\165\270\323\060\315\140\010\203\220\323\216
\124\361\115\146\300\135\164\003\100\243\356\205\176\302\037\167
\234\006\350\301\247\030\135\122\225\355\311\335\045\236\155\372
\251\355\243\072\064\320\131\173\332\355\120\363\065\277\355\353
\024\115\061\307\140\364\332\361\207\234\342\110\342\306\305\067
\373\006\020\372\165\131\146\061\107\051\332\166\232\034\351\202
\256\357\232\271\121\367\210\043\232\151\225\142\074\345\125\200
\066\327\124\002\377\361\271\135\316\324\043\157\330\105\204\112
\133\145\357\211\014\335\024\247\040\313\030\245\045\264\015\371

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\001\360\242\322\364\000\310\164\216\241\052\110\216\145\333\023
\304\342\045\027\175\353\276\207\133\027\040\124\121\223\112\123
\003\013\354\135\312\063\355\142\375\105\307\057\133\334\130\240
\200\071\346\372\327\376\023\024\246\355\075\224\112\102\164\324
\303\167\131\163\315\217\106\276\125\070\357\372\350\221\062\352
\227\130\004\042\336\070\303\314\274\155\311\063\072\152\012\151
\077\240\310\352\162\217\214\143\206\043\275\155\074\226\236\225
\340\111\114\252\242\271\052\033\234\066\201\170\355\303\350\106
\342\046\131\104\165\036\331\165\211\121\315\020\204\235\141\140
\313\135\371\227\042\115\216\230\346\343\177\366\133\273\256\315
\312\112\201\153\136\013\363\121\341\164\053\351\176\047\247\331
\231\111\116\370\245\200\333\045\017\034\143\142\212\311\063\147
\153\074\020\203\306\255\336\250\315\026\216\215\360\007\067\161
\237\362\253\374\101\365\301\213\354\000\067\135\011\345\116\200
\357\372\261\134\070\006\245\033\112\341\334\070\055\074\334\253
\037\220\032\325\112\234\356\321\160\154\314\356\364\127\370\030
\272\204\156\207
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "IdenTrust Commercial Root CA 1"
```

```
# Issuer: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
```

```
# Serial Number:0a:01:42:80:00:00:01:45:23:c8:44:b5:00:00:00:02
```

```
# Subject: CN=IdenTrust Commercial Root CA 1,O=IdenTrust,C=US
```

```
# Not Valid Before: Thu Jan 16 18:12:23 2014
```

```
# Not Valid After : Mon Jan 16 18:12:23 2034
```

```
# Fingerprint (SHA-256):
```

```
5D:56:49:9B:E4:D2:E0:8B:CF:CA:D0:8A:3E:38:72:3D:50:50:3B:DE:70:69:48:E4:2F:55:60:30:19:E5:28:AE
```

```
# Fingerprint (SHA1): DF:71:7E:AA:4A:D9:4E:C9:55:84:99:60:2D:48:DE:5F:BC:F0:3A:25
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "IdenTrust Commercial Root CA 1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\337\161\176\252\112\331\116\311\125\204\231\140\055\110\336\137
\274\360\072\045
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\263\076\167\163\165\356\240\323\343\176\111\143\111\131\273\307
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\112\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\047\060\045\006\003\125\004\003\023\036\111\144
\145\156\124\162\165\163\164\040\103\157\155\155\145\162\143\151
```

```

\141\154\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\310\104\265\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "IdenTrust Public Sector Root CA 1"
#
# Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
# Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_VALUE MULTILINE_OCTAL

```

\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\012
\001\102\200\000\000\001\105\043\317\106\174\000\000\000\002\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163
\164\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156
\124\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143
\164\157\162\040\122\157\157\164\040\103\101\040\061\060\036\027
\015\061\064\060\061\061\066\061\067\065\063\063\062\132\027\015
\063\064\060\061\061\066\061\067\065\063\063\062\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060\020
\006\003\125\004\012\023\011\111\144\145\156\124\162\165\163\164
\061\052\060\050\006\003\125\004\003\023\041\111\144\145\156\124
\162\165\163\164\040\120\165\142\154\151\143\040\123\145\143\164
\157\162\040\122\157\157\164\040\103\101\040\061\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\266\042\224
\374\244\110\257\350\107\153\012\373\047\166\344\362\077\212\073
\172\112\054\061\052\214\215\260\251\303\061\153\250\167\166\204
\046\266\254\201\102\015\010\353\125\130\273\172\370\274\145\175
\362\240\155\213\250\107\351\142\166\036\021\356\010\024\321\262
\104\026\364\352\320\372\036\057\136\333\313\163\101\256\274\000
\260\112\053\100\262\254\341\073\113\302\055\235\344\241\233\354
\032\072\036\360\010\263\320\344\044\065\007\237\234\264\311\122
\155\333\007\312\217\265\133\360\203\363\117\307\055\245\310\255
\313\225\040\244\061\050\127\130\132\344\215\033\232\253\236\015
\014\362\012\063\071\042\071\012\227\056\363\123\167\271\104\105
\375\204\313\066\040\201\131\055\232\157\155\110\110\141\312\114
\337\123\321\257\122\274\104\237\253\057\153\203\162\357\165\200
\332\006\063\033\135\310\332\143\306\115\315\254\146\061\315\321
\336\076\207\020\066\341\271\244\172\357\140\120\262\313\312\246
\126\340\067\257\253\064\023\071\045\350\071\146\344\230\172\252
\022\230\234\131\146\206\076\255\361\260\312\076\006\017\173\360
\021\113\067\240\104\155\173\313\250\214\161\364\325\265\221\066
\314\360\025\306\053\336\121\027\261\227\114\120\075\261\225\131
\174\005\175\055\041\325\000\277\001\147\242\136\173\246\134\362
\367\042\361\220\015\223\333\252\104\121\146\314\175\166\003\353
\152\250\052\070\031\227\166\015\153\212\141\371\274\366\356\166
\375\160\053\335\051\074\370\012\036\133\102\034\213\126\057\125
\033\034\241\056\265\307\026\346\370\252\074\222\216\151\266\001
\301\265\206\235\211\017\013\070\224\124\350\352\334\236\075\045
\274\123\046\355\325\253\071\252\305\100\114\124\253\262\264\331
\331\370\327\162\333\034\274\155\275\145\137\357\210\065\052\146
\057\356\366\263\145\360\063\215\174\230\101\151\106\017\103\034
\151\372\233\265\320\141\152\315\312\113\331\114\220\106\253\025
\131\241\107\124\051\056\203\050\137\034\302\242\253\162\027\000
\006\216\105\354\213\342\063\075\177\332\031\104\344\142\162\303
\337\042\306\362\126\324\335\137\225\162\355\155\137\367\110\003

\133\375\305\052\240\366\163\043\204\020\033\001\347\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\343\161\340\236\330\247\102\331\333\161\221\153\224\223
\353\303\243\321\024\243\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\107\372\335\012\260\021
\221\070\255\115\135\367\345\016\227\124\031\202\110\207\124\214
\252\144\231\330\132\376\210\001\305\130\245\231\261\043\124\043
\267\152\035\040\127\345\001\142\101\027\323\011\333\165\313\156
\124\220\165\376\032\237\201\012\302\335\327\367\011\320\133\162
\025\344\036\011\152\075\063\363\041\232\346\025\176\255\121\325
\015\020\355\175\102\300\217\356\300\232\010\325\101\326\134\016
\041\151\156\200\141\016\025\300\270\317\305\111\022\122\314\276
\072\314\324\056\070\005\336\065\375\037\157\270\200\150\230\075
\115\240\312\100\145\322\163\174\365\213\331\012\225\077\330\077
\043\155\032\321\052\044\031\331\205\263\027\357\170\156\251\130
\321\043\323\307\023\355\162\045\177\135\261\163\160\320\177\006
\227\011\204\051\200\141\035\372\136\377\163\254\240\343\211\270
\034\161\025\306\336\061\177\022\334\341\155\233\257\347\350\237
\165\170\114\253\106\073\232\316\277\005\030\135\115\025\074\026
\232\031\120\004\232\262\232\157\145\213\122\137\074\130\004\050
\045\300\146\141\061\176\271\340\165\271\032\250\201\326\162\027
\263\305\003\061\065\021\170\170\242\340\351\060\214\177\200\337
\130\337\074\272\047\226\342\200\064\155\343\230\323\144\047\254
\110\176\050\167\134\306\045\141\045\370\205\014\145\372\304\062
\057\245\230\005\344\370\013\147\026\026\306\202\270\062\031\371
\371\271\171\334\037\315\353\257\253\016\335\033\333\105\344\172
\347\002\342\225\135\374\151\360\123\151\141\225\165\171\013\136
\125\346\070\034\224\251\131\063\236\310\161\164\171\177\121\211
\266\310\152\270\060\310\152\070\303\156\236\341\067\026\352\005
\142\114\133\022\107\355\247\264\263\130\126\307\111\363\177\022
\150\011\061\161\360\155\370\116\107\373\326\205\356\305\130\100
\031\244\035\247\371\113\103\067\334\150\132\117\317\353\302\144
\164\336\264\025\331\364\124\124\032\057\034\327\227\161\124\220
\216\331\040\235\123\053\177\253\217\342\352\060\274\120\067\357
\361\107\265\175\174\054\004\354\150\235\264\111\104\020\364\162
\113\034\144\347\374\346\153\220\335\151\175\151\375\000\126\245
\267\254\266\255\267\312\076\001\357\234

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "IdenTrust Public Sector Root CA 1"
Issuer: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US
Serial Number:0a:01:42:80:00:00:01:45:23:cf:46:7c:00:00:00:02
Subject: CN=IdenTrust Public Sector Root CA 1,O=IdenTrust,C=US

```

# Not Valid Before: Thu Jan 16 17:53:32 2014
# Not Valid After : Mon Jan 16 17:53:32 2034
# Fingerprint (SHA-256):
30:D0:89:5A:9A:44:8A:26:20:91:63:55:22:D1:F5:20:10:B5:86:7A:CA:E1:2C:78:EF:95:8F:D4:F4:38:9F:2F
# Fingerprint (SHA1): BA:29:41:60:77:98:3F:F4:F3:EF:F2:31:05:3B:2E:EA:6D:4D:45:FD
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "IdenTrust Public Sector Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\272\051\101\140\167\230\077\364\363\357\362\061\005\073\056\352
\155\115\105\375
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\067\006\245\260\374\211\235\272\364\153\214\032\144\315\325\272
END
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\111\144\145\156\124\162
\165\163\164\061\052\060\050\006\003\125\004\003\023\041\111\144
\145\156\124\162\165\163\164\040\120\165\142\154\151\143\040\123
\145\143\164\157\162\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\012\001\102\200\000\000\001\105\043\317\106\174\000\000
\000\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G2"
#
# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number: 1246989352 (0x4a538c28)
# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Tue Jul 07 17:25:54 2009
# Not Valid After : Sat Dec 07 17:55:54 2030
# Fingerprint (SHA-256):
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\004\112\123\214\050
END
CKA_VALUE MULTILINE_OCTAL
\060\202\004\076\060\202\003\046\240\003\002\001\002\002\004\112
\123\214\050\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\201\276\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156\164
\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006\003
\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156\164
\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055\164
\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060\050
\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164\054
```

\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164\150
\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171\061
\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165\163
\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\055
\040\107\062\060\036\027\015\060\071\060\067\060\067\061\067\062
\065\065\064\132\027\015\063\060\061\062\060\067\061\067\065\065
\065\064\132\060\201\276\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\026\060\024\006\003\125\004\012\023\015\105\156
\164\162\165\163\164\054\040\111\156\143\056\061\050\060\046\006
\003\125\004\013\023\037\123\145\145\040\167\167\167\056\145\156
\164\162\165\163\164\056\156\145\164\057\154\145\147\141\154\055
\164\145\162\155\163\061\071\060\067\006\003\125\004\013\023\060
\050\143\051\040\062\060\060\071\040\105\156\164\162\165\163\164
\054\040\111\156\143\056\040\055\040\146\157\162\040\141\165\164
\150\157\162\151\172\145\144\040\165\163\145\040\157\156\154\171
\061\062\060\060\006\003\125\004\003\023\051\105\156\164\162\165
\163\164\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040
\055\040\107\062\060\202\001\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001\012
\002\202\001\001\000\272\204\266\162\333\236\014\153\342\231\351
\060\001\247\166\352\062\270\225\101\032\311\332\141\116\130\162
\317\376\366\202\171\277\163\141\006\012\245\047\330\263\137\323
\105\116\034\162\326\116\062\362\162\212\017\367\203\031\320\152
\200\200\000\105\036\260\307\347\232\277\022\127\047\034\243\150
\057\012\207\275\152\153\016\136\145\363\034\167\325\324\205\215
\160\041\264\263\062\347\213\242\325\206\071\002\261\270\322\107
\316\344\311\111\304\073\247\336\373\124\175\127\276\360\350\156
\302\171\262\072\013\125\342\120\230\026\062\023\134\057\170\126
\301\302\224\263\362\132\344\047\232\237\044\327\306\354\320\233
\045\202\343\314\302\304\105\305\214\227\172\006\153\052\021\237
\251\012\156\110\073\157\333\324\021\031\102\367\217\007\277\365
\123\137\234\076\364\027\054\346\151\254\116\062\114\142\167\352
\267\350\345\273\064\274\031\213\256\234\121\347\267\176\265\123
\261\063\042\345\155\317\160\074\032\372\342\233\147\266\203\364
\215\245\257\142\114\115\340\130\254\144\064\022\003\370\266\215
\224\143\044\244\161\002\003\001\000\001\243\102\060\100\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\035\006\003\125\035\016\004\026\004\024\152\162\046\172\320\036
\357\175\347\073\151\121\324\154\215\237\220\022\146\253\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\171\237\035\226\306\266\171\077\042\215\207\323\207\003
\004\140\152\153\232\056\131\211\163\021\254\103\321\365\023\377
\215\071\053\300\362\275\117\160\214\251\057\352\027\304\013\124
\236\324\033\226\230\063\074\250\255\142\242\000\166\253\131\151
\156\006\035\176\304\271\104\215\230\257\022\324\141\333\012\031

```
\106\107\363\353\367\143\301\100\005\100\245\322\267\364\265\232
\066\277\251\210\166\210\004\125\004\053\234\207\177\032\067\074
\176\055\245\032\330\324\211\136\312\275\254\075\154\330\155\257
\325\363\166\017\315\073\210\070\042\235\154\223\232\304\075\277
\202\033\145\077\246\017\135\252\374\345\262\025\312\265\255\306
\274\075\320\204\350\352\006\162\260\115\071\062\170\277\076\021
\234\013\244\235\232\041\363\360\233\013\060\170\333\301\334\207
\103\376\274\143\232\312\305\302\034\311\307\215\377\073\022\130
\010\346\266\075\354\172\054\116\373\203\226\316\014\074\151\207
\124\163\244\163\302\223\377\121\020\254\025\124\001\330\374\005
\261\211\241\177\164\203\232\111\327\334\116\173\212\110\157\213
\105\366
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Entrust Root Certification Authority - G2"
```

```
# Issuer: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
```

```
# Serial Number: 1246989352 (0x4a538c28)
```

```
# Subject: CN=Entrust Root Certification Authority - G2,OU="(c) 2009 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
```

```
# Not Valid Before: Tue Jul 07 17:25:54 2009
```

```
# Not Valid After : Sat Dec 07 17:55:54 2030
```

```
# Fingerprint (SHA-256):
```

```
43:DF:57:74:B0:3E:7F:EF:5F:E4:0D:93:1A:7B:ED:F1:BB:2E:6B:42:73:8C:4E:6D:38:41:10:3D:3A:A7:F3:39
```

```
# Fingerprint (SHA1): 8C:F4:27:FD:79:0C:3A:D1:66:06:8D:E8:1E:57:EF:BB:93:22:72:D4
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Entrust Root Certification Authority - G2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\214\364\047\375\171\014\072\321\146\006\215\350\036\127\357\273
\223\042\162\324
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\113\342\311\221\226\145\014\364\016\132\223\222\240\012\376\262
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\060\071\040\105\156\164\162\165\163\164\054\040\111
```

```
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\004\112\123\214\050
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Entrust Root Certification Authority - EC1"

#

Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9

Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Tue Dec 18 15:25:36 2012

Not Valid After : Fri Dec 18 15:55:36 2037

Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\371\060\202\002\200\240\003\002\001\002\002\015\000
\246\213\171\051\000\000\000\000\120\320\221\371\060\012\006\010
\052\206\110\316\075\004\003\003\060\201\277\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\026\060\024\006\003\125\004
\012\023\015\105\156\164\162\165\163\164\054\040\111\156\143\056
\061\050\060\046\006\003\125\004\013\023\037\123\145\145\040\167
\167\167\056\145\156\164\162\165\163\164\056\156\145\164\057\154
\145\147\141\154\055\164\145\162\155\163\061\071\060\067\006\003
\125\004\013\023\060\050\143\051\040\062\060\061\062\040\105\156
\164\162\165\163\164\054\040\111\156\143\056\040\055\040\146\157
\162\040\141\165\164\150\157\162\151\172\145\144\040\165\163\145
\040\157\156\154\171\061\063\060\061\006\003\125\004\003\023\052
\105\156\164\162\165\163\164\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\055\040\105\103\061\060\036\027\015\061\062
\061\062\061\070\061\065\062\065\063\066\132\027\015\063\067\061
\062\061\070\061\065\065\065\063\066\132\060\201\277\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\026\060\024\006\003
\125\004\012\023\015\105\156\164\162\165\163\164\054\040\111\156
\143\056\061\050\060\046\006\003\125\004\013\023\037\123\145\145
\040\167\167\167\056\145\156\164\162\165\163\164\056\156\145\164
\057\154\145\147\141\154\055\164\145\162\155\163\061\071\060\067
\006\003\125\004\013\023\060\050\143\051\040\062\060\061\062\040
\105\156\164\162\165\163\164\054\040\111\156\143\056\040\055\040
\146\157\162\040\141\165\164\150\157\162\151\172\145\144\040\165
\163\145\040\157\156\154\171\061\063\060\061\006\003\125\004\003
\023\052\105\156\164\162\165\163\164\040\122\157\157\164\040\103

```
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\040\055\040\105\103\061\060\166\060\020
\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042
\003\142\000\004\204\023\311\320\272\155\101\173\342\154\320\353
\125\137\146\002\032\044\364\133\211\151\107\343\270\302\175\361
\362\002\305\237\240\366\133\325\213\006\031\206\117\123\020\155
\007\044\047\241\240\370\325\107\031\141\114\175\312\223\047\352
\164\014\357\157\226\011\376\143\354\160\135\066\255\147\167\256
\311\235\174\125\104\072\242\143\121\037\365\343\142\324\251\107
\007\076\314\040\243\102\060\100\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016
\004\026\004\024\267\143\347\032\335\215\351\010\246\125\203\244
\340\152\120\101\145\021\102\111\060\012\006\010\052\206\110\316
\075\004\003\003\003\147\000\060\144\002\060\141\171\330\345\102
\107\337\034\256\123\231\027\266\157\034\175\341\277\021\224\321
\003\210\165\344\215\211\244\212\167\106\336\155\141\357\002\365
\373\265\337\314\376\116\377\376\251\346\247\002\060\133\231\327
\205\067\006\265\173\010\375\353\047\213\112\224\371\341\372\247
\216\046\010\350\174\222\150\155\163\330\157\046\254\041\002\270
\231\267\046\101\133\045\140\256\320\110\032\356\006
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Entrust Root Certification Authority - EC1"

Issuer: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:a6:8b:79:29:00:00:00:00:50:d0:91:f9

Subject: CN=Entrust Root Certification Authority - EC1,OU="(c) 2012 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Tue Dec 18 15:25:36 2012

Not Valid After : Fri Dec 18 15:55:36 2037

Fingerprint (SHA-256):

02:ED:0E:B2:8C:14:DA:45:16:5C:56:67:91:70:0D:64:51:D7:FB:56:F0:B2:AB:1D:3B:8E:B0:70:E5:6E:DF:F5

Fingerprint (SHA1): 20:D8:06:40:DF:9B:25:F5:12:25:3A:11:EA:F7:59:8A:EB:14:B5:47

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - EC1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\040\330\006\100\337\233\045\365\022\045\072\021\352\367\131\212
\353\024\265\107
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\266\176\035\360\130\305\111\154\044\073\075\355\230\030\355\274
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\277\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\062\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\063\060
\061\006\003\125\004\003\023\052\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\105
\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\000\246\213\171\051\000\000\000\000\120\320\221\371

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "CFCA EV ROOT"

#

Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Serial Number: 407555286 (0x184accd6)

Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN

Not Valid Before: Wed Aug 08 03:07:01 2012

Not Valid After : Mon Dec 31 03:07:01 2029

Fingerprint (SHA-256):

5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD

Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "CFCA EV ROOT"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\004\030\112\314\326

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\215\060\202\003\165\240\003\002\001\002\002\004\030
\112\314\326\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\126\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\060\060\056\006\003\125\004\012\014\047\103\150\151\156
\141\040\106\151\156\141\156\143\151\141\154\040\103\145\162\164
\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162
\151\164\171\061\025\060\023\006\003\125\004\003\014\014\103\106
\103\101\040\105\126\040\122\117\117\124\060\036\027\015\061\062
\060\070\060\070\060\063\060\067\060\061\132\027\015\062\071\061
\062\063\061\060\063\060\067\060\061\132\060\126\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\060\060\056\006\003\125
\004\012\014\047\103\150\151\156\141\040\106\151\156\141\156\143
\151\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\025\060\023\006
\003\125\004\003\014\014\103\106\103\101\040\105\126\040\122\117
\117\124\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\327\135\153\315\020\077\037\005\131\325\005\115\067
\261\016\354\230\053\216\025\035\372\223\113\027\202\041\161\020
\122\327\121\144\160\026\302\125\151\115\216\025\155\237\277\014
\033\302\340\243\147\326\014\254\317\042\256\257\167\124\052\113
\114\212\123\122\172\303\356\056\336\263\161\045\301\351\135\075
\356\241\057\243\367\052\074\311\043\035\152\253\035\241\247\361
\363\354\240\325\104\317\025\317\162\057\035\143\227\350\231\371
\375\223\244\124\200\114\122\324\122\253\056\111\337\220\315\270
\137\276\077\336\241\312\115\040\324\045\350\204\051\123\267\261
\210\037\377\372\332\220\237\012\251\055\101\077\261\361\030\051
\356\026\131\054\064\111\032\250\006\327\250\210\322\003\162\172
\062\342\352\150\115\156\054\226\145\173\312\131\372\362\342\335
\356\060\054\373\314\106\254\304\143\353\157\177\066\053\064\163
\022\224\177\337\314\046\236\361\162\135\120\145\131\217\151\263
\207\136\062\157\303\030\212\265\225\217\260\172\067\336\132\105
\073\307\066\341\357\147\321\071\323\227\133\163\142\031\110\055
\207\034\006\373\164\230\040\111\163\360\005\322\033\261\240\243

\267\033\160\323\210\151\271\132\326\070\364\142\334\045\213\170
\277\370\350\176\270\134\311\225\117\137\247\055\271\040\153\317
\153\335\365\015\364\202\267\364\262\146\056\020\050\366\227\132
\173\226\026\217\001\031\055\154\156\177\071\130\006\144\203\001
\203\203\303\115\222\335\062\306\207\244\067\351\026\316\252\055
\150\257\012\201\145\072\160\301\233\255\115\155\124\312\052\055
\113\205\033\263\200\346\160\105\015\153\136\065\360\177\073\270
\234\344\004\160\211\022\045\223\332\012\231\042\140\152\143\140
\116\166\006\230\116\275\203\255\035\130\212\045\205\322\307\145
\036\055\216\306\337\266\306\341\177\212\004\041\025\051\164\360
\076\234\220\235\014\056\361\212\076\132\252\014\011\036\307\325
\074\243\355\227\303\036\064\372\070\371\010\016\343\300\135\053
\203\321\126\152\311\266\250\124\123\056\170\062\147\075\202\177
\164\320\373\341\266\005\140\271\160\333\216\013\371\023\130\157
\161\140\020\122\020\271\301\101\011\357\162\037\147\061\170\377
\226\005\215\002\003\001\000\001\243\143\060\141\060\037\006\003
\125\035\043\004\030\060\026\200\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035
\006\003\125\035\016\004\026\004\024\343\376\055\375\050\320\013
\265\272\266\242\304\277\006\252\005\214\223\373\057\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\045\306\272\153\353\207\313\336\202\071\226\075\360\104\247
\153\204\163\003\336\235\053\117\272\040\177\274\170\262\317\227
\260\033\234\363\327\171\056\365\110\266\322\373\027\210\346\323
\172\077\355\123\023\320\342\057\152\171\313\000\043\050\346\036
\067\127\065\211\204\302\166\117\064\066\255\147\303\316\101\006
\210\305\367\356\330\032\270\326\013\177\120\377\223\252\027\113
\214\354\355\122\140\262\244\006\352\116\353\364\153\031\375\353
\365\032\340\045\052\232\334\307\101\066\367\310\164\005\204\071
\225\071\326\013\073\244\047\372\010\330\134\036\370\004\140\122
\021\050\050\003\377\357\123\146\000\245\112\064\026\146\174\375
\011\244\256\236\147\032\157\101\013\153\006\023\233\217\206\161
\005\264\057\215\211\146\063\051\166\124\232\021\370\047\372\262
\077\221\340\316\015\033\363\060\032\255\277\042\135\033\323\277
\045\005\115\341\222\032\177\231\237\074\104\223\312\324\100\111
\154\200\207\327\004\072\303\062\122\065\016\126\370\245\335\175
\304\213\015\021\037\123\313\036\262\027\266\150\167\132\340\324
\313\310\007\256\365\072\056\216\067\267\320\001\113\103\051\167
\214\071\227\217\202\132\370\121\345\211\240\030\347\150\177\135
\012\056\373\243\107\016\075\246\043\172\306\001\307\217\310\136
\277\155\200\126\276\212\044\272\063\352\237\341\062\021\236\361
\322\117\200\366\033\100\257\070\236\021\120\171\163\022\022\315
\346\154\235\054\210\162\074\060\201\006\221\042\352\131\255\332
\031\056\042\302\215\271\214\207\340\146\274\163\043\137\041\144
\143\200\110\365\240\074\030\075\224\310\110\101\035\100\272\136
\376\376\126\071\241\310\317\136\236\031\144\106\020\332\027\221

```
\267\005\200\254\213\231\222\175\347\242\330\007\013\066\047\347
\110\171\140\212\303\327\023\134\370\162\100\337\112\313\317\231
\000\012\000\013\021\225\332\126\105\003\210\012\237\147\320\325
\171\261\250\215\100\155\015\302\172\100\372\363\137\144\107\222
\313\123\271\273\131\316\117\375\320\025\123\001\330\337\353\331
\346\166\357\320\043\273\073\251\171\263\325\002\051\315\211\243
\226\017\112\065\347\116\102\300\165\315\007\317\346\054\353\173
\056
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "CFCA EV ROOT"
```

```
# Issuer: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
```

```
# Serial Number: 407555286 (0x184acd6)
```

```
# Subject: CN=CFCA EV ROOT,O=China Financial Certification Authority,C=CN
```

```
# Not Valid Before: Wed Aug 08 03:07:01 2012
```

```
# Not Valid After : Mon Dec 31 03:07:01 2029
```

```
# Fingerprint (SHA-256):
```

```
5C:C3:D7:8E:4E:1D:5E:45:54:7A:04:E6:87:3E:64:F9:0C:F9:53:6D:1C:CC:2E:F8:00:F3:55:C4:C5:FD:70:FD
```

```
# Fingerprint (SHA1): E2:B8:29:4B:55:84:AB:6B:58:C2:90:46:6C:AC:3F:B8:39:8F:84:83
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "CFCA EV ROOT"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\342\270\051\113\125\204\253\153\130\302\220\106\154\254\077\270
\071\217\204\203
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\164\341\266\355\046\172\172\104\060\063\224\253\173\047\201\060
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\060\060\056\006\003\125\004\012\014\047\103\150\151\156\141\040
\106\151\156\141\156\143\151\141\154\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\061\025\060\023\006\003\125\004\003\014\014\103\106\103\101
\040\105\126\040\122\117\117\124
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\004\030\112\314\326
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "OISTE WISeKey Global Root GB CA"

#

Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

Not Valid Before: Mon Dec 01 15:00:32 2014

Not Valid After : Thu Dec 01 15:10:31 2039

Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
\302\300

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\265\060\202\002\235\240\003\002\001\002\002\020\166
\261\040\122\164\360\205\207\106\263\370\043\032\366\302\300\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\155
\061\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060
\016\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061

\042\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040
\106\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162
\163\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111
\123\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142
\141\154\040\122\157\157\164\040\107\102\040\103\101\060\036\027
\015\061\064\061\062\060\061\061\065\060\060\063\062\132\027\015
\063\071\061\062\060\061\061\065\061\060\063\061\132\060\155\061
\013\060\011\006\003\125\004\006\023\002\103\110\061\020\060\016
\006\003\125\004\012\023\007\127\111\123\145\113\145\171\061\042
\060\040\006\003\125\004\013\023\031\117\111\123\124\105\040\106
\157\165\156\144\141\164\151\157\156\040\105\156\144\157\162\163
\145\144\061\050\060\046\006\003\125\004\003\023\037\117\111\123
\124\105\040\127\111\123\145\113\145\171\040\107\154\157\142\141
\154\040\122\157\157\164\040\107\102\040\103\101\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\330\027\267
\034\112\044\052\326\227\261\312\342\036\373\175\070\357\230\365
\262\071\230\116\047\270\021\135\173\322\045\224\210\202\025\046
\152\033\061\273\250\133\041\041\053\330\017\116\237\132\361\261
\132\344\171\326\062\043\053\341\123\314\231\105\134\173\117\255
\274\277\207\112\013\113\227\132\250\366\110\354\175\173\015\315
\041\006\337\236\025\375\101\212\110\267\040\364\241\172\033\127
\324\135\120\377\272\147\330\043\231\037\310\077\343\336\377\157
\133\167\261\153\156\270\311\144\367\341\312\101\106\016\051\161
\320\271\043\374\311\201\137\116\367\157\337\277\204\255\163\144
\273\267\102\216\151\366\324\166\035\176\235\247\270\127\212\121
\147\162\327\324\250\270\225\124\100\163\003\366\352\364\353\376
\050\102\167\077\235\043\033\262\266\075\200\024\007\114\056\117
\367\325\012\026\015\275\146\103\067\176\043\103\171\303\100\206
\365\114\051\332\216\232\255\015\245\004\207\210\036\205\343\351
\123\325\233\310\213\003\143\170\353\340\031\112\156\273\057\153
\063\144\130\223\255\151\277\217\033\357\202\110\307\002\003\001
\000\001\243\121\060\117\060\013\006\003\125\035\017\004\004\003
\002\001\206\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\065
\017\310\066\143\136\342\243\354\371\073\146\025\316\121\122\343
\221\232\075\060\020\006\011\053\006\001\004\001\202\067\025\001
\004\003\002\001\000\060\015\006\011\052\206\110\206\367\015\001
\001\013\005\000\003\202\001\001\000\100\114\373\207\262\231\201
\220\176\235\305\260\260\046\315\210\173\053\062\215\156\270\041
\161\130\227\175\256\067\024\257\076\347\367\232\342\175\366\161
\230\231\004\252\103\164\170\243\343\111\141\076\163\214\115\224
\340\371\161\304\266\026\016\123\170\037\326\242\207\057\002\071
\201\051\074\257\025\230\041\060\376\050\220\000\214\321\341\313
\372\136\310\375\370\020\106\073\242\170\102\221\027\164\125\012
\336\120\147\115\146\321\247\377\375\331\300\265\250\243\212\316
\146\365\017\103\315\247\053\127\173\143\106\152\252\056\122\330
\364\355\341\155\255\051\220\170\110\272\341\043\252\243\211\354

```
\265\253\226\300\264\113\242\035\227\236\172\362\156\100\161\337
\150\361\145\115\316\174\005\337\123\145\251\245\360\261\227\004
\160\025\106\003\230\324\322\277\124\264\240\130\175\122\157\332
\126\046\142\324\330\333\211\061\157\034\360\042\302\323\142\034
\065\315\114\151\025\124\032\220\230\336\353\036\137\312\167\307
\313\216\075\103\151\234\232\130\320\044\073\337\033\100\226\176
\065\255\201\307\116\161\272\210\023
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "OISTE WISeKey Global Root GB CA"

Issuer: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

Serial Number:76:b1:20:52:74:f0:85:87:46:b3:f8:23:1a:f6:c2:c0

Subject: CN=OISTE WISeKey Global Root GB CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH

Not Valid Before: Mon Dec 01 15:00:32 2014

Not Valid After : Thu Dec 01 15:10:31 2039

Fingerprint (SHA-256):

6B:9C:08:E8:6E:B0:F7:67:CF:AD:65:CD:98:B6:21:49:E5:49:4A:67:F5:84:5E:7B:D1:ED:01:9F:27:B8:6B:D6

Fingerprint (SHA1): 0F:F9:40:76:18:D3:D7:6A:4B:98:F0:A8:35:9E:0C:FD:27:AC:CC:ED

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GB CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\017\371\100\166\030\323\327\152\113\230\360\250\065\236\014\375
```

```
\047\254\314\355
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\244\353\271\141\050\056\267\057\230\260\065\046\220\231\121\035
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
```

```
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
```

```
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
```

```
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
```

```
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
```

```
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
```

```
\157\142\141\154\040\122\157\157\164\040\107\102\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\166\261\040\122\164\360\205\207\106\263\370\043\032\366
```

```
\302\300
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SZAFIR ROOT CA2"

#

Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4

Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL

Not Valid Before: Mon Oct 19 07:43:30 2015

Not Valid After : Fri Oct 19 07:43:30 2035

Fingerprint (SHA-256):

A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE

Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SZAFIR ROOT CA2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\162\060\202\002\132\240\003\002\001\002\002\024\076
\212\135\007\354\125\322\062\325\267\343\266\137\001\353\055\334
\344\326\344\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\121\061\013\060\011\006\003\125\004\006\023\002\120
\114\061\050\060\046\006\003\125\004\012\014\037\113\162\141\152
\157\167\141\040\111\172\142\141\040\122\157\172\154\151\143\172

\145\156\151\157\167\141\040\123\056\101\056\061\030\060\026\006
\003\125\004\003\014\017\123\132\101\106\111\122\040\122\117\117
\124\040\103\101\062\060\036\027\015\061\065\061\060\061\071\060
\067\064\063\063\060\132\027\015\063\065\061\060\061\071\060\067
\064\063\063\060\132\060\121\061\013\060\011\006\003\125\004\006
\023\002\120\114\061\050\060\046\006\003\125\004\012\014\037\113
\162\141\152\157\167\141\040\111\172\142\141\040\122\157\172\154
\151\143\172\145\156\151\157\167\141\040\123\056\101\056\061\030
\060\026\006\003\125\004\003\014\017\123\132\101\106\111\122\040
\122\117\117\124\040\103\101\062\060\202\001\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000
\060\202\001\012\002\202\001\001\000\267\274\076\120\250\113\315
\100\265\316\141\347\226\312\264\241\332\014\042\260\372\265\173
\166\000\167\214\013\317\175\250\206\314\046\121\344\040\075\205
\014\326\130\343\347\364\052\030\235\332\321\256\046\356\353\123
\334\364\220\326\023\112\014\220\074\303\364\332\322\216\015\222
\072\334\261\261\377\070\336\303\272\055\137\200\271\002\275\112
\235\033\017\264\303\302\301\147\003\335\334\033\234\075\263\260
\336\000\036\250\064\107\273\232\353\376\013\024\275\066\204\332
\015\040\277\372\133\313\251\026\040\255\071\140\356\057\165\266
\347\227\234\371\076\375\176\115\157\115\057\357\210\015\152\372
\335\361\075\156\040\245\240\022\264\115\160\271\316\327\162\073
\211\223\247\200\204\034\047\111\162\111\265\377\073\225\236\301
\314\310\001\354\350\016\212\012\226\347\263\246\207\345\326\371
\005\053\015\227\100\160\074\272\254\165\132\234\325\115\235\002
\012\322\113\233\146\113\106\007\027\145\255\237\154\210\000\334
\042\211\340\341\144\324\147\274\061\171\141\074\273\312\101\315
\134\152\000\310\074\070\216\130\257\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\056\026
\251\112\030\265\313\314\365\157\120\363\043\137\370\135\347\254
\360\310\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\001\001\000\265\163\370\003\334\131\133\035\166\351
\243\052\173\220\050\262\115\300\063\117\252\232\261\324\270\344
\047\377\251\226\231\316\106\340\155\174\114\242\070\244\006\160
\360\364\101\021\354\077\107\215\077\162\207\371\073\375\244\157
\053\123\000\340\377\071\271\152\007\016\353\035\034\366\242\162
\220\313\202\075\021\202\213\322\273\237\052\257\041\346\143\206
\235\171\031\357\367\273\014\065\220\303\212\355\117\017\365\314
\022\331\244\076\273\240\374\040\225\137\117\046\057\021\043\203
\116\165\007\017\277\233\321\264\035\351\020\004\376\312\140\217
\242\114\270\255\317\341\220\017\315\256\012\307\135\173\267\120
\322\324\141\372\325\025\333\327\237\207\121\124\353\245\343\353
\311\205\240\045\040\067\373\216\316\014\064\204\341\074\201\262
\167\116\103\245\210\137\206\147\241\075\346\264\134\141\266\076
\333\376\267\050\305\242\007\256\265\312\312\215\052\022\357\227
\355\302\060\244\311\052\172\373\363\115\043\033\231\063\064\240

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\056\365\251\013\077\324\135\341\317\204\237\342\031\302\137\212
\326\040\036\343\163\267
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "SZAFIR ROOT CA2"
# Issuer: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Serial Number:3e:8a:5d:07:ec:55:d2:32:d5:b7:e3:b6:5f:01:eb:2d:dc:e4:d6:e4
# Subject: CN=SZAFIR ROOT CA2,O=Krajowa Izba Rozliczeniowa S.A.,C=PL
# Not Valid Before: Mon Oct 19 07:43:30 2015
# Not Valid After : Fri Oct 19 07:43:30 2035
# Fingerprint (SHA-256):
A1:33:9D:33:28:1A:0B:56:E5:57:D3:D3:2B:1C:E7:F9:36:7E:B0:94:BD:5F:A7:2A:7E:50:04:C8:DE:D7:CA:FE
# Fingerprint (SHA1): E2:52:FA:95:3F:ED:DB:24:60:BD:6E:28:F3:9C:CC:CF:5E:B3:3F:DE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SZAFIR ROOT CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\342\122\372\225\077\355\333\044\140\275\156\050\363\234\314\317
\136\263\077\336
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\021\144\301\211\260\044\261\214\261\007\176\211\236\121\236\231
END
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\050\060\046\006\003\125\004\012\014\037\113\162\141\152\157\167
\141\040\111\172\142\141\040\122\157\172\154\151\143\172\145\156
\151\157\167\141\040\123\056\101\056\061\030\060\026\006\003\125
\004\003\014\017\123\132\101\106\111\122\040\122\117\117\124\040
\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\076\212\135\007\354\125\322\062\325\267\343\266\137\001
\353\055\334\344\326\344
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Network CA 2"
#

```

```
# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Thu Oct 06 08:39:56 2011
# Not Valid After : Sat Oct 06 08:39:56 2046
# Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\322\060\202\003\272\240\003\002\001\002\002\020\041
\326\320\112\117\045\017\311\062\067\374\252\136\022\215\351\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\201
\200\061\013\060\011\006\003\125\004\006\023\002\120\114\061\042
```

\060\040\006\003\125\004\012\023\031\125\156\151\172\145\164\157
\040\124\145\143\150\156\157\154\157\147\151\145\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\044\060\042\006
\003\125\004\003\023\033\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\116\145\164\167\157\162\153\040\103\101\040
\062\060\042\030\017\062\060\061\061\061\060\060\066\060\070\063
\071\065\066\132\030\017\062\060\064\066\061\060\060\066\060\070
\063\071\065\066\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\120\114\061\042\060\040\006\003\125\004\012\023\031
\125\156\151\172\145\164\157\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\123\056\101\056\061\047\060\045\006\003\125
\004\013\023\036\103\145\162\164\165\155\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\061\044\060\042\006\003\125\004\003\023\033\103\145\162
\164\165\155\040\124\162\165\163\164\145\144\040\116\145\164\167
\157\162\153\040\103\101\040\062\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\275\371\170\370\346\325\200
\014\144\235\206\033\226\144\147\077\042\072\036\165\001\175\357
\373\134\147\214\311\314\134\153\251\221\346\271\102\345\040\113
\233\332\233\173\271\231\135\331\233\200\113\327\204\100\053\047
\323\350\272\060\273\076\011\032\247\111\225\357\053\100\044\302
\227\307\247\356\233\045\357\250\012\000\227\205\132\252\235\334
\051\311\342\065\007\353\160\115\112\326\301\263\126\270\241\101
\070\233\321\373\061\177\217\340\137\341\261\077\017\216\026\111
\140\327\006\215\030\371\252\046\020\253\052\323\320\321\147\215
\033\106\276\107\060\325\056\162\321\305\143\332\347\143\171\104
\176\113\143\044\211\206\056\064\077\051\114\122\213\052\247\300
\342\221\050\211\271\300\133\371\035\331\347\047\255\377\232\002
\227\301\306\120\222\233\002\054\275\251\271\064\131\012\277\204
\112\377\337\376\263\237\353\331\236\340\230\043\354\246\153\167
\026\052\333\314\255\073\034\244\207\334\106\163\136\031\142\150
\105\127\344\220\202\102\273\102\326\360\141\340\301\243\075\146
\243\135\364\030\356\210\311\215\027\105\051\231\062\165\002\061
\356\051\046\310\153\002\346\265\142\105\177\067\025\132\043\150
\211\324\076\336\116\047\260\360\100\014\274\115\027\313\115\242
\263\036\320\006\132\335\366\223\317\127\165\231\365\372\206\032
\147\170\263\277\226\376\064\334\275\347\122\126\345\263\345\165
\173\327\101\221\005\334\135\151\343\225\015\103\271\374\203\226
\071\225\173\154\200\132\117\023\162\306\327\175\051\172\104\272
\122\244\052\325\101\106\011\040\376\042\240\266\133\060\215\274
\211\014\325\327\160\370\207\122\375\332\357\254\121\056\007\263
\116\376\320\011\332\160\357\230\372\126\346\155\333\265\127\113
\334\345\054\045\025\310\236\056\170\116\370\332\234\236\206\054
\312\127\363\032\345\310\222\213\032\202\226\172\303\274\120\022
\151\330\016\132\106\213\072\353\046\372\043\311\266\260\201\276

\102\000\244\370\326\376\060\056\307\322\106\366\345\216\165\375
\362\314\271\320\207\133\314\006\020\140\273\203\065\267\136\147
\336\107\354\231\110\361\244\241\025\376\255\214\142\216\071\125
\117\071\026\271\261\143\235\377\267\002\003\001\000\001\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\266\241
\124\071\002\303\240\077\216\212\274\372\324\370\034\246\321\072
\016\375\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\015\006\011\052\206\110\206\367\015\001\001\015\005
\000\003\202\002\001\000\161\245\016\316\344\351\277\077\070\325
\211\132\304\002\141\373\114\305\024\027\055\213\117\123\153\020
\027\374\145\204\307\020\111\220\336\333\307\046\223\210\046\157
\160\326\002\136\071\240\367\217\253\226\265\245\023\134\201\024
\155\016\201\202\021\033\212\116\306\117\245\335\142\036\104\337
\011\131\364\133\167\013\067\351\213\040\306\370\012\116\056\130
\034\353\063\320\317\206\140\311\332\373\200\057\236\114\140\204
\170\075\041\144\326\373\101\037\030\017\347\311\165\161\275\275
\134\336\064\207\076\101\260\016\366\271\326\077\011\023\226\024
\057\336\232\035\132\271\126\316\065\072\260\137\160\115\136\343
\051\361\043\050\162\131\266\253\302\214\146\046\034\167\054\046
\166\065\213\050\247\151\240\371\073\365\043\335\205\020\164\311
\220\003\126\221\347\257\272\107\324\022\227\021\042\343\242\111
\224\154\347\267\224\113\272\055\244\332\063\213\114\246\104\377
\132\074\306\035\144\330\265\061\344\246\074\172\250\127\013\333
\355\141\032\313\361\316\163\167\143\244\207\157\114\121\070\326
\344\137\307\237\266\201\052\344\205\110\171\130\136\073\370\333
\002\202\147\301\071\333\303\164\113\075\066\036\371\051\223\210
\150\133\250\104\031\041\360\247\350\201\015\054\350\223\066\264
\067\262\312\260\033\046\172\232\045\037\232\232\200\236\113\052
\077\373\243\232\376\163\062\161\302\236\306\162\341\212\150\047
\361\344\017\264\304\114\245\141\223\370\227\020\007\052\060\045
\251\271\310\161\270\357\150\314\055\176\365\340\176\017\202\250
\157\266\272\154\203\103\167\315\212\222\027\241\236\133\170\026
\075\105\342\063\162\335\341\146\312\231\323\311\305\046\375\015
\150\004\106\256\266\331\233\214\276\031\276\261\306\362\031\343
\134\002\312\054\330\157\112\007\331\311\065\332\100\165\362\304
\247\031\157\236\102\020\230\165\346\225\213\140\274\355\305\022
\327\212\316\325\230\134\126\226\003\305\356\167\006\065\377\317
\344\356\077\023\141\356\333\332\055\205\360\315\256\235\262\030
\011\105\303\222\241\162\027\374\107\266\240\013\054\361\304\336
\103\150\010\152\137\073\360\166\143\373\314\006\054\246\306\342
\016\265\271\276\044\217

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum Trusted Network CA 2"

```

# Issuer: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Serial Number:21:d6:d0:4a:4f:25:0f:c9:32:37:fc:aa:5e:12:8d:e9
# Subject: CN=Certum Trusted Network CA 2,OU=Certum Certification Authority,O=Unizeto Technologies
S.A.,C=PL
# Not Valid Before: Thu Oct 06 08:39:56 2011
# Not Valid After : Sat Oct 06 08:39:56 2046
# Fingerprint (SHA-256):
B6:76:F2:ED:DA:E8:77:5C:D3:6C:B0:F6:3C:D1:D4:60:39:61:F4:9E:62:65:BA:01:3A:2F:03:07:B6:D0:B8:04
# Fingerprint (SHA1): D3:DD:48:3E:2B:BF:4C:05:E8:AF:10:F5:FA:76:26:CF:D3:DC:30:92
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Network CA 2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\323\335\110\076\053\277\114\005\350\257\020\365\372\166\046\317
\323\334\060\222
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\155\106\236\331\045\155\010\043\133\136\164\175\036\047\333\362
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\042\060\040\006\003\125\004\012\023\031\125\156\151\172\145
\164\157\040\124\145\143\150\156\157\154\157\147\151\145\163\040
\123\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103
\145\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\061\044\060
\042\006\003\125\004\003\023\033\103\145\162\164\165\155\040\124
\162\165\163\164\145\144\040\116\145\164\167\157\162\153\040\103
\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\041\326\320\112\117\045\017\311\062\067\374\252\136\022
\215\351
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hellenic Academic and Research Institutions RootCA 2015"
#
# Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
# Serial Number: 0 (0x0)

```

```
# Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
# Not Valid Before: Tue Jul 07 10:11:21 2015
# Not Valid After : Sat Jun 30 10:11:21 2040
# Fingerprint (SHA-256):
A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36
# Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003
\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157
\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\013\060\202\003\363\240\003\002\001\002\002\001\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156\163
```

\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165\164
\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003\023
\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145\155
\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150\040
\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157\157
\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060\067
\060\067\061\060\061\061\062\061\132\027\015\064\060\060\066\063
\060\061\060\061\061\062\061\132\060\201\246\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125\004
\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003\125
\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143\141
\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162
\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040
\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171\061
\100\060\076\006\003\125\004\003\023\067\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\122\157\157\164\103\101\040\062\060\061
\065\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\302\370\251\077\033\211\374\074\074\004\135\075\220\066
\260\221\072\171\074\146\132\357\155\071\001\111\032\264\267\317
\177\115\043\123\267\220\000\343\023\052\050\246\061\361\221\000
\343\050\354\256\041\101\316\037\332\375\175\022\133\001\203\017
\271\260\137\231\341\362\022\203\200\115\006\076\337\254\257\347
\241\210\153\061\257\360\213\320\030\063\270\333\105\152\064\364
\002\200\044\050\012\002\025\225\136\166\052\015\231\072\024\133
\366\313\313\123\274\023\115\001\210\067\224\045\033\102\274\042
\330\216\243\226\136\072\331\062\333\076\350\360\020\145\355\164
\341\057\247\174\257\047\064\273\051\175\233\266\317\011\310\345
\323\012\374\210\145\145\164\012\334\163\034\134\315\100\261\034
\324\266\204\214\114\120\317\150\216\250\131\256\302\047\116\202
\242\065\335\024\364\037\377\262\167\325\207\057\252\156\175\044
\047\347\306\313\046\346\345\376\147\007\143\330\105\015\335\072
\131\145\071\130\172\222\231\162\075\234\204\136\210\041\270\325
\364\054\374\331\160\122\117\170\270\275\074\053\213\225\230\365
\263\321\150\317\040\024\176\114\134\137\347\213\345\365\065\201
\031\067\327\021\010\267\146\276\323\112\316\203\127\000\072\303
\201\370\027\313\222\066\135\321\243\330\165\033\341\213\047\352
\172\110\101\375\105\031\006\255\047\231\116\301\160\107\335\265
\237\201\123\022\345\261\214\110\135\061\103\027\343\214\306\172
\143\226\113\051\060\116\204\116\142\031\136\074\316\227\220\245
\177\001\353\235\340\370\213\211\335\045\230\075\222\266\176\357
\331\361\121\121\175\055\046\310\151\131\141\340\254\152\270\052
\066\021\004\172\120\275\062\204\276\057\334\162\325\327\035\026

\107\344\107\146\040\077\364\226\305\257\216\001\172\245\017\172
\144\365\015\030\207\331\256\210\325\372\204\301\072\300\151\050
\055\362\015\150\121\252\343\245\167\306\244\220\016\241\067\213
\061\043\107\301\011\010\353\156\367\170\233\327\202\374\204\040
\231\111\031\266\022\106\261\373\105\125\026\251\243\145\254\234
\007\017\352\153\334\037\056\006\162\354\206\210\022\344\055\333
\137\005\057\344\360\003\323\046\063\347\200\302\315\102\241\027
\064\013\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\161\025\147\310\310\311\275\165\135
\162\320\070\030\152\235\363\161\044\124\013\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\165
\273\155\124\113\252\020\130\106\064\362\142\327\026\066\135\010
\136\325\154\310\207\275\264\056\106\362\061\370\174\352\102\265
\223\026\125\334\241\014\022\240\332\141\176\017\130\130\163\144
\162\307\350\105\216\334\251\362\046\077\306\171\214\261\123\010
\063\201\260\126\023\276\346\121\134\330\233\012\117\113\234\126
\123\002\351\117\366\015\140\352\115\102\125\350\174\033\041\041
\323\033\072\314\167\362\270\220\361\150\307\371\132\376\372\055
\364\277\311\365\105\033\316\070\020\052\067\212\171\243\264\343
\011\154\205\206\223\377\211\226\047\170\201\217\147\343\106\164
\124\216\331\015\151\342\112\364\115\164\003\377\262\167\355\225
\147\227\344\261\305\253\277\152\043\350\324\224\342\104\050\142
\304\113\342\360\330\342\051\153\032\160\176\044\141\223\173\117
\003\062\045\015\105\044\053\226\264\106\152\277\112\013\367\232
\217\301\254\032\305\147\363\157\064\322\372\163\143\214\357\026
\260\250\244\106\052\370\353\022\354\162\264\357\370\053\176\214
\122\300\213\204\124\371\057\076\343\125\250\334\146\261\331\341
\137\330\263\214\131\064\131\244\253\117\154\273\037\030\333\165
\253\330\313\222\315\224\070\141\016\007\006\037\113\106\020\361
\025\276\215\205\134\073\112\053\201\171\017\264\151\237\111\120
\227\115\367\016\126\135\300\225\152\302\066\303\033\150\311\365
\052\334\107\232\276\262\316\305\045\350\372\003\271\332\371\026
\156\221\204\365\034\050\310\374\046\314\327\034\220\126\247\137
\157\072\004\274\315\170\211\013\216\017\057\243\252\117\242\033
\022\075\026\010\100\017\361\106\114\327\252\173\010\301\012\365
\155\047\336\002\217\312\303\265\053\312\351\353\310\041\123\070
\245\314\073\330\167\067\060\242\117\331\157\321\362\100\255\101
\172\027\305\326\112\065\211\267\101\325\174\206\177\125\115\203
\112\245\163\040\300\072\257\220\361\232\044\216\331\216\161\312
\173\270\206\332\262\217\231\076\035\023\015\022\021\356\324\253
\360\351\025\166\002\344\340\337\252\040\036\133\141\205\144\100
\251\220\227\015\255\123\322\132\035\207\152\000\227\145\142\264
\276\157\152\247\365\054\102\355\062\255\266\041\236\276\274

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hellenic Academic and Research Institutions RootCA 2015"

Issuer: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:11:21 2015

Not Valid After : Sat Jun 30 10:11:21 2040

Fingerprint (SHA-256):

A0:40:92:9A:02:CE:53:B4:AC:F4:F2:FF:C6:98:1C:E4:49:6F:75:5E:6D:45:FE:0B:2A:69:2B:CD:52:52:3F:36

Fingerprint (SHA1): 01:0C:06:95:A6:98:19:14:FF:BF:5F:C6:B0:B6:95:EA:29:E9:12:A6

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions RootCA 2015"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\001\014\006\225\246\230\031\024\377\277\137\306\260\266\225\352

\051\351\022\246

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\312\377\342\333\003\331\313\113\351\017\255\204\375\173\030\316

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\246\061\013\060\011\006\003\125\004\006\023\002\107\122

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154

\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\100\060\076\006\003\125\004\003

\023\067\110\145\154\154\145\156\151\143\040\101\143\141\144\145

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150

\040\111\156\163\164\151\164\165\164\151\157\156\163\040\122\157

\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Hellenic Academic and Research Institutions ECC RootCA 2015"

```
#
# Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research
Institutions Cert. Authority,L=Athens,C=GR
# Serial Number: 0 (0x0)
# Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and
Research Institutions Cert. Authority,L=Athens,C=GR
# Not Valid Before: Tue Jul 07 10:37:12 2015
# Not Valid After : Sat Jun 30 10:37:12 2040
# Fingerprint (SHA-256):
44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33
# Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122
\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156
\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154
\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156
\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151
\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165
\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003
\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145
\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150
\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103
\103\040\122\157\157\164\103\101\040\062\060\061\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\000
END
CKA_VALUE MULTILINE_OCTAL
```

\060\202\002\303\060\202\002\112\240\003\002\001\002\002\001\000
\060\012\006\010\052\206\110\316\075\004\003\002\060\201\252\061
\013\060\011\006\003\125\004\006\023\002\107\122\061\017\060\015
\006\003\125\004\007\023\006\101\164\150\145\156\163\061\104\060
\102\006\003\125\004\012\023\073\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\145\162\164\056\040\101\165\164\150\157\162
\151\164\171\061\104\060\102\006\003\125\004\003\023\073\110\145
\154\154\145\156\151\143\040\101\143\141\144\145\155\151\143\040
\141\156\144\040\122\145\163\145\141\162\143\150\040\111\156\163
\164\151\164\165\164\151\157\156\163\040\105\103\103\040\122\157
\157\164\103\101\040\062\060\061\065\060\036\027\015\061\065\060
\067\060\067\061\060\063\067\061\062\132\027\015\064\060\060\066
\063\060\061\060\063\067\061\062\132\060\201\252\061\013\060\011
\006\003\125\004\006\023\002\107\122\061\017\060\015\006\003\125
\004\007\023\006\101\164\150\145\156\163\061\104\060\102\006\003
\125\004\012\023\073\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\145\162\164\056\040\101\165\164\150\157\162\151\164\171
\061\104\060\102\006\003\125\004\003\023\073\110\145\154\154\145
\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144
\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164
\165\164\151\157\156\163\040\105\103\103\040\122\157\157\164\103
\101\040\062\060\061\065\060\166\060\020\006\007\052\206\110\316
\075\002\001\006\005\053\201\004\000\042\003\142\000\004\222\240
\101\350\113\202\204\134\342\370\061\021\231\206\144\116\011\045
\057\235\101\057\012\256\065\117\164\225\262\121\144\153\215\153
\346\077\160\225\360\005\104\107\246\162\070\120\166\225\002\132
\216\256\050\236\371\055\116\231\357\054\110\157\114\045\051\350
\321\161\133\337\035\301\165\067\264\327\372\173\172\102\234\152
\012\126\132\174\151\013\252\200\011\044\154\176\301\106\243\102
\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\035\006\003\125\035\016\004\026\004\024\264\042
\013\202\231\044\001\016\234\273\344\016\375\277\373\227\040\223
\231\052\060\012\006\010\052\206\110\316\075\004\003\002\003\147
\000\060\144\002\060\147\316\026\142\070\242\254\142\105\247\251
\225\044\300\032\047\234\062\073\300\300\325\272\251\347\370\004
\103\123\205\356\122\041\336\235\365\045\203\076\236\130\113\057
\327\147\023\016\041\002\060\005\341\165\001\336\150\355\052\037
\115\114\011\010\015\354\113\255\144\027\050\347\165\316\105\145
\162\041\027\313\042\101\016\214\023\230\070\232\124\155\233\312
\342\174\352\002\130\042\221

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Hellenic Academic and Research Institutions ECC RootCA 2015"

Issuer: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Serial Number: 0 (0x0)

Subject: CN=Hellenic Academic and Research Institutions ECC RootCA 2015,O=Hellenic Academic and Research Institutions Cert. Authority,L=Athens,C=GR

Not Valid Before: Tue Jul 07 10:37:12 2015

Not Valid After : Sat Jun 30 10:37:12 2040

Fingerprint (SHA-256):

44:B5:45:AA:8A:25:E6:5A:73:CA:15:DC:27:FC:36:D2:4C:1C:B9:95:3A:06:65:39:B1:15:82:DC:48:7B:48:33

Fingerprint (SHA1): 9F:F1:71:8D:92:D5:9A:F3:7D:74:97:B4:BC:6F:84:68:0B:BA:B6:66

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Hellenic Academic and Research Institutions ECC RootCA 2015"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\237\361\161\215\222\325\232\363\175\164\227\264\274\157\204\150

\013\272\266\146

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\201\345\264\027\353\302\365\341\113\015\101\173\111\222\376\357

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\252\061\013\060\011\006\003\125\004\006\023\002\107\122

\061\017\060\015\006\003\125\004\007\023\006\101\164\150\145\156

\163\061\104\060\102\006\003\125\004\012\023\073\110\145\154\154

\145\156\151\143\040\101\143\141\144\145\155\151\143\040\141\156

\144\040\122\145\163\145\141\162\143\150\040\111\156\163\164\151

\164\165\164\151\157\156\163\040\103\145\162\164\056\040\101\165

\164\150\157\162\151\164\171\061\104\060\102\006\003\125\004\003

\023\073\110\145\154\154\145\156\151\143\040\101\143\141\144\145

\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143\150

\040\111\156\163\164\151\164\165\164\151\157\156\163\040\105\103

\103\040\122\157\157\164\103\101\040\062\060\061\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\000

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ISRG Root X1"

```
#
# Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00
# Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US
# Not Valid Before: Thu Jun 04 11:04:38 2015
# Not Valid After : Mon Jun 04 11:04:38 2035
# Fingerprint (SHA-256):
96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6
# Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ISRG Root X1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\153\060\202\003\123\240\003\002\001\002\002\021\000
\202\020\317\260\322\100\343\131\104\143\340\273\143\202\213\000
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\051
\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156\145
\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145\141
\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003\125
\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130\061
\060\036\027\015\061\065\060\066\060\064\061\061\060\064\063\070
\132\027\015\063\065\060\066\060\064\061\061\060\064\063\070\132
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001
\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\255\350\044\163\364\024\067\363\233\236\053\127\050\034
\207\276\334\267\337\070\220\214\156\074\346\127\240\170\367\165
\302\242\376\365\152\156\366\000\117\050\333\336\150\206\154\104
\223\266\261\143\375\024\022\153\277\037\322\352\061\233\041\176
\321\063\074\272\110\365\335\171\337\263\270\377\022\361\041\232
\113\301\212\206\161\151\112\146\146\154\217\176\074\160\277\255
\051\042\006\363\344\300\346\200\256\342\113\217\267\231\176\224
\003\237\323\107\227\174\231\110\043\123\350\070\256\117\012\157
\203\056\321\111\127\214\200\164\266\332\057\320\070\215\173\003
\160\041\033\165\362\060\074\372\217\256\335\332\143\253\353\026
\117\302\216\021\113\176\317\013\350\377\265\167\056\364\262\173
\112\340\114\022\045\014\160\215\003\051\240\341\123\044\354\023
\331\356\031\277\020\263\112\214\077\211\243\141\121\336\254\207
\007\224\364\143\161\354\056\342\157\133\230\201\341\211\134\064
\171\154\166\357\073\220\142\171\346\333\244\232\057\046\305\320
\020\341\016\336\331\020\216\026\373\267\367\250\367\307\345\002
\007\230\217\066\010\225\347\342\067\226\015\066\165\236\373\016
\162\261\035\233\274\003\371\111\005\330\201\335\005\264\052\326
\101\351\254\001\166\225\012\017\330\337\325\275\022\037\065\057
\050\027\154\322\230\301\250\011\144\167\156\107\067\272\316\254
\131\136\150\235\177\162\326\211\305\006\101\051\076\131\076\335
\046\365\044\311\021\247\132\243\114\100\037\106\241\231\265\247
\072\121\156\206\073\236\175\162\247\022\005\170\131\355\076\121
\170\025\013\003\217\215\320\057\005\262\076\173\112\034\113\163
\005\022\374\306\352\340\120\023\174\103\223\164\263\312\164\347
\216\037\001\010\320\060\324\133\161\066\264\007\272\301\060\060
\134\110\267\202\073\230\246\175\140\212\242\243\051\202\314\272
\275\203\004\033\242\203\003\101\241\326\005\361\033\302\266\360
\250\174\206\073\106\250\110\052\210\334\166\232\166\277\037\152
\245\075\031\217\353\070\363\144\336\310\053\015\012\050\377\367
\333\342\025\102\324\042\320\047\135\341\171\376\030\347\160\210
\255\116\346\331\213\072\306\335\047\121\156\377\274\144\365\063
\103\117\002\003\001\000\001\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\171\264\131\346\173\266\345\344\001
\163\200\010\210\310\032\130\366\351\233\156\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\125
\037\130\251\274\262\250\120\320\014\261\330\032\151\040\047\051
\010\254\141\165\134\212\156\370\202\345\151\057\325\366\126\113
\271\270\163\020\131\323\041\227\176\347\114\161\373\262\322\140
\255\071\250\013\352\027\041\126\205\361\120\016\131\353\316\340

\131\351\272\311\025\357\206\235\217\204\200\366\344\351\221\220
\334\027\233\142\033\105\360\146\225\322\174\157\302\352\073\357
\037\317\313\326\256\047\361\251\260\310\256\375\175\176\232\372
\042\004\353\377\331\177\352\221\053\042\261\027\016\217\362\212
\064\133\130\330\374\001\311\124\271\270\046\314\212\210\063\211
\114\055\204\074\202\337\356\226\127\005\272\054\273\367\304\267
\307\116\073\202\276\061\310\042\163\163\222\321\302\200\244\071
\071\020\063\043\202\114\074\237\206\262\125\230\035\276\051\206
\214\042\233\236\342\153\073\127\072\202\160\115\334\011\307\211
\313\012\007\115\154\350\135\216\311\357\316\253\307\273\265\053
\116\105\326\112\320\046\314\345\162\312\010\152\245\225\343\025
\241\367\244\355\311\054\137\245\373\377\254\050\002\056\276\327
\173\273\343\161\173\220\026\323\007\136\106\123\174\067\007\102
\214\323\304\226\234\325\231\265\052\340\225\032\200\110\256\114
\071\007\316\314\107\244\122\225\053\272\270\373\255\322\063\123
\175\345\035\115\155\325\241\261\307\102\157\346\100\047\065\134
\243\050\267\007\215\347\215\063\220\347\043\237\373\120\234\171
\154\106\325\264\025\263\226\156\176\233\014\226\072\270\122\055
\077\326\133\341\373\010\302\204\376\044\250\243\211\332\254\152
\341\030\052\261\250\103\141\133\323\037\334\073\215\166\362\055
\350\215\165\337\027\063\154\075\123\373\173\313\101\137\377\334
\242\320\141\070\341\226\270\254\135\213\067\327\165\325\063\300
\231\021\256\235\101\301\162\165\204\276\002\101\102\137\147\044
\110\224\321\233\047\276\007\077\271\270\117\201\164\121\341\172
\267\355\235\043\342\276\340\325\050\004\023\074\061\003\236\335
\172\154\217\306\007\030\306\177\336\107\216\077\050\236\004\006
\317\245\124\064\167\275\354\211\233\351\027\103\337\133\333\137
\376\216\036\127\242\315\100\235\176\142\042\332\336\030\047

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ISRG Root X1"

Issuer: CN=ISRG Root X1,O=Internet Security Research Group,C=US

Serial Number:00:82:10:cf:b0:d2:40:e3:59:44:63:e0:bb:63:82:8b:00

Subject: CN=ISRG Root X1,O=Internet Security Research Group,C=US

Not Valid Before: Thu Jun 04 11:04:38 2015

Not Valid After : Mon Jun 04 11:04:38 2035

Fingerprint (SHA-256):

96:BC:EC:06:26:49:76:F3:74:60:77:9A:CF:28:C5:A7:CF:E8:A3:C0:AA:E1:1A:8F:FC:EE:05:C0:BD:DF:08:C6

Fingerprint (SHA1): CA:BD:2A:79:A1:07:6A:31:F2:1D:25:36:35:CB:03:9D:43:29:A5:E8

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ISRG Root X1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```

\312\275\052\171\241\007\152\061\362\035\045\066\065\313\003\235
\103\051\245\350
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\014\322\371\340\332\027\163\351\355\206\115\245\343\160\347\116
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\202\020\317\260\322\100\343\131\104\143\340\273\143
\202\213\000
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "AC RAIZ FNMT-RCM"
#
# Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07
# Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES
# Not Valid Before: Wed Oct 29 15:59:56 2008
# Not Valid After : Tue Jan 01 00:00:00 2030
# Fingerprint (SHA-256):
EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA
# Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL

```

\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\017\135
\223\215\060\147\066\310\006\035\032\307\124\204\151\007\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\073\061
\013\060\011\006\003\125\004\006\023\002\105\123\061\021\060\017
\006\003\125\004\012\014\010\106\116\115\124\055\122\103\115\061
\031\060\027\006\003\125\004\013\014\020\101\103\040\122\101\111
\132\040\106\116\115\124\055\122\103\115\060\036\027\015\060\070
\061\060\062\071\061\065\065\071\065\066\132\027\015\063\060\060
\061\060\061\060\060\060\060\060\132\060\073\061\013\060\011
\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003\125
\004\012\014\010\106\116\115\124\055\122\103\115\061\031\060\027
\006\003\125\004\013\014\020\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\272\161\200\172\114\206\156\177
\310\023\155\300\306\175\034\000\227\217\054\014\043\273\020\232
\100\251\032\267\207\210\370\233\126\152\373\346\173\216\213\222
\216\247\045\135\131\021\333\066\056\267\121\027\037\251\010\037
\004\027\044\130\252\067\112\030\337\345\071\324\127\375\327\301
\054\221\001\221\342\042\324\003\300\130\374\167\107\354\217\076
\164\103\272\254\064\215\115\070\166\147\216\260\310\157\060\063
\130\161\134\264\365\153\156\324\001\120\270\023\176\154\112\243
\111\321\040\031\356\274\300\051\030\145\247\336\376\357\335\012
\220\041\347\032\147\222\102\020\230\137\117\060\274\076\034\105
\264\020\327\150\100\024\300\100\372\347\167\027\172\346\013\217
\145\133\074\331\232\122\333\265\275\236\106\317\075\353\221\005
\002\300\226\262\166\114\115\020\226\073\222\372\234\177\017\231
\337\276\043\065\105\036\002\134\376\265\250\233\231\045\332\136
\363\042\303\071\365\344\052\056\323\306\037\304\154\252\305\034
\152\001\005\112\057\322\305\301\250\064\046\135\146\245\322\002
\041\371\030\267\006\365\116\231\157\250\253\114\121\350\317\120
\030\305\167\310\071\011\054\111\222\062\231\250\273\027\027\171
\260\132\305\346\243\304\131\145\107\065\203\136\251\350\065\013
\231\273\344\315\040\306\233\112\006\071\265\150\374\042\272\356
\125\214\053\116\352\363\261\343\374\266\231\232\325\102\372\161
\115\010\317\207\036\152\161\175\371\323\264\351\245\161\201\173
\302\116\107\226\245\366\166\205\243\050\217\351\200\156\201\123
\245\155\137\270\110\371\302\371\066\246\056\111\377\270\226\302

\214\007\263\233\210\130\374\353\033\034\336\055\160\342\227\222
\060\241\211\343\274\125\250\047\326\113\355\220\255\213\372\143
\045\131\055\250\065\335\312\227\063\274\345\315\307\235\321\354
\357\136\016\112\220\006\046\143\255\271\331\065\055\007\272\166
\145\054\254\127\217\175\364\007\224\327\201\002\226\135\243\007
\111\325\172\320\127\371\033\347\123\106\165\252\260\171\102\313
\150\161\010\351\140\275\071\151\316\364\257\303\126\100\307\255
\122\242\011\344\157\206\107\212\037\353\050\047\135\203\040\257
\004\311\154\126\232\213\106\365\002\003\001\000\001\243\201\203
\060\201\200\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\035\006\003\125\035\016\004\026\004\024\367
\175\305\375\304\350\232\033\167\144\247\365\035\240\314\277\207
\140\232\155\060\076\006\003\125\035\040\004\067\060\065\060\063
\006\004\125\035\040\000\060\053\060\051\006\010\053\006\001\005
\005\007\002\001\026\035\150\164\164\160\072\057\057\167\167\167
\056\143\145\162\164\056\146\156\155\164\056\145\163\057\144\160
\143\163\057\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\007\220\112\337\363\043\116\360\303
\234\121\145\233\234\042\242\212\014\205\363\163\051\153\115\376
\001\342\251\014\143\001\277\004\147\245\235\230\137\375\001\023
\372\354\232\142\351\206\376\266\142\322\156\114\224\373\300\165
\105\174\145\014\370\262\067\317\254\017\317\215\157\371\031\367
\217\354\036\362\160\236\360\312\270\357\267\377\166\067\166\133
\366\156\210\363\257\142\062\042\223\015\072\152\216\024\146\014
\055\123\164\127\145\036\325\262\335\043\201\073\245\146\043\047
\147\011\217\341\167\252\103\315\145\121\010\355\121\130\376\346
\071\371\313\107\204\244\025\361\166\273\244\356\244\073\304\137
\357\262\063\226\021\030\267\311\145\276\030\341\243\244\334\372
\030\371\323\274\023\233\071\172\064\272\323\101\373\372\062\212
\052\267\053\206\013\151\203\070\276\315\212\056\013\160\255\215
\046\222\356\036\365\001\053\012\331\326\227\233\156\340\250\031
\034\072\041\213\014\036\100\255\003\347\335\146\176\365\271\040
\015\003\350\226\371\202\105\324\071\340\240\000\135\327\230\346
\175\236\147\163\303\232\052\367\253\213\241\072\024\357\064\274
\122\016\211\230\232\004\100\204\035\176\105\151\223\127\316\353
\316\370\120\174\117\034\156\004\103\233\371\326\073\043\030\351
\352\216\321\115\106\215\361\073\344\152\312\272\373\043\267\233
\372\231\001\051\132\130\132\055\343\371\324\155\016\046\255\301
\156\064\274\062\370\014\005\372\145\243\333\073\067\203\042\351
\326\334\162\063\375\135\362\040\275\166\074\043\332\050\367\371
\033\353\131\144\325\334\137\162\176\040\374\315\211\265\220\147
\115\142\172\077\116\255\035\303\071\376\172\364\050\026\337\101
\366\110\200\005\327\017\121\171\254\020\253\324\354\003\146\346
\152\260\272\061\222\102\100\152\276\072\323\162\341\152\067\125
\274\254\035\225\267\151\141\362\103\221\164\346\240\323\012\044
\106\241\010\257\326\332\105\031\226\324\123\035\133\204\171\360
\300\367\107\357\213\217\305\006\256\235\114\142\235\377\106\004

```
\370\323\311\266\020\045\100\165\376\026\252\311\112\140\206\057
\272\357\060\167\344\124\342\270\204\231\130\200\252\023\213\121
\072\117\110\366\213\266\263
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "AC RAIZ FNMT-RCM"

Issuer: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

Serial Number:5d:93:8d:30:67:36:c8:06:1d:1a:c7:54:84:69:07

Subject: OU=AC RAIZ FNMT-RCM,O=FNMT-RCM,C=ES

Not Valid Before: Wed Oct 29 15:59:56 2008

Not Valid After : Tue Jan 01 00:00:00 2030

Fingerprint (SHA-256):

EB:C5:57:0C:29:01:8C:4D:67:B1:AA:12:7B:AF:12:F7:03:B4:61:1E:BC:17:B7:DA:B5:57:38:94:17:9B:93:FA

Fingerprint (SHA1): EC:50:35:07:B2:15:C4:95:62:19:E2:A8:9A:5B:42:99:2C:4C:2C:20

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\354\120\065\007\262\025\304\225\142\031\342\250\232\133\102\231
\054\114\054\040
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\342\011\004\264\323\275\321\240\024\375\032\322\107\304\127\035
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\073\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\031\060\027\006\003\125\004\013\014\020\101\103\040
\122\101\111\132\040\106\116\115\124\055\122\103\115
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\017\135\223\215\060\147\066\310\006\035\032\307\124\204\151
\007
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Amazon Root CA 1"

#

Issuer: CN=Amazon Root CA 1,O=Amazon,C=US

```
# Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
# Subject: CN=Amazon Root CA 1,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sun Jan 17 00:00:00 2038
# Fingerprint (SHA-256):
8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\101\060\202\002\051\240\003\002\001\002\002\023\006
\154\237\317\231\277\214\012\071\342\360\170\212\103\346\226\066
\133\312\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\061\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\063
\070\060\061\061\067\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\061\060\202\001\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\001\017\000\060
\202\001\012\002\202\001\001\000\262\170\200\161\312\170\325\343
\161\257\107\200\120\164\175\156\330\327\210\166\364\231\150\367
\130\041\140\371\164\204\001\057\254\002\055\206\323\240\103\172
```

\116\262\244\320\066\272\001\276\215\333\110\310\007\027\066\114
\364\356\210\043\307\076\353\067\365\265\031\370\111\150\260\336
\327\271\166\070\035\141\236\244\376\202\066\245\345\112\126\344
\105\341\371\375\264\026\372\164\332\234\233\065\071\057\372\260
\040\120\006\154\172\320\200\262\246\371\257\354\107\031\217\120
\070\007\334\242\207\071\130\370\272\325\251\371\110\147\060\226
\356\224\170\136\157\211\243\121\300\060\206\146\241\105\146\272
\124\353\243\303\221\371\110\334\377\321\350\060\055\175\055\164
\160\065\327\210\044\367\236\304\131\156\273\163\207\027\362\062
\106\050\270\103\372\267\035\252\312\264\362\237\044\016\055\113
\367\161\134\136\151\377\352\225\002\313\070\212\256\120\070\157
\333\373\055\142\033\305\307\036\124\341\167\340\147\310\017\234
\207\043\326\077\100\040\177\040\200\304\200\114\076\073\044\046
\216\004\256\154\232\310\252\015\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\204\030\314
\205\064\354\274\014\224\224\056\010\131\234\307\262\020\116\012
\010\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000
\003\202\001\001\000\230\362\067\132\101\220\241\032\305\166\121
\050\040\066\043\016\256\346\050\273\252\370\224\256\110\244\060
\177\033\374\044\215\113\264\310\241\227\366\266\361\172\160\310
\123\223\314\010\050\343\230\045\317\043\244\371\336\041\323\174
\205\011\255\116\232\165\072\302\013\152\211\170\166\104\107\030
\145\154\215\101\216\073\177\232\313\364\265\247\120\327\005\054
\067\350\003\113\255\351\141\240\002\156\365\362\360\305\262\355
\133\267\334\372\224\134\167\236\023\245\177\122\255\225\362\370
\223\073\336\213\134\133\312\132\122\133\140\257\024\367\113\357
\243\373\237\100\225\155\061\124\374\102\323\307\106\037\043\255
\331\017\110\160\232\331\165\170\161\321\162\103\064\165\156\127
\131\302\002\134\046\140\051\317\043\031\026\216\210\103\245\324
\344\313\010\373\043\021\103\350\103\051\162\142\241\251\135\136
\010\324\220\256\270\330\316\024\302\320\125\362\206\366\304\223
\103\167\146\141\300\271\350\101\327\227\170\140\003\156\112\162
\256\245\321\175\272\020\236\206\154\033\212\271\131\063\370\353
\304\220\276\361\271

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 1"
Issuer: CN=Amazon Root CA 1,O=Amazon,C=US
Serial Number:06:6c:9f:cf:99:bf:8c:0a:39:e2:f0:78:8a:43:e6:96:36:5b:ca
Subject: CN=Amazon Root CA 1,O=Amazon,C=US
Not Valid Before: Tue May 26 00:00:00 2015
Not Valid After : Sun Jan 17 00:00:00 2038
Fingerprint (SHA-256):

```

8E:CD:E6:88:4F:3D:87:B1:12:5B:A3:1A:C3:FC:B1:3D:70:16:DE:7F:57:CC:90:4F:E1:CB:97:C6:AE:98:19:6E
# Fingerprint (SHA1): 8D:A7:F9:65:EC:5E:FC:37:91:0F:1C:6E:59:FD:C1:CC:6A:6E:DE:16
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\215\247\371\145\354\136\374\067\221\017\034\156\131\375\301\314
\152\156\336\026
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\306\277\256\354\376\255\057\030\306\210\150\060\374\310\346
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\317\231\277\214\012\071\342\360\170\212\103
\346\226\066\133\312
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 2"
#
# Issuer: CN=Amazon Root CA 2,O=Amazon,C=US
# Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37
# Subject: CN=Amazon Root CA 2,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4
# Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061

```

\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\101\060\202\003\051\240\003\002\001\002\002\023\006
\154\237\322\226\065\206\237\012\017\345\206\170\370\133\046\273
\212\067\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157
\156\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172
\157\156\040\122\157\157\164\040\103\101\040\062\060\036\027\015
\061\065\060\065\062\066\060\060\060\060\060\060\132\027\015\064
\060\060\065\062\066\060\060\060\060\060\060\132\060\071\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\017\060\015\006
\003\125\004\012\023\006\101\155\141\172\157\156\061\031\060\027
\006\003\125\004\003\023\020\101\155\141\172\157\156\040\122\157
\157\164\040\103\101\040\062\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\255\226\237\055\234\112\114\112
\201\171\121\231\354\212\313\153\140\121\023\274\115\155\006\374
\260\010\215\335\031\020\152\307\046\014\065\330\300\157\040\204
\351\224\261\233\205\003\303\133\333\112\350\310\370\220\166\331
\133\117\343\114\350\006\066\115\314\232\254\075\014\220\053\222
\324\006\031\140\254\067\104\171\205\201\202\255\132\067\340\015
\314\235\246\114\122\166\352\103\235\267\004\321\120\366\125\340
\325\322\246\111\205\351\067\351\312\176\256\134\225\115\110\232
\077\256\040\132\155\210\225\331\064\270\122\032\103\220\260\277
\154\005\271\266\170\267\352\320\344\072\074\022\123\142\377\112
\362\173\276\065\005\251\022\064\343\363\144\164\142\054\075\000
\111\132\050\376\062\104\273\207\335\145\047\002\161\073\332\112
\367\037\332\315\367\041\125\220\117\017\354\256\202\341\237\153
\331\105\323\273\360\137\207\355\074\054\071\206\332\077\336\354
\162\125\353\171\243\255\333\335\174\260\272\034\316\374\336\117
\065\166\317\017\370\170\037\152\066\121\106\047\141\133\351\236
\317\360\242\125\175\174\045\212\157\057\264\305\317\204\056\053
\375\015\121\020\154\373\137\033\274\033\176\305\256\073\230\001

\061\222\377\013\127\364\232\262\271\127\351\253\357\015\166\321
\360\356\364\316\206\247\340\156\351\264\151\241\337\151\366\063
\306\151\056\227\023\236\245\207\260\127\020\201\067\311\123\263
\273\177\366\222\321\234\320\030\364\222\156\332\203\117\246\143
\231\114\245\373\136\357\041\144\172\040\137\154\144\205\025\313
\067\351\142\014\013\052\026\334\001\056\062\332\076\113\365\236
\072\366\027\100\224\357\236\221\010\206\372\276\143\250\132\063
\354\313\164\103\225\371\154\151\122\066\307\051\157\374\125\003
\134\037\373\237\275\107\353\347\111\107\225\013\116\211\042\011
\111\340\365\141\036\361\277\056\212\162\156\200\131\377\127\072
\371\165\062\243\116\137\354\355\050\142\331\115\163\362\314\201
\027\140\355\315\353\334\333\247\312\305\176\002\275\362\124\010
\124\375\264\055\011\054\027\124\112\230\321\124\341\121\147\010
\322\355\156\176\157\077\322\055\201\131\051\146\313\220\071\225
\021\036\164\047\376\335\353\257\002\003\001\000\001\243\102\060
\100\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\035\006\003\125\035\016\004\026\004\024\260\014\360
\114\060\364\005\130\002\110\375\063\345\122\257\113\204\343\146
\122\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\003\202\002\001\000\252\250\200\217\016\170\243\340\242\324\315
\346\365\230\172\073\352\000\003\260\227\016\223\274\132\250\366
\054\214\162\207\251\261\374\177\163\375\143\161\170\245\207\131
\317\060\341\015\020\262\023\132\155\202\365\152\346\200\237\240
\005\013\150\344\107\153\307\152\337\266\375\167\062\162\345\030
\372\011\364\240\223\054\135\322\214\165\205\166\145\220\014\003
\171\267\061\043\143\255\170\203\011\206\150\204\312\377\371\317
\046\232\222\171\347\315\113\305\347\141\247\027\313\363\251\022
\223\223\153\247\350\057\123\222\304\140\130\260\314\002\121\030
\133\205\215\142\131\143\266\255\264\336\232\373\046\367\000\047
\300\135\125\067\164\231\311\120\177\343\131\056\104\343\054\045
\356\354\114\062\167\264\237\032\351\113\135\040\305\332\375\034
\207\026\306\103\350\324\273\046\232\105\160\136\251\013\067\123
\342\106\173\047\375\340\106\362\211\267\314\102\266\313\050\046
\156\331\245\311\072\310\101\023\140\367\120\214\025\256\262\155
\032\025\032\127\170\346\222\052\331\145\220\202\077\154\002\257
\256\022\072\047\226\066\004\327\035\242\200\143\251\233\361\345
\272\264\174\024\260\116\311\261\037\164\137\070\366\121\352\233
\372\054\242\021\324\251\055\047\032\105\261\257\262\116\161\015
\300\130\106\326\151\006\313\123\313\263\376\153\101\315\101\176
\175\114\017\174\162\171\172\131\315\136\112\016\254\233\251\230
\163\171\174\264\364\314\271\270\007\014\262\164\134\270\307\157
\210\241\220\247\364\252\371\277\147\072\364\032\025\142\036\267
\237\276\075\261\051\257\147\241\022\362\130\020\031\123\003\060
\033\270\032\211\366\234\275\227\003\216\243\011\363\035\213\041
\361\264\337\344\034\321\237\145\002\006\352\134\326\023\263\204
\357\242\245\134\214\167\051\247\150\300\153\256\100\322\250\264
\352\315\360\215\113\070\234\031\232\033\050\124\270\211\220\357

```
\312\165\201\076\036\362\144\044\307\030\257\116\377\107\236\007
\366\065\145\244\323\012\126\377\365\027\144\154\357\250\042\045
\111\223\266\337\000\027\332\130\176\135\356\305\033\260\321\321
\137\041\020\307\371\363\272\002\012\047\007\305\361\326\307\323
\340\373\011\140\154
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Amazon Root CA 2"

Issuer: CN=Amazon Root CA 2,O=Amazon,C=US

Serial Number:06:6c:9f:d2:96:35:86:9f:0a:0f:e5:86:78:f8:5b:26:bb:8a:37

Subject: CN=Amazon Root CA 2,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

1B:A5:B2:AA:8C:65:40:1A:82:96:01:18:F8:0B:EC:4F:62:30:4D:83:CE:C4:71:3A:19:C3:9C:01:1E:A4:6D:B4

Fingerprint (SHA1): 5A:8C:EF:45:D7:A6:98:59:76:7A:8C:8B:44:96:B5:78:CF:47:4B:1A

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\132\214\357\105\327\246\230\131\166\172\214\213\104\226\265\170
\317\107\113\032
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\310\345\215\316\250\102\342\172\300\052\134\174\236\046\277\146
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\322\226\065\206\237\012\017\345\206\170\370
\133\046\273\212\067
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "Amazon Root CA 3"

```
#
# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
# Subject: CN=Amazon Root CA 3,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\266\060\202\001\133\240\003\002\001\002\002\023\006
\154\237\325\164\227\066\146\077\073\013\232\331\350\236\166\003
\362\112\060\012\006\010\052\206\110\316\075\004\003\002\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\063\060\036\027\015\061\065\060
\065\062\066\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\063\060\131\060\023\006\007\052\206\110\316\075\002
\001\006\010\052\206\110\316\075\003\001\007\003\102\000\004\051
\227\247\306\101\177\300\015\233\350\001\033\126\306\362\122\245
```

```
\272\055\262\022\350\322\056\327\372\311\305\330\252\155\037\163
\201\073\073\230\153\071\174\063\245\305\116\206\216\200\027\150
\142\105\127\175\104\130\035\263\067\345\147\010\353\146\336\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\206\060\035\006\003\125\035\016\004\026\004\024\253
\266\333\327\006\236\067\254\060\206\007\221\160\307\234\304\031
\261\170\300\060\012\006\010\052\206\110\316\075\004\003\002\003
\111\000\060\106\002\041\000\340\205\222\243\027\267\215\371\053
\006\245\223\254\032\230\150\141\162\372\341\241\320\373\034\170
\140\246\103\231\305\270\304\002\041\000\234\002\357\361\224\234
\263\226\371\353\306\052\370\266\054\376\072\220\024\026\327\214
\143\044\110\034\337\060\175\325\150\073
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Amazon Root CA 3"
```

```
# Issuer: CN=Amazon Root CA 3,O=Amazon,C=US
```

```
# Serial Number:06:6c:9f:d5:74:97:36:66:3f:3b:0b:9a:d9:e8:9e:76:03:f2:4a
```

```
# Subject: CN=Amazon Root CA 3,O=Amazon,C=US
```

```
# Not Valid Before: Tue May 26 00:00:00 2015
```

```
# Not Valid After : Sat May 26 00:00:00 2040
```

```
# Fingerprint (SHA-256):
```

```
18:CE:6C:FE:7B:F1:4E:60:B2:E3:47:B8:DF:E8:68:CB:31:D0:2E:BB:3A:DA:27:15:69:F5:03:43:B4:6D:B3:A4
```

```
# Fingerprint (SHA1): 0D:44:DD:8C:3C:8C:1A:1A:58:75:64:81:E9:0F:2E:2A:FF:B3:D2:6E
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Amazon Root CA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\015\104\335\214\074\214\032\032\130\165\144\201\351\017\056\052
\377\263\322\156
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\240\324\357\013\367\265\330\111\225\052\354\365\304\374\201\207
END
```

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\063
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\023\006\154\237\325\164\227\066\146\077\073\013\232\331\350
\236\166\003\362\112
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Amazon Root CA 4"
#
# Issuer: CN=Amazon Root CA 4,O=Amazon,C=US
# Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e
# Subject: CN=Amazon Root CA 4,O=Amazon,C=US
# Not Valid Before: Tue May 26 00:00:00 2015
# Not Valid After : Sat May 26 00:00:00 2040
# Fingerprint (SHA-256):
E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92
# Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Amazon Root CA 4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\362\060\202\001\170\240\003\002\001\002\002\023\006
\154\237\327\301\273\020\114\051\103\345\161\173\173\054\310\032
\301\016\060\012\006\010\052\206\110\316\075\004\003\003\060\071
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\017\060
\015\006\003\125\004\012\023\006\101\155\141\172\157\156\061\031
\060\027\006\003\125\004\003\023\020\101\155\141\172\157\156\040
\122\157\157\164\040\103\101\040\064\060\036\027\015\061\065\060

```

\065\062\066\060\060\060\060\060\060\060\060\132\027\015\064\060\060\065
\062\066\060\060\060\060\060\060\060\132\060\071\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\017\060\015\006\003\125\004
\012\023\006\101\155\141\172\157\156\061\031\060\027\006\003\125
\004\003\023\020\101\155\141\172\157\156\040\122\157\157\164\040
\103\101\040\064\060\166\060\020\006\007\052\206\110\316\075\002
\001\006\005\053\201\004\000\042\003\142\000\004\322\253\212\067
\117\243\123\015\376\301\212\173\113\250\173\106\113\143\260\142
\366\055\033\333\010\161\041\322\000\350\143\275\232\047\373\360
\071\156\135\352\075\245\311\201\252\243\133\040\230\105\135\026
\333\375\350\020\155\343\234\340\343\275\137\204\142\363\160\144
\063\240\313\044\057\160\272\210\241\052\240\165\370\201\256\142
\006\304\201\333\071\156\051\260\036\372\056\134\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\206\060\035\006\003\125\035\016\004\026\004\024\323\354\307\072
\145\156\314\341\332\166\232\126\373\234\363\206\155\127\345\201
\060\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060
\145\002\060\072\213\041\361\275\176\021\255\320\357\130\226\057
\326\353\235\176\220\215\053\317\146\125\303\054\343\050\251\160
\012\107\016\360\067\131\022\377\055\231\224\050\116\052\117\065
\115\063\132\002\061\000\352\165\000\116\073\304\072\224\022\221
\311\130\106\235\041\023\162\247\210\234\212\344\114\112\333\226
\324\254\213\153\153\111\022\123\063\255\327\344\276\044\374\265
\012\166\324\245\274\020

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Amazon Root CA 4"

Issuer: CN=Amazon Root CA 4,O=Amazon,C=US

Serial Number:06:6c:9f:d7:c1:bb:10:4c:29:43:e5:71:7b:7b:2c:c8:1a:c1:0e

Subject: CN=Amazon Root CA 4,O=Amazon,C=US

Not Valid Before: Tue May 26 00:00:00 2015

Not Valid After : Sat May 26 00:00:00 2040

Fingerprint (SHA-256):

E3:5D:28:41:9E:D0:20:25:CF:A6:90:38:CD:62:39:62:45:8D:A5:C6:95:FB:DE:A3:C2:2B:0B:FB:25:89:70:92

Fingerprint (SHA1): F6:10:84:07:D6:F8:BB:67:98:0C:C2:E2:44:C2:EB:AE:1C:EF:63:BE

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Amazon Root CA 4"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\366\020\204\007\326\370\273\147\230\014\302\342\104\302\353\256
\034\357\143\276

END

```

CKA_CERT_MD5_HASH MULTILINE_OCTAL
\211\274\047\325\353\027\215\006\152\151\325\375\211\107\264\315
END
CKA_ISSUER MULTILINE_OCTAL
\060\071\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\017\060\015\006\003\125\004\012\023\006\101\155\141\172\157\156
\061\031\060\027\006\003\125\004\003\023\020\101\155\141\172\157
\156\040\122\157\157\164\040\103\101\040\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\023\006\154\237\327\301\273\020\114\051\103\345\161\173\173
\054\310\032\301\016
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 1 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
# Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\044
\062\165\362\035\057\322\011\063\367\264\152\312\320\363\230\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\061\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\061
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\307\071\327
\111\144\251\231\202\042\114\352\105\331\007\026\343\173\364\203
\350\231\163\372\153\261\066\340\232\167\240\100\302\201\215\001
\307\314\214\275\217\175\367\171\343\172\114\003\115\331\373\375

\207\070\050\054\335\232\213\124\010\333\147\373\033\214\376\050
\222\057\276\267\262\110\247\201\241\330\136\210\303\314\071\100
\101\132\321\334\345\332\020\237\057\332\001\115\375\056\106\174
\371\056\047\012\151\067\356\221\243\033\152\314\104\277\033\307
\303\324\021\262\120\140\227\011\275\056\042\365\101\204\146\237
\315\100\246\251\000\200\301\037\225\222\237\336\363\110\357\333
\035\167\141\374\177\337\356\226\244\162\320\266\076\377\170\047
\257\313\222\025\151\010\333\143\020\342\346\227\254\156\334\254
\366\242\316\036\107\231\271\211\267\022\346\241\324\315\131\021
\147\303\157\205\330\102\116\050\276\131\125\131\004\225\253\217
\067\200\277\015\360\374\037\072\144\061\130\201\170\327\342\065
\366\040\077\051\270\217\026\156\076\110\334\265\114\007\341\362
\032\352\176\012\171\326\250\275\353\135\206\053\115\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\063\101\350\310\071\022\025\223\110\362\226\062\056\132
\365\332\224\137\123\140\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\025\343\163\127\261\027
\266\137\111\151\104\246\366\136\172\147\254\322\336\165\111\253
\376\045\125\307\072\311\104\025\020\156\277\061\153\313\331\007
\223\177\034\205\143\000\343\062\022\340\314\313\373\071\154\217
\342\123\342\074\100\063\331\244\214\107\346\255\130\373\211\257
\343\336\206\051\126\064\054\105\270\022\372\104\211\156\055\024
\045\050\044\001\145\326\352\122\254\005\156\126\022\011\075\320
\164\364\327\275\006\312\250\072\215\126\102\372\215\162\076\164
\361\003\162\337\207\033\136\016\172\125\226\054\070\267\230\205
\315\115\063\104\311\224\217\132\061\060\067\113\243\072\022\263
\347\066\321\041\150\113\055\070\346\123\256\034\045\126\010\126
\003\147\204\235\306\303\316\044\142\307\114\066\317\260\006\104
\267\365\137\002\335\331\124\351\057\220\116\172\310\116\203\100
\014\232\227\074\067\277\277\354\366\360\264\205\167\050\301\013
\310\147\202\020\027\070\242\267\006\352\233\277\072\370\351\043
\007\277\164\340\230\070\025\125\170\356\162\000\134\031\243\364
\322\063\340\377\275\321\124\071\051\017

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
For Email Distrust After: Wed Aug 31 00:00:00 2022
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
\062\062\060\070\063\061\060\060\060\060\060\060\132

END

Trust for "Symantec Class 1 Public Primary Certification Authority - G6"
Issuer: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
Serial Number:24:32:75:f2:1d:2f:d2:09:33:f7:b4:6a:ca:d0:f3:98
Subject: CN=Symantec Class 1 Public Primary Certification Authority - G6,OU=Symantec Trust

```
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
9D:19:0B:2E:31:45:66:68:5B:E8:A8:89:E2:7A:A8:C7:D7:AE:1D:8A:AD:DB:A3:C1:EC:F9:D2:48:63:CD:34:B9
# Fingerprint (SHA1): 51:7F:61:1E:29:91:6B:53:82:FB:72:E7:44:D9:8D:C3:CC:53:6D:64
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 1 Public Primary Certification Authority - G6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\121\177\141\036\051\221\153\123\202\373\162\347\104\331\215\303
\314\123\155\144
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\057\250\264\332\366\144\113\036\202\371\106\075\124\032\174\260
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\061\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\044\062\165\362\035\057\322\011\063\367\264\152\312\320
\363\230
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Symantec Class 2 Public Primary Certification Authority - G6"
#
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
# Not Valid Before: Tue Oct 18 00:00:00 2011
```

```
# Not Valid After : Tue Dec 01 23:59:59 2037
# Fingerprint (SHA-256):
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\366\060\202\002\336\240\003\002\001\002\002\020\144
\202\236\374\067\036\164\135\374\227\377\227\310\261\377\101\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\201
\224\061\013\060\011\006\003\125\004\006\023\002\125\123\061\035
\060\033\006\003\125\004\012\023\024\123\171\155\141\156\164\145
\143\040\103\157\162\160\157\162\141\164\151\157\156\061\037\060
\035\006\003\125\004\013\023\026\123\171\155\141\156\164\145\143
\040\124\162\165\163\164\040\116\145\164\167\157\162\153\061\105
```

\060\103\006\003\125\004\003\023\074\123\171\155\141\156\164\145
\143\040\103\154\141\163\163\040\062\040\120\165\142\154\151\143
\040\120\162\151\155\141\162\171\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\055\040\107\066\060\036\027\015\061\061\061\060\061\070\060
\060\060\060\060\060\132\027\015\063\067\061\062\060\061\062\063
\065\071\065\071\132\060\201\224\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\035\060\033\006\003\125\004\012\023\024
\123\171\155\141\156\164\145\143\040\103\157\162\160\157\162\141
\164\151\157\156\061\037\060\035\006\003\125\004\013\023\026\123
\171\155\141\156\164\145\143\040\124\162\165\163\164\040\116\145
\164\167\157\162\153\061\105\060\103\006\003\125\004\003\023\074
\123\171\155\141\156\164\145\143\040\103\154\141\163\163\040\062
\040\120\165\142\154\151\143\040\120\162\151\155\141\162\171\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165
\164\150\157\162\151\164\171\040\055\040\107\066\060\202\001\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\001\017\000\060\202\001\012\002\202\001\001\000\315\314\351
\005\310\143\205\313\077\100\143\027\275\030\372\065\346\004\147
\127\145\230\051\244\117\311\134\217\017\064\322\370\332\250\023
\142\252\270\036\120\147\170\260\026\114\240\071\251\025\172\256
\355\322\242\300\360\220\067\051\030\046\134\350\015\074\266\154
\111\077\301\340\334\331\113\266\024\031\013\246\323\226\341\326
\011\343\031\046\034\371\037\145\113\371\032\103\034\000\203\326
\320\252\111\242\324\333\346\142\070\272\120\024\103\155\371\061
\370\126\026\331\070\002\221\317\353\154\335\273\071\116\231\341
\060\147\105\361\324\360\215\303\337\376\362\070\007\041\175\000
\136\126\104\263\344\140\275\221\053\234\253\133\004\162\017\262
\050\331\162\253\005\040\102\045\251\133\003\152\040\020\314\061
\360\053\332\065\054\320\373\232\227\116\360\202\113\053\330\137
\066\243\013\055\257\143\015\035\045\177\241\156\134\142\241\215
\050\076\241\374\034\040\370\001\057\272\125\232\021\260\031\322
\310\120\171\153\016\152\005\327\252\004\066\262\243\362\341\137
\167\247\167\234\345\036\334\351\337\152\301\145\135\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\207\214\040\225\310\230\112\321\326\200\006\112\220\064
\104\337\034\115\277\260\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\001\001\000\201\216\262\245\146\226
\267\041\245\266\357\157\043\132\137\333\201\305\102\245\170\301
\151\375\364\074\327\371\134\153\160\162\032\374\132\227\115\000
\200\210\210\202\212\303\161\015\216\305\211\233\054\355\215\013
\322\162\124\365\175\324\134\103\127\351\363\256\245\002\021\366
\166\053\201\127\335\175\332\164\060\375\124\107\366\340\026\156
\246\264\012\110\346\347\165\007\017\051\031\071\316\171\364\266
\154\305\137\231\325\037\113\372\337\155\054\074\015\124\200\160
\360\210\013\200\317\306\150\242\270\035\160\331\166\214\374\356

```
\245\311\317\255\035\317\231\045\127\132\142\105\313\026\153\275
\111\315\245\243\214\151\171\045\256\270\114\154\213\100\146\113
\026\077\317\002\032\335\341\154\153\007\141\152\166\025\051\231
\177\033\335\210\200\301\277\265\217\163\305\246\226\043\204\246
\050\206\044\063\152\001\056\127\163\045\266\136\277\217\346\035
\141\250\100\051\147\035\207\233\035\177\233\237\231\315\061\326
\124\276\142\273\071\254\150\022\110\221\040\245\313\261\335\376
\157\374\132\344\202\125\131\257\061\251
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# For Email Distrust After: Wed Aug 31 00:00:00 2022
```

```
CKA_NSS_EMAIL_DISTRICT_AFTER MULTILINE_OCTAL
```

```
\062\062\060\070\063\061\060\060\060\060\060\060\132
```

END

```
# Trust for "Symantec Class 2 Public Primary Certification Authority - G6"
```

```
# Issuer: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
```

```
# Serial Number:64:82:9e:fc:37:1e:74:5d:fc:97:ff:97:c8:b1:ff:41
```

```
# Subject: CN=Symantec Class 2 Public Primary Certification Authority - G6,OU=Symantec Trust
Network,O=Symantec Corporation,C=US
```

```
# Not Valid Before: Tue Oct 18 00:00:00 2011
```

```
# Not Valid After : Tue Dec 01 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
CB:62:7D:18:B5:8A:D5:6D:DE:33:1A:30:45:6B:C6:5C:60:1A:4E:9B:18:DE:DC:EA:08:E7:DA:AA:07:81:5F:F0
```

```
# Fingerprint (SHA1): 40:B3:31:A0:E9:BF:E8:55:BC:39:93:CA:70:4F:4E:C2:51:D4:1D:8F
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Symantec Class 2 Public Primary Certification Authority - G6"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\100\263\061\240\351\277\350\125\274\071\223\312\160\117\116\302
\121\324\035\217
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\175\013\203\345\373\174\255\007\117\040\251\265\337\143\355\171
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\201\224\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\035\060\033\006\003\125\004\012\023\024\123\171\155\141\156
\164\145\143\040\103\157\162\160\157\162\141\164\151\157\156\061
\037\060\035\006\003\125\004\013\023\026\123\171\155\141\156\164
\145\143\040\124\162\165\163\164\040\116\145\164\167\157\162\153
\061\105\060\103\006\003\125\004\003\023\074\123\171\155\141\156
\164\145\143\040\103\154\141\163\163\040\062\040\120\165\142\154
\151\143\040\120\162\151\155\141\162\171\040\103\145\162\164\151
```

```
\146\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151
\164\171\040\055\040\107\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\144\202\236\374\067\036\164\135\374\227\377\227\310\261
\377\101
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST Root CA 3 2013"
#
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Serial Number: 1039788 (0xfddac)
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
# Not Valid Before: Fri Sep 20 08:25:51 2013
# Not Valid After : Wed Sep 20 08:25:51 2028
# Fingerprint (SHA-256):
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\003\017\335\254
END
CKA_VALUE MULTILINE_OCTAL
```

\060\202\004\016\060\202\002\366\240\003\002\001\002\002\003\017
\335\254\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105
\061\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165
\163\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003
\014\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103
\101\040\063\040\062\060\061\063\060\036\027\015\061\063\060\071
\062\060\060\070\062\065\065\061\132\027\015\062\070\060\071\062
\060\060\070\062\065\065\061\132\060\105\061\013\060\011\006\003
\125\004\006\023\002\104\105\061\025\060\023\006\003\125\004\012
\014\014\104\055\124\162\165\163\164\040\107\155\142\110\061\037
\060\035\006\003\125\004\003\014\026\104\055\124\122\125\123\124
\040\122\157\157\164\040\103\101\040\063\040\062\060\061\063\060
\202\001\042\060\015\006\011\052\206\110\206\367\015\001\001\001
\005\000\003\202\001\017\000\060\202\001\012\002\202\001\001\000
\304\173\102\222\202\037\354\355\124\230\216\022\300\312\011\337
\223\156\072\223\134\033\344\020\167\236\116\151\210\154\366\341
\151\362\366\233\242\141\261\275\007\040\164\230\145\361\214\046
\010\315\250\065\312\200\066\321\143\155\350\104\172\202\303\154
\136\336\273\350\066\322\304\150\066\214\237\062\275\204\042\340
\334\302\356\020\106\071\155\257\223\071\256\207\346\303\274\011
\311\054\153\147\133\331\233\166\165\114\013\340\273\305\327\274
\076\171\362\137\276\321\220\127\371\256\366\146\137\061\277\323
\155\217\247\272\112\363\043\145\273\267\357\243\045\327\012\352
\130\266\357\210\372\372\171\262\122\130\325\360\254\214\241\121
\164\051\225\252\121\073\220\062\003\237\034\162\164\220\336\075
\355\141\322\345\343\375\144\107\345\271\267\112\251\367\037\256
\226\206\004\254\057\343\244\201\167\267\132\026\377\330\017\077
\366\267\170\314\244\257\372\133\074\022\133\250\122\211\162\357
\210\363\325\104\201\206\225\043\237\173\335\274\331\064\357\174
\224\074\252\300\101\302\343\235\120\032\300\344\031\042\374\263
\002\003\001\000\001\243\202\001\005\060\202\001\001\060\017\006
\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060\035
\006\003\125\035\016\004\026\004\024\077\220\310\175\307\025\157
\363\044\217\251\303\057\113\242\017\041\262\057\347\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\201\276
\006\003\125\035\037\004\201\266\060\201\263\060\164\240\162\240
\160\206\156\154\144\141\160\072\057\057\144\151\162\145\143\164
\157\162\171\056\144\055\164\162\165\163\164\056\156\145\164\057
\103\116\075\104\055\124\122\125\123\124\045\062\060\122\157\157
\164\045\062\060\103\101\045\062\060\063\045\062\060\062\060\061
\063\054\117\075\104\055\124\162\165\163\164\045\062\060\107\155
\142\110\054\103\075\104\105\077\143\145\162\164\151\146\151\143
\141\164\145\162\145\166\157\143\141\164\151\157\156\154\151\163
\164\060\073\240\071\240\067\206\065\150\164\164\160\072\057\057
\143\162\154\056\144\055\164\162\165\163\164\056\156\145\164\057
\143\162\154\057\144\055\164\162\165\163\164\137\162\157\157\164
\137\143\141\137\063\137\062\060\061\063\056\143\162\154\060\015

```
\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202\001
\001\000\016\131\016\130\344\164\110\043\104\317\064\041\265\234
\024\032\255\232\113\267\263\210\155\134\251\027\160\360\052\237
\215\173\371\173\205\372\307\071\350\020\010\260\065\053\137\317
\002\322\323\234\310\013\036\356\005\124\256\067\223\004\011\175
\154\217\302\164\274\370\034\224\276\061\001\100\055\363\044\040
\267\204\125\054\134\310\365\164\112\020\031\213\243\307\355\065
\326\011\110\323\016\300\272\071\250\260\106\002\260\333\306\210
\131\302\276\374\173\261\053\317\176\142\207\125\226\314\001\157
\233\147\041\225\065\213\370\020\374\161\033\267\113\067\151\246
\073\326\354\213\356\301\260\363\045\311\217\222\175\241\352\303
\312\104\277\046\245\164\222\234\343\164\353\235\164\331\313\115
\207\330\374\264\151\154\213\240\103\007\140\170\227\351\331\223
\174\302\106\274\233\067\122\243\355\212\074\023\251\173\123\113
\111\232\021\005\054\013\156\126\254\037\056\202\154\340\151\147
\265\016\155\055\331\344\300\025\361\077\372\030\162\341\025\155
\047\133\055\060\050\053\237\110\232\144\053\231\357\362\165\111
\137\134
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "D-TRUST Root CA 3 2013"
```

```
# Issuer: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
```

```
# Serial Number: 1039788 (0xfddac)
```

```
# Subject: CN=D-TRUST Root CA 3 2013,O=D-Trust GmbH,C=DE
```

```
# Not Valid Before: Fri Sep 20 08:25:51 2013
```

```
# Not Valid After : Wed Sep 20 08:25:51 2028
```

```
# Fingerprint (SHA-256):
```

```
A1:A8:6D:04:12:1E:B8:7F:02:7C:66:F5:33:03:C2:8E:57:39:F9:43:FC:84:B3:8A:D6:AF:00:90:35:DD:94:57
```

```
# Fingerprint (SHA1): 6C:7C:CC:E7:D4:AE:51:5F:99:08:CD:3F:F6:E8:C3:78:DF:6F:EF:97
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "D-TRUST Root CA 3 2013"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\154\174\314\347\324\256\121\137\231\010\315\077\366\350\303\170
\337\157\357\227
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\267\042\146\230\176\326\003\340\301\161\346\165\315\126\105\277
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\105\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\014\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\037\060\035\006\003\125\004\003\014
```

\026\104\055\124\122\125\123\124\040\122\157\157\164\040\103\101
\040\063\040\062\060\061\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\003\017\335\254

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

#

Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

Serial Number: 1 (0x1)

Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR

Not Valid Before: Mon Nov 25 08:25:55 2013

Not Valid After : Sun Oct 25 08:25:55 2043

Fingerprint (SHA-256):

46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16

Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\001\001

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\143\060\202\003\113\240\003\002\001\002\002\001\001
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145\040
\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003\125
\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154\151
\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157\152
\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165\162
\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055\060
\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145\162
\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153\145
\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060\064
\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040\113
\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040\123
\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165\162
\165\155\040\061\060\036\027\015\061\063\061\061\062\065\060\070
\062\065\065\065\132\027\015\064\063\061\060\062\065\060\070\062
\065\065\065\132\060\201\322\061\013\060\011\006\003\125\004\006
\023\002\124\122\061\030\060\026\006\003\125\004\007\023\017\107
\145\142\172\145\040\055\040\113\157\143\141\145\154\151\061\102
\060\100\006\003\125\004\012\023\071\124\165\162\153\151\171\145
\040\102\151\154\151\155\163\145\154\040\166\145\040\124\145\153
\156\157\154\157\152\151\153\040\101\162\141\163\164\151\162\155
\141\040\113\165\162\165\155\165\040\055\040\124\125\102\111\124
\101\113\061\055\060\053\006\003\125\004\013\023\044\113\141\155
\165\040\123\145\162\164\151\146\151\153\141\163\171\157\156\040
\115\145\162\153\145\172\151\040\055\040\113\141\155\165\040\123
\115\061\066\060\064\006\003\125\004\003\023\055\124\125\102\111
\124\101\113\040\113\141\155\165\040\123\115\040\123\123\114\040

\113\157\153\040\123\145\162\164\151\146\151\153\141\163\151\040
\055\040\123\165\162\165\155\040\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\257\165\060\063\252\273
\153\323\231\054\022\067\204\331\215\173\227\200\323\156\347\377
\233\120\225\076\220\225\126\102\327\031\174\046\204\215\222\372
\001\035\072\017\342\144\070\267\214\274\350\210\371\213\044\253
\056\243\365\067\344\100\216\030\045\171\203\165\037\073\377\154
\250\305\306\126\370\264\355\212\104\243\253\154\114\374\035\320
\334\357\150\275\317\344\252\316\360\125\367\242\064\324\203\153
\067\174\034\302\376\265\003\354\127\316\274\264\265\305\355\000
\017\123\067\052\115\364\117\014\203\373\206\317\313\376\214\116
\275\207\371\247\213\041\127\234\172\337\003\147\211\054\235\227
\141\247\020\270\125\220\177\016\055\047\070\164\337\347\375\332
\116\022\343\115\025\042\002\310\340\340\374\017\255\212\327\311
\124\120\314\073\017\312\026\200\204\320\121\126\303\216\126\177
\211\042\063\057\346\205\012\275\245\250\033\066\336\323\334\054
\155\073\307\023\275\131\043\054\346\345\244\367\330\013\355\352
\220\100\104\250\225\273\223\325\320\200\064\266\106\170\016\037
\000\223\106\341\356\351\371\354\117\027\002\003\001\000\001\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\145\077
\307\212\206\306\074\335\074\124\134\065\370\072\355\122\014\107
\127\310\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\052\077\341\361\062\216\256\341\230
\134\113\136\317\153\036\152\011\322\042\251\022\307\136\127\175
\163\126\144\200\204\172\223\344\011\271\020\315\237\052\047\341
\000\167\276\110\310\065\250\201\237\344\270\054\311\177\016\260
\322\113\067\135\352\271\325\013\136\064\275\364\163\051\303\355
\046\025\234\176\010\123\212\130\215\320\113\050\337\301\263\337
\040\363\371\343\343\072\337\314\234\224\330\116\117\303\153\027
\267\367\162\350\255\146\063\265\045\123\253\340\370\114\251\235
\375\362\015\272\256\271\331\252\306\153\371\223\273\256\253\270
\227\074\003\032\272\103\306\226\271\105\162\070\263\247\241\226
\075\221\173\176\300\041\123\114\207\355\362\013\124\225\121\223
\325\042\245\015\212\361\223\016\076\124\016\260\330\311\116\334
\362\061\062\126\352\144\371\352\265\235\026\146\102\162\363\177
\323\261\061\103\374\244\216\027\361\155\043\253\224\146\370\255
\373\017\010\156\046\055\177\027\007\011\262\214\373\120\300\237
\226\215\317\266\375\000\235\132\024\232\277\002\104\365\301\302
\237\042\136\242\017\241\343

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"

```
# Issuer: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Serial Number: 1 (0x1)
# Subject: CN=TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1,OU=Kamu Sertifikasyon Merkezi - Kamu
SM,O=Turkiye Bilimsel ve Teknolojik Arastirma Kurumu - TUBITAK,L=Gebze - Kocaeli,C=TR
# Not Valid Before: Mon Nov 25 08:25:55 2013
# Not Valid After : Sun Oct 25 08:25:55 2043
# Fingerprint (SHA-256):
46:ED:C3:68:90:46:D5:3A:45:3F:B3:10:4A:B8:0D:CA:EC:65:8B:26:60:EA:16:29:DD:7E:86:79:90:64:87:16
# Fingerprint (SHA1): 31:43:64:9B:EC:CE:27:EC:ED:3A:3F:0B:8F:0D:E4:E8:91:DD:EE:CA
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TUBITAK Kamu SM SSL Kok Sertifikasi - Surum 1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\061\103\144\233\354\316\047\354\355\072\077\013\217\015\344\350
\221\335\356\312
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\334\000\201\334\151\057\076\057\260\073\366\075\132\221\216\111
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\322\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\030\060\026\006\003\125\004\007\023\017\107\145\142\172\145
\040\055\040\113\157\143\141\145\154\151\061\102\060\100\006\003
\125\004\012\023\071\124\165\162\153\151\171\145\040\102\151\154
\151\155\163\145\154\040\166\145\040\124\145\153\156\157\154\157
\152\151\153\040\101\162\141\163\164\151\162\155\141\040\113\165
\162\165\155\165\040\055\040\124\125\102\111\124\101\113\061\055
\060\053\006\003\125\004\013\023\044\113\141\155\165\040\123\145
\162\164\151\146\151\153\141\163\171\157\156\040\115\145\162\153
\145\172\151\040\055\040\113\141\155\165\040\123\115\061\066\060
\064\006\003\125\004\003\023\055\124\125\102\111\124\101\113\040
\113\141\155\165\040\123\115\040\123\123\114\040\113\157\153\040
\123\145\162\164\151\146\151\153\141\163\151\040\055\040\123\165
\162\165\155\040\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\001\001
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GDCA TrustAUTH R5 ROOT"
```

```
#
# Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
# Serial Number:7d:09:97:fe:f0:47:ea:7a
# Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN
# Not Valid Before: Wed Nov 26 05:13:15 2014
# Not Valid After : Mon Dec 31 15:59:59 2040
# Fingerprint (SHA-256):
BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93
# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\210\060\202\003\160\240\003\002\001\002\002\010\175
\011\227\376\360\107\352\172\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\142\061\013\060\011\006\003\125\004
\006\023\002\103\116\061\062\060\060\006\003\125\004\012\014\051
\107\125\101\116\107\040\104\117\116\107\040\103\105\122\124\111
\106\111\103\101\124\105\040\101\125\124\110\117\122\111\124\131
\040\103\117\056\054\114\124\104\056\061\037\060\035\006\003\125
\004\003\014\026\107\104\103\101\040\124\162\165\163\164\101\125
```

\124\110\040\122\065\040\122\117\117\124\060\036\027\015\061\064
\061\061\062\066\060\065\061\063\061\065\132\027\015\064\060\061
\062\063\061\061\065\065\071\065\071\132\060\142\061\013\060\011
\006\003\125\004\006\023\002\103\116\061\062\060\060\006\003\125
\004\012\014\051\107\125\101\116\107\040\104\117\116\107\040\103
\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110\117
\122\111\124\131\040\103\117\056\054\114\124\104\056\061\037\060
\035\006\003\125\004\003\014\026\107\104\103\101\040\124\162\165
\163\164\101\125\124\110\040\122\065\040\122\117\117\124\060\202
\002\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005
\000\003\202\002\017\000\060\202\002\012\002\202\002\001\000\331
\243\026\360\310\164\164\167\233\357\063\015\073\006\176\125\374
\265\140\217\166\206\022\102\175\126\146\076\210\202\355\162\143
\016\236\213\335\064\054\002\121\121\303\031\375\131\124\204\311
\361\153\263\114\260\351\350\106\135\070\306\242\247\056\021\127
\272\202\025\242\234\217\155\260\231\112\012\362\353\211\160\143
\116\171\304\267\133\275\242\135\261\362\101\002\053\255\251\072
\243\354\171\012\354\137\072\343\375\357\200\074\255\064\233\032
\253\210\046\173\126\242\202\206\037\353\065\211\203\177\137\256
\051\116\075\266\156\354\256\301\360\047\233\256\343\364\354\357
\256\177\367\206\075\162\172\353\245\373\131\116\247\353\225\214
\042\071\171\341\055\010\217\314\274\221\270\101\367\024\301\043
\251\303\255\232\105\104\263\262\327\054\315\306\051\342\120\020
\256\134\313\202\216\027\030\066\175\227\346\210\232\260\115\064
\011\364\054\271\132\146\052\260\027\233\236\036\166\235\112\146
\061\101\337\077\373\305\006\357\033\266\176\032\106\066\367\144
\143\073\343\071\030\043\347\147\165\024\325\165\127\222\067\275
\276\152\033\046\120\362\066\046\006\220\305\160\001\144\155\166
\146\341\221\333\156\007\300\141\200\056\262\056\057\214\160\247
\321\073\074\263\221\344\156\266\304\073\160\362\154\222\227\011
\315\107\175\030\300\363\273\236\017\326\213\256\007\266\132\017
\316\013\014\107\247\345\076\270\275\175\307\233\065\240\141\227
\072\101\165\027\314\053\226\167\052\222\041\036\331\225\166\040
\147\150\317\015\275\337\326\037\011\152\232\342\314\163\161\244
\057\175\022\200\267\123\060\106\136\113\124\231\017\147\311\245
\310\362\040\301\202\354\235\021\337\302\002\373\032\073\321\355
\040\232\357\145\144\222\020\015\052\342\336\160\361\030\147\202
\214\141\336\270\274\321\057\234\373\017\320\053\355\033\166\271
\344\071\125\370\370\241\035\270\252\200\000\114\202\347\262\177
\011\270\274\060\240\057\015\365\122\236\216\367\222\263\012\000
\035\000\124\227\006\340\261\007\331\307\017\134\145\175\074\155
\131\127\344\355\245\215\351\100\123\237\025\113\240\161\366\032
\041\343\332\160\006\041\130\024\207\205\167\171\252\202\171\002
\003\001\000\001\243\102\060\100\060\035\006\003\125\035\016\004
\026\004\024\342\311\100\237\115\316\350\232\241\174\317\016\077
\145\305\051\210\152\031\121\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\206\060\015\006\011\052\206\110\206

\367\015\001\001\013\005\000\003\202\002\001\000\321\111\127\340
\247\314\150\130\272\001\017\053\031\315\215\260\141\105\254\021
\355\143\120\151\370\037\177\276\026\217\375\235\353\013\252\062
\107\166\322\147\044\355\275\174\063\062\227\052\307\005\206\146
\015\027\175\024\025\033\324\353\375\037\232\366\136\227\151\267
\032\045\244\012\263\221\077\137\066\254\213\354\127\250\076\347
\201\212\030\127\071\205\164\032\102\307\351\133\023\137\217\371
\010\351\222\164\215\365\107\322\253\073\326\373\170\146\116\066
\175\371\351\222\351\004\336\375\111\143\374\155\373\024\161\223
\147\057\107\112\267\271\377\036\052\163\160\106\060\277\132\362
\057\171\245\341\215\014\331\371\262\143\067\214\067\145\205\160
\152\134\133\011\162\271\255\143\074\261\335\370\374\062\277\067
\206\344\273\216\230\047\176\272\037\026\341\160\021\362\003\337
\045\142\062\047\046\030\062\204\237\377\000\072\023\272\232\115
\364\117\270\024\160\042\261\312\053\220\316\051\301\160\364\057
\235\177\362\220\036\326\132\337\267\106\374\346\206\372\313\340
\040\166\172\272\246\313\365\174\336\142\245\261\213\356\336\202
\146\212\116\072\060\037\077\200\313\255\047\272\014\136\327\320
\261\126\312\167\161\262\265\165\241\120\251\100\103\027\302\050
\331\317\122\213\133\310\143\324\102\076\240\063\172\106\056\367
\012\040\106\124\176\152\117\061\361\201\176\102\164\070\145\163
\047\356\306\174\270\216\327\245\072\327\230\241\234\214\020\125
\323\333\113\354\100\220\362\315\156\127\322\142\016\174\127\223
\261\247\155\315\235\203\273\052\347\345\266\073\161\130\255\375
\321\105\274\132\221\356\123\025\157\323\105\011\165\156\272\220
\135\036\004\317\067\337\036\250\146\261\214\346\040\152\357\374
\110\116\164\230\102\257\051\157\056\152\307\373\175\321\146\061
\042\314\206\000\176\146\203\014\102\364\275\064\222\303\032\352
\117\312\176\162\115\013\160\214\246\110\273\246\241\024\366\373
\130\104\231\024\256\252\013\223\151\240\051\045\112\245\313\053
\335\212\146\007\026\170\025\127\161\033\354\365\107\204\363\236
\061\067\172\325\177\044\255\344\274\375\375\314\156\203\350\014
\250\267\101\154\007\335\275\074\206\227\057\322

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GDCA TrustAUTH R5 ROOT"

Issuer: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Serial Number:7d:09:97:fe:f0:47:ea:7a

Subject: CN=GDCA TrustAUTH R5 ROOT,O="GUANG DONG CERTIFICATE AUTHORITY
CO.,LTD.",C=CN

Not Valid Before: Wed Nov 26 05:13:15 2014

Not Valid After : Mon Dec 31 15:59:59 2040

Fingerprint (SHA-256):

BF:FF:8F:D0:44:33:48:7D:6A:8A:A6:0C:1A:29:76:7A:9F:C2:BB:B0:5E:42:0F:71:3A:13:B9:92:89:1D:38:93

```

# Fingerprint (SHA1): 0F:36:38:5B:81:1A:25:C3:9B:31:4E:83:CA:E9:34:66:70:CC:74:B4
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GDCA TrustAUTH R5 ROOT"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\017\066\070\133\201\032\045\303\233\061\116\203\312\351\064\146
\160\314\164\264
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\143\314\331\075\064\065\134\157\123\243\342\010\160\110\037\264
END
CKA_ISSUER MULTILINE_OCTAL
\060\142\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\062\060\060\006\003\125\004\012\014\051\107\125\101\116\107\040
\104\117\116\107\040\103\105\122\124\111\106\111\103\101\124\105
\040\101\125\124\110\117\122\111\124\131\040\103\117\056\054\114
\124\104\056\061\037\060\035\006\003\125\004\003\014\026\107\104
\103\101\040\124\162\165\163\164\101\125\124\110\040\122\065\040
\122\117\117\124
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\175\011\227\376\360\107\352\172
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor RootCert CA-1"
#
# Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Serial Number:00:da:9b:ec:71:f3:03:b0:19
# Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:16 2016
# Not Valid After : Mon Dec 31 17:23:16 2029
# Fingerprint (SHA-256):
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
# Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor RootCert CA-1"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\060\060\202\003\030\240\003\002\001\002\002\011\000
\332\233\354\161\363\003\260\031\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060
\035\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162
\040\122\157\157\164\103\145\162\164\040\103\101\055\061\060\036
\027\015\061\066\060\062\060\064\061\062\063\062\061\066\132\027
\015\062\071\061\062\063\061\061\067\062\063\061\066\132\060\201
\244\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017

\060\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061
\024\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141
\040\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033
\124\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163
\040\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006
\003\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124
\162\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164
\040\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\277\216\267\225\342\302\046\022\153\063
\031\307\100\130\012\253\131\252\215\000\243\374\200\307\120\173
\216\324\040\046\272\062\022\330\043\124\111\045\020\042\230\235
\106\322\301\311\236\116\033\056\054\016\070\363\032\045\150\034
\246\132\005\346\036\213\110\277\230\226\164\076\151\312\351\265
\170\245\006\274\325\000\136\011\012\362\047\172\122\374\055\325
\261\352\264\211\141\044\363\032\023\333\251\317\122\355\014\044
\272\271\236\354\176\000\164\372\223\255\154\051\222\256\121\264
\273\323\127\277\263\363\250\215\234\364\044\113\052\326\231\236
\364\236\376\300\176\102\072\347\013\225\123\332\267\150\016\220
\114\373\160\077\217\112\054\224\363\046\335\143\151\251\224\330
\020\116\305\107\010\220\231\033\027\115\271\154\156\357\140\225
\021\216\041\200\265\275\240\163\330\320\262\167\304\105\352\132
\046\373\146\166\166\370\006\037\141\155\017\125\305\203\267\020
\126\162\006\007\245\363\261\032\003\005\144\016\235\132\212\326
\206\160\033\044\336\376\050\212\053\320\152\260\374\172\242\334
\262\171\016\213\145\017\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\356\153\111\074\172\077
\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060\037
\006\003\125\035\043\004\030\060\026\200\024\356\153\111\074\172
\077\015\343\261\011\267\212\310\253\031\237\163\063\120\347\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\045\030\324\221\217\023\356\217\036\035\021\123
\332\055\104\051\031\240\036\153\061\236\115\016\236\255\075\134
\101\157\225\053\044\241\171\230\072\070\066\373\273\146\236\110
\377\220\220\357\075\324\270\233\264\207\165\077\040\233\316\162
\317\241\125\301\115\144\242\031\006\241\007\063\014\013\051\345
\361\352\253\243\354\265\012\164\220\307\175\162\362\327\134\237
\221\357\221\213\267\334\355\146\242\317\216\146\073\274\237\072
\002\340\047\335\026\230\300\225\324\012\244\344\201\232\165\224
\065\234\220\137\210\067\006\255\131\225\012\260\321\147\323\031
\312\211\347\062\132\066\034\076\202\250\132\223\276\306\320\144
\221\266\317\331\266\030\317\333\176\322\145\243\246\304\216\027
\061\301\373\176\166\333\323\205\343\130\262\167\172\166\073\154
\057\120\034\347\333\366\147\171\037\365\202\225\232\007\247\024

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\257\217\334\050\041\147\011\322\326\115\132\034\031\034\216\167
\134\303\224\044\075\062\153\113\176\324\170\224\203\276\067\115
\316\137\307\036\116\074\340\211\063\225\013\017\245\062\326\074
\132\171\054\031
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_SERVER_DISTRUSTRUST_AFTER MULTILINE_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_EMAIL_DISTRUSTRUST_AFTER MULTILINE_OCTAL

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

Trust for "TrustCor RootCert CA-1"

Issuer: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:00:da:9b:ec:71:f3:03:b0:19

Subject: CN=TrustCor RootCert CA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:16 2016

Not Valid After : Mon Dec 31 17:23:16 2029

Fingerprint (SHA-256):

```
D4:0E:9C:86:CD:8F:E4:68:C1:77:69:59:F4:9E:A7:74:FA:54:86:84:B6:C4:06:F3:90:92:61:F4:DC:E2:57:5C
```

Fingerprint (SHA1): FF:BD:CD:E7:82:C8:43:5E:3C:6F:26:86:5C:CA:A8:3A:45:5B:C3:0A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor RootCert CA-1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\377\275\315\347\202\310\103\136\074\157\046\206\134\312\250\072
\105\133\303\012
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\156\205\361\334\032\000\323\042\325\262\262\254\153\067\005\105
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
```

\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\332\233\354\161\363\003\260\031

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "TrustCor RootCert CA-2"

#

Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:25:a1:df:ca:33:cb:59:02

Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de
R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:23 2016

Not Valid After : Sun Dec 31 17:26:39 2034

Fingerprint (SHA-256):

07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65

Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor RootCert CA-2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\045\241\337\312\063\313\131\002

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\057\060\202\004\027\240\003\002\001\002\002\010\045
\241\337\312\063\313\131\002\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\244\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\037\060\035
\006\003\125\004\003\014\026\124\162\165\163\164\103\157\162\040
\122\157\157\164\103\145\162\164\040\103\101\055\062\060\036\027
\015\061\066\060\062\060\064\061\062\063\062\062\063\132\027\015
\063\064\061\062\063\061\061\067\062\066\063\071\132\060\201\244
\061\013\060\011\006\003\125\004\006\023\002\120\101\061\017\060
\015\006\003\125\004\010\014\006\120\141\156\141\155\141\061\024
\060\022\006\003\125\004\007\014\013\120\141\156\141\155\141\040
\103\151\164\171\061\044\060\042\006\003\125\004\012\014\033\124
\162\165\163\164\103\157\162\040\123\171\163\164\145\155\163\040
\123\056\040\144\145\040\122\056\114\056\061\047\060\045\006\003
\125\004\013\014\036\124\162\165\163\164\103\157\162\040\103\145
\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162
\151\164\171\061\037\060\035\006\003\125\004\003\014\026\124\162
\165\163\164\103\157\162\040\122\157\157\164\103\145\162\164\040
\103\101\055\062\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\247\040\156\302\052\242\142\044\225\220\166
\310\070\176\200\322\253\301\233\145\005\224\364\301\012\020\325
\002\254\355\237\223\307\207\310\260\047\053\102\014\075\012\076
\101\132\236\165\335\215\312\340\233\354\150\062\244\151\222\150
\214\013\201\016\126\240\076\032\335\054\045\024\202\057\227\323
\144\106\364\124\251\334\072\124\055\061\053\231\202\362\331\052
\327\357\161\000\270\061\244\276\172\044\007\303\102\040\362\212
\324\222\004\033\145\126\114\154\324\373\266\141\132\107\043\264

\330\151\264\267\072\320\164\074\014\165\241\214\116\166\241\351
\333\052\245\073\372\316\260\377\176\152\050\375\047\034\310\261
\351\051\361\127\156\144\264\320\301\025\155\016\276\056\016\106
\310\136\364\121\376\357\016\143\072\073\161\272\317\157\131\312
\014\343\233\135\111\270\114\342\127\261\230\212\102\127\234\166
\357\357\275\321\150\250\322\364\011\273\167\065\276\045\202\010
\304\026\054\104\040\126\251\104\021\167\357\135\264\035\252\136
\153\076\213\062\366\007\057\127\004\222\312\365\376\235\302\351
\350\263\216\114\113\002\061\331\344\074\110\202\047\367\030\202
\166\110\072\161\261\023\241\071\325\056\305\064\302\035\142\205
\337\003\376\115\364\257\075\337\134\133\215\372\160\341\245\176
\047\307\206\056\152\217\022\306\204\136\103\121\120\234\031\233
\170\346\374\366\355\107\176\173\075\146\357\023\023\210\137\074
\241\143\373\371\254\207\065\237\363\202\236\244\077\012\234\061
\151\213\231\244\210\112\216\156\146\115\357\026\304\017\171\050
\041\140\015\205\026\175\327\124\070\361\222\126\375\265\063\114
\203\334\327\020\237\113\375\306\370\102\275\272\174\163\002\340
\377\175\315\133\341\324\254\141\173\127\325\112\173\133\324\205
\130\047\135\277\370\053\140\254\240\046\256\024\041\047\306\167
\232\063\200\074\136\106\077\367\303\261\243\206\063\306\350\136
\015\271\065\054\252\106\301\205\002\165\200\240\353\044\373\025
\252\344\147\177\156\167\077\364\004\212\057\174\173\343\027\141
\360\335\011\251\040\310\276\011\244\320\176\104\303\262\060\112
\070\252\251\354\030\232\007\202\053\333\270\234\030\255\332\340
\106\027\254\317\135\002\003\001\000\001\243\143\060\141\060\035
\006\003\125\035\016\004\026\004\024\331\376\041\100\156\224\236
\274\233\075\234\175\230\040\031\345\214\060\142\262\060\037\006
\003\125\035\043\004\030\060\026\200\024\331\376\041\100\156\224
\236\274\233\075\234\175\230\040\031\345\214\060\142\262\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\236\105\236\014\073\266\357\341\072\310\174\321\000
\075\317\342\352\006\265\262\072\273\006\113\150\172\320\043\227
\164\247\054\360\010\330\171\132\327\132\204\212\330\022\232\033
\331\175\134\115\160\305\245\371\253\345\243\211\211\335\001\372
\354\335\371\351\222\227\333\260\106\102\363\323\142\252\225\376
\061\147\024\151\130\220\012\252\013\356\067\043\307\120\121\264
\365\176\236\343\173\367\344\314\102\062\055\111\014\313\377\111
\014\233\036\064\375\156\156\226\212\171\003\266\157\333\011\313
\375\137\145\024\067\341\070\365\363\141\026\130\344\265\155\015
\013\004\033\077\120\055\177\263\307\172\032\026\200\140\370\212
\037\351\033\052\306\371\272\001\032\151\277\322\130\307\124\127
\010\217\341\071\140\167\113\254\131\204\032\210\361\335\313\117
\170\327\347\341\063\055\374\356\101\372\040\260\276\313\367\070
\224\300\341\320\205\017\273\355\054\163\253\355\376\222\166\032
\144\177\133\015\063\011\007\063\173\006\077\021\244\134\160\074
\205\300\317\343\220\250\203\167\372\333\346\305\214\150\147\020

```
\147\245\122\055\360\304\231\217\177\277\321\153\342\265\107\326
\331\320\205\231\115\224\233\017\113\215\356\000\132\107\035\021
\003\254\101\030\257\207\267\157\014\072\217\312\317\334\003\301
\242\011\310\345\375\200\136\310\140\102\001\033\032\123\132\273
\067\246\267\274\272\204\351\036\154\032\324\144\332\324\103\376
\223\213\113\362\054\171\026\020\324\223\013\210\217\241\330\206
\024\106\221\107\233\050\044\357\127\122\116\134\102\234\252\367
\111\354\047\350\100\036\263\246\211\042\162\234\365\015\063\264
\130\243\060\073\335\324\152\124\223\276\032\115\363\223\224\367
\374\204\013\077\204\040\134\064\003\104\305\332\255\274\012\301
\002\317\036\345\224\331\363\216\133\330\114\360\235\354\141\027
\273\024\062\124\014\002\051\223\036\222\206\366\177\357\347\222
\005\016\131\335\231\010\056\056\372\234\000\122\323\305\146\051
\344\247\227\104\244\016\050\201\023\065\305\366\157\144\346\101
\304\325\057\314\064\105\045\317\101\000\226\075\112\056\302\226
\230\117\116\112\234\227\267\333\037\222\062\310\377\017\121\156
\326\354\011
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
```

```
# For Server Distrust After: Wed Nov 30 00:00:00 2022
```

```
CKA_NSS_SERVER_DISTRUSTRUST_AFTER MULTILINE_OCTAL
```

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

```
# For Email Distrust After: Wed Nov 30 00:00:00 2022
```

```
CKA_NSS_EMAIL_DISTRUSTRUST_AFTER MULTILINE_OCTAL
```

```
\062\062\061\061\063\060\060\060\060\060\060\060\132
```

END

```
# Trust for "TrustCor RootCert CA-2"
```

```
# Issuer: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA
```

```
# Serial Number:25:a1:df:ca:33:cb:59:02
```

```
# Subject: CN=TrustCor RootCert CA-2,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de  
R.L.,L=Panama City,ST=Panama,C=PA
```

```
# Not Valid Before: Thu Feb 04 12:32:23 2016
```

```
# Not Valid After : Sun Dec 31 17:26:39 2034
```

```
# Fingerprint (SHA-256):
```

```
07:53:E9:40:37:8C:1B:D5:E3:83:6E:39:5D:AE:A5:CB:83:9E:50:46:F1:BD:0E:AE:19:51:CF:10:FE:C7:C9:65
```

```
# Fingerprint (SHA1): B8:BE:6D:CB:56:F1:55:B9:63:D4:12:CA:4E:06:34:C7:94:B2:1C:C0
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "TrustCor RootCert CA-2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\270\276\155\313\126\361\125\271\143\324\022\312\116\006\064\307
```

```
\224\262\034\300
```

```

END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\242\341\370\030\013\272\105\325\307\101\052\273\067\122\105\144
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\244\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\037\060\035\006\003\125\004\003\014
\026\124\162\165\163\164\103\157\162\040\122\157\157\164\103\145
\162\164\040\103\101\055\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\045\241\337\312\063\313\131\002
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "TrustCor ECA-1"
#
# Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Serial Number:00:84:82:2c:5f:1c:62:d0:40
# Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama
City,ST=Panama,C=PA
# Not Valid Before: Thu Feb 04 12:32:33 2016
# Not Valid After : Mon Dec 31 17:28:07 2029
# Fingerprint (SHA-256):
5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C
# Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "TrustCor ECA-1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

```

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101
\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155
\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141
\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012
\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145
\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060
\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162
\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164
\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014
\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA_VALUE MULTILINE_OCTAL

\060\202\004\040\060\202\003\010\240\003\002\001\002\002\011\000
\204\202\054\137\034\142\320\100\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\201\234\061\013\060\011\006\003
\125\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010
\014\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004
\007\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044
\060\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157
\162\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040
\122\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124
\162\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060
\025\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162
\040\105\103\101\055\061\060\036\027\015\061\066\060\062\060\064
\061\062\063\062\063\063\132\027\015\062\071\061\062\063\061\061
\067\062\070\060\067\132\060\201\234\061\013\060\011\006\003\125
\004\006\023\002\120\101\061\017\060\015\006\003\125\004\010\014
\006\120\141\156\141\155\141\061\024\060\022\006\003\125\004\007
\014\013\120\141\156\141\155\141\040\103\151\164\171\061\044\060
\042\006\003\125\004\012\014\033\124\162\165\163\164\103\157\162
\040\123\171\163\164\145\155\163\040\123\056\040\144\145\040\122
\056\114\056\061\047\060\045\006\003\125\004\013\014\036\124\162
\165\163\164\103\157\162\040\103\145\162\164\151\146\151\143\141
\164\145\040\101\165\164\150\157\162\151\164\171\061\027\060\025

\006\003\125\004\003\014\016\124\162\165\163\164\103\157\162\040
\105\103\101\055\061\060\202\001\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\001\017\000\060\202\001
\012\002\202\001\001\000\317\217\340\021\265\237\250\166\166\333
\337\017\124\357\163\143\051\202\255\107\306\243\153\355\376\137
\063\370\103\121\351\032\063\221\061\027\240\164\304\324\247\001
\346\262\222\076\152\235\355\016\371\164\230\100\323\077\003\200
\006\202\100\350\261\342\247\121\247\035\203\046\153\253\336\372
\027\221\053\330\306\254\036\261\236\031\001\325\227\246\352\015
\267\304\125\037\047\174\322\010\325\166\037\051\025\207\100\071
\335\070\105\021\165\320\232\247\064\340\277\315\310\122\035\271
\107\176\015\270\273\306\014\366\163\127\026\132\176\103\221\037
\125\072\306\155\104\004\252\234\251\234\247\114\211\027\203\256
\243\004\136\122\200\213\036\022\045\021\031\327\014\175\175\061
\104\101\352\333\257\260\034\357\201\320\054\305\232\041\233\075
\355\102\073\120\046\362\354\316\161\141\006\142\041\124\116\177
\301\235\076\177\040\214\200\313\052\330\227\142\310\203\063\221
\175\260\242\132\017\127\350\073\314\362\045\262\324\174\057\354
\115\306\241\072\025\172\347\266\135\065\365\366\110\112\066\105
\146\324\272\230\130\301\002\003\001\000\001\243\143\060\141\060
\035\006\003\125\035\016\004\026\004\024\104\236\110\365\314\155
\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060\037
\006\003\125\035\043\004\030\060\026\200\024\104\236\110\365\314
\155\110\324\240\113\177\376\131\044\057\203\227\231\232\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003
\202\001\001\000\005\076\065\134\025\160\233\311\307\163\141\157
\162\053\324\302\217\362\103\135\002\316\304\224\271\224\021\203
\147\135\342\147\154\165\166\277\273\014\252\066\306\255\107\223
\143\334\036\176\326\336\056\376\351\031\062\070\003\177\024\366
\000\163\054\131\261\041\006\341\373\254\030\225\014\243\377\231
\226\367\053\047\233\325\044\314\035\335\301\072\340\230\104\260
\304\344\076\167\261\163\251\144\054\366\034\001\174\077\135\105
\205\300\205\347\045\217\225\334\027\363\074\237\032\156\260\312
\343\035\052\351\114\143\372\044\141\142\326\332\176\266\034\154
\365\002\035\324\052\335\125\220\353\052\021\107\074\056\136\164
\262\202\042\245\175\123\037\105\354\047\221\175\347\042\026\350
\300\150\066\330\306\361\117\200\104\062\371\341\321\321\035\252
\336\250\253\234\004\257\255\040\016\144\230\115\245\153\300\110
\130\226\151\115\334\007\214\121\223\242\337\237\017\075\213\140
\264\202\215\252\010\116\142\105\340\371\013\322\340\340\074\133
\336\134\161\047\045\302\346\003\201\213\020\123\343\307\125\242
\264\237\327\346

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

For Server Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_SERVER_DISTRUSTRUST_AFTER MULTILINE_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

For Email Distrust After: Wed Nov 30 00:00:00 2022

CKA_NSS_EMAIL_DISTRUST_AFTER MULTILINE_OCTAL

\062\062\061\061\063\060\060\060\060\060\060\132

END

Trust for "TrustCor ECA-1"

Issuer: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Serial Number:00:84:82:2c:5f:1c:62:d0:40

Subject: CN=TrustCor ECA-1,OU=TrustCor Certificate Authority,O=TrustCor Systems S. de R.L.,L=Panama City,ST=Panama,C=PA

Not Valid Before: Thu Feb 04 12:32:33 2016

Not Valid After : Mon Dec 31 17:28:07 2029

Fingerprint (SHA-256):

5A:88:5D:B1:9C:01:D9:12:C5:75:93:88:93:8C:AF:BB:DF:03:1A:B2:D4:8E:91:EE:15:58:9B:42:97:1D:03:9C

Fingerprint (SHA1): 58:D1:DF:95:95:67:6B:63:C0:F0:5B:1C:17:4D:8B:84:0B:C8:78:BD

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TrustCor ECA-1"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\130\321\337\225\225\147\153\143\300\360\133\034\027\115\213\204

\013\310\170\275

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\047\222\043\035\012\365\100\174\351\346\153\235\330\365\347\154

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\234\061\013\060\011\006\003\125\004\006\023\002\120\101

\061\017\060\015\006\003\125\004\010\014\006\120\141\156\141\155

\141\061\024\060\022\006\003\125\004\007\014\013\120\141\156\141

\155\141\040\103\151\164\171\061\044\060\042\006\003\125\004\012

\014\033\124\162\165\163\164\103\157\162\040\123\171\163\164\145

\155\163\040\123\056\040\144\145\040\122\056\114\056\061\047\060

\045\006\003\125\004\013\014\036\124\162\165\163\164\103\157\162

\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165\164

\150\157\162\151\164\171\061\027\060\025\006\003\125\004\003\014

\016\124\162\165\163\164\103\157\162\040\105\103\101\055\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\204\202\054\137\034\142\320\100

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SSL.com Root Certification Authority RSA"

#

Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:7b:2c:9b:d3:16:80:32:99

Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 17:39:39 2016

Not Valid After : Tue Feb 12 17:39:39 2041

Fingerprint (SHA-256):

85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69

Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\173\054\233\323\026\200\062\231

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\335\060\202\003\305\240\003\002\001\002\002\010\173
\054\233\323\026\200\062\231\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\174\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014\005

\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014\007
\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004\012
\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151\157
\156\061\061\060\057\006\003\125\004\003\014\050\123\123\114\056
\143\157\155\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\122\123\101\060\036\027\015\061\066\060\062\061\062\061\067
\063\071\063\071\132\027\015\064\061\060\062\061\062\061\067\063
\071\063\071\132\060\174\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\061\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157
\155\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\060\202\002\042\060\015\006\011\052\206\110\206\367\015
\001\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202
\002\001\000\371\017\335\243\053\175\313\320\052\376\354\147\205
\246\347\056\033\272\167\341\343\365\257\244\354\372\112\135\221
\304\127\107\153\030\167\153\166\362\375\223\344\075\017\302\026
\236\013\146\303\126\224\236\027\203\205\316\126\357\362\026\375
\000\142\365\042\011\124\350\145\027\116\101\271\340\117\106\227
\252\033\310\270\156\142\136\151\261\137\333\052\002\176\374\154
\312\363\101\330\355\320\350\374\077\141\110\355\260\003\024\035
\020\016\113\031\340\273\116\354\206\145\377\066\363\136\147\002
\013\235\206\125\141\375\172\070\355\376\342\031\000\267\157\241
\120\142\165\164\074\240\372\310\045\222\264\156\172\042\307\370
\036\241\343\262\335\221\061\253\053\035\004\377\245\112\004\067
\351\205\244\063\053\375\342\326\125\064\174\031\244\112\150\307
\262\250\323\267\312\241\223\210\353\301\227\274\214\371\035\331
\042\204\044\164\307\004\075\152\251\051\223\314\353\270\133\341
\376\137\045\252\064\130\310\301\043\124\235\033\230\021\303\070
\234\176\075\206\154\245\017\100\206\174\002\364\134\002\117\050
\313\256\161\237\017\072\310\063\376\021\045\065\352\374\272\305
\140\075\331\174\030\325\262\251\323\165\170\003\162\042\312\072
\303\037\357\054\345\056\251\372\236\054\266\121\106\375\257\003
\326\352\140\150\352\205\026\066\153\205\351\036\300\263\335\304
\044\334\200\052\201\101\155\224\076\310\340\311\201\101\000\236
\136\277\177\305\010\230\242\030\054\102\100\263\371\157\070\047
\113\116\200\364\075\201\107\340\210\174\352\034\316\265\165\134
\121\056\034\053\177\032\162\050\347\000\265\321\164\306\327\344
\237\255\007\223\266\123\065\065\374\067\344\303\366\135\026\276
\041\163\336\222\012\370\240\143\152\274\226\222\152\076\370\274
\145\125\233\336\365\015\211\046\004\374\045\032\246\045\151\313
\302\155\312\174\342\131\137\227\254\353\357\056\310\274\327\033
\131\074\053\314\362\031\310\223\153\047\143\031\317\374\351\046
\370\312\161\233\177\223\376\064\147\204\116\231\353\374\263\170

\011\063\160\272\146\246\166\355\033\163\353\032\245\015\304\042
\023\040\224\126\012\116\054\154\116\261\375\317\234\011\272\242
\063\355\207\002\003\001\000\001\243\143\060\141\060\035\006\003
\125\035\016\004\026\004\024\335\004\011\007\242\365\172\175\122
\123\022\222\225\356\070\200\045\015\246\131\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003
\125\035\043\004\030\060\026\200\024\335\004\011\007\242\365\172
\175\122\123\022\222\225\356\070\200\045\015\246\131\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\206\060\015\006
\011\052\206\110\206\367\015\001\001\013\005\000\003\202\002\001
\000\040\030\021\224\051\373\046\235\034\036\036\160\141\361\225
\162\223\161\044\255\150\223\130\216\062\257\033\263\160\003\374
\045\053\164\205\220\075\170\152\364\271\213\245\227\073\265\030
\221\273\036\247\371\100\133\221\371\125\231\257\036\021\320\134
\035\247\146\343\261\224\007\014\062\071\246\352\033\260\171\330
\035\234\160\104\343\212\335\304\371\225\037\212\070\103\077\001
\205\245\107\247\075\106\262\274\345\042\150\367\173\234\330\054
\076\012\041\310\055\063\254\277\305\201\231\061\164\301\165\161
\305\276\261\360\043\105\364\235\153\374\031\143\235\243\274\004
\306\030\013\045\273\123\211\017\263\200\120\336\105\356\104\177
\253\224\170\144\230\323\366\050\335\207\330\160\145\164\373\016
\271\023\353\247\017\141\251\062\226\314\336\273\355\143\114\030
\273\251\100\367\240\124\156\040\210\161\165\030\352\172\264\064
\162\340\043\047\167\134\266\220\352\206\045\100\253\357\063\017
\313\237\202\276\242\040\373\366\265\055\032\346\302\205\261\164
\017\373\310\145\002\244\122\001\107\335\111\042\301\277\330\353
\153\254\176\336\354\143\063\025\267\043\010\217\306\017\215\101
\132\335\216\305\271\217\345\105\077\170\333\272\322\033\100\261
\376\161\115\077\340\201\242\272\136\264\354\025\340\223\335\010
\037\176\341\125\231\013\041\336\223\236\012\373\346\243\111\275
\066\060\376\347\167\262\240\165\227\265\055\201\210\027\145\040
\367\332\220\000\237\311\122\314\062\312\065\174\365\075\017\330
\053\327\365\046\154\311\006\064\226\026\352\160\131\032\062\171
\171\013\266\210\177\017\122\110\075\277\154\330\242\104\056\321
\116\267\162\130\323\211\023\225\376\104\253\370\327\213\033\156
\234\274\054\240\133\325\152\000\257\137\067\341\325\372\020\013
\230\234\206\347\046\217\316\360\354\156\212\127\013\200\343\116
\262\300\240\143\141\220\272\125\150\067\164\152\266\222\333\237
\241\206\042\266\145\047\016\354\266\237\102\140\344\147\302\265
\332\101\013\304\323\213\141\033\274\372\037\221\053\327\104\007
\136\272\051\254\331\305\351\357\123\110\132\353\200\361\050\130
\041\315\260\006\125\373\047\077\123\220\160\251\004\036\127\047
\271

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

```

# Trust for "SSL.com Root Certification Authority RSA"
# Issuer: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:7b:2c:9b:d3:16:80:32:99
# Subject: CN=SSL.com Root Certification Authority RSA,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 17:39:39 2016
# Not Valid After : Tue Feb 12 17:39:39 2041
# Fingerprint (SHA-256):
85:66:6A:56:2E:E0:BE:5C:E9:25:C1:D8:89:0A:6F:76:A8:7E:C1:6D:4D:7D:5F:29:EA:74:19:CF:20:12:3B:69
# Fingerprint (SHA1): B7:AB:33:08:D1:EA:44:77:BA:14:80:12:5A:6F:BD:A9:36:49:0C:BB
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com Root Certification Authority RSA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\267\253\063\010\321\352\104\167\272\024\200\022\132\157\275\251
\066\111\014\273
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\206\151\022\300\160\361\354\254\254\302\325\274\245\133\241\051
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\122\123\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\173\054\233\323\026\200\062\231
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com Root Certification Authority ECC"
#
# Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:75:e6:df:cb:c1:68:5b:a8
# Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Fri Feb 12 18:14:03 2016
# Not Valid After : Tue Feb 12 18:14:03 2041
# Fingerprint (SHA-256):

```

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\165\346\337\313\301\150\133\250

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\215\060\202\002\024\240\003\002\001\002\002\010\165
\346\337\313\301\150\133\250\060\012\006\010\052\206\110\316\075
\004\003\002\060\174\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\061
\060\057\006\003\125\004\003\014\050\123\123\114\056\143\157\155
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103\060\036\027\015\061\066\060\062\061\062\061\070\061\064\060\060
\063\132\027\015\064\061\060\062\061\062\061\070\061\064\060\063
\132\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164

\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057
\006\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\105\103\103\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\105\156\251\120\304\246\043\066\236
\137\050\215\027\313\226\042\144\077\334\172\216\035\314\010\263
\242\161\044\272\216\111\271\004\033\107\226\130\253\055\225\310
\355\236\010\065\310\047\353\211\214\123\130\353\142\212\376\360
\133\017\153\061\122\143\101\073\211\315\354\354\266\215\031\323
\064\007\334\273\306\006\177\302\105\225\354\313\177\250\043\340
\011\351\201\372\363\107\323\243\143\060\141\060\035\006\003\125
\035\016\004\026\004\024\202\321\205\163\060\347\065\004\323\216
\002\222\373\345\244\321\304\041\350\315\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\202\321\205\163\060\347\065\004
\323\216\002\222\373\345\244\321\304\041\350\315\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\206\060\012\006\010
\052\206\110\316\075\004\003\002\003\147\000\060\144\002\060\157
\347\353\131\021\244\140\317\141\260\226\173\355\005\371\057\023
\221\334\355\345\374\120\153\021\106\106\263\034\041\000\142\273
\276\303\347\350\315\007\231\371\015\013\135\162\076\304\252\002
\060\037\274\272\013\342\060\044\373\174\155\200\125\012\231\076
\200\015\063\345\146\243\263\243\273\245\325\213\217\011\054\246
\135\176\342\360\007\010\150\155\322\174\151\156\137\337\345\152
\145

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com Root Certification Authority ECC"

Issuer: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:75:e6:df:cb:c1:68:5b:a8

Subject: CN=SSL.com Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 18:14:03 2016

Not Valid After : Tue Feb 12 18:14:03 2041

Fingerprint (SHA-256):

34:17:BB:06:CC:60:07:DA:1B:96:1C:92:0B:8A:B4:CE:3F:AD:82:0E:4A:A3:0B:9A:CB:C4:A7:4E:BD:CE:BC:65

Fingerprint (SHA1): C3:19:7C:39:24:E6:54:AF:1B:C4:AB:20:95:7A:E2:C3:0E:13:02:6A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com Root Certification Authority ECC"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\303\031\174\071\044\346\124\257\033\304\253\040\225\172\342\303

```
\016\023\002\152
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\056\332\344\071\177\234\217\067\321\160\237\046\027\121\072\216
END
CKA_ISSUER MULTILINE_OCTAL
\060\174\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\061\060\057\006
\003\125\004\003\014\050\123\123\114\056\143\157\155\040\122\157
\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\101\165\164\150\157\162\151\164\171\040\105\103\103
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\165\346\337\313\301\150\133\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "SSL.com EV Root Certification Authority RSA R2"
#
# Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US
# Serial Number:56:b6:29:cd:34:bc:78:f6
# Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL
Corporation,L=Houston,ST=Texas,C=US
# Not Valid Before: Wed May 31 18:14:37 2017
# Not Valid After : Fri May 30 18:14:37 2042
# Fingerprint (SHA-256):
2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C
# Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
```

\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\126\266\051\315\064\274\170\366

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\353\060\202\003\323\240\003\002\001\002\002\010\126
\266\051\315\064\274\170\366\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\202\061\013\060\011\006\003\125
\004\006\023\002\125\123\061\016\060\014\006\003\125\004\010\014
\005\124\145\170\141\163\061\020\060\016\006\003\125\004\007\014
\007\110\157\165\163\164\157\156\061\030\060\026\006\003\125\004
\012\014\017\123\123\114\040\103\157\162\160\157\162\141\164\151
\157\156\061\067\060\065\006\003\125\004\003\014\056\123\123\114
\056\143\157\155\040\105\126\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171\040\122\123\101\040\122\062\060\036\027\015\061
\067\060\065\063\061\061\070\061\064\063\067\132\027\015\064\062
\060\065\063\060\061\070\061\064\063\067\132\060\201\202\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\016\060\014\006
\003\125\004\010\014\005\124\145\170\141\163\061\020\060\016\006
\003\125\004\007\014\007\110\157\165\163\164\157\156\061\030\060
\026\006\003\125\004\012\014\017\123\123\114\040\103\157\162\160
\157\162\141\164\151\157\156\061\067\060\065\006\003\125\004\003
\014\056\123\123\114\056\143\157\155\040\105\126\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\040\122\123\101\040\122\062
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\217\066\145\100\341\326\115\300\327\264\351\106\332\153\352
\063\107\315\114\371\175\175\276\275\055\075\360\333\170\341\206
\245\331\272\011\127\150\355\127\076\240\320\010\101\203\347\050
\101\044\037\343\162\025\320\001\032\373\136\160\043\262\313\237
\071\343\317\305\116\306\222\155\046\306\173\273\263\332\047\235

\012\206\351\201\067\005\376\360\161\161\354\303\034\351\143\242
\027\024\235\357\033\147\323\205\125\002\002\326\111\311\314\132
\341\261\367\157\062\237\311\324\073\210\101\250\234\275\313\253
\333\155\173\011\037\242\114\162\220\332\053\010\374\317\074\124
\316\147\017\250\317\135\226\031\013\304\343\162\353\255\321\175
\035\047\357\222\353\020\277\133\353\073\257\317\200\335\301\322
\226\004\133\172\176\244\251\074\070\166\244\142\216\240\071\136
\352\167\317\135\000\131\217\146\054\076\007\242\243\005\046\021
\151\227\352\205\267\017\226\013\113\310\100\341\120\272\056\212
\313\367\017\232\042\347\177\232\067\023\315\362\115\023\153\041
\321\300\314\042\362\241\106\366\104\151\234\312\141\065\007\000
\157\326\141\010\021\352\272\270\366\351\263\140\345\115\271\354
\237\024\146\311\127\130\333\315\207\151\370\212\206\022\003\107
\277\146\023\166\254\167\175\064\044\205\203\315\327\252\234\220
\032\237\041\054\177\170\267\144\270\330\350\246\364\170\263\125
\313\204\322\062\304\170\256\243\217\141\335\316\010\123\255\354
\210\374\025\344\232\015\346\237\032\167\316\114\217\270\024\025
\075\142\234\206\070\006\000\146\022\344\131\166\132\123\300\002
\230\242\020\053\150\104\173\216\171\316\063\112\166\252\133\201
\026\033\265\212\330\320\000\173\136\142\264\011\326\206\143\016
\246\005\225\111\272\050\213\210\223\262\064\034\330\244\125\156
\267\034\320\336\231\125\073\043\364\042\340\371\051\146\046\354
\040\120\167\333\112\013\217\276\345\002\140\160\101\136\324\256
\120\071\042\024\046\313\262\073\163\164\125\107\007\171\201\071
\250\060\023\104\345\004\212\256\226\023\045\102\017\271\123\304
\233\374\315\344\034\336\074\372\253\326\006\112\037\147\246\230
\060\034\335\054\333\334\030\225\127\146\306\377\134\213\126\365
\167\002\003\001\000\001\243\143\060\141\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\037\006\003\125
\035\043\004\030\060\026\200\024\371\140\273\324\343\325\064\366
\270\365\006\200\045\247\163\333\106\151\250\236\060\035\006\003
\125\035\016\004\026\004\024\371\140\273\324\343\325\064\366\270
\365\006\200\045\247\163\333\106\151\250\236\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\126
\263\216\313\012\235\111\216\277\244\304\221\273\146\027\005\121
\230\165\373\345\120\054\172\236\361\024\372\253\323\212\076\377
\221\051\217\143\213\330\264\251\124\001\015\276\223\206\057\371
\112\155\307\136\365\127\371\312\125\034\022\276\107\017\066\305
\337\152\267\333\165\302\107\045\177\271\361\143\370\150\055\125
\004\321\362\215\260\244\317\274\074\136\037\170\347\245\240\040
\160\260\004\305\267\367\162\247\336\042\015\275\063\045\106\214
\144\222\046\343\076\056\143\226\332\233\214\075\370\030\011\327
\003\314\175\206\202\340\312\004\007\121\120\327\377\222\325\014
\357\332\206\237\231\327\353\267\257\150\342\071\046\224\272\150
\267\277\203\323\352\172\147\075\142\147\256\045\345\162\350\342
\344\354\256\022\366\113\053\074\237\351\260\100\363\070\124\263
\375\267\150\310\332\306\217\121\074\262\373\221\334\034\347\233

\235\341\267\015\162\217\342\244\304\251\170\371\353\024\254\306
\103\005\302\145\071\050\030\002\303\202\262\235\005\276\145\355
\226\137\145\164\074\373\011\065\056\173\234\023\375\033\017\135
\307\155\201\072\126\017\314\073\341\257\002\057\042\254\106\312
\106\074\240\034\114\326\104\264\136\056\134\025\146\011\341\046
\051\376\306\122\141\272\261\163\377\303\014\234\345\154\152\224
\077\024\312\100\026\225\204\363\131\251\254\137\114\141\223\155
\321\073\314\242\225\014\042\246\147\147\104\056\271\331\322\212
\101\263\146\013\132\373\175\043\245\362\032\260\377\336\233\203
\224\056\321\077\337\222\267\221\257\005\073\145\307\240\154\261
\315\142\022\303\220\033\343\045\316\064\274\157\167\166\261\020
\303\367\005\032\300\326\257\164\142\110\027\167\222\151\220\141
\034\336\225\200\164\124\217\030\034\303\363\003\320\277\244\103
\165\206\123\030\172\012\056\011\034\066\237\221\375\202\212\042
\113\321\016\120\045\335\313\003\014\027\311\203\000\010\116\065
\115\212\213\355\360\002\224\146\054\104\177\313\225\047\226\027
\255\011\060\254\266\161\027\156\213\027\366\034\011\324\055\073
\230\245\161\323\124\023\331\140\363\365\113\146\117\372\361\356
\040\022\215\264\254\127\261\105\143\241\254\166\251\302\373

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "SSL.com EV Root Certification Authority RSA R2"

Issuer: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:56:b6:29:cd:34:bc:78:f6

Subject: CN=SSL.com EV Root Certification Authority RSA R2,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Wed May 31 18:14:37 2017

Not Valid After : Fri May 30 18:14:37 2042

Fingerprint (SHA-256):

2E:7B:F1:6C:C2:24:85:A7:BB:E2:AA:86:96:75:07:61:B0:AE:39:BE:3B:2F:E9:D0:CC:6D:4E:F7:34:91:42:5C

Fingerprint (SHA1): 74:3A:F0:52:9B:D0:32:A0:F4:4A:83:CD:D4:BA:A9:7B:7C:2E:C4:9A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com EV Root Certification Authority RSA R2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\164\072\360\122\233\320\062\240\364\112\203\315\324\272\251\173
\174\056\304\232

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\341\036\061\130\032\256\124\123\002\366\027\152\021\173\115\225

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\202\061\013\060\011\006\003\125\004\006\023\002\125\123

```
\061\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163
\061\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164
\157\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114
\040\103\157\162\160\157\162\141\164\151\157\156\061\067\060\065
\006\003\125\004\003\014\056\123\123\114\056\143\157\155\040\105
\126\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141
\164\151\157\156\040\101\165\164\150\157\162\151\164\171\040\122
\123\101\040\122\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\010\126\266\051\315\064\274\170\366
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "SSL.com EV Root Certification Authority ECC"

#

Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Serial Number:2c:29:9c:5b:16:ed:05:95

Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US

Not Valid Before: Fri Feb 12 18:15:23 2016

Not Valid After : Tue Feb 12 18:15:23 2041

Fingerprint (SHA-256):

```
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
```

Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
```

\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\010\054\051\234\133\026\355\005\225

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\224\060\202\002\032\240\003\002\001\002\002\010\054
\051\234\133\026\355\005\225\060\012\006\010\052\206\110\316\075
\004\003\002\060\177\061\013\060\011\006\003\125\004\006\023\002
\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145\170
\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157\165
\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017\123
\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061\064
\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157\155
\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\040\105\103\103\060\036\027\015\061\066\060\062\061\062\061\070\061
\061\065\062\063\132\027\015\064\061\060\062\061\062\061\070\061
\065\062\063\132\060\177\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\016\060\014\006\003\125\004\010\014\005\124\145
\170\141\163\061\020\060\016\006\003\125\004\007\014\007\110\157
\165\163\164\157\156\061\030\060\026\006\003\125\004\012\014\017
\123\123\114\040\103\157\162\160\157\162\141\164\151\157\156\061
\064\060\062\006\003\125\004\003\014\053\123\123\114\056\143\157
\155\040\105\126\040\122\157\157\164\040\103\145\162\164\151\146
\151\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164
\171\040\105\103\103\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\252\022\107
\220\230\033\373\357\303\100\007\203\040\116\361\060\202\242\006
\321\362\222\206\141\362\366\041\150\312\000\304\307\352\103\000
\124\206\334\375\037\337\000\270\101\142\134\334\160\026\062\336
\037\231\324\314\305\007\310\010\037\141\026\007\121\075\175\134
\007\123\343\065\070\214\337\315\237\331\056\015\112\266\031\056
\132\160\132\006\355\276\360\241\260\312\320\011\051\243\143\060
\141\060\035\006\003\125\035\016\004\026\004\024\133\312\136\345
\336\322\201\252\315\250\055\144\121\266\331\162\233\227\346\117
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\037\006\003\125\035\043\004\030\060\026\200\024\133\312
\136\345\336\322\201\252\315\250\055\144\121\266\331\162\233\227
\346\117\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\206\060\012\006\010\052\206\110\316\075\004\003\002\003\150

```
\000\060\145\002\061\000\212\346\100\211\067\353\351\325\023\331
\312\324\153\044\363\260\075\207\106\130\032\354\261\337\157\373
\126\272\160\153\307\070\314\350\261\214\117\017\367\361\147\166
\016\203\320\036\121\217\002\060\075\366\043\050\046\114\306\140
\207\223\046\233\262\065\036\272\326\367\074\321\034\316\372\045
\074\246\032\201\025\133\363\022\017\154\356\145\212\311\207\250
\371\007\340\142\232\214\134\112
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "SSL.com EV Root Certification Authority ECC"
```

```
# Issuer: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Serial Number:2c:29:9c:5b:16:ed:05:95
```

```
# Subject: CN=SSL.com EV Root Certification Authority ECC,O=SSL Corporation,L=Houston,ST=Texas,C=US
```

```
# Not Valid Before: Fri Feb 12 18:15:23 2016
```

```
# Not Valid After : Tue Feb 12 18:15:23 2041
```

```
# Fingerprint (SHA-256):
```

```
22:A2:C1:F7:BD:ED:70:4C:C1:E7:01:B5:F4:08:C3:10:88:0F:E9:56:B5:DE:2A:4A:44:F9:9C:87:3A:25:A7:C8
```

```
# Fingerprint (SHA1): 4C:DD:51:A3:D1:F5:20:32:14:B0:C6:C5:32:23:03:91:C7:46:42:6D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "SSL.com EV Root Certification Authority ECC"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\114\335\121\243\321\365\040\062\024\260\306\305\062\043\003\221
\307\106\102\155
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\131\123\042\145\203\102\001\124\300\316\102\271\132\174\362\220
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\177\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\016\060\014\006\003\125\004\010\014\005\124\145\170\141\163\061
\020\060\016\006\003\125\004\007\014\007\110\157\165\163\164\157
\156\061\030\060\026\006\003\125\004\012\014\017\123\123\114\040
\103\157\162\160\157\162\141\164\151\157\156\061\064\060\062\006
\003\125\004\003\014\053\123\123\114\056\143\157\155\040\105\126
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\040\105\103
\103
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\010\054\051\234\133\026\355\005\225
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Root CA - R6"

#

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Serial Number:45:e6:bb:03:83:33:c3:85:65:48:e6:ff:45:51

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Not Valid Before: Wed Dec 10 00:00:00 2014

Not Valid After : Sun Dec 10 00:00:00 2034

Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Root CA - R6"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\203\060\202\003\153\240\003\002\001\002\002\016\105
\346\273\003\203\063\303\205\145\110\346\377\105\121\060\015\006
\011\052\206\110\206\367\015\001\001\014\005\000\060\114\061\040
\060\036\006\003\125\004\013\023\027\107\154\157\142\141\154\123
\151\147\156\040\122\157\157\164\040\103\101\040\055\040\122\066
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\064

\061\062\061\060\060\060\060\060\060\060\060\060\060\132\027\015\063\064\061
\062\061\060\060\060\060\060\060\060\060\060\060\132\060\114\061\040\060\036
\006\003\125\004\013\023\027\107\154\157\142\141\154\123\151\147
\156\040\122\157\157\164\040\103\101\040\055\040\122\066\061\023
\060\021\006\003\125\004\012\023\012\107\154\157\142\141\154\123
\151\147\156\061\023\060\021\006\003\125\004\003\023\012\107\154
\157\142\141\154\123\151\147\156\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\225\007\350\163\312\146\371
\354\024\312\173\074\367\015\010\361\264\105\013\054\202\264\110
\306\353\133\074\256\203\270\101\222\063\024\244\157\177\351\052
\314\306\260\210\153\305\266\211\321\306\262\377\024\316\121\024
\041\354\112\335\033\132\306\326\207\356\115\072\025\006\355\144
\146\013\222\200\312\104\336\163\224\116\363\247\211\177\117\170
\143\010\310\022\120\155\102\146\057\115\271\171\050\115\122\032
\212\032\200\267\031\201\016\176\304\212\274\144\114\041\034\103
\150\327\075\074\212\305\262\146\325\220\232\267\061\006\305\276
\342\155\062\006\246\036\371\271\353\252\243\270\277\276\202\143
\120\320\360\030\211\337\344\017\171\365\352\242\037\052\322\160
\056\173\347\274\223\273\155\123\342\110\174\214\020\007\070\377
\146\262\167\141\176\340\352\214\074\252\264\244\366\363\225\112
\022\007\155\375\214\262\211\317\320\240\141\167\310\130\164\260
\324\043\072\367\135\072\312\242\333\235\011\336\135\104\055\220
\361\201\315\127\222\372\176\274\120\004\143\064\337\153\223\030
\276\153\066\262\071\344\254\044\066\267\360\357\266\034\023\127
\223\266\336\262\370\342\205\267\163\242\270\065\252\105\362\340
\235\066\241\157\124\212\361\162\126\156\056\210\305\121\102\104
\025\224\356\243\305\070\226\233\116\116\132\013\107\363\006\066
\111\167\060\274\161\067\345\246\354\041\010\165\374\346\141\026
\077\167\325\331\221\227\204\012\154\324\002\115\164\300\024\355
\375\071\373\203\362\136\024\241\004\260\013\351\376\356\217\341
\156\013\262\010\263\141\146\011\152\261\006\072\145\226\131\300
\360\065\375\311\332\050\215\032\021\207\160\201\012\250\232\165
\035\236\072\206\005\000\236\333\200\326\045\371\334\005\236\047
\131\114\166\071\133\352\371\245\241\330\203\017\321\377\337\060
\021\371\205\317\063\110\365\312\155\144\024\054\172\130\117\323
\113\010\111\305\225\144\032\143\016\171\075\365\263\214\312\130
\255\234\102\105\171\156\016\207\031\134\124\261\145\266\277\214
\233\334\023\351\015\157\270\056\334\147\156\311\213\021\265\204
\024\212\000\031\160\203\171\221\227\221\324\032\047\277\067\036
\062\007\330\024\143\074\050\114\257\002\003\001\000\001\243\143
\060\141\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\035\006\003\125\035\016\004\026\004\024\256\154
\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310\147
\123\240\060\037\006\003\125\035\043\004\030\060\026\200\024\256
\154\005\243\223\023\342\242\347\342\327\034\326\307\360\177\310
\147\123\240\060\015\006\011\052\206\110\206\367\015\001\001\014

\005\000\003\202\002\001\000\203\045\355\350\321\375\225\122\315
\236\300\004\240\221\151\346\134\320\204\336\334\255\242\117\350
\107\170\326\145\230\251\133\250\074\207\174\002\212\321\156\267
\026\163\346\137\300\124\230\325\164\276\301\315\342\021\221\255
\043\030\075\335\341\162\104\226\264\225\136\300\173\216\231\170
\026\103\023\126\127\263\242\263\073\265\167\334\100\162\254\243
\353\233\065\076\261\010\041\241\347\304\103\067\171\062\276\265
\347\234\054\114\274\103\051\231\216\060\323\254\041\340\343\035
\372\330\007\063\166\124\000\042\052\271\115\040\056\160\150\332
\345\123\374\203\134\323\235\362\377\104\014\104\146\362\322\343
\275\106\000\032\155\002\272\045\135\215\241\061\121\335\124\106
\034\115\333\231\226\357\032\034\004\134\246\025\357\170\340\171
\376\135\333\076\252\114\125\375\232\025\251\157\341\246\373\337
\160\060\351\303\356\102\106\355\302\223\005\211\372\175\143\173
\077\320\161\201\174\000\350\230\256\016\170\064\303\045\373\257
\012\237\040\153\335\073\023\217\022\214\342\101\032\110\172\163
\240\167\151\307\266\134\177\202\310\036\376\130\033\050\053\250
\154\255\136\155\300\005\322\173\267\353\200\376\045\067\376\002
\233\150\254\102\135\303\356\365\314\334\360\120\165\322\066\151
\234\346\173\004\337\156\006\151\266\336\012\011\110\131\207\353
\173\024\140\172\144\252\151\103\357\221\307\114\354\030\335\154
\357\123\055\214\231\341\136\362\162\076\317\124\310\275\147\354
\244\017\114\105\377\323\271\060\043\007\114\217\020\277\206\226
\331\231\132\264\231\127\034\244\314\273\025\211\123\272\054\005
\017\344\304\236\031\261\030\064\325\114\235\272\355\367\037\257
\044\225\004\170\250\003\273\356\201\345\332\137\174\213\112\241
\220\164\045\247\263\076\113\310\054\126\275\307\310\357\070\342
\134\222\360\171\367\234\204\272\164\055\141\001\040\176\176\321
\362\117\007\131\137\213\055\103\122\353\106\014\224\341\365\146
\107\171\167\325\124\133\037\255\044\067\313\105\132\116\240\104
\110\310\330\260\231\305\025\204\011\366\326\111\111\300\145\270
\346\032\161\156\240\250\361\202\350\105\076\154\326\002\327\012
\147\203\005\132\311\244\020

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Root CA - R6"

Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Serial Number:45:e6:bb:03:83:c3:85:65:48:e6:ff:45:51

Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign Root CA - R6

Not Valid Before: Wed Dec 10 00:00:00 2014

Not Valid After : Sun Dec 10 00:00:00 2034

Fingerprint (SHA-256):

2C:AB:EA:FE:37:D0:6C:A2:2A:BA:73:91:C0:03:3D:25:98:29:52:C4:53:64:73:49:76:3A:3A:B5:AD:6C:CF:69

Fingerprint (SHA1): 80:94:64:0E:B5:A7:A1:CA:11:9C:1F:DD:D5:9F:81:02:63:A7:FB:D1

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

```

CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root CA - R6"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\200\224\144\016\265\247\241\312\021\234\037\335\325\237\201\002
\143\247\373\321
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\117\335\007\344\324\042\144\071\036\014\067\102\352\321\306\256
END
CKA_ISSUER MULTILINE_OCTAL
\060\114\061\040\060\036\006\003\125\004\013\023\027\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\103\101\040
\055\040\122\066\061\023\060\021\006\003\125\004\012\023\012\107
\154\157\142\141\154\123\151\147\156\061\023\060\021\006\003\125
\004\003\023\012\107\154\157\142\141\154\123\151\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\016\105\346\273\003\203\063\303\205\145\110\346\377\105\121
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "OISTE WISeKey Global Root GC CA"
#
# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
# Not Valid Before: Tue May 09 09:48:34 2017
# Not Valid After : Fri May 09 09:58:33 2042
# Fingerprint (SHA-256):
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144

```

\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
END

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
END

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\151\060\202\001\357\240\003\002\001\002\002\020\041
\052\126\014\256\332\014\253\100\105\277\053\242\055\072\352\060
\012\006\010\052\206\110\316\075\004\003\003\060\155\061\013\060
\011\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003
\125\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040
\006\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165
\156\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144
\061\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105
\040\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040
\122\157\157\164\040\107\103\040\103\101\060\036\027\015\061\067
\060\065\060\071\060\071\064\070\063\064\132\027\015\064\062\060
\065\060\071\060\071\065\070\063\063\132\060\155\061\013\060\011
\006\003\125\004\006\023\002\103\110\061\020\060\016\006\003\125
\004\012\023\007\127\111\123\145\113\145\171\061\042\060\040\006
\003\125\004\013\023\031\117\111\123\124\105\040\106\157\165\156
\144\141\164\151\157\156\040\105\156\144\157\162\163\145\144\061
\050\060\046\006\003\125\004\003\023\037\117\111\123\124\105\040
\127\111\123\145\113\145\171\040\107\154\157\142\141\154\040\122
\157\157\164\040\107\103\040\103\101\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\114\351\120\300\306\017\162\030\274\330\361\272\263\211\342
\171\112\243\026\247\153\124\044\333\121\377\352\364\011\044\303
\013\042\237\313\152\047\202\201\015\322\300\257\061\344\164\202
\156\312\045\331\214\165\235\361\333\320\232\242\113\041\176\026
\247\143\220\322\071\324\261\207\170\137\030\226\017\120\033\065
\067\017\152\306\334\331\023\115\244\216\220\067\346\275\133\061
\221\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004

```
\024\110\207\024\254\343\303\236\220\140\072\327\312\211\356\323
\255\214\264\120\146\060\020\006\011\053\006\001\004\001\202\067
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\046\307\151\133\334\325
\347\262\347\310\014\214\214\303\335\171\214\033\143\325\311\122
\224\116\115\202\112\163\036\262\200\204\251\045\300\114\132\155
\111\051\140\170\023\342\176\110\353\144\002\061\000\333\064\040
\062\010\377\232\111\002\266\210\336\024\257\135\154\231\161\215
\032\077\213\327\340\242\066\206\034\007\202\072\166\123\375\302
\242\355\357\173\260\200\117\130\017\113\123\071\275
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "OISTE WISeKey Global Root GC CA"
```

```
# Issuer: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
```

```
# Serial Number:21:2a:56:0c:ae:da:0c:ab:40:45:bf:2b:a2:2d:3a:ea
```

```
# Subject: CN=OISTE WISeKey Global Root GC CA,OU=OISTE Foundation Endorsed,O=WISeKey,C=CH
```

```
# Not Valid Before: Tue May 09 09:48:34 2017
```

```
# Not Valid After : Fri May 09 09:58:33 2042
```

```
# Fingerprint (SHA-256):
```

```
85:60:F9:1C:36:24:DA:BA:95:70:B5:FE:A0:DB:E3:6F:F1:1A:83:23:BE:94:86:85:4F:B3:F3:4A:55:71:19:8D
```

```
# Fingerprint (SHA1): E0:11:84:5E:34:DE:BE:88:81:B9:9C:F6:16:26:D1:96:1F:C3:B9:31
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "OISTE WISeKey Global Root GC CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\340\021\204\136\064\336\276\210\201\271\234\366\026\046\321\226
\037\303\271\061
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\251\326\271\055\057\223\144\370\245\151\312\221\351\150\007\043
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\155\061\013\060\011\006\003\125\004\006\023\002\103\110\061
\020\060\016\006\003\125\004\012\023\007\127\111\123\145\113\145
\171\061\042\060\040\006\003\125\004\013\023\031\117\111\123\124
\105\040\106\157\165\156\144\141\164\151\157\156\040\105\156\144
\157\162\163\145\144\061\050\060\046\006\003\125\004\003\023\037
\117\111\123\124\105\040\127\111\123\145\113\145\171\040\107\154
\157\142\141\154\040\122\157\157\164\040\107\103\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\041\052\126\014\256\332\014\253\100\105\277\053\242\055
\072\352
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Global G2 Root"
#
# Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef
# Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 11 00:00:00 2016
# Not Valid After : Mon Dec 31 00:00:00 2040
# Fingerprint (SHA-256):
9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C
# Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\106\060\202\003\056\240\003\002\001\002\002\020\135
\337\261\332\132\243\355\135\276\132\145\040\145\003\220\357\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\075
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107
\154\157\142\141\154\040\107\062\040\122\157\157\164\060\036\027

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\015\061\066\060\063\061\061\060\060\060\060\060\060\132\027\015
\064\060\061\062\063\061\060\060\060\060\060\060\132\060\075\061
\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060\017
\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164\061
\033\060\031\006\003\125\004\003\014\022\125\103\101\040\107\154
\157\142\141\154\040\107\062\040\122\157\157\164\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\305\346\053
\157\174\357\046\005\047\243\201\044\332\157\313\001\371\231\232
\251\062\302\042\207\141\101\221\073\313\303\150\033\006\305\114
\251\053\301\147\027\042\035\053\355\371\051\211\223\242\170\275
\222\153\240\243\015\242\176\312\223\263\246\321\214\065\325\165
\371\027\366\317\105\305\345\172\354\167\223\240\217\043\256\016
\032\003\177\276\324\320\355\056\173\253\106\043\133\377\054\346
\124\172\224\300\052\025\360\311\215\260\172\073\044\341\327\150
\342\061\074\006\063\106\266\124\021\246\245\057\042\124\052\130
\015\001\002\361\372\025\121\147\154\300\372\327\266\033\177\321
\126\210\057\032\072\215\073\273\202\021\340\107\000\320\122\207
\253\373\206\176\017\044\153\100\235\064\147\274\215\307\055\206
\157\171\076\216\251\074\027\113\177\260\231\343\260\161\140\334
\013\365\144\303\316\103\274\155\161\271\322\336\047\133\212\350
\330\306\256\341\131\175\317\050\055\065\270\225\126\032\361\262
\130\113\267\022\067\310\174\263\355\113\200\341\215\372\062\043
\266\157\267\110\225\010\261\104\116\205\214\072\002\124\040\057
\337\277\127\117\073\072\220\041\327\301\046\065\124\040\354\307
\077\107\354\357\132\277\113\172\301\255\073\027\120\134\142\330
\017\113\112\334\053\372\156\274\163\222\315\354\307\120\350\101
\226\327\251\176\155\330\351\035\217\212\265\271\130\222\272\112
\222\053\014\126\375\200\353\010\360\136\051\156\033\034\014\257
\217\223\211\255\333\275\243\236\041\312\211\031\354\337\265\303
\032\353\026\376\170\066\114\326\156\320\076\027\034\220\027\153
\046\272\373\172\057\277\021\034\030\016\055\163\003\217\240\345
\065\240\132\342\114\165\035\161\341\071\070\123\170\100\314\203
\223\327\012\236\235\133\217\212\344\345\340\110\344\110\262\107
\315\116\052\165\052\173\362\042\366\311\276\011\221\226\127\172
\210\210\254\356\160\254\371\334\051\343\014\034\073\022\116\104
\326\247\116\260\046\310\363\331\032\227\221\150\352\357\215\106
\006\322\126\105\130\232\074\014\017\203\270\005\045\303\071\317
\073\244\064\211\267\171\022\057\107\305\347\251\227\151\374\246
\167\147\265\337\173\361\172\145\025\344\141\126\145\002\003\001
\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\201\304\214\314\365\344\060\377\245\014\010\137\214\025
\147\041\164\001\337\337\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\023\145\042\365\216\053
\255\104\344\313\377\271\150\346\303\200\110\075\004\173\372\043
\057\172\355\066\332\262\316\155\366\346\236\345\137\130\217\313

\067\062\241\310\145\266\256\070\075\065\033\076\274\073\266\004
\320\274\371\111\365\233\367\205\305\066\266\313\274\370\310\071
\325\344\137\007\275\025\124\227\164\312\312\355\117\272\272\144
\166\237\201\270\204\105\111\114\215\157\242\353\261\314\321\303
\224\332\104\302\346\342\352\030\350\242\037\047\005\272\327\345
\326\251\315\335\357\166\230\215\000\016\315\033\372\003\267\216
\200\130\016\047\077\122\373\224\242\312\136\145\311\326\204\332
\271\065\161\363\046\300\117\167\346\201\047\322\167\073\232\024
\157\171\364\366\320\341\323\224\272\320\127\121\275\047\005\015
\301\375\310\022\060\356\157\215\021\053\010\235\324\324\277\200
\105\024\232\210\104\332\060\352\264\247\343\356\357\133\202\325
\076\326\255\170\222\333\134\074\363\330\255\372\270\153\177\304
\066\050\266\002\025\212\124\054\234\260\027\163\216\320\067\243
\024\074\230\225\000\014\051\005\133\236\111\111\261\137\307\343
\313\317\047\145\216\065\027\267\127\310\060\331\101\133\271\024
\266\350\302\017\224\061\247\224\230\314\152\353\265\341\047\365
\020\250\001\350\216\022\142\350\210\314\265\177\106\227\300\233
\020\146\070\032\066\106\137\042\150\075\337\311\306\023\047\253
\123\006\254\242\074\206\006\145\157\261\176\261\051\104\232\243
\272\111\151\050\151\217\327\345\137\255\004\206\144\157\032\240
\014\305\010\142\316\200\243\320\363\354\150\336\276\063\307\027
\133\177\200\304\114\114\261\246\204\212\303\073\270\011\315\024
\201\272\030\343\124\127\066\376\333\057\174\107\241\072\063\310
\371\130\073\104\117\261\312\002\211\004\226\050\150\305\113\270
\046\211\273\326\063\057\120\325\376\232\211\272\030\062\222\124
\306\133\340\235\371\136\345\015\042\233\366\332\342\310\041\262
\142\041\252\206\100\262\056\144\323\137\310\343\176\021\147\105
\037\005\376\343\242\357\263\250\263\363\175\217\370\014\037\042
\037\055\160\264\270\001\064\166\060\000\345\043\170\247\126\327
\120\037\212\373\006\365\302\031\360\320

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "UCA Global G2 Root"

Issuer: CN=UCA Global G2 Root,O=UniTrust,C=CN

Serial Number:5d:df:b1:da:5a:a3:ed:5d:be:5a:65:20:65:03:90:ef

Subject: CN=UCA Global G2 Root,O=UniTrust,C=CN

Not Valid Before: Fri Mar 11 00:00:00 2016

Not Valid After : Mon Dec 31 00:00:00 2040

Fingerprint (SHA-256):

9B:EA:11:C9:76:FE:01:47:64:C1:BE:56:A6:F9:14:B5:A5:60:31:7A:BD:99:88:39:33:82:E5:16:1A:A0:49:3C

Fingerprint (SHA1): 28:F9:78:16:19:7A:FF:18:25:18:AA:44:FE:C1:A0:CE:5C:B6:4C:8A

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

CKA_LABEL UTF8 "UCA Global G2 Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\050\371\170\026\031\172\377\030\045\030\252\104\376\301\240\316
\134\266\114\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\200\376\360\304\112\360\134\142\062\237\034\272\170\251\120\370
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\033\060\031\006\003\125\004\003\014\022\125\103\101
\040\107\154\157\142\141\154\040\107\062\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\135\337\261\332\132\243\355\135\276\132\145\040\145\003
\220\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "UCA Extended Validation Root"
#
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\132\060\202\003\102\240\003\002\001\002\002\020\117
\322\053\217\365\144\310\063\236\117\064\130\146\043\160\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\107
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\021\060
\017\006\003\125\004\012\014\010\125\156\151\124\162\165\163\164
\061\045\060\043\006\003\125\004\003\014\034\125\103\101\040\105
\170\164\145\156\144\145\144\040\126\141\154\151\144\141\164\151
\157\156\040\122\157\157\164\060\036\027\015\061\065\060\063\061
\063\060\060\060\060\060\060\132\027\015\063\070\061\062\063\061
\060\060\060\060\060\060\132\060\107\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\021\060\017\006\003\125\004\012\014
\010\125\156\151\124\162\165\163\164\061\045\060\043\006\003\125
\004\003\014\034\125\103\101\040\105\170\164\145\156\144\145\144
\040\126\141\154\151\144\141\164\151\157\156\040\122\157\157\164
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\251\011\007\050\023\002\260\231\340\144\252\036\103\026\172
\163\261\221\240\165\076\250\372\343\070\000\172\354\211\152\040
\017\213\305\260\233\063\003\132\206\306\130\206\325\301\205\273
\117\306\234\100\115\312\276\356\151\226\270\255\201\060\232\174
\222\005\353\005\053\232\110\320\270\166\076\226\310\040\273\322
\260\361\217\330\254\105\106\377\252\147\140\264\167\176\152\037
\074\032\122\172\004\075\007\074\205\015\204\320\037\166\012\367
\152\024\337\162\343\064\174\127\116\126\001\076\171\361\252\051
\073\154\372\370\217\155\115\310\065\337\256\353\334\044\356\171
\105\247\205\266\005\210\336\210\135\045\174\227\144\147\011\331
\277\132\025\005\206\363\011\036\354\130\062\063\021\363\167\144
\260\166\037\344\020\065\027\033\362\016\261\154\244\052\243\163
\374\011\037\036\062\031\123\021\347\331\263\054\056\166\056\241
\243\336\176\152\210\011\350\362\007\212\370\262\315\020\347\342
\163\100\223\273\010\321\077\341\374\013\224\263\045\357\174\246
\327\321\257\237\377\226\232\365\221\173\230\013\167\324\176\350
\007\322\142\265\225\071\343\363\361\155\017\016\145\204\212\143
\124\305\200\266\340\236\113\175\107\046\247\001\010\135\321\210
\236\327\303\062\104\372\202\112\012\150\124\177\070\123\003\314
\244\000\063\144\121\131\013\243\202\221\172\136\354\026\302\363

\052\346\142\332\052\333\131\142\020\045\112\052\201\013\107\007
\103\006\160\207\322\372\223\021\051\172\110\115\353\224\307\160
\115\257\147\325\121\261\200\040\001\001\264\172\010\246\220\177
\116\340\357\007\101\207\257\152\245\136\213\373\317\120\262\232
\124\257\303\211\272\130\055\365\060\230\261\066\162\071\176\111
\004\375\051\247\114\171\344\005\127\333\224\271\026\123\215\106
\263\035\225\141\127\126\177\257\360\026\133\141\130\157\066\120
\021\013\330\254\053\225\026\032\016\037\010\315\066\064\145\020
\142\146\325\200\137\024\040\137\055\014\240\170\012\150\326\054
\327\351\157\053\322\112\005\223\374\236\157\153\147\377\210\361
\116\245\151\112\122\067\005\352\306\026\215\322\304\231\321\202
\053\073\272\065\165\367\121\121\130\363\310\007\335\344\264\003
\177\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035
\016\004\026\004\024\331\164\072\344\060\075\015\367\022\334\176
\132\005\237\036\064\232\367\341\024\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\066\215
\227\314\102\025\144\051\067\233\046\054\326\373\256\025\151\054
\153\032\032\367\137\266\371\007\114\131\352\363\311\310\271\256
\314\272\056\172\334\300\365\260\055\300\073\257\237\160\005\021
\152\237\045\117\001\051\160\343\345\014\341\352\132\174\334\111
\273\301\036\052\201\365\026\113\162\221\310\242\061\271\252\332
\374\235\037\363\135\100\002\023\374\116\034\006\312\263\024\220
\124\027\031\022\032\361\037\327\014\151\132\366\161\170\364\224
\175\221\013\216\354\220\124\216\274\157\241\114\253\374\164\144
\375\161\232\370\101\007\241\315\221\344\074\232\340\233\062\071
\163\253\052\325\151\310\170\221\046\061\175\342\307\060\361\374
\024\170\167\022\016\023\364\335\026\224\277\113\147\173\160\123
\205\312\260\273\363\070\115\054\220\071\300\015\302\135\153\351
\342\345\325\210\215\326\054\277\253\033\276\265\050\207\022\027
\164\156\374\175\374\217\320\207\046\260\033\373\271\154\253\342
\236\075\025\301\073\056\147\002\130\221\237\357\370\102\037\054
\267\150\365\165\255\317\265\366\377\021\175\302\360\044\245\255
\323\372\240\074\251\372\135\334\245\240\357\104\244\276\326\350
\345\344\023\226\027\173\006\076\062\355\307\267\102\274\166\243
\330\145\070\053\070\065\121\041\016\016\157\056\064\023\100\341
\053\147\014\155\112\101\060\030\043\132\062\125\231\311\027\340
\074\336\366\354\171\255\053\130\031\242\255\054\042\032\225\216
\276\226\220\135\102\127\304\371\024\003\065\053\034\055\121\127
\010\247\072\336\077\344\310\264\003\163\302\301\046\200\273\013
\102\037\255\015\257\046\162\332\314\276\263\243\203\130\015\202
\305\037\106\121\343\234\030\314\215\233\215\354\111\353\165\120
\325\214\050\131\312\164\064\332\214\013\041\253\036\352\033\345
\307\375\025\076\300\027\252\373\043\156\046\106\313\372\371\261
\162\153\151\317\042\204\013\142\017\254\331\031\000\224\242\166
\074\324\055\232\355\004\236\055\006\142\020\067\122\034\205\162
\033\047\345\314\306\061\354\067\354\143\131\233\013\035\166\314

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\176\062\232\210\225\010\066\122\273\336\166\137\166\111\111\255
\177\275\145\040\262\311\301\053\166\030\166\237\126\261
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "UCA Extended Validation Root"
# Issuer: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Serial Number:4f:d2:2b:8f:f5:64:c8:33:9e:4f:34:58:66:23:70:60
# Subject: CN=UCA Extended Validation Root,O=UniTrust,C=CN
# Not Valid Before: Fri Mar 13 00:00:00 2015
# Not Valid After : Fri Dec 31 00:00:00 2038
# Fingerprint (SHA-256):
D4:3A:F9:B3:54:73:75:5C:96:84:FC:06:D7:D8:CB:70:EE:5C:28:E7:73:FB:29:4E:B4:1E:E7:17:22:92:4D:24
# Fingerprint (SHA1): A3:A1:B0:6F:24:61:23:4A:E3:36:A5:C2:37:FC:A6:FF:DD:F0:D7:3A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "UCA Extended Validation Root"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\243\241\260\157\044\141\043\112\343\066\245\302\067\374\246\377
\335\360\327\072
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\241\363\137\103\306\064\233\332\277\214\176\005\123\255\226\342
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\021\060\017\006\003\125\004\012\014\010\125\156\151\124\162\165
\163\164\061\045\060\043\006\003\125\004\003\014\034\125\103\101
\040\105\170\164\145\156\144\145\144\040\126\141\154\151\144\141
\164\151\157\156\040\122\157\157\164
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\117\322\053\217\365\144\310\063\236\117\064\130\146\043
\160\140
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certigna Root CA"
#
# Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

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# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Not Valid Before: Tue Oct 01 08:32:27 2013
# Not Valid After : Sat Oct 01 08:32:27 2033
# Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\133\060\202\004\103\240\003\002\001\002\002\021\000
\312\351\033\211\361\125\003\015\243\346\101\155\304\343\246\341
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061\022
\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157\164
\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060\060
\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063\066
\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164\151
\147\156\141\040\122\157\157\164\040\103\101\060\036\027\015\061
\063\061\060\060\061\060\070\063\062\062\067\132\027\015\063\063
\061\060\060\061\060\070\063\062\062\067\132\060\132\061\013\060
\011\006\003\125\004\006\023\002\106\122\061\022\060\020\006\003
\125\004\012\014\011\104\150\151\155\171\157\164\151\163\061\034
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\060\032\006\003\125\004\013\014\023\060\060\060\062\040\064\070
\061\064\066\063\060\070\061\060\060\060\063\066\061\031\060\027
\006\003\125\004\003\014\020\103\145\162\164\151\147\156\141\040
\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\315\030\071\145\032\131\261\352
\144\026\016\214\224\044\225\174\203\323\305\071\046\334\014\357
\026\127\215\327\330\254\243\102\177\202\312\355\315\133\333\016
\267\055\355\105\010\027\262\331\263\313\326\027\122\162\050\333
\216\116\236\212\266\013\371\236\204\232\115\166\336\042\051\134
\322\263\322\006\076\060\071\251\164\243\222\126\034\241\157\114
\012\040\155\237\043\172\264\306\332\054\344\035\054\334\263\050
\320\023\362\114\116\002\111\241\124\100\236\346\345\005\240\055
\204\310\377\230\154\320\353\212\032\204\010\036\267\150\043\356
\043\325\160\316\155\121\151\020\356\241\172\302\321\042\061\302
\202\205\322\362\125\166\120\174\045\172\311\204\134\013\254\335
\102\116\053\347\202\242\044\211\313\220\262\320\356\043\272\146
\114\273\142\244\371\123\132\144\173\174\230\372\243\110\236\017
\225\256\247\030\364\152\354\056\003\105\257\360\164\370\052\315
\172\135\321\276\104\046\062\051\361\361\365\154\314\176\002\041
\013\237\157\244\077\276\235\123\342\317\175\251\054\174\130\032
\227\341\075\067\067\030\146\050\322\100\305\121\212\214\303\055
\316\123\210\044\130\144\060\026\305\252\340\326\012\246\100\337
\170\366\365\004\174\151\023\204\274\321\321\247\006\317\001\367
\150\300\250\127\273\072\141\255\004\214\223\343\255\374\360\333
\104\155\131\334\111\131\256\254\232\231\066\060\101\173\166\063
\042\207\243\302\222\206\156\371\160\356\256\207\207\225\033\304
\172\275\061\363\324\322\345\231\377\276\110\354\165\365\170\026
\035\246\160\301\177\074\033\241\222\373\317\310\074\326\305\223
\012\217\365\125\072\166\225\316\131\230\212\011\225\167\062\232
\203\272\054\004\072\227\275\324\057\276\327\154\233\242\312\175
\155\046\311\125\325\317\303\171\122\010\011\231\007\044\055\144
\045\153\246\041\151\233\152\335\164\115\153\227\172\101\275\253
\027\371\220\027\110\217\066\371\055\325\305\333\356\252\205\105
\101\372\315\072\105\261\150\346\066\114\233\220\127\354\043\271
\207\010\302\304\011\361\227\206\052\050\115\342\164\300\332\304
\214\333\337\342\241\027\131\316\044\131\164\061\332\177\375\060
\155\331\334\341\152\341\374\137\002\003\001\000\001\243\202\001
\032\060\202\001\026\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\035\006\003\125\035\016\004\026\004
\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037\326
\341\342\171\176\053\060\037\006\003\125\035\043\004\030\060\026
\200\024\030\207\126\340\156\167\356\044\065\074\116\163\232\037
\326\341\342\171\176\053\060\104\006\003\125\035\040\004\075\060
\073\060\071\006\004\125\035\040\000\060\061\060\057\006\010\053
\006\001\005\005\007\002\001\026\043\150\164\164\160\163\072\057
\057\167\167\167\167\056\143\145\162\164\151\147\156\141\056\146

\162\057\141\165\164\157\162\151\164\145\163\057\060\155\006\003
\125\035\037\004\146\060\144\060\057\240\055\240\053\206\051\150
\164\164\160\072\057\057\143\162\154\056\143\145\162\164\151\147
\156\141\056\146\162\057\143\145\162\164\151\147\156\141\162\157
\157\164\143\141\056\143\162\154\060\061\240\057\240\055\206\053
\150\164\164\160\072\057\057\143\162\154\056\144\150\151\155\171
\157\164\151\163\056\143\157\155\057\143\145\162\164\151\147\156
\141\162\157\157\164\143\141\056\143\162\154\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\224
\270\236\117\360\343\225\010\042\347\315\150\101\367\034\125\325
\174\000\342\055\072\211\135\150\070\057\121\042\013\112\215\313
\351\273\135\076\273\134\075\261\050\376\344\123\125\023\317\241
\220\033\002\035\137\146\106\011\063\050\341\015\044\227\160\323
\020\037\352\144\127\226\273\135\332\347\304\214\117\114\144\106
\035\134\207\343\131\336\102\321\233\250\176\246\211\335\217\034
\311\060\202\355\073\234\315\300\351\031\340\152\330\002\165\067
\253\367\064\050\050\221\362\004\012\117\065\343\140\046\001\372
\320\021\214\371\021\152\356\257\075\303\120\323\217\137\063\171
\074\206\250\163\105\220\214\040\266\162\163\027\043\276\007\145
\345\170\222\015\272\001\300\353\214\034\146\277\254\206\167\001
\224\015\234\346\351\071\215\037\246\121\214\231\014\071\167\341
\264\233\372\034\147\127\157\152\152\216\251\053\114\127\171\172
\127\042\317\315\137\143\106\215\134\131\072\206\370\062\107\142
\243\147\015\030\221\334\373\246\153\365\110\141\163\043\131\216
\002\247\274\104\352\364\111\235\361\124\130\371\140\257\332\030
\244\057\050\105\334\172\240\210\206\135\363\073\347\377\051\065
\200\374\144\103\224\346\343\034\157\276\255\016\052\143\231\053
\311\176\205\366\161\350\006\003\225\376\336\217\110\034\132\324
\222\350\053\356\347\061\333\272\004\152\207\230\347\305\137\357
\175\247\042\367\001\330\115\371\211\320\016\232\005\131\244\236
\230\331\157\053\312\160\276\144\302\125\243\364\351\257\303\222
\051\334\210\026\044\231\074\215\046\230\266\133\267\314\316\267
\067\007\375\046\331\230\205\044\377\131\043\003\232\355\235\235
\250\344\136\070\316\327\122\015\157\322\077\155\261\005\153\111
\316\212\221\106\163\364\366\057\360\250\163\167\016\145\254\241
\215\146\122\151\176\113\150\014\307\036\067\047\203\245\214\307
\002\344\024\315\111\001\260\163\263\375\306\220\072\157\322\154
\355\073\356\354\221\276\242\103\135\213\000\112\146\045\104\160
\336\100\017\370\174\025\367\242\316\074\327\136\023\214\201\027
\030\027\321\275\361\167\020\072\324\145\071\301\047\254\127\054
\045\124\377\242\332\117\212\141\071\136\256\075\112\214\275

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certigna Root CA"

Issuer: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR

```

# Serial Number:00:ca:e9:1b:89:f1:55:03:0d:a3:e6:41:6d:c4:e3:a6:e1
# Subject: CN=Certigna Root CA,OU=0002 48146308100036,O=Dhimyotis,C=FR
# Not Valid Before: Tue Oct 01 08:32:27 2013
# Not Valid After : Sat Oct 01 08:32:27 2033
# Fingerprint (SHA-256):
D4:8D:3D:23:EE:DB:50:A4:59:E5:51:97:60:1C:27:77:4B:9D:7B:18:C9:4D:5A:05:95:11:A1:02:50:B9:31:68
# Fingerprint (SHA1): 2D:0D:52:14:FF:9E:AD:99:24:01:74:20:47:6E:6C:85:27:27:F5:43
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certigna Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\055\015\122\024\377\236\255\231\044\001\164\040\107\156\154\205
\047\047\365\103
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\016\134\060\142\047\353\133\274\327\256\142\272\351\325\337\167
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\106\122\061
\022\060\020\006\003\125\004\012\014\011\104\150\151\155\171\157
\164\151\163\061\034\060\032\006\003\125\004\013\014\023\060\060
\060\062\040\064\070\061\064\066\063\060\070\061\060\060\060\063
\066\061\031\060\027\006\003\125\004\003\014\020\103\145\162\164
\151\147\156\141\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\021\000\312\351\033\211\361\125\003\015\243\346\101\155\304
\343\246\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign Root CA - G1"
#
# Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8
# Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

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CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_VALUE MULTILINE_OCTAL
\060\202\003\224\060\202\002\174\240\003\002\001\002\002\012\061
\365\344\142\014\154\130\355\326\330\060\015\006\011\052\206\110
\206\367\015\001\001\013\005\000\060\147\061\013\060\011\006\003
\125\004\006\023\002\111\116\061\023\060\021\006\003\125\004\013
\023\012\145\155\123\151\147\156\040\120\113\111\061\045\060\043
\006\003\125\004\012\023\034\145\115\165\144\150\162\141\040\124
\145\143\150\156\157\154\157\147\151\145\163\040\114\151\155\151
\164\145\144\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\107
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034
\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157
\147\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032
\006\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157
\157\164\040\103\101\040\055\040\107\061\060\202\001\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001
\017\000\060\202\001\012\002\202\001\001\000\223\113\273\351\146
```

\212\356\235\133\325\064\223\320\033\036\303\347\236\270\144\063
\177\143\170\150\264\315\056\161\165\327\233\040\306\115\051\274
\266\150\140\212\367\041\232\126\065\132\363\166\275\330\315\232
\377\223\126\113\245\131\006\241\223\064\051\335\026\064\165\116
\362\201\264\307\226\116\255\031\025\122\112\376\074\160\165\160
\315\257\053\253\025\232\063\074\252\263\213\252\315\103\375\365
\352\160\377\355\317\021\073\224\316\116\062\026\323\043\100\052
\167\263\257\074\001\054\154\355\231\054\213\331\116\151\230\262
\367\217\101\260\062\170\141\326\015\137\303\372\242\100\222\035
\134\027\346\160\076\065\347\242\267\302\142\342\253\244\070\114
\265\071\065\157\352\003\151\372\072\124\150\205\155\326\362\057
\103\125\036\221\015\016\330\325\152\244\226\321\023\074\054\170
\120\350\072\222\322\027\126\345\065\032\100\034\076\215\054\355
\071\337\102\340\203\101\164\337\243\315\302\206\140\110\150\343
\151\013\124\000\213\344\166\151\041\015\171\116\064\010\136\024
\302\314\261\267\255\327\174\160\212\307\205\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\373
\357\015\206\236\260\343\335\251\271\361\041\027\177\076\374\360
\167\053\032\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\001\001\000\131\377\362\214\365\207\175\161
\075\243\237\033\133\321\332\370\323\234\153\066\275\233\251\141
\353\336\026\054\164\075\236\346\165\332\327\272\247\274\102\027
\347\075\221\353\345\175\335\076\234\361\317\222\254\154\110\314
\302\042\077\151\073\305\266\025\057\243\065\306\150\052\034\127
\257\071\357\215\320\065\303\030\014\173\000\126\034\315\213\031
\164\336\276\017\022\340\320\252\241\077\002\064\261\160\316\235
\030\326\010\003\011\106\356\140\340\176\266\304\111\004\121\175
\160\140\274\252\262\377\171\162\172\246\035\075\137\052\370\312
\342\375\071\267\107\271\353\176\337\004\043\257\372\234\006\007
\351\373\143\223\200\100\265\306\154\012\061\050\316\014\237\317
\263\043\065\200\101\215\154\304\067\173\201\057\200\241\100\102
\205\351\331\070\215\350\241\123\315\001\277\151\350\132\006\362
\105\013\220\372\256\341\277\235\362\256\127\074\245\256\262\126
\364\213\145\100\351\375\061\201\054\364\071\011\330\356\153\247
\264\246\035\025\245\230\367\001\201\330\205\175\363\121\134\161
\210\336\272\314\037\200\176\112

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "emSign Root CA - G1"

Issuer: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Serial Number:31:f5:e4:62:0c:6c:58:ed:d6:d8

Subject: CN=emSign Root CA - G1,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN

Not Valid Before: Sun Feb 18 18:30:00 2018

```
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
40:F6:AF:03:46:A9:9A:A1:CD:1D:55:5A:4E:9C:CE:62:C7:F9:63:46:03:EE:40:66:15:83:3D:C8:C8:D0:03:67
# Fingerprint (SHA1): 8A:C7:AD:8F:73:AC:4E:C1:B5:75:4D:A5:40:F4:FC:CF:7C:B5:8E:8C
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "emSign Root CA - G1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\212\307\255\217\163\254\116\301\265\165\115\245\100\364\374\317
\174\265\216\214
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\234\102\204\127\335\313\013\247\056\225\255\266\363\332\274\254
END
CKA_ISSUER MULTILINE_OCTAL
\060\147\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\107\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\061\365\344\142\014\154\130\355\326\330
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "emSign ECC Root CA - G3"
#
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
# Not Valid Before: Sun Feb 18 18:30:00 2018
# Not Valid After : Wed Feb 18 18:30:00 2043
# Fingerprint (SHA-256):
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

CKA_LABEL UTF8 "emSign ECC Root CA - G3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END

CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\107\063
END

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\074\366\007\251\150\160\016\332\213\204
END

CKA_VALUE MULTILINE_OCTAL
\060\202\002\116\060\202\001\323\240\003\002\001\002\002\012\074
\366\007\251\150\160\016\332\213\204\060\012\006\010\052\206\110
\316\075\004\003\003\060\153\061\013\060\011\006\003\125\004\006
\023\002\111\116\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\045\060\043\006\003\125
\004\012\023\034\145\115\165\144\150\162\141\040\124\145\143\150
\156\157\154\157\147\151\145\163\040\114\151\155\151\164\145\144
\061\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\107\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060
\060\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060
\060\132\060\153\061\013\060\011\006\003\125\004\006\023\002\111
\116\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151
\147\156\040\120\113\111\061\045\060\043\006\003\125\004\012\023
\034\145\115\165\144\150\162\141\040\124\145\143\150\156\157\154
\157\147\151\145\163\040\114\151\155\151\164\145\144\061\040\060
\036\006\003\125\004\003\023\027\145\155\123\151\147\156\040\105
\103\103\040\122\157\157\164\040\103\101\040\055\040\107\063\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\043\245\014\270\055\022\365\050\363
\261\262\335\342\002\022\200\236\071\137\111\115\237\311\045\064
\131\164\354\273\006\034\347\300\162\257\350\256\057\341\101\124
\207\024\250\112\262\350\174\202\346\133\152\265\334\263\165\316

```
\213\006\320\206\043\277\106\325\216\017\077\004\364\327\034\222
\176\366\245\143\302\365\137\216\056\117\241\030\031\002\053\062
\012\202\144\175\026\223\321\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\174\135\002\204\023\324\314\212\233\201
\316\027\034\056\051\036\234\110\143\102\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\276
\363\141\317\002\020\035\144\225\007\270\030\156\210\205\005\057
\203\010\027\220\312\037\212\114\350\015\033\172\261\255\325\201
\011\107\357\073\254\010\004\174\134\231\261\355\107\007\322\002
\061\000\235\272\125\374\251\112\350\355\355\346\166\001\102\173
\310\370\140\331\215\121\213\125\073\373\214\173\353\145\011\303
\370\226\315\107\250\202\362\026\125\167\044\176\022\020\225\004
\054\243
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign ECC Root CA - G3"
```

```
# Issuer: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Serial Number:3c:f6:07:a9:68:70:0e:da:8b:84
```

```
# Subject: CN=emSign ECC Root CA - G3,O=eMudhra Technologies Limited,OU=emSign PKI,C=IN
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
86:A1:EC:BA:08:9C:4A:8D:3B:BE:27:34:C6:12:BA:34:1D:81:3E:04:3C:F9:E8:A8:62:CD:5C:57:A3:6B:BE:6B
```

```
# Fingerprint (SHA1): 30:43:FA:4F:F2:57:DC:A0:C3:80:EE:2E:58:EA:78:B2:3F:E6:BB:C1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign ECC Root CA - G3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\060\103\372\117\362\127\334\240\303\200\356\056\130\352\170\262
\077\346\273\301
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\316\013\162\321\237\210\216\320\120\003\350\343\270\213\147\100
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\153\061\013\060\011\006\003\125\004\006\023\002\111\116\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\045\060\043\006\003\125\004\012\023\034\145
\115\165\144\150\162\141\040\124\145\143\150\156\157\154\157\147
\151\145\163\040\114\151\155\151\164\145\144\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
```

\040\122\157\157\164\040\103\101\040\055\040\107\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\012\074\366\007\251\150\160\016\332\213\204

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "emSign Root CA - C1"

#

Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2

Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F

Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign Root CA - C1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003

\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164

\040\103\101\040\055\040\103\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156

\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145

\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003

\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164

\040\103\101\040\055\040\103\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\000\256\317\000\272\304\317\062\370\103\262

END

CKA_VALUE MULTILINE_OCTAL

\060\202\003\163\060\202\002\133\240\003\002\001\002\002\013\000
\256\317\000\272\304\317\062\370\103\262\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\126\061\013\060\011\006
\003\125\004\006\023\002\125\123\061\023\060\021\006\003\125\004
\013\023\012\145\155\123\151\147\156\040\120\113\111\061\024\060
\022\006\003\125\004\012\023\013\145\115\165\144\150\162\141\040
\111\156\143\061\034\060\032\006\003\125\004\003\023\023\145\155
\123\151\147\156\040\122\157\157\164\040\103\101\040\055\040\103
\061\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006
\003\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157
\164\040\103\101\040\055\040\103\061\060\202\001\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\001\017
\000\060\202\001\012\002\202\001\001\000\317\353\251\271\361\231
\005\314\330\050\041\112\363\163\064\121\204\126\020\365\240\117
\054\022\343\372\023\232\047\320\317\371\171\032\164\137\035\171
\071\374\133\370\160\216\340\222\122\367\344\045\371\124\203\331
\035\323\310\132\205\077\136\307\266\007\356\076\300\316\232\257
\254\126\102\052\071\045\160\326\277\265\173\066\255\254\366\163
\334\315\327\035\212\203\245\373\053\220\025\067\153\034\046\107
\334\073\051\126\223\152\263\301\152\072\235\075\365\301\227\070
\130\005\213\034\021\343\344\264\270\135\205\035\203\376\170\137
\013\105\150\030\110\245\106\163\064\073\376\017\310\166\273\307
\030\363\005\321\206\363\205\355\347\271\331\062\255\125\210\316
\246\266\221\260\117\254\176\025\043\226\366\077\360\040\064\026
\336\012\306\304\004\105\171\177\247\375\276\322\251\245\257\234
\305\043\052\367\074\041\154\275\257\217\116\305\072\262\363\064
\022\374\337\200\032\111\244\324\251\225\367\236\211\136\242\211
\254\224\313\250\150\233\257\212\145\047\315\211\356\335\214\265
\153\051\160\103\240\151\013\344\271\017\002\003\001\000\001\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\376\241
\340\160\036\052\003\071\122\132\102\276\134\221\205\172\030\252
\115\265\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\001\001\000\302\112\126\372\025\041\173\050\242
\351\345\035\373\370\055\304\071\226\101\114\073\047\054\304\154
\030\025\200\306\254\257\107\131\057\046\013\343\066\260\357\073
\376\103\227\111\062\231\022\025\133\337\021\051\377\253\123\370
\273\301\170\017\254\234\123\257\127\275\150\214\075\151\063\360
\243\240\043\143\073\144\147\042\104\255\325\161\313\126\052\170
\222\243\117\022\061\066\066\342\336\376\000\304\243\140\017\047
\255\240\260\212\265\066\172\122\241\275\047\364\040\047\142\350
\115\224\044\023\344\012\004\351\074\253\056\310\103\011\112\306

```
\141\004\345\111\064\176\323\304\310\365\017\300\252\351\272\124
\136\363\143\053\117\117\120\324\376\271\173\231\214\075\300\056
\274\002\053\323\304\100\344\212\007\061\036\233\316\046\231\023
\373\021\352\232\042\014\021\031\307\136\033\201\120\060\310\226
\022\156\347\313\101\177\221\073\242\107\267\124\200\033\334\000
\314\232\220\352\303\303\120\006\142\014\060\300\025\110\247\250
\131\174\341\256\042\242\342\012\172\017\372\142\253\122\114\341
\361\337\312\276\203\015\102
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "emSign Root CA - C1"
```

```
# Issuer: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Serial Number:00:ae:cf:00:ba:c4:cf:32:f8:43:b2
```

```
# Subject: CN=emSign Root CA - C1,O=eMudhra Inc,OU=emSign PKI,C=US
```

```
# Not Valid Before: Sun Feb 18 18:30:00 2018
```

```
# Not Valid After : Wed Feb 18 18:30:00 2043
```

```
# Fingerprint (SHA-256):
```

```
12:56:09:AA:30:1D:A0:A2:49:B9:7A:82:39:CB:6A:34:21:6F:44:DC:AC:9F:39:54:B1:42:92:F2:E8:C8:60:8F
```

```
# Fingerprint (SHA1): E7:2E:F1:DF:FC:B2:09:28:CF:5D:D4:D5:67:37:B1:51:CB:86:4F:01
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "emSign Root CA - C1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\347\056\361\337\374\262\011\050\317\135\324\325\147\067\261\121
\313\206\117\001
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\330\343\135\001\041\372\170\132\260\337\272\322\356\052\137\150
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\126\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\034\060\032\006\003
\125\004\003\023\023\145\155\123\151\147\156\040\122\157\157\164
\040\103\101\040\055\040\103\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\013\000\256\317\000\272\304\317\062\370\103\262
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "emSign ECC Root CA - C3"

#

Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign ECC Root CA - C3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\012\173\161\266\202\126\270\022\174\234\250

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\053\060\202\001\261\240\003\002\001\002\002\012\173
\161\266\202\126\270\022\174\234\250\060\012\006\010\052\206\110
\316\075\004\003\003\060\132\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\023\060\021\006\003\125\004\013\023\012\145
\155\123\151\147\156\040\120\113\111\061\024\060\022\006\003\125
\004\012\023\013\145\115\165\144\150\162\141\040\111\156\143\061
\040\060\036\006\003\125\004\003\023\027\145\155\123\151\147\156
\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040\103

\063\060\036\027\015\061\070\060\062\061\070\061\070\063\060\060
\060\132\027\015\064\063\060\062\061\070\061\070\063\060\060\060
\132\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147
\156\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013
\145\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006
\003\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103
\040\122\157\157\164\040\103\101\040\055\040\103\063\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\375\245\141\256\173\046\020\035\351\267\042
\060\256\006\364\201\263\261\102\161\225\071\274\323\122\343\257
\257\371\362\227\065\222\066\106\016\207\225\215\271\071\132\351
\273\337\320\376\310\007\101\074\273\125\157\203\243\152\373\142
\260\201\211\002\160\175\110\305\112\343\351\042\124\042\115\223
\273\102\014\257\167\234\043\246\175\327\141\021\316\145\307\370
\177\376\365\362\251\243\102\060\100\060\035\006\003\125\035\016
\004\026\004\024\373\132\110\320\200\040\100\362\250\351\000\007
\151\031\167\247\346\303\364\317\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001
\001\377\004\005\060\003\001\001\377\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\264\330\057
\002\211\375\266\114\142\272\103\116\023\204\162\265\256\335\034
\336\326\265\334\126\217\130\100\132\055\336\040\114\042\203\312
\223\250\176\356\022\100\307\326\207\117\370\337\205\002\060\034
\024\144\344\174\226\203\021\234\260\321\132\141\113\246\017\111
\323\000\374\241\374\344\245\377\177\255\327\060\320\307\167\177
\276\201\007\125\060\120\040\024\365\127\070\012\250\061\121

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "emSign ECC Root CA - C3"

Issuer: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Serial Number:7b:71:b6:82:56:b8:12:7c:9c:a8

Subject: CN=emSign ECC Root CA - C3,O=eMudhra Inc,OU=emSign PKI,C=US

Not Valid Before: Sun Feb 18 18:30:00 2018

Not Valid After : Wed Feb 18 18:30:00 2043

Fingerprint (SHA-256):

BC:4D:80:9B:15:18:9D:78:DB:3E:1D:8C:F4:F9:72:6A:79:5D:A1:64:3C:A5:F1:35:8E:1D:DB:0E:DC:0D:7E:B3

Fingerprint (SHA1): B6:AF:43:C2:9B:81:53:7D:F6:EF:6B:C3:1F:1F:60:15:0C:EE:48:66

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "emSign ECC Root CA - C3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\266\257\103\302\233\201\123\175\366\357\153\303\037\037\140\025

```
\014\356\110\146
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\076\123\263\243\201\356\327\020\370\323\260\035\027\222\365\325
END
CKA_ISSUER MULTILINE_OCTAL
\060\132\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\023\060\021\006\003\125\004\013\023\012\145\155\123\151\147\156
\040\120\113\111\061\024\060\022\006\003\125\004\012\023\013\145
\115\165\144\150\162\141\040\111\156\143\061\040\060\036\006\003
\125\004\003\023\027\145\155\123\151\147\156\040\105\103\103\040
\122\157\157\164\040\103\101\040\055\040\103\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\012\173\161\266\202\126\270\022\174\234\250
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Hongkong Post Root CA 3"
#
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
# Not Valid Before: Sat Jun 03 02:29:46 2017
# Not Valid After : Tue Jun 03 02:29:46 2042
# Fingerprint (SHA-256):
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063
END
```

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\317\060\202\003\267\240\003\002\001\002\002\024\010
\026\137\212\114\245\354\000\311\223\100\337\304\306\256\043\270
\034\132\244\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\157\061\013\060\011\006\003\125\004\006\023\002\110
\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156\147
\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023\011
\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003\125
\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157\163
\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156\147
\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040\103
\101\040\063\060\036\027\015\061\067\060\066\060\063\060\062\062
\071\064\066\132\027\015\064\062\060\066\060\063\060\062\062\071
\064\066\132\060\157\061\013\060\011\006\003\125\004\006\023\002
\110\113\061\022\060\020\006\003\125\004\010\023\011\110\157\156
\147\040\113\157\156\147\061\022\060\020\006\003\125\004\007\023
\011\110\157\156\147\040\113\157\156\147\061\026\060\024\006\003
\125\004\012\023\015\110\157\156\147\153\157\156\147\040\120\157
\163\164\061\040\060\036\006\003\125\004\003\023\027\110\157\156
\147\153\157\156\147\040\120\157\163\164\040\122\157\157\164\040
\103\101\040\063\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\263\210\327\352\316\017\040\116\276\346\326
\003\155\356\131\374\302\127\337\051\150\241\203\016\076\150\307
\150\130\234\034\140\113\211\103\014\271\324\025\262\356\301\116
\165\351\265\247\357\345\351\065\231\344\314\034\347\113\137\215
\063\060\040\063\123\331\246\273\325\076\023\216\351\037\207\111
\255\120\055\120\312\030\276\001\130\242\023\160\226\273\211\210
\126\200\134\370\275\054\074\341\114\127\210\273\323\271\225\357
\313\307\366\332\061\164\050\246\346\124\211\365\101\061\312\345
\046\032\315\202\340\160\332\073\051\273\325\003\365\231\272\125
\365\144\321\140\016\263\211\111\270\212\057\005\322\204\105\050
\174\217\150\120\022\170\374\013\265\123\313\302\230\034\204\243

\236\260\276\043\244\332\334\310\053\036\332\156\105\036\211\230
\332\371\000\056\006\351\014\073\160\325\120\045\210\231\313\315
\163\140\367\325\377\065\147\305\241\274\136\253\315\112\270\105
\353\310\150\036\015\015\024\106\022\343\322\144\142\212\102\230
\274\264\306\010\010\370\375\250\114\144\234\166\001\275\057\251
\154\063\017\330\077\050\270\074\151\001\102\206\176\151\301\311
\006\312\345\172\106\145\351\302\326\120\101\056\077\267\344\355
\154\327\277\046\001\021\242\026\051\112\153\064\006\220\354\023
\322\266\373\152\166\322\074\355\360\326\055\335\341\025\354\243
\233\057\054\311\076\053\344\151\073\377\162\045\261\066\206\133
\307\177\153\213\125\033\112\305\040\141\075\256\313\120\341\010
\072\276\260\217\143\101\123\060\010\131\074\230\035\167\272\143
\221\172\312\020\120\140\277\360\327\274\225\207\217\227\305\376
\227\152\001\224\243\174\133\205\035\052\071\072\320\124\241\321
\071\161\235\375\041\371\265\173\360\342\340\002\217\156\226\044
\045\054\240\036\054\250\304\211\247\357\355\231\006\057\266\012
\114\117\333\242\314\067\032\257\107\205\055\212\137\304\064\064
\114\000\375\030\223\147\023\321\067\346\110\264\213\006\305\127
\173\031\206\012\171\313\000\311\122\257\102\377\067\217\341\243
\036\172\075\120\253\143\006\347\025\265\077\266\105\067\224\067
\261\176\362\110\303\177\305\165\376\227\215\105\217\032\247\032
\162\050\032\100\017\002\003\001\000\001\243\143\060\141\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\037\006\003\125\035\043\004\030\060\026\200\024\027\235\315\036
\213\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141
\060\035\006\003\125\035\016\004\026\004\024\027\235\315\036\213
\326\071\053\160\323\134\324\240\270\037\260\000\374\305\141\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\126\325\173\156\346\042\001\322\102\233\030\325\016
\327\146\043\134\343\376\240\307\222\322\351\224\255\113\242\306
\354\022\174\164\325\110\322\131\024\231\300\353\271\321\353\364
\110\060\133\255\247\127\163\231\251\323\345\267\321\056\131\044
\130\334\150\056\056\142\330\152\344\160\013\055\040\120\040\244
\062\225\321\000\230\273\323\375\367\062\362\111\256\306\172\340
\107\276\156\316\313\243\162\072\055\151\135\313\310\350\105\071
\324\372\102\301\021\114\167\135\222\373\152\377\130\104\345\353
\201\236\257\240\231\255\276\251\001\146\313\070\035\074\337\103
\037\364\115\156\264\272\027\106\374\175\375\207\201\171\152\015
\063\017\372\057\370\024\271\200\263\135\115\252\227\341\371\344
\030\305\370\325\070\214\046\074\375\362\050\342\356\132\111\210
\054\337\171\075\216\236\220\074\275\101\112\072\335\133\366\232
\264\316\077\045\060\177\062\175\242\003\224\320\334\172\241\122
\336\156\223\215\030\046\375\125\254\275\217\233\322\317\257\347
\206\054\313\037\011\157\243\157\251\204\324\163\277\115\241\164
\033\116\043\140\362\314\016\252\177\244\234\114\045\250\262\146
\073\070\377\331\224\060\366\162\204\276\150\125\020\017\306\163
\054\026\151\223\007\376\261\105\355\273\242\125\152\260\332\265

```
\112\002\045\047\205\327\267\267\206\104\026\211\154\200\053\076
\227\251\234\325\176\125\114\306\336\105\020\034\352\351\073\237
\003\123\356\356\172\001\002\026\170\324\350\302\276\106\166\210
\023\077\042\273\110\022\035\122\000\264\002\176\041\032\036\234
\045\364\363\075\136\036\322\034\371\263\055\266\367\067\134\306
\313\041\116\260\367\231\107\030\205\301\053\272\125\256\006\352
\320\007\262\334\253\320\202\226\165\316\322\120\376\231\347\317
\057\237\347\166\321\141\052\373\041\273\061\320\252\237\107\244
\262\042\312\026\072\120\127\304\133\103\147\305\145\142\003\111
\001\353\103\331\330\370\236\255\317\261\143\016\105\364\240\132
\054\233\055\305\246\300\255\250\107\364\047\114\070\015\056\033
\111\073\122\364\350\210\203\053\124\050\324\362\065\122\264\062
\203\142\151\144\014\221\234\237\227\352\164\026\375\037\021\006
\232\233\364
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Hongkong Post Root CA 3"
```

```
# Issuer: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
```

```
# Serial Number:08:16:5f:8a:4c:a5:ec:00:c9:93:40:df:c4:c6:ae:23:b8:1c:5a:a4
```

```
# Subject: CN=Hongkong Post Root CA 3,O=Hongkong Post,L=Hong Kong,ST=Hong Kong,C=HK
```

```
# Not Valid Before: Sat Jun 03 02:29:46 2017
```

```
# Not Valid After : Tue Jun 03 02:29:46 2042
```

```
# Fingerprint (SHA-256):
```

```
5A:2F:C0:3F:0C:83:B0:90:BB:FA:40:60:4B:09:88:44:6C:76:36:18:3D:F9:84:6E:17:10:1A:44:7F:B8:EF:D6
```

```
# Fingerprint (SHA1): 58:A2:D0:EC:20:52:81:5B:C1:F3:F8:64:02:24:4E:C2:8E:02:4B:02
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Hongkong Post Root CA 3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\130\242\320\354\040\122\201\133\301\363\370\144\002\044\116\302
\216\002\113\002
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\021\374\237\275\163\060\002\212\375\077\363\130\271\313\040\360
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\157\061\013\060\011\006\003\125\004\006\023\002\110\113\061
\022\060\020\006\003\125\004\010\023\011\110\157\156\147\040\113
\157\156\147\061\022\060\020\006\003\125\004\007\023\011\110\157
\156\147\040\113\157\156\147\061\026\060\024\006\003\125\004\012
\023\015\110\157\156\147\153\157\156\147\040\120\157\163\164\061
\040\060\036\006\003\125\004\003\023\027\110\157\156\147\153\157
\156\147\040\120\157\163\164\040\122\157\157\164\040\103\101\040
```

```

\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\010\026\137\212\114\245\354\000\311\223\100\337\304\306
\256\043\270\034\132\244
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Entrust Root Certification Authority - G4"
#
# Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58
# Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use
only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US
# Not Valid Before: Wed May 27 11:11:16 2015
# Not Valid After : Sun Dec 27 11:41:16 2037
# Fingerprint (SHA-256):
DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88
# Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123

```

\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130

END

CKA_VALUE MULTILINE_OCTAL

\060\202\006\113\060\202\004\063\240\003\002\001\002\002\021\000
\331\265\103\177\257\251\071\017\000\000\000\000\125\145\255\130
\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060
\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165\163
\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004\013
\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165\163
\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162\155
\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051\040
\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111\156
\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162\151
\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060\060
\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107\064
\060\036\027\015\061\065\060\065\062\067\061\061\061\061\061\066
\132\027\015\063\067\061\062\062\067\061\061\064\061\061\066\132
\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001

\001\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002
\001\000\261\354\054\102\356\342\321\060\377\245\222\107\342\055
\303\272\144\227\155\312\367\015\265\131\301\263\313\250\150\031
\330\257\204\155\060\160\135\176\363\056\322\123\231\341\376\037
\136\331\110\257\135\023\215\333\377\143\063\115\323\000\002\274
\304\370\321\006\010\224\171\130\212\025\336\051\263\375\375\304
\117\350\252\342\240\073\171\315\277\153\103\062\335\331\164\020
\271\367\364\150\324\273\320\207\325\252\113\212\052\157\052\004
\265\262\246\307\240\172\346\110\253\322\321\131\314\326\176\043
\346\227\154\360\102\345\334\121\113\025\101\355\111\112\311\336
\020\227\326\166\301\357\245\265\066\024\227\065\330\170\042\065
\122\357\103\275\333\047\333\141\126\202\064\334\313\210\140\014
\013\132\345\054\001\306\124\257\327\252\301\020\173\322\005\132
\270\100\236\206\247\303\220\206\002\126\122\011\172\234\322\047
\202\123\112\145\122\152\365\074\347\250\362\234\257\213\275\323
\016\324\324\136\156\207\236\152\075\105\035\321\135\033\364\351
\012\254\140\231\373\211\264\377\230\054\317\174\035\351\002\252
\004\232\036\270\334\210\156\045\263\154\146\367\074\220\363\127
\301\263\057\365\155\362\373\312\241\370\051\235\106\213\263\152
\366\346\147\007\276\054\147\012\052\037\132\262\076\127\304\323
\041\041\143\145\122\221\033\261\231\216\171\176\346\353\215\000
\331\132\252\352\163\350\244\202\002\107\226\376\133\216\124\141
\243\353\057\113\060\260\213\043\165\162\174\041\074\310\366\361
\164\324\034\173\243\005\125\356\273\115\073\062\276\232\167\146
\236\254\151\220\042\007\037\141\072\226\276\345\232\117\314\005
\074\050\131\323\301\014\124\250\131\141\275\310\162\114\350\334
\237\207\177\275\234\110\066\136\225\243\016\271\070\044\125\374
\165\146\353\002\343\010\064\051\112\306\343\053\057\063\240\332
\243\206\245\022\227\375\200\053\332\024\102\343\222\275\076\362
\135\136\147\164\056\034\210\107\051\064\137\342\062\250\234\045
\067\214\272\230\000\227\213\111\226\036\375\045\212\254\334\332
\330\135\164\156\146\260\377\104\337\241\030\306\276\110\057\067
\224\170\370\225\112\077\177\023\136\135\131\375\164\206\103\143
\163\111\002\003\001\000\001\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\237\070\304\126\043\303\071\350\240
\161\154\350\124\114\344\350\072\261\277\147\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\003\202\002\001\000\022
\345\102\246\173\213\017\014\344\106\245\266\140\100\207\214\045
\176\255\270\150\056\133\306\100\166\074\003\370\311\131\364\363
\253\142\316\020\215\264\132\144\214\150\300\260\162\103\064\322
\033\013\366\054\123\322\312\220\113\206\146\374\252\203\042\364
\213\032\157\046\110\254\166\167\010\277\305\230\134\364\046\211
\236\173\303\271\144\062\001\177\323\303\335\130\155\354\261\253
\204\125\164\167\204\004\047\122\153\206\114\316\335\271\145\377
\326\306\136\237\232\020\231\113\165\152\376\152\351\227\040\344
\344\166\172\306\320\044\252\220\315\040\220\272\107\144\373\177

```
\007\263\123\170\265\012\142\362\163\103\316\101\053\201\152\056
\205\026\224\123\324\153\137\162\042\253\121\055\102\325\000\234
\231\277\336\273\224\073\127\375\232\365\206\313\126\073\133\210
\001\345\174\050\113\003\371\111\203\174\262\177\174\343\355\216
\241\177\140\123\216\125\235\120\064\022\017\267\227\173\154\207
\112\104\347\365\155\354\200\067\360\130\031\156\112\150\166\360
\037\222\344\352\265\222\323\141\121\020\013\255\247\331\137\307
\137\334\037\243\134\214\241\176\233\267\236\323\126\157\146\136
\007\226\040\355\013\164\373\146\116\213\021\025\351\201\111\176
\157\260\324\120\177\042\327\137\145\002\015\246\364\205\036\330
\256\006\113\112\247\322\061\146\302\370\316\345\010\246\244\002
\226\104\150\127\304\325\063\317\031\057\024\304\224\034\173\244
\331\360\237\016\261\200\342\321\236\021\144\251\210\021\072\166
\202\345\142\302\200\330\244\203\355\223\357\174\057\220\260\062
\114\226\025\150\110\122\324\231\010\300\044\350\034\343\263\245
\041\016\222\300\220\037\317\040\137\312\073\070\307\267\155\072
\363\346\104\270\016\061\153\210\216\160\353\234\027\122\250\101
\224\056\207\266\347\246\022\305\165\337\133\300\012\156\173\244
\344\136\206\371\066\224\337\167\303\351\015\300\071\361\171\273
\106\216\253\103\131\047\267\040\273\043\351\126\100\041\354\061
\075\145\252\103\362\075\337\160\104\341\272\115\046\020\073\230
\237\363\310\216\033\070\126\041\152\121\223\323\221\312\106\332
\211\267\075\123\203\054\010\037\213\217\123\335\377\254\037
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

Trust for "Entrust Root Certification Authority - G4"

Issuer: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Serial Number:00:d9:b5:43:7f:af:a9:39:0f:00:00:00:00:55:65:ad:58

Subject: CN=Entrust Root Certification Authority - G4,OU="(c) 2015 Entrust, Inc. - for authorized use only",OU=See www.entrust.net/legal-terms,O="Entrust, Inc.",C=US

Not Valid Before: Wed May 27 11:11:16 2015

Not Valid After : Sun Dec 27 11:41:16 2037

Fingerprint (SHA-256):

DB:35:17:D1:F6:73:2A:2D:5A:B9:7C:53:3E:C7:07:79:EE:32:70:A6:2F:B4:AC:42:38:37:24:60:E6:F0:1E:88

Fingerprint (SHA1): 14:88:4E:86:26:37:B0:26:AF:59:62:5C:40:77:EC:35:29:BA:96:01

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Entrust Root Certification Authority - G4"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\024\210\116\206\046\067\260\046\257\131\142\134\100\167\354\065
\051\272\226\001
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\211\123\361\203\043\267\174\216\005\361\214\161\070\116\037\210
```

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\276\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\026\060\024\006\003\125\004\012\023\015\105\156\164\162\165
\163\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\013\023\037\123\145\145\040\167\167\167\056\145\156\164\162\165
\163\164\056\156\145\164\057\154\145\147\141\154\055\164\145\162
\155\163\061\071\060\067\006\003\125\004\013\023\060\050\143\051
\040\062\060\061\065\040\105\156\164\162\165\163\164\054\040\111
\156\143\056\040\055\040\146\157\162\040\141\165\164\150\157\162
\151\172\145\144\040\165\163\145\040\157\156\154\171\061\062\060
\060\006\003\125\004\003\023\051\105\156\164\162\165\163\164\040
\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\040\055\040\107
\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\331\265\103\177\257\251\071\017\000\000\000\000\125
\145\255\130

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Microsoft ECC Root Certificate Authority 2017"

#

Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec

Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US

Not Valid Before: Wed Dec 18 23:06:45 2019

Not Valid After : Fri Jul 18 23:16:04 2042

Fingerprint (SHA-256):

35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02

Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162

```
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\131\060\202\001\337\240\003\002\001\002\002\020\146
\362\075\257\207\336\213\261\112\352\014\127\061\001\302\354\060
\012\006\010\052\206\110\316\075\004\003\003\060\145\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\036\060\034\006\003
\125\004\012\023\025\115\151\143\162\157\163\157\146\164\040\103
\157\162\160\157\162\141\164\151\157\156\061\066\060\064\006\003
\125\004\003\023\055\115\151\143\162\157\163\157\146\164\040\105
\103\103\040\122\157\157\164\040\103\145\162\164\151\146\151\143
\141\164\145\040\101\165\164\150\157\162\151\164\171\040\062\060
\061\067\060\036\027\015\061\071\061\062\061\070\062\063\060\066
\064\065\132\027\015\064\062\060\067\061\070\062\063\061\066\060
\064\132\060\145\061\013\060\011\006\003\125\004\006\023\002\125
\123\061\036\060\034\006\003\125\004\012\023\025\115\151\143\162
\157\163\157\146\164\040\103\157\162\160\157\162\141\164\151\157
\156\061\066\060\064\006\003\125\004\003\023\055\115\151\143\162
\157\163\157\146\164\040\105\103\103\040\122\157\157\164\040\103
\145\162\164\151\146\151\143\141\164\145\040\101\165\164\150\157
\162\151\164\171\040\062\060\061\067\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\324\274\075\002\102\165\101\023\043\315\200\004\206\002\121
\057\152\250\201\142\013\145\314\366\312\235\036\157\112\146\121
\242\003\331\235\221\372\266\026\261\214\156\336\174\315\333\171
\246\057\316\273\316\161\057\345\245\253\050\354\143\004\146\231
\370\372\362\223\020\005\341\201\050\102\343\306\150\364\346\033
\204\140\112\211\257\355\171\017\073\316\361\366\104\365\001\170
\300\243\124\060\122\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\310\313\231\162\160\122\014\370\346\276\262\004\127\051\052
\317\102\020\355\065\060\020\006\011\053\006\001\004\001\202\067
```

```
\025\001\004\003\002\001\000\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\060\130\362\115\352\014\371
\137\136\356\140\051\313\072\362\333\326\062\204\031\077\174\325
\057\302\261\314\223\256\120\273\011\062\306\306\355\176\311\066
\224\022\344\150\205\006\242\033\320\057\002\061\000\231\351\026
\264\016\372\126\110\324\244\060\026\221\170\333\124\214\145\001
\212\347\120\146\302\061\267\071\272\270\032\042\007\116\374\153
\124\026\040\377\053\265\347\114\014\115\246\117\163
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Microsoft ECC Root Certificate Authority 2017"
```

```
# Issuer: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Serial Number:66:f2:3d:af:87:de:8b:b1:4a:ea:0c:57:31:01:c2:ec
```

```
# Subject: CN=Microsoft ECC Root Certificate Authority 2017,O=Microsoft Corporation,C=US
```

```
# Not Valid Before: Wed Dec 18 23:06:45 2019
```

```
# Not Valid After : Fri Jul 18 23:16:04 2042
```

```
# Fingerprint (SHA-256):
```

```
35:8D:F3:9D:76:4A:F9:E1:B7:66:E9:C9:72:DF:35:2E:E1:5C:FA:C2:27:AF:6A:D1:D7:0E:8E:4A:6E:DC:BA:02
```

```
# Fingerprint (SHA1): 99:9A:64:C3:7F:F4:7D:9F:AB:95:F1:47:69:89:14:60:EE:C4:C3:C5
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Microsoft ECC Root Certificate Authority 2017"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\231\232\144\303\177\364\175\237\253\225\361\107\151\211\024\140
\356\304\303\305
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\335\241\003\346\112\223\020\321\277\360\031\102\313\376\355\147
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\105\103\103\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\146\362\075\257\207\336\213\261\112\352\014\127\061\001
\302\354
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Microsoft RSA Root Certificate Authority 2017"
#
# Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Serial Number:1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 22:51:22 2019
# Not Valid After : Fri Jul 18 23:00:23 2042
# Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\250\060\202\003\220\240\003\002\001\002\002\020\036
\323\227\011\137\330\264\263\107\160\036\252\276\177\105\263\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\145

```

\061\013\060\011\006\003\125\004\006\023\002\125\123\061\036\060
\034\006\003\125\004\012\023\025\115\151\143\162\157\163\157\146
\164\040\103\157\162\160\157\162\141\164\151\157\156\061\066\060
\064\006\003\125\004\003\023\055\115\151\143\162\157\163\157\146
\164\040\122\123\101\040\122\157\157\164\040\103\145\162\164\151
\146\151\143\141\164\145\040\101\165\164\150\157\162\151\164\171
\040\062\060\061\067\060\036\027\015\061\071\061\062\061\070\062
\062\065\061\062\062\132\027\015\064\062\060\067\061\070\062\063
\060\060\062\063\132\060\145\061\013\060\011\006\003\125\004\006
\023\002\125\123\061\036\060\034\006\003\125\004\012\023\025\115
\151\143\162\157\163\157\146\164\040\103\157\162\160\157\162\141
\164\151\157\156\061\066\060\064\006\003\125\004\003\023\055\115
\151\143\162\157\163\157\146\164\040\122\123\101\040\122\157\157
\164\040\103\145\162\164\151\146\151\143\141\164\145\040\101\165
\164\150\157\162\151\164\171\040\062\060\061\067\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\133\276
\224\063\214\051\225\221\026\012\225\275\107\142\301\211\363\231
\066\337\106\220\311\245\355\170\152\157\107\221\150\370\047\147
\120\063\035\241\246\373\340\345\103\243\204\002\127\001\135\234
\110\100\202\123\020\274\277\307\073\150\220\266\202\055\345\364
\145\320\314\155\031\314\225\371\173\254\112\224\255\016\336\113
\103\035\207\007\222\023\220\200\203\144\065\071\004\374\345\351
\154\263\266\037\120\224\070\145\120\134\027\106\271\266\205\265
\034\265\027\350\326\105\235\330\262\046\260\312\304\160\112\256
\140\244\335\263\331\354\374\073\325\127\162\274\077\310\311\262
\336\113\153\370\043\154\003\300\005\275\225\307\315\163\073\146
\200\144\343\032\254\056\371\107\005\362\006\266\233\163\365\170
\063\133\307\241\373\047\052\241\264\232\221\214\221\323\072\202
\076\166\100\264\315\122\141\121\160\050\077\305\305\132\362\311
\214\111\273\024\133\115\310\377\147\115\114\022\226\255\365\376
\170\250\227\207\327\375\136\040\200\334\241\113\042\373\324\211
\255\272\316\107\227\107\125\173\217\105\310\147\050\204\225\034
\150\060\357\357\111\340\065\173\144\347\230\260\224\332\115\205
\073\076\125\304\050\257\127\363\236\023\333\106\047\237\036\242
\136\104\203\244\245\312\325\023\263\113\077\304\343\302\346\206
\141\244\122\060\271\172\040\117\157\017\070\123\313\063\014\023
\053\217\326\232\275\052\310\055\261\034\175\113\121\312\107\321
\110\047\162\135\207\353\325\105\346\110\145\235\257\122\220\272
\133\242\030\145\127\022\237\150\271\324\025\153\224\304\151\042
\230\364\063\340\355\371\121\216\101\120\311\064\117\166\220\254
\374\070\301\330\341\173\271\343\343\224\341\106\151\313\016\012
\120\153\023\272\254\017\067\132\267\022\265\220\201\036\126\256
\127\042\206\331\311\322\321\327\121\343\253\073\306\125\375\036
\016\323\164\012\321\332\252\352\151\270\227\050\217\110\304\007
\370\122\103\072\364\312\125\065\054\260\246\152\300\234\371\362
\201\341\022\152\300\105\331\147\263\316\377\043\242\211\012\124
\324\024\271\052\250\327\354\371\253\315\045\130\062\171\217\220

\133\230\071\304\010\006\301\254\177\016\075\000\245\002\003\001
\000\001\243\124\060\122\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\011\313\131\177\206\262\160\217\032\303\071\343\300\331
\351\277\273\115\262\043\060\020\006\011\053\006\001\004\001\202
\067\025\001\004\003\002\001\000\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\003\202\002\001\000\254\257\076\135
\302\021\226\211\216\243\347\222\326\227\025\270\023\242\246\102
\056\002\315\026\005\131\047\312\040\350\272\270\350\032\354\115
\250\227\126\256\145\103\261\217\000\233\122\315\125\315\123\071
\155\142\114\213\015\133\174\056\104\277\203\020\217\363\123\202
\200\303\117\072\307\156\021\077\346\343\026\221\204\373\155\204
\177\064\164\255\211\247\316\271\327\327\237\204\144\222\276\225
\241\255\011\123\063\335\356\012\352\112\121\216\157\125\253\272
\265\224\106\256\214\177\330\242\120\045\145\140\200\106\333\063
\004\256\154\265\230\164\124\045\334\223\344\370\343\125\025\075
\270\155\303\012\244\022\301\151\205\156\337\144\361\123\231\341
\112\165\040\235\225\017\344\326\334\003\361\131\030\350\107\211
\262\127\132\224\266\251\330\027\053\027\111\345\166\313\301\126
\231\072\067\261\377\151\054\221\221\223\341\337\114\243\067\166
\115\241\237\370\155\036\035\323\372\354\373\364\105\035\023\155
\317\367\131\345\042\047\162\053\206\363\127\273\060\355\044\115
\334\175\126\273\243\263\370\064\171\211\301\340\362\002\141\367
\246\374\017\273\034\027\013\256\101\331\174\275\047\243\375\056
\072\321\223\224\261\163\035\044\213\257\133\040\211\255\267\147
\146\171\365\072\306\246\226\063\376\123\222\310\106\261\021\221
\306\231\177\217\311\326\146\061\040\101\020\207\055\014\326\301
\257\064\230\312\144\203\373\023\127\321\301\360\074\172\214\245
\301\375\225\041\240\161\301\223\147\161\022\352\217\210\012\151
\031\144\231\043\126\373\254\052\056\160\276\146\304\014\204\357
\345\213\363\223\001\370\152\220\223\147\113\262\150\243\265\142
\217\351\077\214\172\073\136\017\347\214\270\306\174\357\067\375
\164\342\310\117\063\162\341\224\071\155\275\022\257\276\014\116
\160\174\033\157\215\263\062\223\163\104\026\155\350\364\367\340
\225\200\217\226\135\070\244\364\253\336\012\060\207\223\330\115
\000\161\142\105\047\113\072\102\204\133\177\145\267\147\064\122
\055\234\026\153\252\250\330\173\243\102\114\161\307\014\312\076
\203\344\246\357\267\001\060\136\121\243\171\365\160\151\246\101
\104\017\206\260\054\221\306\075\352\256\017\204

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Microsoft RSA Root Certificate Authority 2017"
Issuer: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
Serial Number: 1e:d3:97:09:5f:d8:b4:b3:47:70:1e:aa:be:7f:45:b3

```
# Subject: CN=Microsoft RSA Root Certificate Authority 2017,O=Microsoft Corporation,C=US
# Not Valid Before: Wed Dec 18 22:51:22 2019
# Not Valid After : Fri Jul 18 23:00:23 2042
# Fingerprint (SHA-256):
C7:41:F7:0F:4B:2A:8D:88:BF:2E:71:C1:41:22:EF:53:EF:10:EB:A0:CF:A5:E6:4C:FA:20:F4:18:85:30:73:E0
# Fingerprint (SHA1): 73:A5:E6:4A:3B:FF:83:16:FF:0E:DC:CC:61:8A:90:6E:4E:AE:4D:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Microsoft RSA Root Certificate Authority 2017"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\163\245\346\112\073\377\203\026\377\016\334\314\141\212\220\156
\116\256\115\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\020\377\000\377\317\311\370\307\172\300\356\065\216\311\017\107
END
CKA_ISSUER MULTILINE_OCTAL
\060\145\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\036\060\034\006\003\125\004\012\023\025\115\151\143\162\157\163
\157\146\164\040\103\157\162\160\157\162\141\164\151\157\156\061
\066\060\064\006\003\125\004\003\023\055\115\151\143\162\157\163
\157\146\164\040\122\123\101\040\122\157\157\164\040\103\145\162
\164\151\146\151\143\141\164\145\040\101\165\164\150\157\162\151
\164\171\040\062\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\323\227\011\137\330\264\263\107\160\036\252\276\177
\105\263
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "e-Szigno Root CA 2017"
#
# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
# Not Valid Before: Tue Aug 22 12:07:06 2017
# Not Valid After : Fri Aug 22 12:07:06 2042
# Fingerprint (SHA-256):
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\100\060\202\001\345\240\003\002\001\002\002\014\001
\124\110\357\041\375\227\131\015\365\004\012\060\012\006\010\052
\206\110\316\075\004\003\002\060\161\061\013\060\011\006\003\125
\004\006\023\002\110\125\061\021\060\017\006\003\125\004\007\014
\010\102\165\144\141\160\145\163\164\061\026\060\024\006\003\125
\004\012\014\015\115\151\143\162\157\163\145\143\040\114\164\144
\056\061\027\060\025\006\003\125\004\141\014\016\126\101\124\110
\125\055\062\063\065\070\064\064\071\067\061\036\060\034\006\003
\125\004\003\014\025\145\055\123\172\151\147\156\157\040\122\157
\157\164\040\103\101\040\062\060\061\067\060\036\027\015\061\067
\060\070\062\062\061\062\060\067\060\066\132\027\015\064\062\060
\070\062\062\061\062\060\067\060\066\132\060\161\061\013\060\011
\006\003\125\004\006\023\002\110\125\061\021\060\017\006\003\125
\004\007\014\010\102\165\144\141\160\145\163\164\061\026\060\024
\006\003\125\004\012\014\015\115\151\143\162\157\163\145\143\040
\114\164\144\056\061\027\060\025\006\003\125\004\141\014\016\126
\101\124\110\125\055\062\063\065\070\064\064\071\067\061\036\060
\034\006\003\125\004\003\014\025\145\055\123\172\151\147\156\157
```

```
\040\122\157\157\164\040\103\101\040\062\060\061\067\060\131\060
\023\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316
\075\003\001\007\003\102\000\004\226\334\075\212\330\260\173\157
\306\047\276\104\220\261\263\126\025\173\216\103\044\175\032\204
\131\356\143\150\262\306\136\207\320\025\110\036\250\220\255\275
\123\242\332\336\072\220\246\140\137\150\062\265\206\101\337\207
\133\054\173\305\376\174\172\332\243\143\060\141\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006
\003\125\035\016\004\026\004\024\207\021\025\010\321\252\301\170
\014\261\257\316\306\311\220\357\277\060\004\300\060\037\006\003
\125\035\043\004\030\060\026\200\024\207\021\025\010\321\252\301
\170\014\261\257\316\306\311\220\357\277\060\004\300\060\012\006
\010\052\206\110\316\075\004\003\002\003\111\000\060\106\002\041
\000\265\127\335\327\212\125\013\066\341\206\104\372\324\331\150
\215\270\334\043\212\212\015\324\057\175\352\163\354\277\115\154
\250\002\041\000\313\245\264\022\372\347\265\350\317\176\223\374
\363\065\217\157\116\132\174\264\274\116\262\374\162\252\133\131
\371\347\334\061
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "e-Szigno Root CA 2017"
```

```
# Issuer: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
```

```
# Serial Number:01:54:48:ef:21:fd:97:59:0d:f5:04:0a
```

```
# Subject: CN=e-Szigno Root CA 2017,OID.2.5.4.97=VATHU-23584497,O=Microsec Ltd.,L=Budapest,C=HU
```

```
# Not Valid Before: Tue Aug 22 12:07:06 2017
```

```
# Not Valid After : Fri Aug 22 12:07:06 2042
```

```
# Fingerprint (SHA-256):
```

```
BE:B0:0B:30:83:9B:9B:C3:2C:32:E4:44:79:05:95:06:41:F2:64:21:B1:5E:D0:89:19:8B:51:8A:E2:EA:1B:99
```

```
# Fingerprint (SHA1): 89:D4:83:03:4F:9E:9A:48:80:5F:72:37:D4:A9:A6:EF:CB:7C:1F:D1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "e-Szigno Root CA 2017"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\211\324\203\003\117\236\232\110\200\137\162\067\324\251\246\357
\313\174\037\321
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\336\037\366\236\204\256\247\264\041\316\036\130\175\321\204\230
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\161\061\013\060\011\006\003\125\004\006\023\002\110\125\061
\021\060\017\006\003\125\004\007\014\010\102\165\144\141\160\145
```

```
\163\164\061\026\060\024\006\003\125\004\012\014\015\115\151\143
\162\157\163\145\143\040\114\164\144\056\061\027\060\025\006\003
\125\004\141\014\016\126\101\124\110\125\055\062\063\065\070\064
\064\071\067\061\036\060\034\006\003\125\004\003\014\025\145\055
\123\172\151\147\156\157\040\122\157\157\164\040\103\101\040\062
\060\061\067
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\014\001\124\110\357\041\375\227\131\015\365\004\012
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "certSIGN Root CA G2"

#

Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

Serial Number:11:00:34:b6:4e:c6:36:2d:36

Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO

Not Valid Before: Mon Feb 06 09:27:35 2017

Not Valid After : Thu Feb 06 09:27:35 2042

Fingerprint (SHA-256):

65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05

Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "certSIGN Root CA G2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\021\000\064\266\116\306\066\055\066

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\011\021
\000\064\266\116\306\066\055\066\060\015\006\011\052\206\110\206
\367\015\001\001\013\005\000\060\101\061\013\060\011\006\003\125
\004\006\023\002\122\117\061\024\060\022\006\003\125\004\012\023
\013\103\105\122\124\123\111\107\116\040\123\101\061\034\060\032
\006\003\125\004\013\023\023\143\145\162\164\123\111\107\116\040
\122\117\117\124\040\103\101\040\107\062\060\036\027\015\061\067
\060\062\060\066\060\071\062\067\063\065\132\027\015\064\062\060
\062\060\066\060\071\062\067\063\065\132\060\101\061\013\060\011
\006\003\125\004\006\023\002\122\117\061\024\060\022\006\003\125
\004\012\023\013\103\105\122\124\123\111\107\116\040\123\101\061
\034\060\032\006\003\125\004\013\023\023\143\145\162\164\123\111
\107\116\040\122\117\117\124\040\103\101\040\107\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\300\305
\165\031\221\175\104\164\164\207\376\016\073\226\334\330\001\026
\314\356\143\221\347\013\157\316\073\012\151\032\174\302\343\257
\202\216\206\327\136\217\127\353\323\041\131\375\071\067\102\060
\276\120\352\266\017\251\210\330\056\055\151\041\347\321\067\030
\116\175\221\325\026\137\153\133\000\302\071\103\015\066\205\122
\271\123\145\017\035\102\345\217\317\005\323\356\334\014\032\331
\270\213\170\042\147\344\151\260\150\305\074\344\154\132\106\347
\315\307\372\357\304\354\113\275\152\244\254\375\314\050\121\357
\222\264\051\253\253\065\232\114\344\304\010\306\046\314\370\151
\237\344\234\360\051\323\134\371\306\026\045\236\043\303\040\301
\075\017\077\070\100\260\376\202\104\070\252\132\032\212\153\143
\130\070\264\025\323\266\021\151\173\036\124\356\214\032\042\254
\162\227\077\043\131\233\311\042\204\301\007\117\314\177\342\127
\312\022\160\273\246\145\363\151\165\143\275\225\373\033\227\315
\344\250\257\366\321\116\250\331\212\161\044\315\066\075\274\226
\304\361\154\251\256\345\317\015\156\050\015\260\016\265\312\121
\173\170\024\303\040\057\177\373\024\125\341\021\231\375\325\012
\241\236\002\343\142\137\353\065\113\054\270\162\350\076\075\117
\254\054\273\056\206\342\243\166\217\345\223\052\317\245\253\310
\134\215\113\006\377\022\106\254\170\313\024\007\065\340\251\337
\213\351\257\025\117\026\211\133\275\366\215\306\131\256\210\205
\016\301\211\353\037\147\305\105\216\377\155\067\066\053\170\146
\203\221\121\053\075\377\121\167\166\142\241\354\147\076\076\201
\203\340\126\251\120\037\037\172\231\253\143\277\204\027\167\361
\015\073\337\367\234\141\263\065\230\212\072\262\354\074\032\067
\077\176\217\222\317\331\022\024\144\332\020\002\025\101\377\117
\304\353\034\243\311\372\231\367\106\351\341\030\331\261\270\062
\055\313\024\014\120\330\203\145\203\356\271\134\317\313\005\132
\114\372\031\227\153\326\135\023\323\302\134\124\274\062\163\240
\170\365\361\155\036\313\237\245\246\237\042\334\321\121\236\202

\171\144\140\051\023\076\243\375\117\162\152\253\342\324\345\270
\044\125\054\104\113\212\210\104\234\312\204\323\052\073\002\003
\001\000\001\243\102\060\100\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\035\006\003\125\035\016\004
\026\004\024\202\041\055\146\306\327\240\340\025\353\316\114\011
\167\304\140\236\124\156\003\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\002\001\000\140\336\032\270\347
\362\140\202\325\003\063\201\313\006\212\361\042\111\351\350\352
\221\177\306\063\136\150\031\003\206\073\103\001\317\007\160\344
\010\036\145\205\221\346\021\042\267\365\002\043\216\256\271\036
\175\037\176\154\346\275\045\325\225\032\362\005\246\257\205\002
\157\256\370\326\061\377\045\311\112\310\307\212\251\331\237\113
\111\233\021\127\231\222\103\021\336\266\063\244\314\327\215\144
\175\324\315\074\050\054\264\232\226\352\115\365\304\104\304\045
\252\040\200\330\051\125\367\340\101\374\006\046\377\271\066\365
\103\024\003\146\170\341\021\261\332\040\137\106\000\170\000\041
\245\036\000\050\141\170\157\250\001\001\217\235\064\232\377\364
\070\220\373\270\321\263\162\006\311\161\346\201\305\171\355\013
\246\171\362\023\013\234\367\135\016\173\044\223\264\110\333\206
\137\336\120\206\170\347\100\346\061\250\220\166\160\141\257\234
\067\054\021\265\202\267\252\256\044\064\133\162\014\151\015\315
\131\237\366\161\257\234\013\321\012\070\371\006\042\203\123\045
\014\374\121\304\346\276\342\071\225\013\044\255\257\321\225\344
\226\327\164\144\153\161\116\002\074\252\205\363\040\243\103\071
\166\133\154\120\376\232\234\024\036\145\024\212\025\275\243\202
\105\132\111\126\152\322\234\261\143\062\345\141\340\123\042\016
\247\012\111\352\313\176\037\250\342\142\200\366\020\105\122\230
\006\030\336\245\315\057\177\252\324\351\076\010\162\354\043\003
\002\074\246\252\330\274\147\164\075\024\027\373\124\113\027\343
\323\171\075\155\153\111\311\050\016\056\164\120\277\014\331\106
\072\020\206\311\247\077\351\240\354\177\353\245\167\130\151\161
\346\203\012\067\362\206\111\152\276\171\010\220\366\002\026\144
\076\345\332\114\176\014\064\311\371\137\266\263\050\121\247\247
\053\252\111\372\215\145\051\116\343\153\023\247\224\243\055\121
\155\170\014\104\313\337\336\010\157\316\243\144\253\323\225\204
\324\271\122\124\162\173\226\045\314\274\151\343\110\156\015\320
\307\235\047\232\252\370\023\222\335\036\337\143\237\065\251\026
\066\354\214\270\203\364\075\211\217\315\264\027\136\327\263\027
\101\020\135\047\163\140\205\127\111\042\007

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "certSIGN Root CA G2"
Issuer: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
Serial Number: 11:00:34:b6:4e:c6:36:2d:36

```

# Subject: OU=certSIGN ROOT CA G2,O=CERTSIGN SA,C=RO
# Not Valid Before: Mon Feb 06 09:27:35 2017
# Not Valid After : Thu Feb 06 09:27:35 2042
# Fingerprint (SHA-256):
65:7C:FE:2F:A7:3F:AA:38:46:25:71:F3:32:A2:36:3A:46:FC:E7:02:09:51:71:07:02:CD:FB:B6:EE:DA:33:05
# Fingerprint (SHA1): 26:F9:93:B4:ED:3D:28:27:B0:B9:4B:A7:E9:15:1D:A3:8D:92:E5:32
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "certSIGN Root CA G2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\046\371\223\264\355\075\050\047\260\271\113\247\351\025\035\243
\215\222\345\062
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\214\361\165\212\306\031\317\224\267\367\145\040\207\303\227\307
END
CKA_ISSUER MULTILINE_OCTAL
\060\101\061\013\060\011\006\003\125\004\006\023\002\122\117\061
\024\060\022\006\003\125\004\012\023\013\103\105\122\124\123\111
\107\116\040\123\101\061\034\060\032\006\003\125\004\013\023\023
\143\145\162\164\123\111\107\116\040\122\117\117\124\040\103\101
\040\107\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\021\000\064\266\116\306\066\055\066
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global Certification Authority"
#
# Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2
# Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:34:12 2017
# Not Valid After : Sat Aug 23 19:34:12 2042
# Fingerprint (SHA-256):
97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8
# Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\332\060\202\003\302\240\003\002\001\002\002\014\005
\367\016\206\332\111\363\106\065\056\272\262\060\015\006\011\052
\206\110\206\367\015\001\001\013\005\000\060\201\210\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006\003
\125\004\010\014\010\111\154\154\151\156\157\151\163\061\020\060
\016\006\003\125\004\007\014\007\103\150\151\143\141\147\157\061
\041\060\037\006\003\125\004\012\014\030\124\162\165\163\164\167
\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111\156
\143\056\061\061\060\057\006\003\125\004\003\014\050\124\162\165
\163\164\167\141\166\145\040\107\154\157\142\141\154\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\060\036\027\015\061\067\060\070\062\063\061
\071\063\064\061\062\132\027\015\064\062\060\070\062\063\061\071
\063\064\061\062\132\060\201\210\061\013\060\011\006\003\125\004
\006\023\002\125\123\061\021\060\017\006\003\125\004\010\014\010
\111\154\154\151\156\157\151\163\061\020\060\016\006\003\125\004
\007\014\007\103\150\151\143\141\147\157\061\041\060\037\006\003
```

\125\004\012\014\030\124\162\165\163\164\167\141\166\145\040\110
\157\154\144\151\156\147\163\054\040\111\156\143\056\061\061\060
\057\006\003\125\004\003\014\050\124\162\165\163\164\167\141\166
\145\040\107\154\157\142\141\154\040\103\145\162\164\151\146\151
\143\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\271\135\121\050\113\074\067\222\321\202\316\275\035\275\315
\335\270\253\317\012\076\341\135\345\334\252\011\271\127\002\076
\346\143\141\337\362\017\202\143\256\243\367\254\163\321\174\347
\263\013\257\010\000\011\131\177\315\051\052\210\223\207\027\030
\200\355\210\262\264\266\020\037\055\326\137\125\242\023\135\321
\306\353\006\126\211\210\376\254\062\235\375\134\303\005\307\156
\356\206\211\272\210\003\235\162\041\206\220\256\217\003\245\334
\237\210\050\313\243\222\111\017\354\320\017\342\155\104\117\200
\152\262\324\347\240\012\123\001\272\216\227\221\166\156\274\374
\325\153\066\346\100\210\326\173\057\137\005\350\054\155\021\363
\347\262\276\222\104\114\322\227\244\376\322\162\201\103\007\234
\351\021\076\365\213\032\131\175\037\150\130\335\004\000\054\226
\363\103\263\176\230\031\164\331\234\163\331\030\276\101\307\064
\171\331\364\142\302\103\271\263\047\260\042\313\371\075\122\307
\060\107\263\311\076\270\152\342\347\350\201\160\136\102\213\117
\046\245\376\072\302\040\156\273\370\026\216\315\014\251\264\033
\154\166\020\341\130\171\106\076\124\316\200\250\127\011\067\051
\033\231\023\217\014\310\326\054\034\373\005\350\010\225\075\145
\106\334\356\315\151\342\115\217\207\050\116\064\013\076\317\024
\331\273\335\266\120\232\255\167\324\031\326\332\032\210\310\116
\033\047\165\330\262\010\361\256\203\060\271\021\016\315\207\360
\204\215\025\162\174\241\357\314\362\210\141\272\364\151\273\014
\214\013\165\127\004\270\116\052\024\056\075\017\034\036\062\246
\142\066\356\146\342\042\270\005\100\143\020\042\363\063\035\164
\162\212\054\365\071\051\240\323\347\033\200\204\055\305\075\343
\115\261\375\032\157\272\145\007\073\130\354\102\105\046\373\330
\332\045\162\304\366\000\261\042\171\275\343\174\131\142\112\234
\005\157\075\316\346\326\107\143\231\306\044\157\162\022\310\254
\177\220\264\013\221\160\350\267\346\026\020\161\027\316\336\006
\117\110\101\175\065\112\243\211\362\311\113\173\101\021\155\147
\267\010\230\114\345\021\031\256\102\200\334\373\220\005\324\370
\120\312\276\344\255\307\302\224\327\026\235\346\027\217\257\066
\373\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\231\340\031\147\015\142\333\166\263\332
\075\270\133\350\375\102\322\061\016\207\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\006\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\230\163
\160\342\260\323\355\071\354\114\140\331\251\022\206\027\036\226
\320\350\124\050\073\144\055\041\246\370\235\126\023\152\110\075
\117\307\076\051\333\155\130\203\124\075\207\175\043\005\324\344

\034\334\350\070\145\206\305\165\247\132\333\065\005\275\167\336
\273\051\067\100\005\007\303\224\122\237\312\144\335\361\033\053
\334\106\012\020\002\061\375\112\150\015\007\144\220\346\036\365
\052\241\250\273\074\135\371\243\010\013\021\014\361\077\055\020
\224\157\376\342\064\207\203\326\317\345\033\065\155\322\003\341
\260\015\250\240\252\106\047\202\066\247\025\266\010\246\102\124
\127\266\231\132\342\013\171\220\327\127\022\121\065\031\210\101
\150\045\324\067\027\204\025\373\001\162\334\225\336\122\046\040
\230\046\342\166\365\047\157\372\000\073\112\141\331\015\313\121
\223\052\375\026\006\226\247\043\232\043\110\376\121\275\266\304
\260\261\124\316\336\154\101\255\026\147\176\333\375\070\315\271
\070\116\262\301\140\313\235\027\337\130\236\172\142\262\046\217
\164\225\233\344\133\035\322\017\335\230\034\233\131\271\043\323
\061\240\246\377\070\335\317\040\117\351\130\126\072\147\303\321
\366\231\231\235\272\066\266\200\057\210\107\117\206\277\104\072
\200\344\067\034\246\272\352\227\230\021\320\204\142\107\144\036
\252\356\100\277\064\261\234\217\116\341\362\222\117\037\216\363
\236\227\336\363\246\171\152\211\161\117\113\047\027\110\376\354
\364\120\017\117\111\175\314\105\343\275\172\100\305\101\334\141
\126\047\006\151\345\162\101\201\323\266\001\211\240\057\072\162
\171\376\072\060\277\101\354\307\142\076\221\113\307\331\061\166
\102\371\367\074\143\354\046\214\163\014\175\032\035\352\250\174
\207\250\302\047\174\341\063\101\017\317\317\374\000\240\042\200
\236\112\247\157\000\260\101\105\267\042\312\150\110\305\102\242
\256\335\035\362\340\156\116\005\130\261\300\220\026\052\244\075
\020\100\276\217\142\143\203\251\234\202\175\055\002\351\203\060
\174\313\047\311\375\036\146\000\260\056\323\041\057\216\063\026
\154\230\355\020\250\007\326\314\223\317\333\321\151\034\344\312
\311\340\266\234\351\316\161\161\336\154\077\026\244\171

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global Certification Authority"

Issuer: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:05:f7:0e:86:da:49:f3:46:35:2e:ba:b2

Subject: CN=Trustwave Global Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:34:12 2017

Not Valid After : Sat Aug 23 19:34:12 2042

Fingerprint (SHA-256):

97:55:20:15:F5:DD:FC:3C:87:88:C0:06:94:45:55:40:88:94:45:00:84:F1:00:86:70:86:BC:1A:2B:B5:8D:C8

Fingerprint (SHA1): 2F:8F:36:4F:E1:58:97:44:21:59:87:A5:2A:9A:D0:69:95:26:7F:B5

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

```

CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\057\217\066\117\341\130\227\104\041\131\207\245\052\232\320\151
\225\046\177\265
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\370\034\030\055\057\272\137\155\241\154\274\307\253\221\307\016
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\210\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\014\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\014\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\014\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\061\060\057\006\003\125\004
\003\014\050\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\005\367\016\206\332\111\363\106\065\056\272\262
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Trustwave Global ECC P256 Certification Authority"
#
# Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
# Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
# Not Valid Before: Wed Aug 23 19:35:10 2017
# Not Valid After : Sat Aug 23 19:35:10 2042
# Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
# Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\014\015\152\137\010\077\050\134\076\121\225\337\135

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\140\060\202\002\007\240\003\002\001\002\002\014\015
\152\137\010\077\050\134\076\121\225\337\135\060\012\006\010\052
\206\110\316\075\004\003\002\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\062\065\066\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\065\061\060\132\027\015\064\062
\060\070\062\063\061\071\063\065\061\060\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162

\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\062\065\066\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\131\060\023\006\007\052\206\110\316\075\002\001\006\010\052\206
\110\316\075\003\001\007\003\102\000\004\176\373\154\346\043\343
\163\062\010\312\140\346\123\234\272\164\215\030\260\170\220\122
\200\335\070\300\112\035\321\250\314\223\244\227\006\070\312\015
\025\142\306\216\001\052\145\235\252\337\064\221\056\201\301\344
\063\222\061\304\375\011\072\246\077\255\243\103\060\101\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\017\006\003\125\035\017\001\001\377\004\005\003\003\007\006\000
\060\035\006\003\125\035\016\004\026\004\024\243\101\006\254\220
\155\321\112\353\165\245\112\020\231\263\261\241\213\112\367\060
\012\006\010\052\206\110\316\075\004\003\002\003\107\000\060\104
\002\040\007\346\124\332\016\240\132\262\256\021\237\207\305\266
\377\151\336\045\276\370\240\267\010\363\104\316\052\337\010\041
\014\067\002\040\055\046\003\240\005\275\153\321\366\134\370\145
\314\206\155\263\234\064\110\143\204\011\305\215\167\032\342\314
\234\341\164\173

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P256 Certification Authority"
Issuer: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Serial Number:0d:6a:5f:08:3f:28:5c:3e:51:95:df:5d
Subject: CN=Trustwave Global ECC P256 Certification Authority,O="Trustwave Holdings,
Inc.",L=Chicago,ST=Illinois,C=US
Not Valid Before: Wed Aug 23 19:35:10 2017
Not Valid After : Sat Aug 23 19:35:10 2042
Fingerprint (SHA-256):
94:5B:BC:82:5E:A5:54:F4:89:D1:FD:51:A7:3D:DF:2E:A6:24:AC:70:19:A0:52:05:22:5C:22:A7:8C:CF:A8:B4
Fingerprint (SHA1): B4:90:82:DD:45:0C:BE:8B:5B:B1:66:D3:E2:A4:08:26:CD:ED:42:CF
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Trustwave Global ECC P256 Certification Authority"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\264\220\202\335\105\014\276\213\133\261\146\323\342\244\010\046
\315\355\102\317
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\133\104\343\215\135\066\206\046\350\015\005\322\131\247\203\124
END
CKA_ISSUER MULTILINE_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\062\065\066\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\014\015\152\137\010\077\050\134\076\121\225\337\135
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Trustwave Global ECC P384 Certification Authority"

#

Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:36:43 2017

Not Valid After : Sat Aug 23 19:36:43 2042

Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
```

```
\162\151\164\171
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\235\060\202\002\044\240\003\002\001\002\002\014\010
\275\205\227\154\231\047\244\200\150\107\073\060\012\006\010\052
\206\110\316\075\004\003\003\060\201\221\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\021\060\017\006\003\125\004\010
\023\010\111\154\154\151\156\157\151\163\061\020\060\016\006\003
\125\004\007\023\007\103\150\151\143\141\147\157\061\041\060\037
\006\003\125\004\012\023\030\124\162\165\163\164\167\141\166\145
\040\110\157\154\144\151\156\147\163\054\040\111\156\143\056\061
\072\060\070\006\003\125\004\003\023\061\124\162\165\163\164\167
\141\166\145\040\107\154\157\142\141\154\040\105\103\103\040\120
\063\070\064\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\060\036\027\015\061
\067\060\070\062\063\061\071\063\066\064\063\132\027\015\064\062
\060\070\062\063\061\071\063\066\064\063\132\060\201\221\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\021\060\017\006
\003\125\004\010\023\010\111\154\154\151\156\157\151\163\061\020
\060\016\006\003\125\004\007\023\007\103\150\151\143\141\147\157
\061\041\060\037\006\003\125\004\012\023\030\124\162\165\163\164
\167\141\166\145\040\110\157\154\144\151\156\147\163\054\040\111
\156\143\056\061\072\060\070\006\003\125\004\003\023\061\124\162
\165\163\164\167\141\166\145\040\107\154\157\142\141\154\040\105
\103\103\040\120\063\070\064\040\103\145\162\164\151\146\151\143
\141\164\151\157\156\040\101\165\164\150\157\162\151\164\171\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\153\332\015\165\065\010\061\107\005
\256\105\231\125\361\021\023\056\112\370\020\061\043\243\176\203
\323\177\050\010\072\046\032\072\317\227\202\037\200\267\047\011
\217\321\216\060\304\012\233\016\254\130\004\253\367\066\175\224
\043\244\233\012\212\213\253\353\375\071\045\146\361\136\376\214
```

```
\256\215\101\171\235\011\140\316\050\251\323\212\155\363\326\105
\324\362\230\204\070\145\240\243\103\060\101\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\017\006\003
\125\035\017\001\001\377\004\005\003\003\007\006\000\060\035\006
\003\125\035\016\004\026\004\024\125\251\204\211\322\301\062\275
\030\313\154\246\007\116\310\347\235\276\202\220\060\012\006\010
\052\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067
\001\222\227\105\022\176\240\363\076\255\031\072\162\335\364\120
\223\003\022\276\104\322\117\101\244\214\234\235\037\243\366\302
\222\347\110\024\376\116\233\245\221\127\256\306\067\162\273\002
\060\147\045\012\261\014\136\356\251\143\222\157\345\220\013\376
\146\042\312\107\375\212\061\367\203\376\172\277\020\276\030\053
\036\217\366\051\036\224\131\357\216\041\067\313\121\230\245\156
\113
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Trustwave Global ECC P384 Certification Authority"

Issuer: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

Serial Number:08:bd:85:97:6c:99:27:a4:80:68:47:3b

Subject: CN=Trustwave Global ECC P384 Certification Authority,O="Trustwave Holdings, Inc.",L=Chicago,ST=Illinois,C=US

Not Valid Before: Wed Aug 23 19:36:43 2017

Not Valid After : Sat Aug 23 19:36:43 2042

Fingerprint (SHA-256):

55:90:38:59:C8:C0:C3:EB:B8:75:9E:CE:4E:25:57:22:5F:F5:75:8B:BD:38:EB:D4:82:76:60:1E:1B:D5:80:97

Fingerprint (SHA1): E7:F3:A3:C8:CF:6F:C3:04:2E:6D:0E:67:32:C5:9E:68:95:0D:5E:D2

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Trustwave Global ECC P384 Certification Authority"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\347\363\243\310\317\157\303\004\056\155\016\147\062\305\236\150
\225\015\136\322
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\352\317\140\304\073\271\025\051\100\241\227\355\170\047\223\326
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\201\221\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\021\060\017\006\003\125\004\010\023\010\111\154\154\151\156
\157\151\163\061\020\060\016\006\003\125\004\007\023\007\103\150
\151\143\141\147\157\061\041\060\037\006\003\125\004\012\023\030
\124\162\165\163\164\167\141\166\145\040\110\157\154\144\151\156
```

```
\147\163\054\040\111\156\143\056\061\072\060\070\006\003\125\004
\003\023\061\124\162\165\163\164\167\141\166\145\040\107\154\157
\142\141\154\040\105\103\103\040\120\063\070\064\040\103\145\162
\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150\157
\162\151\164\171
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\014\010\275\205\227\154\231\047\244\200\150\107\073
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "NAVER Global Root Certification Authority"

#

Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d

Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR

Not Valid Before: Fri Aug 18 08:58:42 2017

Not Valid After : Tue Aug 18 23:59:59 2037

Fingerprint (SHA-256):

88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65

Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "NAVER Global Root Certification Authority"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157
```

\156\040\101\165\164\150\157\162\151\164\171

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104
\161\370\326\120\115\015

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\242\060\202\003\212\240\003\002\001\002\002\024\001
\224\060\036\242\013\335\365\305\063\052\261\103\104\161\370\326
\120\115\015\060\015\006\011\052\206\110\206\367\015\001\001\014
\005\000\060\151\061\013\060\011\006\003\125\004\006\023\002\113
\122\061\046\060\044\006\003\125\004\012\014\035\116\101\126\105
\122\040\102\125\123\111\116\105\123\123\040\120\114\101\124\106
\117\122\115\040\103\157\162\160\056\061\062\060\060\006\003\125
\004\003\014\051\116\101\126\105\122\040\107\154\157\142\141\154
\040\122\157\157\164\040\103\145\162\164\151\146\151\143\141\164
\151\157\156\040\101\165\164\150\157\162\151\164\171\060\036\027
\015\061\067\060\070\061\070\060\070\065\070\064\062\132\027\015
\063\067\060\070\061\070\062\063\065\071\065\071\132\060\151\061
\013\060\011\006\003\125\004\006\023\002\113\122\061\046\060\044
\006\003\125\004\012\014\035\116\101\126\105\122\040\102\125\123
\111\116\105\123\123\040\120\114\101\124\106\117\122\115\040\103
\157\162\160\056\061\062\060\060\006\003\125\004\003\014\051\116
\101\126\105\122\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040\101
\165\164\150\157\162\151\164\171\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\266\324\361\223\134\265\100
\211\012\253\015\220\133\120\143\256\220\224\164\027\105\162\326
\173\145\132\051\113\247\126\240\113\270\057\102\165\351\331\173
\044\132\061\145\253\027\027\321\063\072\331\021\334\100\066\207
\337\307\152\351\046\136\131\212\167\343\350\110\234\061\026\372
\076\221\261\312\311\243\342\237\316\041\123\243\002\066\060\313
\122\002\345\332\062\135\303\305\346\371\356\021\307\213\311\104
\036\204\223\030\112\264\237\345\022\144\151\320\046\205\142\001
\266\311\002\035\276\203\121\273\134\332\370\255\025\152\231\367
\222\124\367\064\133\351\277\352\051\201\022\324\123\221\226\263
\221\132\335\376\220\163\050\373\060\106\265\312\010\007\307\161
\162\311\146\323\064\227\366\214\364\030\112\341\320\075\132\105
\266\151\247\051\373\043\316\210\330\022\234\000\110\250\246\017
\263\073\222\215\161\016\164\305\213\310\114\371\364\233\216\270
\074\151\355\157\073\120\057\130\355\304\260\320\034\033\152\014
\342\274\104\252\330\315\024\135\224\170\141\277\016\156\332\052
\274\057\014\013\161\246\263\026\077\234\346\371\314\237\123\065
\342\003\240\240\030\277\273\361\276\364\326\214\207\015\102\367
\006\271\361\155\355\004\224\250\376\266\323\006\306\100\141\337
\235\235\363\124\166\316\123\072\001\246\222\101\354\004\243\217
\015\242\325\011\312\326\313\232\361\357\103\135\300\253\245\101

\317\134\123\160\160\311\210\246\055\324\153\141\163\120\046\206
\141\016\137\033\302\053\342\214\325\273\235\301\003\102\272\224
\332\137\251\260\312\314\115\012\357\107\151\003\057\042\373\361
\050\316\277\135\120\145\250\220\155\263\164\260\010\307\254\250
\321\353\076\234\374\135\032\203\056\053\313\265\363\104\235\072
\247\027\141\226\242\161\323\160\226\025\115\267\114\163\356\031
\134\305\133\076\101\376\254\165\140\073\033\143\316\000\335\332
\010\220\142\264\345\055\356\110\247\153\027\231\124\276\207\112
\343\251\136\004\114\353\020\155\124\326\357\361\350\362\142\026
\313\200\153\355\075\355\365\037\060\245\256\113\311\023\355\212
\001\001\311\270\121\130\300\146\072\261\146\113\304\325\061\002
\142\351\164\204\014\333\115\106\055\002\003\001\000\001\243\102
\060\100\060\035\006\003\125\035\016\004\026\004\024\322\237\210
\337\241\315\054\275\354\365\073\001\001\223\063\047\262\353\140
\113\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001
\006\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\015\006\011\052\206\110\206\367\015\001\001\014\005
\000\003\202\002\001\000\062\312\200\263\235\075\124\006\335\322
\322\056\360\244\001\041\013\147\110\312\155\216\340\310\252\015
\252\215\041\127\217\306\076\172\312\333\121\324\122\263\324\226
\204\245\130\140\177\345\013\216\037\365\334\012\025\201\345\073
\266\267\042\057\011\234\023\026\261\154\014\065\010\155\253\143
\162\355\334\276\354\307\127\346\060\040\161\326\327\020\301\023
\125\001\214\052\103\344\101\361\317\072\172\123\222\316\242\003
\005\015\070\337\002\273\020\056\331\073\322\233\172\300\241\246
\370\265\061\346\364\165\311\271\123\231\165\107\042\132\024\025
\307\170\033\266\235\351\014\370\033\166\361\205\204\336\241\332
\022\357\244\342\020\227\172\170\336\014\121\227\250\041\100\213
\206\275\015\360\136\116\113\066\273\073\040\037\212\102\126\341
\013\032\277\173\320\042\103\054\104\214\373\345\052\264\154\034
\034\272\224\340\023\176\041\346\232\302\313\305\102\144\264\036
\224\173\010\045\310\161\314\207\105\127\205\323\237\051\142\042
\203\121\227\000\030\227\167\152\230\222\311\174\140\154\337\154
\175\112\344\160\114\302\236\270\035\367\320\064\307\017\314\373
\247\377\003\276\255\160\220\332\013\335\310\155\227\137\232\177
\011\062\101\375\315\242\314\132\155\114\362\252\111\376\146\370
\351\330\065\353\016\050\036\356\110\057\072\320\171\011\070\174
\246\042\202\223\225\320\003\276\276\002\240\005\335\040\042\343
\157\035\210\064\140\306\346\012\271\011\165\013\360\007\350\151
\226\065\307\373\043\201\216\070\071\270\105\053\103\170\242\321
\054\024\377\015\050\162\162\225\233\136\011\333\211\104\230\252
\241\111\273\161\122\362\277\366\377\047\241\066\257\270\266\167
\210\335\072\244\155\233\064\220\334\024\135\060\277\267\353\027
\344\207\267\161\320\241\327\167\025\324\102\327\362\363\061\231
\135\233\335\026\155\077\352\006\043\370\106\242\042\355\223\366
\335\232\346\052\207\261\230\124\361\042\367\153\105\343\342\216
\166\035\232\215\304\006\215\066\267\024\363\235\124\151\267\216
\074\325\244\155\223\201\267\255\366\275\144\173\302\311\150\071

```
\240\222\234\315\064\206\221\220\372\144\121\235\376\376\353\245  
\365\165\336\211\367\162
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE  
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE  
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "NAVER Global Root Certification Authority"
```

```
# Issuer: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
```

```
# Serial Number:01:94:30:1e:a2:0b:dd:f5:c5:33:2a:b1:43:44:71:f8:d6:50:4d:0d
```

```
# Subject: CN=NAVER Global Root Certification Authority,O=NAVER BUSINESS PLATFORM Corp.,C=KR
```

```
# Not Valid Before: Fri Aug 18 08:58:42 2017
```

```
# Not Valid After : Tue Aug 18 23:59:59 2037
```

```
# Fingerprint (SHA-256):
```

```
88:F4:38:DC:F8:FF:D1:FA:8F:42:91:15:FF:E5:F8:2A:E1:E0:6E:0C:70:C3:75:FA:AD:71:7B:34:A4:9E:72:65
```

```
# Fingerprint (SHA1): 8F:6B:F2:A9:27:4A:DA:14:A0:C4:F4:8E:61:27:F9:C0:1E:78:5D:D1
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "NAVER Global Root Certification Authority"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\217\153\362\251\047\112\332\024\240\304\364\216\141\047\371\300  
\036\170\135\321
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\310\176\101\366\045\073\365\011\263\027\350\106\075\277\320\233
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\151\061\013\060\011\006\003\125\004\006\023\002\113\122\061  
\046\060\044\006\003\125\004\012\014\035\116\101\126\105\122\040  
\102\125\123\111\116\105\123\123\040\120\114\101\124\106\117\122  
\115\040\103\157\162\160\056\061\062\060\060\006\003\125\004\003  
\014\051\116\101\126\105\122\040\107\154\157\142\141\154\040\122  
\157\157\164\040\103\145\162\164\151\146\151\143\141\164\151\157  
\156\040\101\165\164\150\157\162\151\164\171
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\001\224\060\036\242\013\335\365\305\063\052\261\103\104  
\161\370\326\120\115\015
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
```

```
# Certificate "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
```

```
#
# Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
# Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
# Not Valid Before: Thu Dec 20 09:37:33 2018
# Not Valid After : Sun Dec 20 09:37:33 2043
# Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\156\060\202\001\363\240\003\002\001\002\002\020\142
\366\062\154\345\304\343\150\134\033\142\335\234\056\235\225\060
\012\006\010\052\206\110\316\075\004\003\003\060\170\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\021\060\017\006\003
\125\004\012\014\010\106\116\115\124\055\122\103\115\061\016\060
```

\014\006\003\125\004\013\014\005\103\145\162\145\163\061\030\060
\026\006\003\125\004\141\014\017\126\101\124\105\123\055\121\062
\070\062\066\060\060\064\112\061\054\060\052\006\003\125\004\003
\014\043\101\103\040\122\101\111\132\040\106\116\115\124\055\122
\103\115\040\123\105\122\126\111\104\117\122\105\123\040\123\105
\107\125\122\117\123\060\036\027\015\061\070\061\062\062\060\060
\071\063\067\063\063\132\027\015\064\063\061\062\062\060\060\071
\063\067\063\063\132\060\170\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\021\060\017\006\003\125\004\012\014\010\106
\116\115\124\055\122\103\115\061\016\060\014\006\003\125\004\013
\014\005\103\145\162\145\163\061\030\060\026\006\003\125\004\141
\014\017\126\101\124\105\123\055\121\062\070\062\066\060\060\064
\112\061\054\060\052\006\003\125\004\003\014\043\101\103\040\122
\101\111\132\040\106\116\115\124\055\122\103\115\040\123\105\122
\126\111\104\117\122\105\123\040\123\105\107\125\122\117\123\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\366\272\127\123\310\312\253\337\066
\112\122\041\344\227\322\203\147\236\360\145\121\320\136\207\307
\107\261\131\362\127\107\233\000\002\223\104\027\151\333\102\307
\261\262\072\030\016\264\135\214\263\146\135\241\064\371\066\054
\111\333\363\106\374\263\104\151\104\023\146\375\327\305\375\257
\066\115\316\003\115\007\161\317\257\152\005\322\242\103\132\012
\122\157\001\003\116\216\213\243\102\060\100\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006\003
\125\035\017\001\001\377\004\004\003\002\001\006\060\035\006\003
\125\035\016\004\026\004\024\001\271\057\357\277\021\206\140\362
\117\320\101\156\253\163\037\347\322\156\111\060\012\006\010\052
\206\110\316\075\004\003\003\003\151\000\060\146\002\061\000\256
\112\343\053\100\303\164\021\362\225\255\026\043\336\116\014\032
\346\135\245\044\136\153\104\173\374\070\342\117\313\234\105\027
\021\114\024\047\046\125\071\165\112\003\314\023\220\237\222\002
\061\000\372\112\154\140\210\163\363\356\270\230\142\251\316\053
\302\331\212\246\160\061\035\257\260\224\114\353\117\306\343\321
\363\142\247\074\377\223\056\007\134\111\001\147\151\022\002\162
\277\347

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
Issuer: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Serial Number:62:f6:32:6c:e5:c4:e3:68:5c:1b:62:dd:9c:2e:9d:95
Subject: CN=AC RAIZ FNMT-RCM SERVIDORES SEGUROS,OID.2.5.4.97=VATES-
Q2826004J,OU=Ceres,O=FNMT-RCM,C=ES
Not Valid Before: Thu Dec 20 09:37:33 2018
Not Valid After : Sun Dec 20 09:37:33 2043

```

# Fingerprint (SHA-256):
55:41:53:B1:3D:2C:F9:DD:B7:53:BF:BE:1A:4E:0A:E0:8D:0A:A4:18:70:58:FE:60:A2:B8:62:B2:E4:B8:7B:CB
# Fingerprint (SHA1): 62:FF:D9:9E:C0:65:0D:03:CE:75:93:D2:ED:3F:2D:32:C9:E3:E5:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "AC RAIZ FNMT-RCM SERVIDORES SEGUROS"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\142\377\331\236\300\145\015\003\316\165\223\322\355\077\055\062
\311\343\345\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\031\066\234\122\003\057\322\321\273\043\314\335\036\022\125\273
END
CKA_ISSUER MULTILINE_OCTAL
\060\170\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\021\060\017\006\003\125\004\012\014\010\106\116\115\124\055\122
\103\115\061\016\060\014\006\003\125\004\013\014\005\103\145\162
\145\163\061\030\060\026\006\003\125\004\141\014\017\126\101\124
\105\123\055\121\062\070\062\066\060\060\064\112\061\054\060\052
\006\003\125\004\003\014\043\101\103\040\122\101\111\132\040\106
\116\115\124\055\122\103\115\040\123\105\122\126\111\104\117\122
\105\123\040\123\105\107\125\122\117\123
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\142\366\062\154\345\304\343\150\134\033\142\335\234\056
\235\225
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Secure Mail Root R45"
#
# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 18 00:00:00 2020
# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\160\060\202\003\130\240\003\002\001\002\002\020\166
\123\376\250\114\120\253\237\215\062\265\035\003\217\127\334\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\122
\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060
\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151
\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125\004
\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123\145
\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040\122
\064\065\060\036\027\015\064\065\060\063\061\070\060\060\060\060
\060\060\132\027\015\064\065\060\063\061\070\060\060\060\060\060
\060\132\060\122\061\013\060\011\006\003\125\004\006\023\002\102
\105\061\031\060\027\006\003\125\004\012\023\020\107\154\157\142
\141\154\123\151\147\156\040\156\166\055\163\141\061\050\060\046
\006\003\125\004\003\023\037\107\154\157\142\141\154\123\151\147
\156\040\123\145\143\165\162\145\040\115\141\151\154\040\122\157
\157\164\040\122\064\065\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\334\171\314\155\006\371\155\273\340
\126\004\154\177\340\165\314\055\005\111\350\113\334\124\354\133
\167\225\162\277\177\142\235\205\251\212\044\120\137\123\345\333
\164\157\244\051\133\023\052\011\255\232\305\057\302\367\166\073
\241\105\106\252\103\346\044\376\053\260\157\062\160\031\106\132
\171\046\057\374\075\175\137\144\313\127\314\141\141\250\331\225
```

\156\343\225\240\156\177\107\022\030\326\357\003\311\373\212\372
\232\275\202\025\251\125\167\113\021\117\131\340\153\303\161\363
\014\330\124\325\201\150\076\023\271\025\056\207\212\074\104\047
\066\142\044\156\370\054\005\162\060\141\275\102\221\043\304\235
\045\247\331\124\232\024\243\061\255\200\171\014\247\143\154\230
\243\254\127\107\063\037\145\226\341\320\322\065\332\371\161\367
\241\246\045\265\101\135\337\076\140\330\321\366\237\245\362\270
\314\023\252\217\371\262\156\341\203\055\223\335\076\205\032\335
\350\261\134\046\001\313\111\205\374\374\322\324\177\205\142\206
\164\371\313\354\065\042\242\014\060\217\073\253\171\353\126\362
\372\102\363\355\371\037\105\211\100\051\255\352\222\164\352\122
\375\126\264\053\332\242\355\165\302\156\253\316\122\220\113\366
\336\360\111\217\232\110\324\210\031\155\105\346\314\214\271\335
\144\140\140\002\100\370\271\317\274\130\353\075\205\271\306\012
\323\234\007\146\217\307\030\071\043\106\341\074\036\243\057\120
\141\222\013\075\053\154\361\243\107\070\127\221\253\015\217\306
\235\115\004\322\046\122\134\345\245\375\052\055\026\052\001\151
\347\251\175\341\066\267\261\052\305\331\261\215\275\271\213\316
\314\213\241\076\013\110\315\120\225\064\304\330\010\131\330\153
\046\364\276\365\324\042\027\000\127\311\256\233\004\060\063\237
\013\373\337\126\242\311\156\124\166\332\261\227\142\047\131\017
\021\212\042\033\144\226\077\250\361\267\044\112\215\074\123\174
\155\203\166\075\262\046\110\163\365\104\026\001\055\011\052\216
\026\226\120\320\163\006\135\273\042\110\202\114\012\106\132\077
\200\377\134\362\362\232\254\054\010\340\326\352\360\022\070\201
\117\246\020\355\106\253\314\026\234\013\317\144\246\231\002\205
\104\147\106\255\375\115\347\002\003\001\000\001\243\102\060\100
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\240\223\025\050
\156\356\217\010\262\065\306\236\142\171\164\247\261\016\053\173
\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003
\202\002\001\000\105\012\370\321\134\254\142\201\320\004\327\266
\377\127\121\211\013\014\313\336\044\145\067\373\253\236\355\146
\364\352\014\031\151\211\270\031\261\060\126\264\331\366\367\276
\306\256\227\313\105\366\021\214\072\060\144\114\301\237\131\300
\106\102\010\006\107\144\027\170\340\225\007\006\326\214\242\254
\251\331\077\323\173\126\117\374\304\207\050\337\266\053\026\043
\300\237\037\133\343\326\104\136\042\117\043\004\214\065\026\265
\171\007\206\134\057\227\342\366\010\144\246\334\333\250\212\343
\244\173\167\015\321\051\223\050\040\264\123\243\113\116\137\336
\301\366\165\043\374\037\074\170\117\160\061\170\057\242\065\124
\161\004\254\310\304\155\303\366\221\261\376\315\356\104\156\201
\366\100\305\076\052\001\277\253\114\261\003\077\015\021\344\017
\322\044\343\042\210\233\237\137\107\075\121\111\340\011\067\176
\027\041\061\166\267\147\161\110\050\113\045\327\020\350\237\141
\131\026\305\076\062\116\037\014\316\243\314\017\344\307\021\007
\042\057\070\010\335\133\227\353\102\154\131\232\232\356\172\320

```
\235\337\305\333\011\103\056\012\252\031\075\153\350\152\060\172
\127\346\277\263\152\071\251\217\343\361\117\145\150\266\275\237
\050\217\241\026\132\011\120\072\062\056\035\057\104\021\102\246
\000\346\061\230\377\055\241\017\346\244\140\126\317\171\327\262
\116\327\260\372\156\014\127\043\307\316\037\245\261\114\155\031
\111\236\016\177\160\217\161\077\130\050\237\165\335\141\340\072
\267\071\266\356\227\324\065\121\373\213\111\140\310\074\146\256
\227\356\215\046\131\127\273\170\360\172\120\060\011\260\140\252
\237\116\334\311\076\036\072\334\142\223\063\260\072\124\164\157
\054\061\105\321\153\021\062\152\150\166\366\075\366\152\023\136
\044\230\347\352\035\232\317\170\202\007\140\367\115\020\323\201
\232\105\215\236\257\233\334\200\307\103\262\225\150\244\303\016
\350\012\107\025\277\124\063\334\001\347\325\246\036\163\330\172
\262\277\057\255\343\125\060\236\337\016\101\274\340\021\365\241
\014\250\042\341\343\000\243\116\160\174\222\343\004\321\172\102
\212\165\220\131\343\233\321\114\242\144\275\163\171\233\157\362
\263\301\366\074
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Secure Mail Root R45"
```

```
# Issuer: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:76:53:fe:a8:4c:50:ab:9f:8d:32:b5:1d:03:8f:57:dc
```

```
# Subject: CN=GlobalSign Secure Mail Root R45,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 18 00:00:00 2020
```

```
# Not Valid After : Sat Mar 18 00:00:00 2045
```

```
# Fingerprint (SHA-256):
```

```
31:9A:F0:A7:72:9E:6F:89:26:9C:13:1E:A6:A3:A1:6F:CD:86:38:9F:DC:AB:3C:47:A4:A6:75:C1:61:A3:F9:74
```

```
# Fingerprint (SHA1): 76:18:D1:F3:80:24:3D:52:40:C6:11:6A:AD:57:77:09:7D:81:30:A0
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Secure Mail Root R45"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\166\030\321\363\200\044\075\122\100\306\021\152\255\127\167\011
\175\201\060\240
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\223\304\173\263\016\124\107\034\103\054\213\276\160\205\142\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
```

\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\122\064\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\123\376\250\114\120\253\237\215\062\265\035\003\217
\127\334

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GlobalSign Secure Mail Root E45"

#

Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Serial Number:76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

Not Valid After : Sat Mar 18 00:00:00 2045

Fingerprint (SHA-256):

5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19

Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270

\220\012

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\041\060\202\001\247\240\003\002\001\002\002\020\166
\123\376\252\047\035\225\106\135\326\361\236\345\270\220\012\060
\012\006\010\052\206\110\316\075\004\003\003\060\122\061\013\060
\011\006\003\125\004\006\023\002\102\105\061\031\060\027\006\003
\125\004\012\023\020\107\154\157\142\141\154\123\151\147\156\040
\156\166\055\163\141\061\050\060\046\006\003\125\004\003\023\037
\107\154\157\142\141\154\123\151\147\156\040\123\145\143\165\162
\145\040\115\141\151\154\040\122\157\157\164\040\105\064\065\060
\036\027\015\062\060\060\063\061\070\060\060\060\060\060\132
\027\015\064\065\060\063\061\070\060\060\060\060\060\132\060
\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061\031
\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154\123
\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003\125
\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040\123
\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164\040
\105\064\065\060\166\060\020\006\007\052\206\110\316\075\002\001
\006\005\053\201\004\000\042\003\142\000\004\371\171\213\201\107
\067\211\226\077\105\111\120\177\032\046\013\223\062\176\056\300
\300\247\010\232\303\156\217\233\076\013\042\354\067\123\267\157
\212\260\274\047\067\113\155\251\106\073\331\037\377\245\241\104
\273\055\163\277\236\101\007\134\123\233\121\010\072\132\273\157
\070\307\026\221\170\302\112\023\151\035\202\337\132\057\000\210
\226\242\056\034\164\371\235\176\146\067\212\243\102\060\100\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\337\023\136\213\137
\302\100\002\375\126\267\224\114\266\036\325\246\261\024\226\060
\012\006\010\052\206\110\316\075\004\003\003\003\150\000\060\145
\002\060\023\260\276\327\161\040\076\344\253\234\316\066\022\175
\137\114\037\052\265\151\105\063\137\323\055\132\262\344\210\307
\336\012\066\102\062\171\235\246\153\272\341\371\104\052\173\212
\303\022\002\061\000\240\146\034\116\207\235\207\311\355\231\114
\033\012\356\055\140\303\067\307\035\315\265\162\260\331\306\357
\274\362\377\077\360\122\335\010\347\252\144\171\303\344\151\127
\221\057\244\313\174

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "GlobalSign Secure Mail Root E45"

Issuer: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Serial Number: 76:53:fe:aa:27:1d:95:46:5d:d6:f1:9e:e5:b8:90:0a

Subject: CN=GlobalSign Secure Mail Root E45,O=GlobalSign nv-sa,C=BE

Not Valid Before: Wed Mar 18 00:00:00 2020

```

# Not Valid After : Sat Mar 18 00:00:00 2045
# Fingerprint (SHA-256):
5C:BF:6F:B8:1F:D4:17:EA:41:28:CD:6F:81:72:A3:C9:40:20:94:F7:4A:B2:ED:3A:06:B4:40:5D:04:F3:0B:19
# Fingerprint (SHA1): 18:2E:1F:32:4F:89:DF:BE:FE:88:89:F0:93:C2:C4:A0:2B:67:75:21
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Secure Mail Root E45"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\030\056\037\062\117\211\337\276\376\210\211\360\223\302\304\240
\053\147\165\041
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\305\374\306\056\237\364\122\055\052\250\244\272\373\147\062\377
END
CKA_ISSUER MULTILINE_OCTAL
\060\122\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\050\060\046\006\003
\125\004\003\023\037\107\154\157\142\141\154\123\151\147\156\040
\123\145\143\165\162\145\040\115\141\151\154\040\122\157\157\164
\040\105\064\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\166\123\376\252\047\035\225\106\135\326\361\236\345\270
\220\012
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root R46"
#
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Serial Number: 11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE

```

```
CKA_LABEL UTF8 "GlobalSign Root R46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
\337\045\147\321
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\132\060\202\003\102\240\003\002\001\002\002\022\021
\322\273\271\327\043\030\236\100\137\012\235\055\320\337\045\147
\321\060\015\006\011\052\206\110\206\367\015\001\001\014\005\000
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\122\064\066\060\036\027\015\061\071\060\063
\062\060\060\060\060\060\060\060\132\027\015\064\066\060\063\062
\060\060\060\060\060\060\060\132\060\106\061\013\060\011\006\003
\125\004\006\023\002\102\105\061\031\060\027\006\003\125\004\012
\023\020\107\154\157\142\141\154\123\151\147\156\040\156\166\055
\163\141\061\034\060\032\006\003\125\004\003\023\023\107\154\157
\142\141\154\123\151\147\156\040\122\157\157\164\040\122\064\066
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\254\254\164\062\350\263\145\345\272\355\103\046\035\246\211
\015\105\272\051\210\262\244\035\143\335\323\301\054\011\127\211
\071\241\125\351\147\064\167\014\156\344\125\035\122\045\322\023
\153\136\341\035\251\267\175\211\062\137\015\236\237\054\172\143
\140\100\037\246\260\266\170\217\231\124\226\010\130\256\344\006
\274\142\005\002\026\277\257\250\043\003\266\224\017\274\156\154
\302\313\325\246\273\014\351\366\301\002\373\041\336\146\335\027
\253\164\102\357\360\164\057\045\364\352\153\125\133\220\333\235
\337\136\207\012\100\373\255\031\153\373\367\312\140\210\336\332
\301\217\326\256\325\177\324\074\203\356\327\026\114\203\105\063
```

|153\047\320\206\320\034\055\153\363\253\175\361\205\251\365\050
|322\255\357\363\204\113\034\207\374\023\243\072\162\242\132\021
|053\326\047\161\047\355\201\055\155\146\201\222\207\264\033\130
|172\314\077\012\372\106\117\115\170\134\370\053\110\343\004\204
|313\135\366\264\152\263\145\374\102\236\121\046\043\040\313\075
|024\371\201\355\145\026\000\117\032\144\227\146\010\317\214\173
|343\053\300\235\371\024\362\033\361\126\152\026\277\054\205\205
|315\170\070\232\353\102\152\002\064\030\203\027\116\224\126\370
|266\202\265\363\226\335\075\363\276\177\040\167\076\173\031\043
|153\054\324\162\163\103\127\175\340\370\327\151\117\027\066\004
|371\300\220\140\067\105\336\346\014\330\164\215\256\234\242\155
|164\135\102\276\006\365\331\144\156\002\020\254\211\260\114\073
|007\115\100\176\044\305\212\230\202\171\216\244\247\202\040\215
|043\372\047\161\311\337\306\101\164\240\115\366\221\026\334\106
|214\137\051\143\061\131\161\014\330\157\302\266\062\175\373\346
|135\123\246\176\025\374\273\165\174\135\354\370\366\027\034\354
|307\153\031\313\363\173\360\053\007\245\331\154\171\124\166\154
|235\034\246\156\016\351\171\014\250\043\152\243\337\033\060\061
|237\261\124\173\376\152\313\146\252\334\145\320\242\236\112\232
|007\041\153\201\217\333\304\131\372\336\042\300\004\234\343\252
|133\066\223\350\075\275\172\241\235\013\166\261\013\307\235\375
|317\230\250\006\302\370\052\243\241\203\240\267\045\162\245\002
|343\002\003\001\000\001\243\102\060\100\060\016\006\003\125\035
|017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
|023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
|035\016\004\026\004\024\003\134\253\163\201\207\250\314\260\246
|325\224\342\066\226\111\377\005\231\054\060\015\006\011\052\206
|110\206\367\015\001\001\014\005\000\003\202\002\001\000\174\170
|354\366\002\054\273\133\176\222\053\135\071\334\276\330\035\242
|102\063\115\371\357\244\052\073\104\151\036\254\331\105\243\116
|074\247\330\044\121\262\124\034\223\116\304\357\173\223\205\140
|046\352\011\110\340\365\273\307\351\150\322\273\152\061\161\314
|171\256\021\250\360\231\375\345\037\274\057\250\314\127\353\166
|304\041\246\107\123\125\115\150\277\005\244\356\327\046\253\142
|332\103\067\113\342\306\265\345\262\203\031\072\307\323\333\115
|236\010\172\363\356\317\076\142\373\254\350\140\314\321\307\241
|134\203\105\304\105\314\363\027\153\024\311\004\002\076\322\044
|246\171\351\036\316\242\347\301\131\025\237\035\342\113\232\076
|237\166\010\055\153\330\272\127\024\332\203\352\376\214\125\351
|320\116\251\314\167\061\261\104\021\172\134\261\076\323\024\105
|025\030\142\044\023\322\313\115\316\134\203\301\066\362\020\265
|016\210\155\270\341\126\237\211\336\226\146\071\107\144\054\156
|115\256\142\173\277\140\164\031\270\126\254\222\254\026\062\355
|255\150\125\376\230\272\323\064\336\364\311\141\303\016\206\366
|113\204\140\356\015\173\265\062\130\171\221\125\054\201\103\263
|164\037\172\252\045\236\035\327\241\213\271\315\102\056\004\244
|146\203\115\211\065\266\154\250\066\112\171\041\170\042\320\102
|274\321\100\061\220\241\276\004\317\312\147\355\365\360\200\323

```
\140\311\203\052\042\005\320\007\073\122\277\014\236\252\053\371
\273\346\037\217\045\272\205\215\027\036\002\376\135\120\004\127
\317\376\055\274\357\134\300\032\253\266\237\044\306\337\163\150
\110\220\054\024\364\077\122\032\344\322\313\024\303\141\151\317
\342\371\030\305\272\063\237\024\243\004\135\271\161\367\265\224
\330\366\063\301\132\301\064\213\174\233\335\223\072\347\023\242
\160\141\237\257\217\353\330\305\165\370\063\146\324\164\147\072
\067\167\234\347\335\244\017\166\103\146\212\103\362\237\373\014
\102\170\143\321\342\017\157\173\324\241\075\164\227\205\267\110
\071\101\326\040\374\320\072\263\372\350\157\304\212\272\161\067
\276\213\227\261\170\061\117\263\347\266\003\023\316\124\235\256
\045\131\314\177\065\137\010\367\100\105\061\170\052\172
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root R46"
```

```
# Issuer: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number:11:d2:bb:b9:d7:23:18:9e:40:5f:0a:9d:2d:d0:df:25:67:d1
```

```
# Subject: CN=GlobalSign Root R46,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 20 00:00:00 2019
```

```
# Not Valid After : Tue Mar 20 00:00:00 2046
```

```
# Fingerprint (SHA-256):
```

```
4F:A3:12:6D:8D:3A:11:D1:C4:85:5A:4F:80:7C:BA:D6:CF:91:9D:3A:5A:88:B0:3B:EA:2C:63:72:D9:3C:40:C9
```

```
# Fingerprint (SHA1): 53:A2:B0:4B:CA:6B:D6:45:E6:39:8A:8E:C4:0D:D2:BF:77:C3:A2:90
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root R46"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\123\242\260\113\312\153\326\105\346\071\212\216\304\015\322\277
```

```
\167\303\242\220
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\304\024\060\344\372\146\103\224\052\152\033\044\137\031\320\357
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
```

```
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
```

```
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
```

```
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
```

```
\122\157\157\164\040\122\064\066
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\022\021\322\273\271\327\043\030\236\100\137\012\235\055\320
```

```
\337\045\147\321
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GlobalSign Root E46"
#
# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Serial Number:11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
# Not Valid Before: Wed Mar 20 00:00:00 2019
# Not Valid After : Tue Mar 20 00:00:00 2046
# Fingerprint (SHA-256):
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign Root E46"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\013\060\202\001\221\240\003\002\001\002\002\022\021
\322\273\272\063\156\324\274\346\044\150\305\015\204\035\230\350
\103\060\012\006\010\052\206\110\316\075\004\003\003\060\106\061
\013\060\011\006\003\125\004\006\023\002\102\105\061\031\060\027
\006\003\125\004\012\023\020\107\154\157\142\141\154\123\151\147

```

```
\156\040\156\166\055\163\141\061\034\060\032\006\003\125\004\003
\023\023\107\154\157\142\141\154\123\151\147\156\040\122\157\157
\164\040\105\064\066\060\036\027\015\061\071\060\063\062\060\060
\060\060\060\060\060\132\027\015\064\066\060\063\062\060\060\060
\060\060\060\060\132\060\106\061\013\060\011\006\003\125\004\006
\023\002\102\105\061\031\060\027\006\003\125\004\012\023\020\107
\154\157\142\141\154\123\151\147\156\040\156\166\055\163\141\061
\034\060\032\006\003\125\004\003\023\023\107\154\157\142\141\154
\123\151\147\156\040\122\157\157\164\040\105\064\066\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\234\016\261\317\267\350\236\122\167\165\064
\372\245\106\247\255\062\031\062\264\007\251\047\312\224\273\014
\322\012\020\307\332\211\260\227\014\160\023\011\001\216\330\352
\107\352\276\262\200\053\315\374\050\015\333\254\274\244\206\067
\355\160\010\000\165\352\223\013\173\056\122\234\043\150\043\006
\103\354\222\057\123\204\333\373\107\024\007\350\137\224\147\135
\311\172\201\074\040\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\061\012\220\217\266\306\235\322\104\113\200
\265\242\346\037\261\022\117\033\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\061\000\337\124\220
\355\233\357\213\224\002\223\027\202\231\276\263\236\054\366\013
\221\214\237\112\024\261\366\144\274\273\150\121\023\014\003\367
\025\213\204\140\271\213\377\122\216\347\214\274\034\002\060\074
\371\021\324\214\116\300\301\141\302\025\114\252\253\035\013\061
\137\073\034\342\000\227\104\061\346\376\163\226\057\332\226\323
\376\010\007\263\064\211\274\005\237\367\036\206\356\213\160
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign Root E46"
```

```
# Issuer: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
```

```
# Serial Number: 11:d2:bb:ba:33:6e:d4:bc:e6:24:68:c5:0d:84:1d:98:e8:43
```

```
# Subject: CN=GlobalSign Root E46,O=GlobalSign nv-sa,C=BE
```

```
# Not Valid Before: Wed Mar 20 00:00:00 2019
```

```
# Not Valid After : Tue Mar 20 00:00:00 2046
```

```
# Fingerprint (SHA-256):
```

```
CB:B9:C4:4D:84:B8:04:3E:10:50:EA:31:A6:9F:51:49:55:D7:BF:D2:E2:C6:B4:93:01:01:9A:D6:1D:9F:50:58
```

```
# Fingerprint (SHA1): 39:B4:6C:D5:FE:80:06:EB:E2:2F:4A:BB:08:33:A0:AF:DB:B9:DD:84
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign Root E46"
```

```
CKA_CERT_SHA1_HASH MULTILINE OCTAL
```

\071\264\154\325\376\200\006\353\342\057\112\273\010\063\240\257
\333\271\335\204

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\265\270\146\355\336\010\203\343\311\342\001\064\006\254\121\157
END

CKA_ISSUER MULTILINE_OCTAL

\060\106\061\013\060\011\006\003\125\004\006\023\002\102\105\061
\031\060\027\006\003\125\004\012\023\020\107\154\157\142\141\154
\123\151\147\156\040\156\166\055\163\141\061\034\060\032\006\003
\125\004\003\023\023\107\154\157\142\141\154\123\151\147\156\040
\122\157\157\164\040\105\064\066

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\022\021\322\273\272\063\156\324\274\346\044\150\305\015\204
\035\230\350\103

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GLOBALTRUST 2020"

#

Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

Not Valid Before: Mon Feb 10 00:00:00 2020

Not Valid After : Sun Jun 10 00:00:00 2040

Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GLOBALTRUST 2020"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\013\132\113\275\132\373\117\212\133\372\145\345

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\202\060\202\003\152\240\003\002\001\002\002\013\132
\113\275\132\373\117\212\133\372\145\345\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\060\115\061\013\060\011\006
\003\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004
\012\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157
\156\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060
\027\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122
\125\123\124\040\062\060\062\060\060\060\036\027\015\062\060\060\062
\061\060\060\060\060\060\060\060\132\027\015\064\060\060\066\061
\060\060\060\060\060\060\060\132\060\115\061\013\060\011\006\003
\125\004\006\023\002\101\124\061\043\060\041\006\003\125\004\012
\023\032\145\055\143\157\155\155\145\162\143\145\040\155\157\156
\151\164\157\162\151\156\147\040\107\155\142\110\061\031\060\027
\006\003\125\004\003\023\020\107\114\117\102\101\114\124\122\125
\123\124\040\062\060\062\060\060\202\002\042\060\015\006\011\052
\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060
\202\002\012\002\202\002\001\000\256\056\126\255\033\034\357\366
\225\217\240\167\033\053\323\143\217\204\115\105\242\017\237\133
\105\253\131\173\121\064\371\354\213\212\170\305\335\153\257\275
\304\337\223\105\036\277\221\070\013\256\016\026\347\101\163\370
\333\273\321\270\121\340\313\203\073\163\070\156\167\212\017\131
\143\046\315\247\052\316\124\373\270\342\300\174\107\316\140\174
\077\262\163\362\300\031\266\212\222\207\065\015\220\050\242\344
\025\004\143\076\272\257\356\174\136\314\246\213\120\262\070\367
\101\143\312\316\377\151\217\150\016\225\066\345\314\271\214\011
\312\113\335\061\220\226\310\314\037\375\126\226\064\333\216\034
\352\054\276\205\056\143\335\252\251\225\323\375\051\225\023\360
\310\230\223\331\055\026\107\220\021\203\242\072\042\242\050\127
\242\353\376\300\214\050\240\246\175\347\052\102\073\202\200\143
\245\143\037\031\314\174\262\146\250\302\323\155\067\157\342\176
\006\121\331\105\204\037\022\316\044\122\144\205\013\110\200\116
\207\261\042\042\060\252\353\256\276\340\002\340\100\350\260\102
\200\003\121\252\264\176\252\104\327\103\141\363\242\153\026\211
\111\244\243\244\053\212\002\304\170\364\150\212\301\344\172\066
\261\157\033\226\033\167\111\215\324\311\006\162\217\317\123\343
\334\027\205\040\112\334\230\047\323\221\046\053\107\036\151\007
\257\336\242\344\344\324\153\013\263\136\174\324\044\200\107\051
\151\073\156\350\254\375\100\353\330\355\161\161\053\362\350\130

\035\353\101\227\042\305\037\324\071\320\047\217\207\343\030\364
\340\251\106\015\365\164\072\202\056\320\156\054\221\243\061\134
\073\106\352\173\004\020\126\136\200\035\365\245\145\350\202\374
\342\007\214\142\105\365\040\336\106\160\206\241\274\223\323\036
\164\246\154\260\054\367\003\014\210\014\313\324\162\123\206\274
\140\106\363\230\152\302\361\277\103\371\160\040\167\312\067\101
\171\125\122\143\215\133\022\237\305\150\304\210\235\254\362\060
\253\267\243\061\227\147\255\217\027\017\154\307\163\355\044\224
\153\310\203\232\320\232\067\111\004\253\261\026\310\154\111\111
\055\253\241\320\214\222\362\101\112\171\041\045\333\143\327\266
\234\247\176\102\151\373\072\143\002\003\001\000\001\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\035\006\003\125\035\016\004\026\004\024\334\056\037
\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150\234
\042\060\037\006\003\125\035\043\004\030\060\026\200\024\334\056
\037\321\141\067\171\344\253\325\325\263\022\161\150\075\152\150
\234\042\060\015\006\011\052\206\110\206\367\015\001\001\013\005
\000\003\202\002\001\000\221\360\102\002\150\100\356\303\150\300
\124\057\337\354\142\303\303\236\212\240\061\050\252\203\216\244
\126\226\022\020\206\126\272\227\162\322\124\060\174\255\031\325
\035\150\157\373\024\102\330\215\016\363\265\321\245\343\002\102
\136\334\350\106\130\007\065\002\060\340\274\164\112\301\103\052
\377\333\032\320\260\257\154\303\375\313\263\365\177\155\003\056
\131\126\235\055\055\065\214\262\326\103\027\054\222\012\313\135
\350\214\017\113\160\103\320\202\377\250\314\277\244\224\300\276
\207\275\212\343\223\173\306\217\233\026\235\047\145\274\172\305
\102\202\154\134\007\320\251\301\210\140\104\351\230\205\026\137
\370\217\312\001\020\316\045\303\371\140\033\240\305\227\303\323
\054\210\061\242\275\060\354\320\320\300\022\361\301\071\343\345
\365\370\326\112\335\064\315\373\157\301\117\343\000\213\126\342
\222\367\050\262\102\167\162\043\147\307\077\021\025\262\304\003
\005\276\273\021\173\012\277\250\156\347\377\130\103\317\233\147
\240\200\007\266\035\312\255\155\352\101\021\176\055\164\223\373
\302\274\276\121\104\305\357\150\045\047\200\343\310\240\324\022
\354\331\245\067\035\067\174\264\221\312\332\324\261\226\201\357
\150\134\166\020\111\257\176\245\067\200\261\034\122\275\063\201
\114\217\371\335\145\331\024\315\212\045\130\364\342\305\203\245
\011\220\324\154\024\143\265\100\337\353\300\374\304\130\176\015
\024\026\207\124\047\156\126\344\160\204\270\154\062\022\176\202
\061\103\276\327\335\174\241\255\256\326\253\040\022\357\012\303
\020\214\111\226\065\334\013\165\136\261\117\325\117\064\016\021
\040\007\165\103\105\351\243\021\332\254\243\231\302\266\171\047
\342\271\357\310\342\366\065\051\172\164\372\305\177\202\005\142
\246\012\352\150\262\171\107\006\156\362\127\250\025\063\306\367
\170\112\075\102\173\153\176\376\367\106\352\321\353\216\357\210
\150\133\350\301\331\161\176\375\144\357\377\147\107\210\130\045
\057\076\206\007\275\373\250\345\202\250\254\245\323\151\103\315

```
\061\210\111\204\123\222\300\261\071\033\071\203\001\060\304\362
\251\372\320\003\275\162\067\140\126\037\066\174\275\071\221\365
\155\015\277\173\327\222
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "GLOBALTRUST 2020"

Issuer: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

Serial Number:5a:4b:bd:5a:fb:4f:8a:5b:fa:65:e5

Subject: CN=GLOBALTRUST 2020,O=e-commerce monitoring GmbH,C=AT

Not Valid Before: Mon Feb 10 00:00:00 2020

Not Valid After : Sun Jun 10 00:00:00 2040

Fingerprint (SHA-256):

9A:29:6A:51:82:D1:D4:51:A2:E3:7F:43:9B:74:DA:AF:A2:67:52:33:29:F9:0F:9A:0D:20:07:C3:34:E2:3C:9A

Fingerprint (SHA1): D0:67:C1:13:51:01:0C:AA:D0:C7:6A:65:37:31:16:26:4F:53:71:A2

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GLOBALTRUST 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\320\147\301\023\121\001\014\252\320\307\152\145\067\061\026\046
\117\123\161\242
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\212\307\157\313\155\343\314\242\361\174\203\372\016\170\327\350
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\101\124\061
\043\060\041\006\003\125\004\012\023\032\145\055\143\157\155\155
\145\162\143\145\040\155\157\156\151\164\157\162\151\156\147\040
\107\155\142\110\061\031\060\027\006\003\125\004\003\023\020\107
\114\117\102\101\114\124\122\125\123\124\040\062\060\062\060
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\013\132\113\275\132\373\117\212\133\372\145\345
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

Certificate "ANF Secure Server Root CA"

#

Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de

```
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\357\060\202\003\327\240\003\002\001\002\002\010\015
\323\343\274\154\371\153\261\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\201\204\061\022\060\020\006\003\125
\004\005\023\011\107\066\063\062\070\067\065\061\060\061\013\060
\011\006\003\125\004\006\023\002\105\123\061\047\060\045\006\003
\125\004\012\023\036\101\116\106\040\101\165\164\157\162\151\144
```

\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141\143
\151\157\156\061\024\060\022\006\003\125\004\013\023\013\101\116
\106\040\103\101\040\122\141\151\172\061\042\060\040\006\003\125
\004\003\023\031\101\116\106\040\123\145\143\165\162\145\040\123
\145\162\166\145\162\040\122\157\157\164\040\103\101\060\036\027
\015\061\071\060\071\060\064\061\060\060\060\063\070\132\027\015
\063\071\060\070\063\060\061\060\060\060\063\070\132\060\201\204
\061\022\060\020\006\003\125\004\005\023\011\107\066\063\062\070
\067\065\061\060\061\013\060\011\006\003\125\004\006\023\002\105
\123\061\047\060\045\006\003\125\004\012\023\036\101\116\106\040
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\061\024\060\022\006\003
\125\004\013\023\013\101\116\106\040\103\101\040\122\141\151\172
\061\042\060\040\006\003\125\004\003\023\031\101\116\106\040\123
\145\143\165\162\145\040\123\145\162\166\145\162\040\122\157\157
\164\040\103\101\060\202\002\042\060\015\006\011\052\206\110\206
\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002\012
\002\202\002\001\000\333\353\153\053\346\144\124\225\202\220\243
\162\244\031\001\235\234\013\201\137\163\111\272\247\254\363\004
\116\173\226\013\354\021\340\133\246\034\316\033\322\015\203\034
\053\270\236\035\176\105\062\140\017\007\351\167\130\176\237\152
\310\141\116\266\046\301\114\215\377\114\357\064\262\037\145\330
\271\170\365\255\251\161\271\357\117\130\035\245\336\164\040\227
\241\355\150\114\336\222\027\113\274\253\377\145\232\236\373\107
\331\127\162\363\011\241\256\166\104\023\156\234\055\104\071\274
\371\307\073\244\130\075\101\275\264\302\111\243\310\015\322\227
\057\007\145\122\000\247\156\310\257\150\354\364\024\226\266\127
\037\126\303\071\237\053\155\344\363\076\366\065\144\332\014\034
\241\204\113\057\113\113\342\054\044\235\155\223\100\353\265\043
\216\062\312\157\105\323\250\211\173\036\317\036\372\133\103\213
\315\315\250\017\152\312\014\136\271\236\107\217\360\331\266\012
\013\130\145\027\063\271\043\344\167\031\175\313\112\056\222\173
\117\057\020\167\261\215\057\150\234\142\314\340\120\370\354\221
\247\124\114\127\011\325\166\143\305\350\145\036\356\155\152\317
\011\235\372\174\117\255\140\010\375\126\231\017\025\054\173\251
\200\253\214\141\217\112\007\166\102\336\075\364\335\262\044\063
\133\270\265\243\104\311\254\177\167\074\035\043\354\202\251\246
\342\310\006\114\002\376\254\134\231\231\013\057\020\212\246\364
\177\325\207\164\015\131\111\105\366\360\161\134\071\051\326\277
\112\043\213\365\137\001\143\322\207\163\050\265\113\012\365\370
\253\202\054\176\163\045\062\035\013\143\012\027\201\000\377\266
\166\136\347\264\261\100\312\041\273\325\200\121\345\110\122\147
\054\322\141\211\007\015\017\316\102\167\300\104\163\234\104\120
\240\333\020\012\055\225\034\201\257\344\034\345\024\036\361\066
\101\001\002\057\175\163\247\336\102\314\114\351\211\015\126\367
\237\221\324\003\306\154\311\217\333\330\034\340\100\230\135\146
\231\230\200\156\055\377\001\305\316\313\106\037\254\002\306\103
\346\256\242\204\074\305\116\036\075\155\311\024\114\343\056\101

\273\312\071\277\066\074\052\031\252\101\207\116\245\316\113\062
\171\335\220\111\177\002\003\001\000\001\243\143\060\141\060\037
\006\003\125\035\043\004\030\060\026\200\024\234\137\320\154\143
\243\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060
\035\006\003\125\035\016\004\026\004\024\234\137\320\154\143\243
\137\223\312\223\230\010\255\214\207\245\054\134\301\067\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\206\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\003\202
\002\001\000\116\036\271\212\306\240\230\077\156\303\151\300\152
\134\111\122\254\313\053\135\170\070\301\325\124\204\237\223\360
\207\031\075\054\146\211\353\015\102\374\314\360\165\205\077\213
\364\200\135\171\345\027\147\275\065\202\342\362\074\216\175\133
\066\313\132\200\000\051\362\316\053\054\361\217\252\155\005\223
\154\162\307\126\353\337\120\043\050\345\105\020\075\350\147\243
\257\016\125\017\220\011\142\357\113\131\242\366\123\361\300\065
\344\057\301\044\275\171\057\116\040\042\073\375\032\040\260\244
\016\054\160\355\164\077\270\023\225\006\121\310\350\207\046\312
\244\133\152\026\041\222\335\163\140\236\020\030\336\074\201\352
\350\030\303\174\211\362\213\120\076\275\021\342\025\003\250\066
\175\063\001\154\110\025\327\210\220\231\004\305\314\346\007\364
\274\364\220\355\023\342\352\213\303\217\243\063\017\301\051\114
\023\116\332\025\126\161\163\162\202\120\366\232\063\174\242\261
\250\032\064\164\145\134\316\321\353\253\123\340\032\200\330\352
\072\111\344\046\060\233\345\034\212\250\251\025\062\206\231\222
\012\020\043\126\022\340\366\316\114\342\273\276\333\215\222\163
\001\146\057\142\076\262\162\047\105\066\355\115\126\343\227\231
\377\072\065\076\245\124\112\122\131\113\140\333\356\376\170\021
\177\112\334\024\171\140\266\153\144\003\333\025\203\341\242\276
\366\043\227\120\360\011\063\066\247\161\226\045\363\271\102\175
\333\070\077\054\130\254\350\102\341\016\330\323\073\114\056\202
\351\203\056\153\061\331\335\107\206\117\155\227\221\056\117\342
\050\161\065\026\321\362\163\376\045\053\007\107\044\143\047\310
\370\366\331\153\374\022\061\126\010\300\123\102\257\234\320\063
\176\374\006\360\061\104\003\024\361\130\352\362\152\015\251\021
\262\203\276\305\032\277\007\352\131\334\243\210\065\357\234\166
\062\074\115\006\042\316\025\345\335\236\330\217\332\336\322\304
\071\345\027\201\317\070\107\353\177\210\155\131\033\337\237\102
\024\256\176\317\250\260\146\145\332\067\257\237\252\075\352\050
\266\336\325\061\130\026\202\133\352\273\031\165\002\163\032\312
\110\032\041\223\220\012\216\223\204\247\175\073\043\030\222\211
\240\215\254

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ANF Secure Server Root CA"

```
# Issuer: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Serial Number:0d:d3:e3:bc:6c:f9:6b:b1
# Subject: CN=ANF Secure Server Root CA,OU=ANF CA Raiz,O=ANF Autoridad de
Certificacion,C=ES,serialNumber=G63287510
# Not Valid Before: Wed Sep 04 10:00:38 2019
# Not Valid After : Tue Aug 30 10:00:38 2039
# Fingerprint (SHA-256):
FB:8F:EC:75:91:69:B9:10:6B:1E:51:16:44:C6:18:C5:13:04:37:3F:6C:06:43:08:8D:8B:EF:FD:1B:99:75:99
# Fingerprint (SHA1): 5B:6E:68:D0:CC:15:B6:A0:5F:1E:C1:5F:AE:02:FC:6B:2F:5D:6F:74
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "ANF Secure Server Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\133\156\150\320\314\025\266\240\137\036\301\137\256\002\374\153
\057\135\157\164
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\046\246\104\132\331\257\116\057\262\035\266\145\260\116\350\226
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\204\061\022\060\020\006\003\125\004\005\023\011\107\066
\063\062\070\067\065\061\060\061\013\060\011\006\003\125\004\006
\023\002\105\123\061\047\060\045\006\003\125\004\012\023\036\101
\116\106\040\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\061\024\060
\022\006\003\125\004\013\023\013\101\116\106\040\103\101\040\122
\141\151\172\061\042\060\040\006\003\125\004\003\023\031\101\116
\106\040\123\145\143\165\162\145\040\123\145\162\166\145\162\040
\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\015\323\343\274\154\371\153\261
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum EC-384 CA"
#
# Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4
# Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Mon Mar 26 07:24:54 2018
```

```
# Not Valid After : Thu Mar 26 07:24:54 2043
# Fingerprint (SHA-256):
6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6
# Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum EC-384 CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\145\060\202\001\353\240\003\002\001\002\002\020\170
\217\047\134\201\022\122\040\245\004\320\055\335\272\163\364\060
\012\006\010\052\206\110\316\075\004\003\003\060\164\061\013\060
\011\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003
\125\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141
\040\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060
\045\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103
\145\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164
\150\157\162\151\164\171\061\031\060\027\006\003\125\004\003\023
\020\103\145\162\164\165\155\040\105\103\055\063\070\064\040\103
\101\060\036\027\015\061\070\060\063\062\066\060\067\062\064\065
\064\132\027\015\064\063\060\063\062\066\060\067\062\064\065\064
```

\132\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114
\061\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143
\157\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123
\056\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145
\162\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151
\157\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027
\006\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103
\055\063\070\064\040\103\101\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\304
\050\216\253\030\133\152\276\156\144\067\143\344\315\354\253\072
\367\314\241\270\016\202\111\327\206\051\237\241\224\362\343\140
\170\230\201\170\006\115\362\354\232\016\127\140\203\237\264\346
\027\057\032\263\135\002\133\211\043\074\302\021\005\052\247\210
\023\030\363\120\204\327\275\064\054\047\211\125\377\316\114\347
\337\246\037\050\304\360\124\303\271\174\267\123\255\353\302\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\215
\006\146\164\044\166\072\363\211\367\274\326\275\107\175\057\274
\020\137\113\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\003\125\055\246\346\030\304\174\357\311
\120\156\301\047\017\234\207\257\156\325\033\010\030\275\222\051
\301\357\224\221\170\322\072\034\125\211\142\345\033\011\036\272
\144\153\361\166\264\324\002\061\000\264\102\204\231\377\253\347
\236\373\221\227\047\135\334\260\133\060\161\316\136\070\032\152
\331\045\347\352\367\141\222\126\370\352\332\066\302\207\145\226
\056\162\045\057\177\337\303\023\311

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certum EC-384 CA"

Issuer: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Serial Number:78:8f:27:5c:81:12:52:20:a5:04:d0:2d:dd:ba:73:f4

Subject: CN=Certum EC-384 CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Not Valid Before: Mon Mar 26 07:24:54 2018

Not Valid After : Thu Mar 26 07:24:54 2043

Fingerprint (SHA-256):

6B:32:80:85:62:53:18:AA:50:D1:73:C9:8D:8B:DA:09:D5:7E:27:41:3D:11:4C:F7:87:A0:F5:D0:6C:03:0C:F6

Fingerprint (SHA1): F3:3E:78:3C:AC:DF:F4:A2:CC:AC:67:55:69:56:D7:E5:16:3C:E1:ED

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certum EC-384 CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\363\076\170\074\254\337\364\242\314\254\147\125\151\126\327\345

```

\026\074\341\355
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\266\145\263\226\140\227\022\241\354\116\341\075\243\306\311\361
END
CKA_ISSUER MULTILINE_OCTAL
\060\164\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\031\060\027\006
\003\125\004\003\023\020\103\145\162\164\165\155\040\105\103\055
\063\070\064\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\170\217\047\134\201\022\122\040\245\004\320\055\335\272
\163\364
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Certum Trusted Root CA"
#
# Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Serial Number:1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed
# Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL
# Not Valid Before: Fri Mar 16 12:10:13 2018
# Not Valid After : Mon Mar 16 12:10:13 2043
# Fingerprint (SHA-256):
FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD
# Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certum Trusted Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006

```

\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\300\060\202\003\250\240\003\002\001\002\002\020\036
\277\131\120\270\311\200\067\114\006\367\353\125\117\265\355\060
\015\006\011\052\206\110\206\367\015\001\001\015\005\000\060\172
\061\013\060\011\006\003\125\004\006\023\002\120\114\061\041\060
\037\006\003\125\004\012\023\030\101\163\163\145\143\157\040\104
\141\164\141\040\123\171\163\164\145\155\163\040\123\056\101\056
\061\047\060\045\006\003\125\004\013\023\036\103\145\162\164\165
\155\040\103\145\162\164\151\146\151\143\141\164\151\157\156\040
\101\165\164\150\157\162\151\164\171\061\037\060\035\006\003\125
\004\003\023\026\103\145\162\164\165\155\040\124\162\165\163\164
\145\144\040\122\157\157\164\040\103\101\060\036\027\015\061\070
\060\063\061\066\061\062\061\060\061\063\132\027\015\064\063\060
\063\061\066\061\062\061\060\061\063\132\060\172\061\013\060\011
\006\003\125\004\006\023\002\120\114\061\041\060\037\006\003\125
\004\012\023\030\101\163\163\145\143\157\040\104\141\164\141\040
\123\171\163\164\145\155\163\040\123\056\101\056\061\047\060\045
\006\003\125\004\013\023\036\103\145\162\164\165\155\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\101\165\164\150
\157\162\151\164\171\061\037\060\035\006\003\125\004\003\023\026
\103\145\162\164\165\155\040\124\162\165\163\164\145\144\040\122
\157\157\164\040\103\101\060\202\002\042\060\015\006\011\052\206
\110\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202
\002\012\002\202\002\001\000\321\055\216\273\267\066\352\155\067
\221\237\116\223\247\005\344\051\003\045\316\034\202\367\174\231
\237\101\006\315\355\243\272\300\333\011\054\301\174\337\051\176
\113\145\057\223\247\324\001\153\003\050\030\243\330\235\005\301
\052\330\105\361\221\336\337\073\320\200\002\214\317\070\017\352
\247\134\170\021\244\301\310\205\134\045\323\323\262\347\045\317
\021\124\227\253\065\300\036\166\034\357\000\123\237\071\334\024

\245\054\042\045\263\162\162\374\215\263\345\076\010\036\024\052
\067\013\210\074\312\260\364\310\302\241\256\274\301\276\051\147
\125\342\374\255\131\134\376\275\127\054\260\220\215\302\355\067
\266\174\231\210\265\325\003\232\075\025\015\075\072\250\250\105
\360\225\116\045\131\035\315\230\151\273\323\314\062\311\215\357
\201\376\255\175\211\273\272\140\023\312\145\225\147\240\363\031
\366\003\126\324\152\323\047\342\241\255\203\360\112\022\042\167
\034\005\163\342\031\161\102\300\354\165\106\232\220\130\340\152
\216\053\245\106\060\004\216\031\262\027\343\276\251\272\177\126
\361\044\003\327\262\041\050\166\016\066\060\114\171\325\101\232
\232\250\270\065\272\014\072\362\104\033\040\210\367\305\045\327
\075\306\343\076\103\335\207\376\304\352\365\123\076\114\145\377
\073\112\313\170\132\153\027\137\015\307\303\117\116\232\052\242
\355\127\115\042\342\106\232\077\017\221\064\044\175\125\343\214
\225\067\323\032\360\011\053\054\322\311\215\264\015\000\253\147
\051\050\330\001\365\031\004\266\035\276\166\376\162\134\304\205
\312\322\200\101\337\005\250\243\325\204\220\117\013\363\340\077
\233\031\322\067\211\077\362\173\122\034\214\366\341\367\074\007
\227\214\016\242\131\201\014\262\220\075\323\343\131\106\355\017
\251\247\336\200\153\132\252\007\266\031\313\274\127\363\227\041
\172\014\261\053\164\076\353\332\247\147\055\114\304\230\236\066
\011\166\146\146\374\032\077\352\110\124\034\276\060\275\200\120
\277\174\265\316\000\366\014\141\331\347\044\003\340\343\001\201
\016\275\330\205\064\210\275\262\066\250\173\134\010\345\104\200
\214\157\370\057\325\041\312\035\034\320\373\304\265\207\321\072
\116\307\166\265\065\110\265\002\003\001\000\001\243\102\060\100
\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001
\377\060\035\006\003\125\035\016\004\026\004\024\214\373\034\165
\274\002\323\237\116\056\110\331\371\140\124\252\304\263\117\372
\060\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006
\060\015\006\011\052\206\110\206\367\015\001\001\015\005\000\003
\202\002\001\000\110\242\325\000\013\056\320\077\274\034\325\265
\124\111\036\132\153\364\344\362\340\100\067\340\314\024\173\271
\311\372\065\265\165\027\223\152\005\151\205\234\315\117\031\170
\133\031\201\363\143\076\303\316\133\217\365\057\136\001\166\023
\077\054\000\271\315\226\122\071\111\155\004\116\305\351\017\206
\015\341\372\263\137\202\022\361\072\316\146\006\044\064\053\350
\314\312\347\151\334\207\235\302\064\327\171\321\323\167\270\252
\131\130\376\235\046\372\070\206\076\235\212\207\144\127\345\027
\072\342\371\215\271\343\063\170\301\220\330\270\335\267\203\121
\344\304\314\043\325\006\174\346\121\323\315\064\061\300\366\106
\273\013\255\374\075\020\005\052\073\112\221\045\356\214\324\204
\207\200\052\274\011\214\252\072\023\137\350\064\171\120\301\020
\031\371\323\050\036\324\321\121\060\051\263\256\220\147\326\037
\012\143\261\305\251\306\102\061\143\027\224\357\151\313\057\372
\214\024\175\304\103\030\211\331\360\062\100\346\200\342\106\137
\345\343\301\000\131\250\371\350\040\274\211\054\016\107\064\013
\352\127\302\123\066\374\247\324\257\061\315\376\002\345\165\372

```
\271\047\011\371\363\365\073\312\175\237\251\042\313\210\311\252
\321\107\075\066\167\250\131\144\153\047\317\357\047\301\343\044
\265\206\367\256\176\062\115\260\171\150\321\071\350\220\130\303
\203\274\017\054\326\227\353\316\014\341\040\307\332\267\076\303
\077\277\057\334\064\244\373\053\041\315\147\217\113\364\343\352
\324\077\347\117\272\271\245\223\105\034\146\037\041\372\144\136
\157\340\166\224\062\313\165\365\156\345\366\217\307\270\244\314
\250\226\175\144\373\044\132\112\003\154\153\070\306\350\003\103
\232\367\127\271\263\051\151\223\070\364\003\362\273\373\202\153
\007\040\321\122\037\232\144\002\173\230\146\333\134\115\132\017
\320\204\225\240\074\024\103\006\312\312\333\270\101\066\332\152
\104\147\207\257\257\343\105\021\025\151\010\262\276\026\071\227
\044\157\022\105\321\147\135\011\250\311\025\332\372\322\246\137
\023\141\037\277\205\254\264\255\255\005\224\010\203\036\165\027
\323\161\073\223\120\043\131\240\355\074\221\124\235\166\000\305
\303\270\070\333
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "Certum Trusted Root CA"

Issuer: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Serial Number: 1e:bf:59:50:b8:c9:80:37:4c:06:f7:eb:55:4f:b5:ed

Subject: CN=Certum Trusted Root CA,OU=Certum Certification Authority,O=Asseco Data Systems S.A.,C=PL

Not Valid Before: Fri Mar 16 12:10:13 2018

Not Valid After : Mon Mar 16 12:10:13 2043

Fingerprint (SHA-256):

FE:76:96:57:38:55:77:3E:37:A9:5E:7A:D4:D9:CC:96:C3:01:57:C1:5D:31:76:5B:A9:B1:57:04:E1:AE:78:FD

Fingerprint (SHA1): C8:83:44:C0:18:AE:9F:CC:F1:87:B7:8F:22:D1:C5:D7:45:84:BA:E5

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Certum Trusted Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\310\203\104\300\030\256\237\314\361\207\267\217\042\321\305\327
\105\204\272\345
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\121\341\302\347\376\114\204\257\131\016\057\364\124\157\352\051
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\172\061\013\060\011\006\003\125\004\006\023\002\120\114\061
\041\060\037\006\003\125\004\012\023\030\101\163\163\145\143\157
\040\104\141\164\141\040\123\171\163\164\145\155\163\040\123\056
\101\056\061\047\060\045\006\003\125\004\013\023\036\103\145\162
\164\165\155\040\103\145\162\164\151\146\151\143\141\164\151\157
```

```
\156\040\101\165\164\150\157\162\151\164\171\061\037\060\035\006
\003\125\004\003\023\026\103\145\162\164\165\155\040\124\162\165
\163\164\145\144\040\122\157\157\164\040\103\101
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\036\277\131\120\270\311\200\067\114\006\367\353\125\117
\265\355
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "TunTrust Root CA"

#

Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Not Valid Before: Fri Apr 26 08:57:56 2019

Not Valid After : Tue Apr 26 08:57:56 2044

Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TunTrust Root CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
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END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061
\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145
\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145
\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143
\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004
\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164
\040\103\101
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END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273
\273\262\153\076\374\023

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\263\060\202\003\233\240\003\002\001\002\002\024\023
\002\325\342\100\114\222\106\206\026\147\135\264\273\273\262\153
\076\374\023\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\141\061\013\060\011\006\003\125\004\006\023\002\124
\116\061\067\060\065\006\003\125\004\012\014\056\101\147\145\156
\143\145\040\116\141\164\151\157\156\141\154\145\040\144\145\040
\103\145\162\164\151\146\151\143\141\164\151\157\156\040\105\154
\145\143\164\162\157\156\151\161\165\145\061\031\060\027\006\003
\125\004\003\014\020\124\165\156\124\162\165\163\164\040\122\157
\157\164\040\103\101\060\036\027\015\061\071\060\064\062\066\060
\070\065\067\065\066\132\027\015\064\064\060\064\062\066\060\070
\065\067\065\066\132\060\141\061\013\060\011\006\003\125\004\006
\023\002\124\116\061\067\060\065\006\003\125\004\012\014\056\101
\147\145\156\143\145\040\116\141\164\151\157\156\141\154\145\040
\144\145\040\103\145\162\164\151\146\151\143\141\164\151\157\156
\040\105\154\145\143\164\162\157\156\151\161\165\145\061\031\060
\027\006\003\125\004\003\014\020\124\165\156\124\162\165\163\164
\040\122\157\157\164\040\103\101\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\303\315\323\374\275\004\123
\335\014\040\072\325\210\056\005\113\101\365\203\202\176\367\131
\237\236\236\143\350\163\332\366\006\251\117\037\264\371\013\037
\071\214\232\040\320\176\006\324\354\064\331\206\274\165\133\207
\210\360\322\331\324\243\012\262\154\033\353\111\054\076\254\135
\330\224\003\240\354\064\345\060\304\065\175\373\046\115\033\156
\060\124\330\365\200\105\234\071\255\234\311\045\004\115\232\220
\076\116\100\156\212\153\315\051\147\306\314\055\340\164\350\005
\127\012\110\120\372\172\103\332\176\354\133\232\016\142\166\376
\352\235\035\205\162\354\021\273\065\350\037\047\277\301\241\307
\273\110\026\335\126\327\314\116\240\341\271\254\333\325\203\031
\032\205\321\224\227\327\312\243\145\013\363\070\371\002\256\335
\366\147\317\311\077\365\212\054\107\032\231\157\005\015\375\320
\035\202\061\374\051\314\000\130\227\221\114\200\000\034\063\205
\226\057\313\101\302\213\020\204\303\011\044\211\037\265\017\331
\331\167\107\030\222\224\140\134\307\231\003\074\376\367\225\247
\175\120\241\200\302\251\203\255\130\226\125\041\333\206\131\324
\257\306\274\335\201\156\007\333\140\142\376\354\020\156\332\150
\001\364\203\033\251\076\242\133\043\327\144\306\337\334\242\175
\330\113\272\202\322\121\370\146\277\006\106\344\171\052\046\066
\171\217\037\116\231\035\262\217\014\016\034\377\311\135\300\375
\220\020\246\261\067\363\315\072\044\156\264\205\220\277\200\271
\014\214\325\233\326\310\361\126\077\032\200\211\172\251\342\033

\062\121\054\076\362\337\173\366\135\172\051\031\216\345\310\275
\066\161\213\135\114\302\035\077\255\130\242\317\075\160\115\246
\120\230\045\334\043\371\270\130\101\010\161\277\117\270\204\240
\217\000\124\025\374\221\155\130\247\226\073\353\113\226\047\315
\153\242\241\206\254\015\174\124\346\146\114\146\137\220\276\041
\232\002\106\055\344\203\302\200\271\317\113\076\350\177\074\001
\354\217\136\315\177\322\050\102\001\225\212\342\227\075\020\041
\175\366\235\034\305\064\241\354\054\016\012\122\054\022\125\160
\044\075\313\302\024\065\103\135\047\116\276\300\275\252\174\226
\347\374\236\141\255\104\323\000\227\002\003\001\000\001\243\143
\060\141\060\035\006\003\125\035\016\004\026\004\024\006\232\233
\037\123\175\361\365\244\310\323\206\076\241\163\131\264\367\104
\041\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\006
\232\233\037\123\175\361\365\244\310\323\206\076\241\163\131\264
\367\104\041\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\252\005\156\266\335\025\311\277\263
\306\040\366\006\107\260\206\223\045\323\215\271\310\000\077\227
\365\122\047\210\161\311\164\375\353\312\144\333\133\357\036\135
\272\277\321\353\356\134\151\272\026\310\363\271\217\323\066\056
\100\111\007\015\131\336\213\020\260\111\005\342\377\221\077\113
\267\335\002\216\370\201\050\134\314\334\155\257\137\024\234\175
\130\170\015\366\200\011\271\351\016\227\051\031\270\267\353\370
\026\313\125\022\344\306\175\273\304\354\370\265\034\116\076\147
\277\305\137\033\155\155\107\050\252\004\130\141\326\166\277\042
\177\320\007\152\247\144\123\360\227\215\235\200\077\273\301\007
\333\145\257\346\233\062\232\303\124\223\304\034\010\303\104\373
\173\143\021\103\321\152\032\141\152\171\155\220\117\051\216\107
\005\301\022\151\151\326\306\066\061\341\374\372\200\272\134\117
\304\353\267\062\254\370\165\141\027\327\020\031\271\361\322\011
\357\172\102\235\133\132\013\324\306\225\116\052\316\377\007\327
\117\176\030\006\210\361\031\265\331\230\273\256\161\304\034\347
\164\131\130\357\014\211\317\213\037\165\223\032\004\024\222\110
\120\251\353\127\051\000\026\343\066\034\310\370\277\360\063\325
\101\017\304\314\074\335\351\063\103\001\221\020\053\036\321\271
\135\315\062\031\213\217\214\040\167\327\042\304\102\334\204\026
\233\045\155\350\264\125\161\177\260\174\263\323\161\111\271\317
\122\244\004\077\334\075\240\273\257\063\236\012\060\140\216\333
\235\135\224\250\275\140\347\142\200\166\201\203\014\214\314\060
\106\111\342\014\322\250\257\353\141\161\357\347\042\142\251\367
\134\144\154\237\026\214\147\066\047\105\365\011\173\277\366\020
\012\361\260\215\124\103\214\004\272\243\077\357\342\065\307\371
\164\340\157\064\101\320\277\163\145\127\040\371\233\147\172\146
\150\044\116\200\145\275\020\231\006\131\362\145\257\270\306\107
\273\375\220\170\213\101\163\056\257\125\037\334\073\222\162\156
\204\323\320\141\114\015\314\166\127\342\055\205\042\025\066\015
\353\001\235\353\330\353\304\204\231\373\300\014\314\062\350\343

\167\332\203\104\213\236\125\050\300\213\130\323\220\076\116\033

\000\361\025\255\203\053\232

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "TunTrust Root CA"

Issuer: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Serial Number:13:02:d5:e2:40:4c:92:46:86:16:67:5d:b4:bb:bb:b2:6b:3e:fc:13

Subject: CN=TunTrust Root CA,O=Agence Nationale de Certification Electronique,C=TN

Not Valid Before: Fri Apr 26 08:57:56 2019

Not Valid After : Tue Apr 26 08:57:56 2044

Fingerprint (SHA-256):

2E:44:10:2A:B5:8C:B8:54:19:45:1C:8E:19:D9:AC:F3:66:2C:AF:BC:61:4B:6A:53:96:0A:30:F7:D0:E2:EB:41

Fingerprint (SHA1): CF:E9:70:84:0F:E0:73:0F:9D:F6:0C:7F:2C:4B:EE:20:46:34:9C:BB

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "TunTrust Root CA"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\317\351\160\204\017\340\163\017\235\366\014\177\054\113\356\040

\106\064\234\273

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\205\023\271\220\133\066\134\266\136\270\132\370\340\061\127\264

END

CKA_ISSUER MULTILINE_OCTAL

\060\141\061\013\060\011\006\003\125\004\006\023\002\124\116\061

\067\060\065\006\003\125\004\012\014\056\101\147\145\156\143\145

\040\116\141\164\151\157\156\141\154\145\040\144\145\040\103\145

\162\164\151\146\151\143\141\164\151\157\156\040\105\154\145\143

\164\162\157\156\151\161\165\145\061\031\060\027\006\003\125\004

\003\014\020\124\165\156\124\162\165\163\164\040\122\157\157\164

\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\023\002\325\342\100\114\222\106\206\026\147\135\264\273

\273\262\153\076\374\023

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "HARICA TLS RSA Root CA 2021"

```
#
# Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e
# Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:55:38 2021
# Not Valid After : Mon Feb 13 10:55:37 2045
# Fingerprint (SHA-256):
D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D
# Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\244\060\202\003\214\240\003\002\001\002\002\020\071
\312\223\034\357\103\363\306\216\223\307\364\144\211\070\176\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\154
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\044\060\042\006\003\125\004\003\014
\033\110\101\122\111\103\101\040\124\114\123\040\122\123\101\040
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\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\060\065\065\063\070\132\027\015\064
\065\060\062\061\063\061\060\065\065\063\067\132\060\154\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110
\101\122\111\103\101\040\124\114\123\040\122\123\101\040\122\157
\157\164\040\103\101\040\062\060\062\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\213\302\347\257\145
\233\005\147\226\311\015\044\271\320\016\144\374\316\342\044\030
\054\204\177\167\121\313\004\021\066\270\136\355\151\161\247\236
\344\045\011\227\147\301\107\302\317\221\026\066\142\075\070\004
\341\121\202\377\254\322\264\151\335\056\354\021\243\105\356\153
\153\073\114\277\214\215\244\036\235\021\271\351\070\371\172\016
\014\230\342\043\035\321\116\143\324\347\270\101\104\373\153\257
\153\332\037\323\305\221\210\133\244\211\222\321\201\346\214\071
\130\240\326\151\103\251\255\230\122\130\156\333\012\373\153\317
\150\372\343\244\136\072\105\163\230\007\352\137\002\162\336\014
\245\263\237\256\251\035\267\035\263\374\212\131\347\156\162\145
\255\365\060\224\043\007\363\202\026\113\065\230\234\123\273\057
\312\344\132\331\307\215\035\374\230\231\373\054\244\202\153\360
\052\037\216\013\137\161\134\134\256\102\173\051\211\201\313\003
\243\231\312\210\236\013\100\011\101\063\333\346\130\172\375\256
\231\160\300\132\017\326\023\206\161\057\166\151\374\220\335\333
\055\156\321\362\233\365\032\153\236\157\025\214\172\360\113\050
\240\042\070\200\044\154\066\244\073\362\060\221\363\170\023\317
\301\077\065\253\361\035\021\043\265\103\042\236\001\222\267\030
\002\345\021\321\202\333\025\000\314\141\067\301\052\174\232\341
\320\272\263\120\106\356\202\254\235\061\370\373\043\342\003\000
\110\160\243\011\046\171\025\123\140\363\070\134\255\070\352\201
\000\143\024\271\063\136\335\013\333\240\105\007\032\063\011\370
\115\264\247\002\246\151\364\302\131\005\210\145\205\126\256\113
\313\340\336\074\175\055\032\310\351\373\037\243\141\112\326\052
\023\255\167\114\032\030\233\221\017\130\330\006\124\305\227\370
\252\077\040\212\246\205\246\167\366\246\374\034\342\356\156\224
\063\052\203\120\204\012\345\117\206\370\120\105\170\000\201\353
\133\150\343\046\215\314\173\134\121\364\024\054\100\276\032\140
\035\172\162\141\035\037\143\055\210\252\316\242\105\220\010\374
\153\276\263\120\052\132\375\250\110\030\106\326\220\100\222\220
\012\204\136\150\061\370\353\355\015\323\035\306\175\231\030\125
\126\047\145\056\215\105\305\044\354\316\343\002\003\001\000\001
\243\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024
\012\110\043\246\140\244\222\012\063\352\223\133\305\127\352\045
\115\275\022\356\060\016\006\003\125\035\017\001\001\377\004\004

\003\002\001\206\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\076\220\110\252\156\142\025\045
\146\173\014\325\214\213\211\235\327\355\116\007\357\234\320\024
\137\136\120\275\150\226\220\244\024\021\252\150\155\011\065\071
\100\011\332\364\011\054\064\245\173\131\204\111\051\227\164\310
\007\036\107\155\362\316\034\120\046\343\236\075\100\123\077\367
\177\226\166\020\305\106\245\320\040\113\120\364\065\073\030\364
\125\152\101\033\107\006\150\074\273\011\010\142\331\137\125\102
\252\254\123\205\254\225\126\066\126\253\344\005\214\305\250\332
\037\243\151\275\123\017\304\377\334\312\343\176\362\114\210\206
\107\106\032\363\000\365\200\221\242\334\103\102\224\233\040\360
\321\315\262\353\054\123\302\123\170\112\117\004\224\101\232\217
\047\062\301\345\111\031\277\361\362\302\213\250\012\071\061\050
\264\175\142\066\054\115\354\037\063\266\176\167\155\176\120\360
\237\016\327\021\217\317\030\305\343\047\376\046\357\005\235\317
\317\067\305\320\173\332\073\260\026\204\014\072\223\326\276\027
\333\017\076\016\031\170\011\307\251\002\162\042\113\367\067\166
\272\165\304\205\003\132\143\325\261\165\005\302\271\275\224\255
\214\025\231\247\223\175\366\305\363\252\164\317\004\205\224\230
\000\364\342\371\312\044\145\277\340\142\257\310\305\372\262\311
\236\126\110\332\171\375\226\166\025\276\243\216\126\304\263\064
\374\276\107\364\301\264\250\374\325\060\210\150\356\313\256\311
\143\304\166\276\254\070\030\341\136\134\317\256\072\042\121\353
\321\213\263\363\053\063\007\124\207\372\264\262\023\173\272\123
\004\142\001\235\361\300\117\356\341\072\324\213\040\020\372\002
\127\346\357\301\013\267\220\106\234\031\051\214\334\157\240\112
\151\151\224\267\044\145\240\377\254\077\316\001\373\041\056\375
\150\370\233\362\245\317\061\070\134\025\252\346\227\000\301\337
\132\245\247\071\252\351\204\177\074\121\250\072\331\224\133\214
\277\117\010\161\345\333\250\134\324\322\246\376\000\243\306\026
\307\017\350\200\316\034\050\144\164\031\010\323\102\343\316\000
\135\177\261\334\023\260\341\005\313\321\040\252\206\164\236\071
\347\221\375\377\133\326\367\255\246\057\003\013\155\343\127\124
\353\166\123\030\215\021\230\272

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS RSA Root CA 2021"

Issuer: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:39:ca:93:1c:ef:43:f3:c6:8e:93:c7:f4:64:89:38:7e

Subject: CN=HARICA TLS RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 10:55:38 2021

Not Valid After : Mon Feb 13 10:55:37 2045

Fingerprint (SHA-256):

D9:5D:0E:8E:DA:79:52:5B:F9:BE:B1:1B:14:D2:10:0D:32:94:98:5F:0C:62:D9:FA:BD:9C:D9:99:EC:CB:7B:1D

Fingerprint (SHA1): 02:2D:05:82:FA:88:CE:14:0C:06:79:DE:7F:14:10:E9:45:D7:A5:6D

```

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\002\055\005\202\372\210\316\024\014\006\171\336\177\024\020\351
\105\327\245\155
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\145\107\233\130\206\335\054\360\374\242\204\037\036\226\304\221
END
CKA_ISSUER MULTILINE_OCTAL
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\122\123
\101\040\122\157\157\164\040\103\101\040\062\060\062\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\071\312\223\034\357\103\363\306\216\223\307\364\144\211
\070\176
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA TLS ECC Root CA 2021"
#
# Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce
# Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:01:10 2021
# Not Valid After : Mon Feb 13 11:01:09 2045
# Fingerprint (SHA-256):
3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01
# Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL

```

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\124\060\202\001\333\240\003\002\001\002\002\020\147
\164\235\215\167\330\073\152\333\042\364\377\131\342\277\316\060
\012\006\010\052\206\110\316\075\004\003\003\060\154\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\044\060\042\006\003\125\004\003\014\033\110\101
\122\111\103\101\040\124\114\123\040\105\103\103\040\122\157\157
\164\040\103\101\040\062\060\062\061\060\036\027\015\062\061\060
\062\061\071\061\061\060\061\061\060\132\027\015\064\065\060\062
\061\063\061\061\060\061\060\071\132\060\154\061\013\060\011\006
\003\125\004\006\023\002\107\122\061\067\060\065\006\003\125\004
\012\014\056\110\145\154\154\145\156\151\143\040\101\143\141\144
\145\155\151\143\040\141\156\144\040\122\145\163\145\141\162\143
\150\040\111\156\163\164\151\164\165\164\151\157\156\163\040\103
\101\061\044\060\042\006\003\125\004\003\014\033\110\101\122\111
\103\101\040\124\114\123\040\105\103\103\040\122\157\157\164\040
\103\101\040\062\060\062\061\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\070
\010\376\261\240\226\322\172\254\257\111\072\320\300\340\303\073
\050\252\361\162\155\145\000\107\210\204\374\232\046\153\252\113
\272\154\004\012\210\136\027\362\125\207\374\060\260\064\342\064
\130\127\032\204\123\351\060\331\251\362\226\164\303\121\037\130
\111\061\314\230\116\140\021\207\165\323\162\224\220\117\233\020

```
\045\052\250\170\055\276\220\101\130\220\025\162\247\241\267\243
\102\060\100\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\035\006\003\125\035\016\004\026\004\024\311
\033\123\201\022\376\004\325\026\321\252\274\232\157\267\240\225
\031\156\312\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\206\060\012\006\010\052\206\110\316\075\004\003\003\003
\147\000\060\144\002\060\021\336\256\370\334\116\210\260\251\360
\042\255\302\121\100\357\140\161\055\356\217\002\304\135\003\160
\111\244\222\352\305\024\210\160\246\323\015\260\252\312\054\100
\234\373\351\202\156\232\002\060\053\107\232\007\306\321\302\201
\174\312\013\226\030\101\033\243\364\060\011\236\265\043\050\015
\237\024\266\074\123\242\114\006\151\175\372\154\221\306\052\111
\105\346\354\267\023\341\072\154
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA TLS ECC Root CA 2021"

Issuer: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Serial Number:67:74:9d:8d:77:d8:3b:6a:db:22:f4:ff:59:e2:bf:ce

Subject: CN=HARICA TLS ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

Not Valid Before: Fri Feb 19 11:01:10 2021

Not Valid After : Mon Feb 13 11:01:09 2045

Fingerprint (SHA-256):

3F:99:CC:47:4A:CF:CE:4D:FE:D5:87:94:66:5E:47:8D:15:47:73:9F:2E:78:0F:1B:B4:CA:9B:13:30:97:D4:01

Fingerprint (SHA1): BC:B0:C1:9D:E9:98:92:70:19:38:57:E9:8D:A7:B4:5D:6E:EE:01:48

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "HARICA TLS ECC Root CA 2021"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\274\260\301\235\351\230\222\160\031\070\127\351\215\247\264\135
\156\356\001\110
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\256\367\114\345\146\065\321\267\233\214\042\223\164\323\113\260
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\154\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\044\060\042\006\003\125\004
\003\014\033\110\101\122\111\103\101\040\124\114\123\040\105\103
\103\040\122\157\157\164\040\103\101\040\062\060\062\061
```

END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\147\164\235\215\167\330\073\152\333\042\364\377\131\342
\277\316
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client RSA Root CA 2021"
#
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
# Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\252\060\202\003\222\240\003\002\001\002\002\020\125
\122\370\036\333\033\044\054\236\273\226\030\315\002\050\076\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\157
\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067\060
\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151\143
\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122\145
\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164\151
\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003\014
\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040\122
\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061\060
\036\027\015\062\061\060\062\061\071\061\060\065\070\064\066\132
\027\015\064\065\060\062\061\063\061\060\065\070\064\065\132\060
\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061\067
\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156\151
\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040\122
\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165\164
\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004\003
\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164\040
\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\201\333\127\102\220\054\164\065\364\370\270\164\031\115\253
\011\132\167\105\201\163\142\260\065\237\370\320\267\063\000\207
\023\266\226\253\016\124\022\060\007\274\233\267\110\327\321\031
\203\256\216\330\251\361\251\000\204\260\214\136\236\350\014\217
\124\151\277\366\324\010\117\046\160\376\030\101\143\032\263\062
\213\100\370\007\253\127\061\360\306\026\166\147\232\264\335\057
\362\321\153\305\320\222\204\221\161\156\017\056\143\351\037\123
\244\335\122\023\314\011\203\051\201\014\305\123\165\104\261\016
\147\123\030\320\303\037\210\113\237\224\044\264\051\274\273\350
\116\375\157\322\025\035\111\334\215\160\362\021\032\040\121\125
\021\272\210\157\304\367\120\171\326\252\061\342\204\075\136\062
\310\167\052\120\161\345\013\057\351\266\352\357\253\012\063\071
\016\375\217\245\147\103\202\216\230\151\011\011\033\100\315\070
\147\107\352\311\354\227\161\022\336\044\365\162\074\321\367\103
\114\046\367\220\262\211\351\105\113\125\075\061\005\172\101\342
\225\272\103\300\027\305\266\205\075\031\215\144\160\363\133\254
\315\237\323\051\165\207\113\225\147\152\246\370\321\335\274\220
\206\211\103\051\251\067\133\365\135\260\046\132\123\102\166\220
\053\317\236\126\154\053\124\317\134\232\145\337\133\213\110\140
\070\174\373\305\013\317\166\004\143\002\063\052\175\365\203\147
\347\372\306\103\375\053\017\324\046\057\167\244\062\301\044\352
\144\235\277\263\070\161\061\104\362\107\270\242\146\101\241\373
\233\173\274\307\106\152\165\277\132\242\214\350\152\104\301\270

\226\265\300\062\010\055\173\164\065\163\262\312\306\376\257\021
\162\030\366\347\310\302\317\245\052\352\173\326\131\350\174\240
\262\152\100\011\151\016\245\226\333\321\000\271\361\210\156\066
\360\210\262\235\361\122\362\303\174\277\060\211\074\012\151\371
\042\244\145\341\233\340\164\306\261\205\227\226\054\256\224\217
\120\246\071\022\037\276\107\362\201\170\323\165\066\236\175\132
\040\227\342\122\256\231\237\306\174\233\146\363\376\330\317\356
\275\227\006\035\055\205\334\076\066\123\226\173\040\272\350\310
\341\255\226\142\076\021\174\263\000\204\236\247\114\161\253\112
\067\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\240\326\007\075\136\044\367\173\240\104
\056\044\122\015\031\252\053\004\221\247\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\015\107
\371\011\146\061\122\354\171\356\302\250\362\150\076\355\226\105
\313\072\246\230\143\077\352\053\115\116\003\320\034\202\341\313
\323\345\326\253\133\147\050\274\235\376\014\231\012\200\125\247
\316\033\043\141\015\260\127\360\376\340\312\276\346\220\333\203
\054\276\203\216\364\171\266\376\320\015\102\247\130\037\151\352
\201\365\005\245\376\106\150\353\154\170\311\340\352\347\346\336
\061\305\322\325\054\202\143\050\235\135\250\032\176\210\346\347
\053\361\054\325\320\005\236\334\055\275\067\146\324\004\242\247
\255\277\072\302\250\073\255\377\215\235\063\340\271\232\204\241
\207\037\166\364\202\164\327\016\371\060\110\076\133\210\076\252
\134\153\326\057\014\350\216\163\302\030\221\203\071\266\146\132
\320\037\140\047\135\115\343\366\072\015\146\120\234\170\173\253
\363\023\020\256\017\057\253\350\144\263\030\040\235\106\065\144
\045\163\352\233\020\134\130\065\211\261\106\110\247\364\254\324
\035\236\133\314\251\245\032\023\117\044\120\252\331\033\155\261
\100\373\235\335\130\164\304\302\157\024\162\354\333\065\237\270
\124\165\105\303\246\310\032\050\065\072\256\145\362\251\230\316
\257\133\311\070\214\061\073\177\314\334\226\375\342\133\326\320
\131\364\166\272\013\313\117\203\020\307\100\320\035\140\351\052
\345\110\130\167\014\105\151\276\031\161\004\044\342\343\044\037
\112\310\301\076\231\365\226\230\070\110\045\241\025\260\033\327
\342\204\030\133\366\161\065\232\150\173\100\314\030\134\014\044
\235\324\225\365\231\252\106\352\256\254\277\364\024\031\044\350
\214\354\343\365\274\006\150\212\052\014\005\137\012\227\165\247
\334\176\300\375\327\172\030\337\060\321\070\113\037\260\230\160
\277\314\174\163\360\156\304\061\245\244\227\035\254\277\316\154
\041\112\276\047\043\147\363\006\126\201\012\221\216\266\341\003
\005\063\054\332\064\010\115\116\120\043\255\037\245\305\324\172
\376\352\011\354\247\050\140\213\106\174\265\352\233\335\117\371
\347\153\025\306\210\317\103\333\345\047\334\004\126\156\157\106
\025\361\126\055\350\134\014\163\303\043\201\070\040\313\311\014
\151\317\054\253\073\204\140\063\031\122\375\151\024\063

END

```

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

# Trust for "HARICA Client RSA Root CA 2021"
# Issuer: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Serial Number:55:52:f8:1e:db:1b:24:2c:9e:bb:96:18:cd:02:28:3e
# Subject: CN=HARICA Client RSA Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 10:58:46 2021
# Not Valid After : Mon Feb 13 10:58:45 2045
# Fingerprint (SHA-256):
1B:E7:AB:E3:06:86:B1:63:48:AF:D1:C6:1B:68:66:A0:EA:7F:48:21:E6:7D:5E:8A:F9:37:CF:80:11:BC:75:0D
# Fingerprint (SHA1): 46:C6:90:0A:77:3A:B6:BC:F4:65:AD:AC:FC:E3:F7:07:00:6E:DE:6E
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client RSA Root CA 2021"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\106\306\220\012\167\072\266\274\364\145\255\254\374\343\367\007
\000\156\336\156
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\157\355\134\327\210\314\070\251\334\351\335\331\135\333\330\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\122\123\101\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\122\370\036\333\033\044\054\236\273\226\030\315\002
\050\076
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HARICA Client ECC Root CA 2021"
#
# Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR

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# Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
# Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
# Not Valid Before: Fri Feb 19 11:03:34 2021
# Not Valid After : Mon Feb 13 11:03:33 2045
# Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
# Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\132\060\202\001\341\240\003\002\001\002\002\020\061
\150\331\330\341\142\127\036\322\031\104\210\346\020\175\360\060
\012\006\010\052\206\110\316\075\004\003\003\060\157\061\013\060
\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006\003
\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101\143
\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145\141
\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156\163
\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110\101
\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103\040
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\122\157\157\164\040\103\101\040\062\060\062\061\060\036\027\015
\062\061\060\062\061\071\061\061\060\063\063\064\132\027\015\064
\065\060\062\061\063\061\061\060\063\063\063\132\060\157\061\013
\060\011\006\003\125\004\006\023\002\107\122\061\067\060\065\006
\003\125\004\012\014\056\110\145\154\154\145\156\151\143\040\101
\143\141\144\145\155\151\143\040\141\156\144\040\122\145\163\145
\141\162\143\150\040\111\156\163\164\151\164\165\164\151\157\156
\163\040\103\101\061\047\060\045\006\003\125\004\003\014\036\110
\101\122\111\103\101\040\103\154\151\145\156\164\040\105\103\103
\040\122\157\157\164\040\103\101\040\062\060\062\061\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\007\030\255\225\226\224\320\134\017\202\367
\052\100\372\002\311\311\075\066\246\243\004\152\301\155\225\001
\210\140\022\124\154\134\242\053\156\023\072\210\225\014\034\046
\206\066\112\211\031\267\030\336\073\350\250\120\037\312\337\133
\277\111\200\025\333\343\060\341\035\132\307\052\212\001\007\376
\155\054\064\357\050\050\227\274\301\371\127\206\225\213\065\317
\236\132\321\150\225\243\102\060\100\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\122\010\322\276\062\201\045\375\365\032\227
\354\116\137\032\273\123\315\220\255\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\012\006\010\052\206\110
\316\075\004\003\003\003\147\000\060\144\002\060\114\061\105\106
\117\250\346\276\303\167\262\032\030\113\055\210\173\130\346\253
\224\153\104\003\260\027\377\337\202\163\104\121\054\375\223\035
\006\173\024\322\211\354\100\014\357\041\001\056\002\060\057\311
\056\132\154\054\035\331\225\340\236\260\271\134\122\174\366\370
\070\312\056\361\324\035\362\242\111\242\225\370\301\130\136\117
\376\163\012\357\061\260\253\043\130\023\214\213\336\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "HARICA Client ECC Root CA 2021"
Issuer: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Serial Number:31:68:d9:d8:e1:62:57:1e:d2:19:44:88:e6:10:7d:f0
Subject: CN=HARICA Client ECC Root CA 2021,O=Hellenic Academic and Research Institutions CA,C=GR
Not Valid Before: Fri Feb 19 11:03:34 2021
Not Valid After : Mon Feb 13 11:03:33 2045
Fingerprint (SHA-256):
8D:D4:B5:37:3C:B0:DE:36:76:9C:12:33:92:80:D8:27:46:B3:AA:6C:D4:26:E7:97:A3:1B:AB:E4:27:9C:F0:0B
Fingerprint (SHA1): BE:64:D3:DA:14:4B:D2:6B:CD:AF:8F:DB:A6:A6:72:F8:DE:26:F9:00
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HARICA Client ECC Root CA 2021"

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CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\276\144\323\332\024\113\322\153\315\257\217\333\246\246\162\370
\336\046\371\000
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\255\270\120\246\251\202\172\154\075\032\252\244\322\143\244\104
END
CKA_ISSUER MULTILINE_OCTAL
\060\157\061\013\060\011\006\003\125\004\006\023\002\107\122\061
\067\060\065\006\003\125\004\012\014\056\110\145\154\154\145\156
\151\143\040\101\143\141\144\145\155\151\143\040\141\156\144\040
\122\145\163\145\141\162\143\150\040\111\156\163\164\151\164\165
\164\151\157\156\163\040\103\101\061\047\060\045\006\003\125\004
\003\014\036\110\101\122\111\103\101\040\103\154\151\145\156\164
\040\105\103\103\040\122\157\157\164\040\103\101\040\062\060\062
\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\061\150\331\330\341\142\127\036\322\031\104\210\346\020
\175\360
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Autoridad de Certificacion Firmaprofesional CIF A62634068"
#
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Serial Number:1b:70:e9:d2:ff:ae:6c:71
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
# Not Valid Before: Tue Sep 23 15:22:07 2014
# Not Valid After : Mon May 05 15:22:07 2036
# Fingerprint (SHA-256):
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163

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\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_VALUE MULTILINE_OCTAL
\060\202\006\024\060\202\003\374\240\003\002\001\002\002\010\033
\160\351\322\377\256\154\161\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\060\121\061\013\060\011\006\003\125\004
\006\023\002\105\123\061\102\060\100\006\003\125\004\003\014\071
\101\165\164\157\162\151\144\141\144\040\144\145\040\103\145\162
\164\151\146\151\143\141\143\151\157\156\040\106\151\162\155\141
\160\162\157\146\145\163\151\157\156\141\154\040\103\111\106\040
\101\066\062\066\063\064\060\066\070\060\036\027\015\061\064\060
\071\062\063\061\065\062\062\060\067\132\027\015\063\066\060\065
\060\065\061\065\062\062\060\067\132\060\121\061\013\060\011\006
\003\125\004\006\023\002\105\123\061\102\060\100\006\003\125\004
\003\014\071\101\165\164\157\162\151\144\141\144\040\144\145\040
\103\145\162\164\151\146\151\143\141\143\151\157\156\040\106\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\040\103
\111\106\040\101\066\062\066\063\064\060\066\070\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\312\226\153
\216\352\370\373\361\242\065\340\177\114\332\340\303\122\327\175
\266\020\310\002\136\263\103\052\304\117\152\262\312\034\135\050
\232\170\021\032\151\131\127\257\265\040\102\344\213\017\346\337
\133\246\003\222\057\365\021\344\142\327\062\161\070\331\004\014
\161\253\075\121\176\017\007\337\143\005\134\351\277\224\157\301
\051\202\300\264\332\121\260\301\074\273\255\067\112\134\312\361
\113\066\016\044\253\277\303\204\167\375\250\120\364\261\347\306
\057\322\055\131\215\172\012\116\226\151\122\002\252\066\230\354
\374\372\024\203\014\067\037\311\222\067\177\327\201\055\345\304
\271\340\076\064\376\147\364\076\146\321\323\364\100\317\136\142
\064\017\160\006\076\040\030\132\316\367\162\033\045\154\223\164
\024\223\243\163\261\016\252\207\020\043\131\137\040\005\031\107
\355\150\216\222\022\312\135\374\326\053\262\222\074\040\317\341
\137\257\040\276\240\166\177\166\345\354\032\206\141\063\076\347
\173\264\077\240\017\216\242\271\152\157\271\207\046\157\101\154
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\210\246\120\375\152\143\013\365\223\026\033\031\217\262\355\233
\233\311\220\365\001\014\337\031\075\017\076\070\043\311\057\217
\014\321\002\376\033\125\326\116\320\215\074\257\117\244\363\376
\257\052\323\005\235\171\010\241\313\127\061\264\234\310\220\262
\147\364\030\026\223\072\374\107\330\321\170\226\061\037\272\053
\014\137\135\231\255\143\211\132\044\040\166\330\337\375\253\116
\246\042\252\235\136\346\047\212\175\150\051\243\347\212\270\332
\021\273\027\055\231\235\023\044\106\367\305\342\330\237\216\177
\307\217\164\155\132\262\350\162\365\254\356\044\020\255\057\024
\332\377\055\232\106\161\107\276\102\337\273\001\333\364\177\323
\050\217\061\131\133\323\311\002\246\264\122\312\156\227\373\103
\305\010\046\157\212\364\273\375\237\050\252\015\325\105\363\023
\072\035\330\300\170\217\101\147\074\036\224\144\256\173\013\305
\350\331\001\210\071\032\227\206\144\101\325\073\207\014\156\372
\017\306\275\110\024\277\071\115\324\236\101\266\217\226\035\143
\226\223\331\225\006\170\061\150\236\067\006\073\200\211\105\141
\071\043\307\033\104\243\025\345\034\370\222\060\273\002\003\001
\000\001\243\201\357\060\201\354\060\035\006\003\125\035\016\004
\026\004\024\145\315\353\253\065\036\000\076\176\325\164\300\034
\264\163\107\016\032\144\057\060\022\006\003\125\035\023\001\001
\377\004\010\060\006\001\001\377\002\001\001\060\201\246\006\003
\125\035\040\004\201\236\060\201\233\060\201\230\006\004\125\035
\040\000\060\201\217\060\057\006\010\053\006\001\005\005\007\002
\001\026\043\150\164\164\160\072\057\057\167\167\167\056\146\151
\162\155\141\160\162\157\146\145\163\151\157\156\141\154\056\143
\157\155\057\143\160\163\060\134\006\010\053\006\001\005\005\007
\002\002\060\120\036\116\000\120\000\141\000\163\000\145\000\157
\000\040\000\144\000\145\000\040\000\154\000\141\000\040\000\102
\000\157\000\156\000\141\000\156\000\157\000\166\000\141\000\040
\000\064\000\067\000\040\000\102\000\141\000\162\000\143\000\145
\000\154\000\157\000\156\000\141\000\040\000\060\000\070\000\060
\000\061\000\067\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\164\207\050\002\053\167\037\146
\211\144\355\217\164\056\106\034\273\250\370\370\013\035\203\266
\072\247\350\105\212\007\267\340\076\040\313\341\010\333\023\010
\370\050\241\065\262\200\263\013\121\300\323\126\232\215\063\105
\111\257\111\360\340\075\007\172\105\023\132\377\310\227\330\323
\030\054\175\226\370\335\242\145\103\160\223\220\025\272\220\337
\350\031\260\333\054\212\140\017\267\157\224\007\036\035\246\311
\205\366\275\064\370\100\170\142\020\160\072\276\175\113\071\201
\251\020\324\226\101\273\370\137\034\013\035\010\362\261\260\211
\172\362\367\240\340\304\217\213\170\265\073\130\245\043\216\117
\125\376\066\073\340\014\267\312\052\060\101\040\264\200\315\256
\374\166\146\163\250\256\156\341\174\332\003\350\224\040\346\042
\243\320\037\220\135\040\123\024\046\127\332\124\227\337\026\104
\020\001\036\210\146\217\162\070\223\335\040\267\064\276\327\361
\356\143\216\107\171\050\006\374\363\131\105\045\140\042\063\033

```
\243\137\250\272\052\332\032\075\315\100\352\214\356\005\025\225
\325\245\054\040\057\247\230\050\356\105\374\361\270\210\000\054
\217\102\332\121\325\234\345\023\150\161\105\103\213\236\013\041
\074\113\134\005\334\032\237\230\216\332\275\042\236\162\315\255
\012\313\314\243\147\233\050\164\304\233\327\032\074\004\130\246
\202\235\255\307\173\157\377\200\226\351\370\215\152\275\030\220
\035\377\111\032\220\122\067\223\057\074\002\135\202\166\013\121
\347\026\307\127\370\070\371\247\315\233\042\124\357\143\260\025
\155\123\145\003\112\136\112\240\262\247\216\111\000\131\070\325
\307\364\200\144\365\156\225\120\270\021\176\025\160\070\112\260
\177\320\304\062\160\300\031\377\311\070\055\024\054\146\364\102
\104\346\125\166\033\200\025\127\377\300\247\247\252\071\252\330
\323\160\320\056\272\353\224\152\372\137\064\206\347\142\265\375
\212\360\060\205\224\311\257\044\002\057\157\326\335\147\376\343
\260\125\117\004\230\117\244\101\126\342\223\320\152\350\326\363
\373\145\340\316\165\304\061\131\014\356\202\310\014\140\063\112
\031\272\204\147\047\017\274\102\135\275\044\124\015\354\035\160
\006\137\244\274\372\040\174\125
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Autoridad de Certificacion Firmaprofesional CIF A62634068"
```

```
# Issuer: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
```

```
# Serial Number:1b:70:e9:d2:ff:ae:6c:71
```

```
# Subject: CN=Autoridad de Certificacion Firmaprofesional CIF A62634068,C=ES
```

```
# Not Valid Before: Tue Sep 23 15:22:07 2014
```

```
# Not Valid After : Mon May 05 15:22:07 2036
```

```
# Fingerprint (SHA-256):
```

```
57:DE:05:83:EF:D2:B2:6E:03:61:DA:99:DA:9D:F4:64:8D:EF:7E:E8:44:1C:3B:72:8A:FA:9B:CD:E0:F9:B2:6A
```

```
# Fingerprint (SHA1): 0B:BE:C2:27:22:49:CB:39:AA:DB:35:5C:53:E3:8C:AE:78:FF:B6:FE
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Autoridad de Certificacion Firmaprofesional CIF A62634068"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\013\276\302\047\042\111\313\071\252\333\065\134\123\343\214\256
\170\377\266\376
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\116\156\233\124\114\312\267\372\110\344\220\261\025\113\034\243
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\121\061\013\060\011\006\003\125\004\006\023\002\105\123\061
\102\060\100\006\003\125\004\003\014\071\101\165\164\157\162\151
\144\141\144\040\144\145\040\103\145\162\164\151\146\151\143\141
```

```

\143\151\157\156\040\106\151\162\155\141\160\162\157\146\145\163
\151\157\156\141\154\040\103\111\106\040\101\066\062\066\063\064
\060\066\070
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\010\033\160\351\322\377\256\154\161
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus ECC Root CA"
#
# Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
# Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:26:44 2018
# Not Valid After : Fri Jul 31 07:26:44 2043
# Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3
# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END

```

CKA_VALUE MULTILINE_OCTAL

\060\202\002\017\060\202\001\225\240\003\002\001\002\002\024\156
\152\274\131\252\123\276\230\071\147\242\322\153\244\073\346\155
\034\326\332\060\012\006\010\052\206\110\316\075\004\003\003\060
\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061\034
\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103\150
\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060\030
\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103\103
\040\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067
\063\061\060\067\062\066\064\064\132\027\015\064\063\060\067\063
\061\060\067\062\066\064\064\132\060\107\061\013\060\011\006\003
\125\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012
\023\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056
\054\114\164\144\056\061\032\060\030\006\003\125\004\003\023\021
\166\124\162\165\163\040\105\103\103\040\122\157\157\164\040\103
\101\060\166\060\020\006\007\052\206\110\316\075\002\001\006\005
\053\201\004\000\042\003\142\000\004\145\120\112\256\214\171\226
\112\252\034\010\303\243\242\315\376\131\126\101\167\375\046\224
\102\273\035\315\010\333\163\262\133\165\363\317\234\116\202\364
\277\370\141\046\205\154\326\205\133\162\160\322\375\333\142\264
\337\123\213\275\261\104\130\142\102\011\307\372\177\133\020\347
\376\100\375\300\330\303\053\062\347\160\246\267\246\040\125\035
\173\200\135\113\217\147\114\361\020\243\102\060\100\060\035\006
\003\125\035\016\004\026\004\024\230\071\315\276\330\262\214\367
\262\253\341\255\044\257\173\174\241\333\037\317\060\017\006\003
\125\035\023\001\001\377\004\005\060\003\001\001\377\060\016\006
\003\125\035\017\001\001\377\004\004\003\002\001\006\060\012\006
\010\052\206\110\316\075\004\003\003\003\150\000\060\145\002\060
\127\235\335\126\361\307\343\351\270\111\120\153\233\151\303\157
\354\303\175\045\344\127\225\023\100\233\122\323\073\363\100\031
\274\046\307\055\006\236\265\173\066\237\365\045\324\143\153\000
\002\061\000\351\323\306\236\126\232\052\314\241\332\077\310\146
\053\323\130\234\040\205\372\253\221\212\160\160\021\070\140\144
\013\142\011\221\130\000\371\115\373\064\150\332\011\255\041\006
\030\224\316

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "vTrus ECC Root CA"
Issuer: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Serial Number:6e:6a:bc:59:aa:53:be:98:39:67:a2:d2:6b:a4:3b:e6:6d:1c:d6:da
Subject: CN=vTrus ECC Root CA,O="iTrusChina Co.,Ltd.",C=CN
Not Valid Before: Tue Jul 31 07:26:44 2018
Not Valid After : Fri Jul 31 07:26:44 2043
Fingerprint (SHA-256):
30:FB:BA:2C:32:23:8E:2A:98:54:7A:F9:79:31:E5:50:42:8B:9B:3F:1C:8E:EB:66:33:DC:FA:86:C5:B2:7D:D3

```

# Fingerprint (SHA1): F6:9C:DB:B0:FC:F6:02:13:B6:52:32:A6:A3:91:3F:16:70:DA:C3:E1
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus ECC Root CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\366\234\333\260\374\366\002\023\266\122\062\246\243\221\077\026
\160\332\303\341
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\336\113\301\365\122\214\233\103\341\076\217\125\124\027\215\205
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\032\060
\030\006\003\125\004\003\023\021\166\124\162\165\163\040\105\103
\103\040\122\157\157\164\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\156\152\274\131\252\123\276\230\071\147\242\322\153\244
\073\346\155\034\326\332
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "vTrus Root CA"
#
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
# Not Valid Before: Tue Jul 31 07:24:05 2018
# Not Valid After : Fri Jul 31 07:24:05 2043
# Fingerprint (SHA-256):
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "vTrus Root CA"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061

```

\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\126\060\202\003\076\240\003\002\001\002\002\024\103
\343\161\023\330\263\131\024\135\267\316\214\375\065\375\157\274
\005\215\105\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\103\061\013\060\011\006\003\125\004\006\023\002\103
\116\061\034\060\032\006\003\125\004\012\023\023\151\124\162\165
\163\103\150\151\156\141\040\103\157\056\054\114\164\144\056\061
\026\060\024\006\003\125\004\003\023\015\166\124\162\165\163\040
\122\157\157\164\040\103\101\060\036\027\015\061\070\060\067\063
\061\060\067\062\064\060\065\132\027\015\064\063\060\067\063\061
\060\067\062\064\060\065\132\060\103\061\013\060\011\006\003\125
\004\006\023\002\103\116\061\034\060\032\006\003\125\004\012\023
\023\151\124\162\165\163\103\150\151\156\141\040\103\157\056\054
\114\164\144\056\061\026\060\024\006\003\125\004\003\023\015\166
\124\162\165\163\040\122\157\157\164\040\103\101\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\275\125\174
\141\323\270\035\004\142\005\240\256\154\267\160\264\101\352\113
\003\136\020\077\220\132\034\213\073\260\146\213\154\110\246\034
\042\272\325\100\222\356\063\262\043\131\311\216\274\130\332\213
\236\320\031\362\057\131\306\214\143\132\272\237\243\013\260\263
\232\134\272\021\270\022\351\014\273\317\156\154\200\207\051\024
\003\054\215\044\232\310\144\203\265\152\254\023\054\063\361\237
\334\054\141\074\032\077\160\125\233\255\000\122\177\317\004\271
\376\066\372\234\300\026\256\142\376\226\114\103\176\125\024\276
\032\263\322\155\302\257\166\146\225\153\052\260\224\167\205\136
\004\017\142\035\143\165\367\153\347\313\133\232\160\354\076\147
\005\360\376\007\010\200\317\050\333\005\306\024\047\057\206\175
\360\047\336\377\346\176\063\110\347\013\036\130\321\047\053\123
\016\127\112\145\327\373\242\200\140\374\114\274\065\123\001\152
\227\162\202\257\361\035\160\350\234\365\357\136\302\154\307\107

\176\132\224\205\046\115\073\272\353\114\350\260\011\302\145\302
\235\235\011\233\116\265\227\005\254\365\006\240\367\066\005\176
\364\220\262\153\304\264\371\144\352\351\032\012\310\015\250\355
\047\311\324\347\263\271\253\202\042\220\047\075\052\350\174\220
\357\274\117\375\342\012\044\247\336\145\044\244\135\352\300\166
\060\323\167\120\370\015\004\233\224\066\001\163\312\006\130\246
\323\073\334\372\004\106\023\125\212\311\104\107\270\121\071\032
\056\350\064\342\171\313\131\112\012\177\274\246\357\037\003\147
\152\131\053\045\142\223\331\123\031\146\074\047\142\051\206\115
\244\153\356\377\324\116\272\325\264\342\216\110\132\000\031\011
\361\005\331\316\221\261\367\353\351\071\117\366\157\004\103\232
\125\365\076\005\024\275\277\263\131\264\330\216\063\204\243\220
\122\252\263\002\225\140\371\014\114\150\371\356\325\027\015\370
\161\127\265\045\344\051\356\145\135\257\321\356\074\027\013\132
\103\305\245\206\352\044\236\342\005\007\334\064\102\022\221\326
\071\164\256\114\101\202\333\362\246\110\321\263\233\363\063\252
\363\246\300\305\116\365\364\235\166\143\346\002\306\042\113\301
\225\077\120\144\054\124\345\266\360\074\051\317\127\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\124\142\160\143\361\165\204\103\130\216\321\026\040\261\306
\254\032\274\366\211\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015
\001\001\013\005\000\003\202\002\001\000\051\272\222\111\247\255
\360\361\160\303\344\227\360\237\251\045\325\153\236\064\376\346
\032\144\366\072\153\122\262\020\170\032\237\114\332\212\332\354
\034\067\122\340\102\113\373\154\166\312\044\013\071\022\025\235
\237\021\055\374\171\144\334\340\340\365\335\340\127\311\245\262
\166\160\120\244\376\267\012\160\325\240\064\361\165\327\115\111
\272\021\321\263\330\354\202\377\353\016\304\277\144\055\175\143
\156\027\170\354\135\174\210\310\353\216\127\166\331\131\004\372
\274\122\037\105\254\360\172\200\354\354\157\166\256\221\333\020
\216\004\334\222\337\240\366\346\256\111\323\301\154\022\033\314
\051\252\371\010\245\342\067\024\312\261\270\146\357\032\202\344
\360\370\361\247\026\151\267\333\251\141\074\237\365\061\313\344
\000\106\302\057\164\261\261\327\201\356\250\046\225\274\210\257
\114\065\007\052\002\312\170\024\155\107\053\100\126\351\313\052
\140\241\147\003\240\316\214\274\260\162\147\304\061\316\333\064
\345\045\003\140\045\173\161\230\344\300\033\053\137\164\102\322
\113\305\131\010\007\207\276\305\303\177\347\226\331\341\334\050
\227\326\217\005\343\365\233\116\312\035\120\107\005\123\260\312
\071\347\205\240\211\301\005\073\001\067\323\077\111\342\167\353
\043\310\210\146\073\075\071\166\041\106\361\354\137\043\270\353
\242\146\165\164\301\100\367\330\150\232\223\342\055\251\056\275
\034\243\036\310\164\306\244\055\172\040\253\073\270\260\106\375
\157\335\137\122\125\165\142\360\227\240\174\327\070\375\045\337
\315\240\233\020\317\213\270\070\136\136\305\264\246\002\066\241
\036\137\034\317\342\226\235\051\252\375\230\256\122\341\363\101

```
\122\373\251\056\162\226\237\047\343\252\163\175\370\032\043\146
\173\073\253\145\260\062\001\113\025\076\075\242\117\014\053\065
\242\306\331\147\022\065\060\315\166\056\026\263\231\236\115\117
\116\055\073\064\103\341\232\016\015\244\146\227\272\322\034\112
\114\054\052\213\213\201\117\161\032\251\335\134\173\173\010\305
\000\015\067\100\343\174\173\124\137\057\205\137\166\366\367\247
\260\034\127\126\301\162\350\255\242\257\215\063\111\272\037\212
\334\346\164\174\140\206\157\207\227\173
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "vTrus Root CA"
```

```
# Issuer: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Serial Number:43:e3:71:13:d8:b3:59:14:5d:b7:ce:8c:fd:35:fd:6f:bc:05:8d:45
```

```
# Subject: CN=vTrus Root CA,O="iTrusChina Co.,Ltd.",C=CN
```

```
# Not Valid Before: Tue Jul 31 07:24:05 2018
```

```
# Not Valid After : Fri Jul 31 07:24:05 2043
```

```
# Fingerprint (SHA-256):
```

```
8A:71:DE:65:59:33:6F:42:6C:26:E5:38:80:D0:0D:88:A1:8D:A4:C6:A9:1F:0D:CB:61:94:E2:06:C5:C9:63:87
```

```
# Fingerprint (SHA1): 84:1A:69:FB:F5:CD:1A:25:34:13:3D:E3:F8:FC:B8:99:D0:C9:14:B7
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "vTrus Root CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\204\032\151\373\365\315\032\045\064\023\075\343\370\374\270\231
\320\311\024\267
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\270\311\067\337\372\153\061\204\144\305\352\021\152\033\165\374
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\103\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\034\060\032\006\003\125\004\012\023\023\151\124\162\165\163\103
\150\151\156\141\040\103\157\056\054\114\164\144\056\061\026\060
\024\006\003\125\004\003\023\015\166\124\162\165\163\040\122\157
\157\164\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\103\343\161\023\330\263\131\024\135\267\316\214\375\065
\375\157\274\005\215\105
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "ISRG Root X2"

#

Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Not Valid Before: Fri Sep 04 00:00:00 2020

Not Valid After : Mon Sep 17 16:00:00 2040

Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ISRG Root X2"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\033\060\202\001\241\240\003\002\001\002\002\020\101
\322\235\321\162\352\356\247\200\301\054\154\351\057\207\122\060
\012\006\010\052\206\110\316\075\004\003\003\060\117\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006\003
\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123\145
\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150\040
\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023\014

\111\123\122\107\040\122\157\157\164\040\130\062\060\036\027\015
\062\060\060\071\060\064\060\060\060\060\060\132\027\015\064
\060\060\071\061\067\061\066\060\060\060\060\132\060\117\061\013
\060\011\006\003\125\004\006\023\002\125\123\061\051\060\047\006
\003\125\004\012\023\040\111\156\164\145\162\156\145\164\040\123
\145\143\165\162\151\164\171\040\122\145\163\145\141\162\143\150
\040\107\162\157\165\160\061\025\060\023\006\003\125\004\003\023
\014\111\123\122\107\040\122\157\157\164\040\130\062\060\166\060
\020\006\007\052\206\110\316\075\002\001\006\005\053\201\004\000
\042\003\142\000\004\315\233\325\237\200\203\012\354\011\112\363
\026\112\076\134\317\167\254\336\147\005\015\035\007\266\334\026
\373\132\213\024\333\342\161\140\304\272\105\225\021\211\216\352
\006\337\367\052\026\034\244\271\305\305\062\340\003\340\036\202
\030\070\213\327\105\330\012\152\156\346\000\167\373\002\121\175
\042\330\012\156\232\133\167\337\360\372\101\354\071\334\165\312
\150\007\014\037\352\243\102\060\100\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\006\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125\035
\016\004\026\004\024\174\102\226\256\336\113\110\073\372\222\370
\236\214\317\155\213\251\162\067\225\060\012\006\010\052\206\110
\316\075\004\003\003\003\150\000\060\145\002\060\173\171\116\106
\120\204\302\104\207\106\033\105\160\377\130\231\336\364\375\244
\322\125\246\040\055\164\326\064\274\101\243\120\137\001\047\126
\264\276\047\165\006\257\022\056\165\230\215\374\002\061\000\213
\365\167\154\324\310\145\252\340\013\054\356\024\235\047\067\244
\371\123\245\121\344\051\203\327\370\220\061\133\102\237\012\365
\376\256\000\150\347\214\111\017\266\157\133\133\025\362\347

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "ISRG Root X2"

Issuer: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Serial Number:41:d2:9d:d1:72:ea:ee:a7:80:c1:2c:6c:e9:2f:87:52

Subject: CN=ISRG Root X2,O=Internet Security Research Group,C=US

Not Valid Before: Fri Sep 04 00:00:00 2020

Not Valid After : Mon Sep 17 16:00:00 2040

Fingerprint (SHA-256):

69:72:9B:8E:15:A8:6E:FC:17:7A:57:AF:B7:17:1D:FC:64:AD:D2:8C:2F:CA:8C:F1:50:7E:34:45:3C:CB:14:70

Fingerprint (SHA1): BD:B1:B9:3C:D5:97:8D:45:C6:26:14:55:F8:DB:95:C7:5A:D1:53:AF

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "ISRG Root X2"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\275\261\271\074\325\227\215\105\306\046\024\125\370\333\225\307

```

\132\321\123\257
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\236\304\036\043\074\246\337\317\243\176\155\340\024\346\345
END
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\051\060\047\006\003\125\004\012\023\040\111\156\164\145\162\156
\145\164\040\123\145\143\165\162\151\164\171\040\122\145\163\145
\141\162\143\150\040\107\162\157\165\160\061\025\060\023\006\003
\125\004\003\023\014\111\123\122\107\040\122\157\157\164\040\130
\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\101\322\235\321\162\352\356\247\200\301\054\154\351\057
\207\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "HiPKI Root CA - G1"
#
# Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60
# Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW
# Not Valid Before: Fri Feb 22 09:46:04 2019
# Not Valid After : Thu Dec 31 15:59:59 2037
# Fingerprint (SHA-256):
F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC
# Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "HiPKI Root CA - G1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
END
CKA_ID UTF8 "0"

```

CKA_ISSUER MULTILINE_OCTAL

\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\055
\335\254\316\142\227\224\241\103\350\260\315\166\152\136\140\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043\060
\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167\141
\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114\164
\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151\120
\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061\060
\036\027\015\061\071\060\062\062\062\060\071\064\066\060\064\132
\027\015\063\067\061\062\063\061\061\065\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061\043
\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150\167
\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040\114
\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110\151
\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107\061
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\364\036\177\122\163\062\014\163\344\275\023\164\243\324\060
\250\320\256\113\330\266\337\165\107\146\364\174\347\071\004\036
\152\160\040\322\132\107\162\147\125\364\245\350\235\325\036\041
\241\360\147\272\314\041\150\276\104\123\277\215\371\342\334\057
\125\310\067\077\037\244\300\234\263\344\167\134\240\106\376\167
\372\032\240\070\352\355\232\162\336\053\275\224\127\072\272\354
\171\347\137\175\102\144\071\172\046\066\367\044\360\325\057\272
\225\230\021\146\255\227\065\326\165\001\200\340\257\364\204\141
\214\015\036\137\174\207\226\136\101\257\353\207\352\370\135\361
\056\210\005\076\114\042\273\332\037\052\335\122\106\144\071\363
\102\316\331\236\014\263\260\167\227\144\234\300\364\243\056\037
\225\007\260\027\337\060\333\000\030\226\114\241\201\113\335\004
\155\123\243\075\374\007\254\324\305\067\202\353\344\225\010\031
\050\202\322\102\072\243\330\123\354\171\211\140\110\140\310\162
\222\120\334\003\217\203\077\262\102\127\132\333\152\351\021\227
\335\205\050\274\060\114\253\343\302\261\105\104\107\037\340\212
\026\007\226\322\041\017\123\300\355\251\176\324\116\354\233\011
\354\257\102\254\060\326\277\321\020\105\340\246\026\262\245\305

\323\117\163\224\063\161\002\241\152\243\326\063\227\117\041\143
\036\133\217\331\301\136\105\161\167\017\201\135\137\041\232\255
\203\314\372\136\326\215\043\137\033\075\101\257\040\165\146\132
\112\366\237\373\253\030\367\161\300\266\035\061\354\073\040\353
\313\342\270\365\256\222\262\367\341\204\113\362\242\362\223\232
\042\236\323\024\157\066\124\275\037\136\131\025\271\163\250\301
\174\157\173\142\351\026\154\107\132\145\363\016\021\233\106\331
\375\155\334\326\234\300\264\175\245\260\335\077\126\157\241\371
\366\344\022\110\375\006\177\022\127\266\251\043\117\133\003\303
\340\161\052\043\267\367\260\261\073\274\230\275\326\230\250\014
\153\366\216\022\147\246\362\262\130\344\002\011\023\074\251\273
\020\264\322\060\105\361\354\367\000\021\337\145\370\334\053\103
\125\277\026\227\304\017\325\054\141\204\252\162\206\376\346\072
\176\302\077\175\356\374\057\024\076\346\205\335\120\157\267\111
\355\002\003\001\000\001\243\102\060\100\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003\125
\035\016\004\026\004\024\362\167\027\372\136\250\376\366\075\161
\325\150\272\311\106\014\070\330\257\260\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\015\006\011\052\206
\110\206\367\015\001\001\013\005\000\003\202\002\001\000\120\121
\360\165\334\160\004\343\377\252\165\324\161\242\313\236\217\250
\251\323\257\165\307\124\317\072\034\004\231\042\254\304\021\342
\357\063\112\246\043\035\016\015\107\330\067\307\157\257\064\177
\117\201\153\065\117\351\162\245\061\342\170\347\367\116\224\030
\133\100\175\317\153\041\124\206\346\225\172\373\306\312\352\234
\110\116\127\011\135\057\254\364\245\264\227\063\130\325\254\171
\251\314\137\371\205\372\122\305\215\370\221\024\353\072\015\027
\320\122\302\173\343\302\163\216\106\170\006\070\054\350\134\332
\146\304\364\244\360\126\031\063\051\132\145\222\005\107\106\112
\253\204\303\036\047\241\037\021\222\231\047\165\223\017\274\066
\073\227\127\217\046\133\014\273\234\017\324\156\060\007\324\334
\137\066\150\146\071\203\226\047\046\212\310\304\071\376\232\041
\157\325\162\206\351\177\142\345\227\116\320\044\320\100\260\320
\165\010\216\275\150\356\010\327\156\174\020\160\106\033\174\340
\210\262\236\162\206\231\001\343\277\237\111\031\264\045\276\126
\145\256\027\143\345\036\337\350\377\107\245\277\341\046\005\204
\344\260\300\257\347\010\231\250\014\136\046\200\105\324\370\150
\057\226\217\256\342\112\034\234\026\014\023\157\070\207\366\273
\310\064\137\222\003\121\171\160\246\337\313\365\231\115\171\315
\116\274\127\237\103\116\153\056\053\030\370\152\163\214\272\305
\065\357\071\152\101\036\317\161\250\242\262\206\007\133\072\311
\341\357\077\145\004\200\107\062\104\160\225\116\061\147\152\164
\133\020\105\165\352\260\237\320\346\065\376\116\237\213\314\053
\222\105\133\156\045\140\205\106\315\321\252\260\166\146\223\167
\226\276\203\276\070\266\044\116\046\013\314\355\172\126\032\340
\351\132\306\144\255\114\172\000\110\104\057\271\100\273\023\076
\276\025\170\235\205\201\112\052\127\336\325\031\103\332\333\312
\133\107\206\203\013\077\266\015\166\170\163\171\042\136\261\200

```
\037\317\276\321\077\126\020\230\053\225\207\241\037\235\144\024
\140\071\054\263\000\125\056\344\365\263\016\127\304\221\101\000
\234\077\350\245\337\352\366\377\310\360\255\155\122\250\027\253
\233\141\374\022\121\065\344\045\375\257\252\152\206\071
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

Trust for "HiPKI Root CA - G1"

Issuer: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

Serial Number:2d:dd:ac:ce:62:97:94:a1:43:e8:b0:cd:76:6a:5e:60

Subject: CN=HiPKI Root CA - G1,O="Chunghwa Telecom Co., Ltd.",C=TW

Not Valid Before: Fri Feb 22 09:46:04 2019

Not Valid After : Thu Dec 31 15:59:59 2037

Fingerprint (SHA-256):

F0:15:CE:3C:C2:39:BF:EF:06:4B:E9:F1:D2:C4:17:E1:A0:26:4A:0A:94:BE:1F:0C:8D:12:18:64:EB:69:49:CC

Fingerprint (SHA1): 6A:92:E4:A8:EE:1B:EC:96:45:37:E3:29:57:49:CD:96:E3:E5:D2:60

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "HiPKI Root CA - G1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\152\222\344\250\356\033\354\226\105\067\343\051\127\111\315\226
\343\345\322\140
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\151\105\337\026\145\113\350\150\232\217\166\137\377\200\236\323
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\124\127\061
\043\060\041\006\003\125\004\012\014\032\103\150\165\156\147\150
\167\141\040\124\145\154\145\143\157\155\040\103\157\056\054\040
\114\164\144\056\061\033\060\031\006\003\125\004\003\014\022\110
\151\120\113\111\040\122\157\157\164\040\103\101\040\055\040\107
\061
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\055\335\254\316\142\227\224\241\103\350\260\315\166\152
\136\140
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
```

```
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

#

```
# Certificate "GlobalSign ECC Root CA - R4"
#
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
# Not Valid Before: Tue Nov 13 00:00:00 2012
# Not Valid After : Tue Jan 19 03:14:07 2038
# Fingerprint (SHA-256):
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\334\060\202\001\203\240\003\002\001\002\002\015\002
\003\345\176\365\077\223\375\245\011\041\262\246\060\012\006\010
\052\206\110\316\075\004\003\002\060\120\061\044\060\042\006\003
\125\004\013\023\033\107\154\157\142\141\154\123\151\147\156\040
\105\103\103\040\122\157\157\164\040\103\101\040\055\040\122\064
\061\023\060\021\006\003\125\004\012\023\012\107\154\157\142\141
\154\123\151\147\156\061\023\060\021\006\003\125\004\003\023\012
\107\154\157\142\141\154\123\151\147\156\060\036\027\015\061\062
\061\061\061\063\060\060\060\060\060\060\132\027\015\063\070\060
\061\061\071\060\063\061\064\060\067\132\060\120\061\044\060\042
\006\003\125\004\013\023\033\107\154\157\142\141\154\123\151\147
```

```
\156\040\105\103\103\040\122\157\157\164\040\103\101\040\055\040
\122\064\061\023\060\021\006\003\125\004\012\023\012\107\154\157
\142\141\154\123\151\147\156\061\023\060\021\006\003\125\004\003
\023\012\107\154\157\142\141\154\123\151\147\156\060\131\060\023
\006\007\052\206\110\316\075\002\001\006\010\052\206\110\316\075
\003\001\007\003\102\000\004\270\306\171\323\217\154\045\016\237
\056\071\031\034\003\244\256\232\345\071\007\011\026\312\143\261
\271\206\370\212\127\301\127\316\102\372\163\241\367\145\102\377
\036\301\000\262\156\163\016\377\307\041\345\030\244\252\331\161
\077\250\324\271\316\214\035\243\102\060\100\060\016\006\003\125
\035\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125
\035\023\001\001\377\004\005\060\003\001\001\377\060\035\006\003
\125\035\016\004\026\004\024\124\260\173\255\105\270\342\100\177
\373\012\156\373\276\063\311\074\243\204\325\060\012\006\010\052
\206\110\316\075\004\003\002\003\107\000\060\104\002\040\042\117
\164\162\271\140\257\361\346\234\240\026\005\120\137\303\136\073
\156\141\164\357\276\001\304\276\030\110\131\141\202\062\002\040
\046\235\124\143\100\336\067\140\120\317\310\330\355\235\202\256
\067\230\274\243\217\114\114\251\064\053\154\357\373\225\233\046
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GlobalSign ECC Root CA - R4"
```

```
# Issuer: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
```

```
# Serial Number:02:03:e5:7e:f5:3f:93:fd:a5:09:21:b2:a6
```

```
# Subject: CN=GlobalSign,O=GlobalSign,OU=GlobalSign ECC Root CA - R4
```

```
# Not Valid Before: Tue Nov 13 00:00:00 2012
```

```
# Not Valid After : Tue Jan 19 03:14:07 2038
```

```
# Fingerprint (SHA-256):
```

```
B0:85:D7:0B:96:4F:19:1A:73:E4:AF:0D:54:AE:7A:0E:07:AA:FD:AF:9B:71:DD:08:62:13:8A:B7:32:5A:24:A2
```

```
# Fingerprint (SHA1): 6B:A0:B0:98:E1:71:EF:5A:AD:FE:48:15:80:77:10:F4:BD:6F:0B:28
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GlobalSign ECC Root CA - R4"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\153\240\260\230\341\161\357\132\255\376\110\025\200\167\020\364
\275\157\013\050
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\046\051\370\155\341\210\277\242\145\177\252\304\315\017\177\374
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\120\061\044\060\042\006\003\125\004\013\023\033\107\154\157
\142\141\154\123\151\147\156\040\105\103\103\040\122\157\157\164
```

```
\040\103\101\040\055\040\122\064\061\023\060\021\006\003\125\004
\012\023\012\107\154\157\142\141\154\123\151\147\156\061\023\060
\021\006\003\125\004\003\023\012\107\154\157\142\141\154\123\151
\147\156
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\015\002\003\345\176\365\077\223\375\245\011\041\262\246
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GTS Root R1"

#

Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF

Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
```

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\223\157\061\260\023\111\210\153\242\027\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\061\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\266\021
\002\213\036\343\241\167\233\073\334\277\224\076\267\225\247\100
\074\241\375\202\371\175\062\006\202\161\366\366\214\177\373\350
\333\274\152\056\227\227\243\214\113\371\053\366\261\371\316\204
\035\261\371\305\227\336\357\271\362\243\351\274\022\211\136\247
\252\122\253\370\043\047\313\244\261\234\143\333\327\231\176\360
\012\136\353\150\246\364\306\132\107\015\115\020\063\343\116\261
\023\243\310\030\154\113\354\374\011\220\337\235\144\051\045\043
\007\241\264\322\075\056\140\340\317\322\011\207\273\315\110\360
\115\302\302\172\210\212\273\272\317\131\031\326\257\217\260\007
\260\236\061\361\202\301\300\337\056\246\155\154\031\016\265\330
\176\046\032\105\003\075\260\171\244\224\050\255\017\177\046\345
\250\010\376\226\350\074\150\224\123\356\203\072\210\053\025\226
\011\262\340\172\214\056\165\326\234\353\247\126\144\217\226\117
\150\256\075\227\302\204\217\300\274\100\300\013\134\275\366\207
\263\065\154\254\030\120\177\204\340\114\315\222\323\040\351\063
\274\122\231\257\062\265\051\263\045\052\264\110\371\162\341\312
\144\367\346\202\020\215\350\235\302\212\210\372\070\146\212\374
\143\371\001\371\170\375\173\134\167\372\166\207\372\354\337\261
\016\171\225\127\264\275\046\357\326\001\321\353\026\012\273\216
\013\265\305\305\212\125\253\323\254\352\221\113\051\314\031\244
\062\045\116\052\361\145\104\320\002\316\252\316\111\264\352\237
\174\203\260\100\173\347\103\253\247\154\243\217\175\211\201\372
\114\245\377\325\216\303\316\113\340\265\330\263\216\105\317\166
\300\355\100\053\375\123\017\260\247\325\073\015\261\212\242\003
\336\061\255\314\167\352\157\173\076\326\337\221\042\022\346\276
\372\330\062\374\020\143\024\121\162\336\135\326\026\223\275\051
\150\063\357\072\146\354\007\212\046\337\023\327\127\145\170\047
\336\136\111\024\000\242\000\177\232\250\041\266\251\261\225\260
\245\271\015\026\021\332\307\154\110\074\100\340\176\015\132\315
\126\074\321\227\005\271\313\113\355\071\113\234\304\077\322\125
\023\156\044\260\326\161\372\364\301\272\314\355\033\365\376\201

\101\330\000\230\075\072\310\256\172\230\067\030\005\225\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\344\257\053\046\161\032\053\110\047\205\057\122\146
\054\357\360\211\023\161\076\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\237\252\102\046\333
\013\233\276\377\036\226\222\056\076\242\145\112\152\230\272\042
\313\175\301\072\330\202\012\006\306\366\245\336\300\116\207\146
\171\241\371\246\130\234\252\371\265\346\140\347\340\350\261\036
\102\101\063\013\067\075\316\211\160\025\312\265\044\250\317\153
\265\322\100\041\230\317\042\064\317\073\305\042\204\340\305\016
\212\174\135\210\344\065\044\316\233\076\032\124\036\156\333\262
\207\247\374\363\372\201\125\024\142\012\131\251\042\005\061\076
\202\326\356\333\127\064\274\063\225\323\027\033\350\047\242\213
\173\116\046\032\172\132\144\266\321\254\067\361\375\240\363\070
\354\162\360\021\165\235\313\064\122\215\346\166\153\027\306\337
\206\253\047\216\111\053\165\146\201\020\041\246\352\076\364\256
\045\377\174\025\336\316\214\045\077\312\142\160\012\367\057\011
\146\007\310\077\034\374\360\333\105\060\337\142\210\301\265\017
\235\303\237\112\336\131\131\107\305\207\042\066\346\202\247\355
\012\271\342\007\240\215\173\172\112\074\161\322\342\003\241\037
\062\007\335\033\344\102\316\014\000\105\141\200\265\013\040\131
\051\170\275\371\125\313\143\305\074\114\364\266\377\333\152\137
\061\153\231\236\054\301\153\120\244\327\346\030\024\275\205\077
\147\253\106\237\240\377\102\247\072\177\134\313\135\260\160\035
\053\064\365\324\166\011\014\353\170\114\131\005\363\063\102\303
\141\025\020\033\167\115\316\042\214\324\205\362\105\175\267\123
\352\357\100\132\224\012\134\040\137\116\100\135\142\042\166\337
\377\316\141\275\214\043\170\322\067\002\340\216\336\321\021\067
\211\366\277\355\111\007\142\256\222\354\100\032\257\024\011\331
\320\116\262\242\367\276\356\356\330\377\334\032\055\336\270\066
\161\342\374\171\267\224\045\321\110\163\133\241\065\347\263\231
\147\165\301\031\072\053\107\116\323\102\216\375\061\310\026\146
\332\322\014\074\333\263\216\311\241\015\200\017\173\026\167\024
\277\377\333\011\224\262\223\274\040\130\025\351\333\161\103\363
\336\020\303\000\334\250\052\225\266\302\326\077\220\153\166\333
\154\376\214\274\362\160\065\014\334\231\031\065\334\327\310\106
\143\325\066\161\256\127\373\267\202\155\334

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R1"

Issuer: CN=GTS Root R1,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:93:6f:31:b0:13:49:88:6b:a2:17

Subject: CN=GTS Root R1,O=Google Trust Services LLC,C=US

```

# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
D9:47:43:2A:BD:E7:B7:FA:90:FC:2E:6B:59:10:1B:12:80:E0:E1:C7:E4:E4:0F:A3:C6:88:7F:FF:57:A7:F4:CF
# Fingerprint (SHA1): E5:8C:1C:C4:91:3B:38:63:4B:E9:10:6E:E3:AD:8E:6B:9D:D9:81:4A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\345\214\034\304\221\073\070\143\113\351\020\156\343\255\216\153
\235\331\201\112
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\005\376\320\277\161\250\243\166\143\332\001\340\330\122\334\100
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\223\157\061\260\023\111\210\153\242\027
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "GTS Root R2"
#
# Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa
# Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US
# Not Valid Before: Wed Jun 22 00:00:00 2016
# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8
# Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R2"

```

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\127\060\202\003\077\240\003\002\001\002\002\015\002
\003\345\256\305\215\004\045\032\253\021\045\252\060\015\006\011
\052\206\110\206\367\015\001\001\014\005\000\060\107\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\042\060\040\006\003
\125\004\012\023\031\107\157\157\147\154\145\040\124\162\165\163
\164\040\123\145\162\166\151\143\145\163\040\114\114\103\061\024
\060\022\006\003\125\004\003\023\013\107\124\123\040\122\157\157
\164\040\122\062\060\036\027\015\061\066\060\066\062\062\060\060
\060\060\060\060\132\027\015\063\066\060\066\062\062\060\060\060
\060\060\060\132\060\107\061\013\060\011\006\003\125\004\006\023
\002\125\123\061\042\060\040\006\003\125\004\012\023\031\107\157
\157\147\154\145\040\124\162\165\163\164\040\123\145\162\166\151
\143\145\163\040\114\114\103\061\024\060\022\006\003\125\004\003
\023\013\107\124\123\040\122\157\157\164\040\122\062\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\316\336
\375\246\373\354\354\024\064\074\007\006\132\154\131\367\031\065
\335\367\301\235\125\252\323\315\073\244\223\162\357\012\372\155
\235\366\360\205\200\133\241\110\122\237\071\305\267\356\050\254
\357\313\166\150\024\271\337\255\001\154\231\037\304\042\035\237
\376\162\167\340\054\133\257\344\004\277\117\162\240\032\064\230
\350\071\150\354\225\045\173\166\241\346\151\271\205\031\275\211
\214\376\255\355\066\352\163\274\377\203\342\313\175\301\322\316
\112\263\215\005\236\213\111\223\337\301\133\320\156\136\360\056
\060\056\202\374\372\274\264\027\012\110\345\210\233\305\233\153
\336\260\312\264\003\360\332\364\220\270\145\144\367\134\114\255
\350\176\146\136\231\327\270\302\076\310\320\023\235\255\356\344
\105\173\211\125\367\212\037\142\122\204\022\263\302\100\227\343

\212\037\107\221\246\164\132\322\370\261\143\050\020\270\263\011
\270\126\167\100\242\046\230\171\306\376\337\045\356\076\345\240
\177\324\141\017\121\113\074\077\214\332\341\160\164\330\302\150
\241\371\301\014\351\241\342\177\273\125\074\166\006\356\152\116
\314\222\210\060\115\232\275\117\013\110\232\204\265\230\243\325
\373\163\301\127\141\335\050\126\165\023\256\207\216\347\014\121
\011\020\165\210\114\274\215\371\173\074\324\042\110\037\052\334
\353\153\273\104\261\313\063\161\062\106\257\255\112\361\214\350
\164\072\254\347\032\042\163\200\322\060\367\045\102\307\042\073
\073\022\255\226\056\306\303\166\007\252\040\267\065\111\127\351
\222\111\350\166\026\162\061\147\053\226\176\212\243\307\224\126
\042\277\152\113\176\001\041\262\043\062\337\344\232\104\155\131
\133\135\365\000\240\034\233\306\170\227\215\220\377\233\310\252
\264\257\021\121\071\136\331\373\147\255\325\133\021\235\062\232
\033\275\325\272\133\245\311\313\045\151\123\125\047\134\340\312
\066\313\210\141\373\036\267\320\313\356\026\373\323\246\114\336
\222\245\324\342\337\365\006\124\336\056\235\113\264\223\060\252
\201\316\335\032\334\121\163\015\117\160\351\345\266\026\041\031
\171\262\346\211\013\165\144\312\325\253\274\011\301\030\241\377
\324\124\241\205\074\375\024\044\003\262\207\323\244\267\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\273\377\312\216\043\237\117\231\312\333\342\150\246
\245\025\047\027\036\331\016\060\015\006\011\052\206\110\206\367
\015\001\001\014\005\000\003\202\002\001\000\037\312\316\335\307
\276\241\237\331\047\114\013\334\027\230\021\152\210\336\075\346
\161\126\162\262\236\032\116\234\325\053\230\044\135\233\153\173
\260\063\202\011\275\337\045\106\352\230\236\266\033\376\203\074
\322\142\141\301\004\355\316\340\305\311\310\023\023\125\347\250
\143\255\214\173\001\376\167\060\341\316\150\233\005\370\022\356
\171\061\240\101\105\065\050\012\161\244\044\117\214\334\074\202
\007\137\146\334\175\020\376\014\141\263\005\225\356\341\256\201
\017\250\370\307\217\115\250\043\002\046\153\035\203\122\125\316
\265\057\000\312\200\100\340\341\164\254\140\365\207\200\235\256
\066\144\221\135\260\150\030\352\212\141\311\167\250\227\304\311
\307\245\374\125\113\363\360\177\271\145\075\047\150\320\314\153
\372\123\235\341\221\032\311\135\032\226\155\062\207\355\003\040
\310\002\316\132\276\331\352\375\262\115\304\057\033\337\137\172
\365\370\213\306\356\061\072\045\121\125\147\215\144\062\173\351
\236\303\202\272\052\055\351\036\264\340\110\006\242\374\147\257
\037\042\002\163\373\040\012\257\235\124\113\241\315\377\140\107
\260\077\135\357\033\126\275\227\041\226\055\012\321\136\235\070
\002\107\154\271\364\366\043\045\270\240\152\232\053\167\010\372
\304\261\050\220\046\130\010\074\342\176\252\327\075\157\272\061
\210\012\005\353\047\265\241\111\356\240\105\124\173\346\047\145
\231\040\041\250\243\274\373\030\226\273\122\157\014\355\203\121
\114\351\131\342\040\140\305\302\145\222\202\214\363\020\037\016

```
\212\227\276\167\202\155\077\217\035\135\274\111\047\275\314\117
\017\341\316\166\206\004\043\305\300\214\022\133\375\333\204\240
\044\361\110\377\144\174\320\276\134\026\321\357\231\255\300\037
\373\313\256\274\070\042\006\046\144\332\332\227\016\077\050\025
\104\250\117\000\312\360\232\314\317\164\152\264\076\074\353\225
\354\265\323\132\330\201\231\351\103\030\067\353\263\273\321\130
\142\101\363\146\322\217\252\170\225\124\040\303\132\056\164\053
\325\321\276\030\151\300\254\325\244\317\071\272\121\204\003\145
\351\142\300\142\376\330\115\125\226\342\320\021\372\110\064\021
\354\236\355\005\035\344\310\326\035\206\313
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

Trust for "GTS Root R2"

Issuer: CN=GTS Root R2,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:ae:c5:8d:04:25:1a:ab:11:25:aa

Subject: CN=GTS Root R2,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

8D:25:CD:97:22:9D:BF:70:35:6B:DA:4E:B3:CC:73:40:31:E2:4C:F0:0F:AF:CF:D3:2D:C7:6E:B5:84:1C:7E:A8

Fingerprint (SHA1): 9A:44:49:76:32:DB:DE:FA:D0:BC:FB:5A:7B:17:BD:9E:56:09:24:94

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\232\104\111\166\062\333\336\372\320\274\373\132\173\027\275\236
\126\011\044\224
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\036\071\300\123\346\036\051\202\013\312\122\125\066\135\127\334
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\015\002\003\345\256\305\215\004\045\032\253\021\045\252
```

END

```
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

```
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
```

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GTS Root R3"

#

Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66

Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48

Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R3"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\270\202\353\040\370\045\047\155\075\146\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\063\060\036\027\015\061\066\060\066\062\062\060\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060\060

```
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\063\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\037\117\063\207\063\051\212\241\204\336\313\307\041\130
\101\211\352\126\235\053\113\205\306\035\114\047\274\177\046\121
\162\157\342\237\326\243\312\314\105\024\106\213\255\357\176\206
\214\354\261\176\057\377\251\161\235\030\204\105\004\101\125\156
\053\352\046\177\273\220\001\343\113\031\272\344\124\226\105\011
\261\325\154\221\104\255\204\023\216\232\214\015\200\014\062\366
\340\047\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\301\361\046\272\240\055\256\205\201\317\323\361\052\022
\275\270\012\147\375\274\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\366\341\040\225\024\173
\124\243\220\026\021\277\204\310\352\157\153\027\236\036\106\230
\040\233\237\323\015\331\254\323\057\315\174\370\133\056\125\273
\277\335\222\367\244\014\334\061\341\242\002\061\000\374\227\146
\146\345\103\026\023\203\335\307\337\057\276\024\070\355\001\316
\261\027\032\021\165\351\275\003\217\046\176\204\345\311\140\246
\225\327\124\131\267\347\021\054\211\324\271\356\027
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "GTS Root R3"
```

```
# Issuer: CN=GTS Root R3,O=Google Trust Services LLC,C=US
```

```
# Serial Number:02:03:e5:b8:82:eb:20:f8:25:27:6d:3d:66
```

```
# Subject: CN=GTS Root R3,O=Google Trust Services LLC,C=US
```

```
# Not Valid Before: Wed Jun 22 00:00:00 2016
```

```
# Not Valid After : Sun Jun 22 00:00:00 2036
```

```
# Fingerprint (SHA-256):
```

```
34:D8:A7:3E:E2:08:D9:BC:DB:0D:95:65:20:93:4B:4E:40:E6:94:82:59:6E:8B:6F:73:C8:42:6B:01:0A:6F:48
```

```
# Fingerprint (SHA1): ED:E5:71:80:2B:C8:92:B9:5B:83:3C:D2:32:68:3F:09:CD:A0:1E:46
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "GTS Root R3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\355\345\161\200\053\310\222\271\133\203\074\322\062\150\077\011
```

```
\315\240\036\106
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

\076\347\235\130\002\224\106\121\224\345\340\042\112\213\347\163

END

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\270\202\353\040\370\045\047\155\075\146

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "GTS Root R4"

#

Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

Not Valid After : Sun Jun 22 00:00:00 2036

Fingerprint (SHA-256):

34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D

Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "GTS Root R4"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\011\060\202\001\216\240\003\002\001\002\002\015\002
\003\345\300\150\357\143\032\234\162\220\120\122\060\012\006\010
\052\206\110\316\075\004\003\003\060\107\061\013\060\011\006\003
\125\004\006\023\002\125\123\061\042\060\040\006\003\125\004\012
\023\031\107\157\157\147\154\145\040\124\162\165\163\164\040\123
\145\162\166\151\143\145\163\040\114\114\103\061\024\060\022\006
\003\125\004\003\023\013\107\124\123\040\122\157\157\164\040\122
\064\060\036\027\015\061\066\060\066\062\062\060\060\060\060
\060\132\027\015\063\066\060\066\062\062\060\060\060\060\060
\132\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123
\061\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154
\145\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163
\040\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107
\124\123\040\122\157\157\164\040\122\064\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\363\164\163\247\150\213\140\256\103\270\065\305\201\060
\173\113\111\235\373\301\141\316\346\336\106\275\153\325\141\030
\065\256\100\335\163\367\211\221\060\132\353\074\356\205\174\242
\100\166\073\251\306\270\107\330\052\347\222\221\152\163\351\261
\162\071\237\051\237\242\230\323\137\136\130\206\145\017\241\204
\145\006\321\334\213\311\307\163\310\214\152\057\345\304\253\321
\035\212\243\102\060\100\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026
\004\024\200\114\326\353\164\377\111\066\243\325\330\374\265\076
\305\152\360\224\035\214\060\012\006\010\052\206\110\316\075\004
\003\003\003\151\000\060\146\002\061\000\350\100\377\203\336\003
\364\237\256\035\172\247\056\271\257\117\366\203\035\016\055\205
\001\035\321\331\152\354\017\302\257\307\136\126\136\134\325\034
\130\042\050\013\367\060\266\057\261\174\002\061\000\360\141\074
\247\364\240\202\343\041\325\204\035\163\206\234\055\257\312\064
\233\361\237\271\043\066\342\274\140\003\235\200\263\232\126\310
\341\342\273\024\171\312\315\041\324\224\265\111\103

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE

Trust for "GTS Root R4"

Issuer: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Serial Number:02:03:e5:c0:68:ef:63:1a:9c:72:90:50:52

Subject: CN=GTS Root R4,O=Google Trust Services LLC,C=US

Not Valid Before: Wed Jun 22 00:00:00 2016

```

# Not Valid After : Sun Jun 22 00:00:00 2036
# Fingerprint (SHA-256):
34:9D:FA:40:58:C5:E2:63:12:3B:39:8A:E7:95:57:3C:4E:13:13:C8:3F:E6:8F:93:55:6C:D5:E8:03:1B:3C:7D
# Fingerprint (SHA1): 77:D3:03:67:B5:E0:0C:15:F6:0C:38:61:DF:7C:E1:3B:92:46:4D:47
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "GTS Root R4"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\167\323\003\147\265\340\014\025\366\014\070\141\337\174\341\073
\222\106\115\107
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\103\226\203\167\031\115\166\263\235\145\122\344\035\042\245\350
END
CKA_ISSUER MULTILINE_OCTAL
\060\107\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\042\060\040\006\003\125\004\012\023\031\107\157\157\147\154\145
\040\124\162\165\163\164\040\123\145\162\166\151\143\145\163\040
\114\114\103\061\024\060\022\006\003\125\004\003\023\013\107\124
\123\040\122\157\157\164\040\122\064
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\015\002\003\345\300\150\357\143\032\234\162\220\120\122
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Telia Root CA v2"
#
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
# Not Valid Before: Thu Nov 29 11:55:54 2018
# Not Valid After : Sun Nov 29 11:55:54 2043
# Fingerprint (SHA-256):
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Telia Root CA v2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA_SUBJECT MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
\040\103\101\040\166\062

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
\236

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\164\060\202\003\134\240\003\002\001\002\002\017\001
\147\137\047\326\376\172\343\344\254\276\011\133\005\236\060\015
\006\011\052\206\110\206\367\015\001\001\013\005\000\060\104\061
\013\060\011\006\003\125\004\006\023\002\106\111\061\032\060\030
\006\003\125\004\012\014\021\124\145\154\151\141\040\106\151\156
\154\141\156\144\040\117\171\152\061\031\060\027\006\003\125\004
\003\014\020\124\145\154\151\141\040\122\157\157\164\040\103\101
\040\166\062\060\036\027\015\061\070\061\061\062\071\061\061\065
\065\065\064\132\027\015\064\063\061\061\062\071\061\061\065\065
\065\064\132\060\104\061\013\060\011\006\003\125\004\006\023\002
\106\111\061\032\060\030\006\003\125\004\012\014\021\124\145\154
\151\141\040\106\151\156\154\141\156\144\040\117\171\152\061\031
\060\027\006\003\125\004\003\014\020\124\145\154\151\141\040\122
\157\157\164\040\103\101\040\166\062\060\202\002\042\060\015\006
\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017
\000\060\202\002\012\002\202\002\001\000\262\320\077\007\274\342
\173\320\153\231\370\342\167\151\347\316\235\244\003\274\202\155
\241\376\201\145\037\114\047\254\216\000\272\026\173\353\060\152
\000\300\263\164\150\176\262\257\307\325\142\263\172\077\120\312
\214\066\104\044\143\322\066\351\014\205\366\103\166\325\114\241
\140\162\147\342\050\063\245\313\061\270\072\042\043\064\270\175
\275\126\042\100\235\352\364\173\003\255\150\374\262\201\117\230
\320\164\352\215\345\175\315\143\303\243\366\336\222\302\130\031
\340\226\273\305\304\251\075\245\164\226\376\257\371\211\252\275
\225\027\124\330\170\104\361\014\167\025\222\340\230\102\247\244
\326\252\040\222\315\301\240\263\226\262\072\204\102\215\175\325
\225\344\326\333\351\142\304\130\263\171\305\214\323\065\063\203
\237\165\241\122\047\141\070\361\131\075\216\120\340\275\171\074

\347\154\226\376\136\331\002\145\264\216\134\320\021\064\337\135
\277\122\247\201\000\303\177\231\105\231\025\325\027\310\012\123
\354\143\363\231\175\314\151\022\206\302\027\360\001\236\277\204
\274\321\122\313\033\222\146\316\244\123\345\241\277\304\333\011
\326\346\211\126\053\310\343\174\336\343\377\211\345\065\156\050
\350\154\013\043\121\251\045\005\353\110\370\335\261\312\372\154
\010\121\357\267\030\154\104\312\046\341\163\306\211\006\201\345
\212\254\260\342\051\306\271\044\263\153\104\021\364\245\103\302
\114\103\345\160\066\214\266\063\127\172\225\056\202\240\364\134
\020\263\141\203\366\002\005\206\056\174\055\154\334\003\106\156
\065\223\325\172\225\057\336\040\330\133\176\224\220\004\152\272
\131\075\004\005\165\235\067\242\016\056\075\353\301\244\122\203
\376\320\153\324\146\216\334\306\351\022\116\035\052\127\252\020
\274\174\136\202\175\246\246\311\362\055\271\365\027\047\255\321
\016\211\124\053\225\372\300\255\035\230\024\170\063\102\206\012
\251\163\265\373\164\015\267\033\060\031\304\132\016\034\047\267
\332\030\320\377\212\310\005\272\361\252\034\242\067\267\346\110
\244\106\054\224\352\250\166\142\107\213\020\123\007\110\127\154
\342\222\115\266\256\005\313\334\301\112\136\217\254\075\031\116
\302\355\140\165\053\333\301\312\102\325\002\003\001\000\001\243
\143\060\141\060\037\006\003\125\035\043\004\030\060\026\200\024
\162\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057
\206\330\044\071\060\035\006\003\125\035\016\004\026\004\024\162
\254\344\063\171\252\105\207\366\375\254\035\236\326\307\057\206
\330\044\071\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\240\073\131\247\011\224\076\066
\204\322\176\057\071\245\226\227\372\021\255\374\147\363\161\011
\362\262\211\204\147\104\257\271\357\355\226\354\234\144\333\062
\060\157\147\232\254\176\137\262\253\001\066\176\201\372\344\204
\136\322\254\066\340\153\142\305\175\113\016\202\155\322\166\142
\321\376\227\370\237\060\174\030\371\264\122\167\202\035\166\333
\323\035\251\360\301\232\000\275\155\165\330\175\347\372\307\070
\243\234\160\350\106\171\003\257\056\164\333\165\370\156\123\014
\003\310\231\032\211\065\031\074\323\311\124\174\250\360\054\346
\156\007\171\157\152\341\346\352\221\202\151\012\035\303\176\131
\242\236\153\106\025\230\133\323\257\106\035\142\310\316\200\122
\111\021\077\311\004\022\303\023\174\077\073\212\226\333\074\240
\036\012\264\213\124\262\044\147\015\357\202\313\276\074\175\321
\342\177\256\026\326\126\130\271\332\040\261\203\025\241\357\212
\115\062\157\101\057\023\122\202\224\327\032\301\170\242\121\335
\053\160\155\267\032\371\367\260\340\147\227\126\333\174\141\123
\011\003\050\002\100\307\263\330\375\234\160\152\306\050\303\205
\351\342\355\032\223\240\336\113\230\242\204\076\005\167\001\226
\075\373\264\040\017\234\162\002\172\022\057\325\243\272\121\170
\257\052\053\104\145\116\265\375\012\350\301\315\171\207\141\053
\336\200\127\105\277\147\361\233\221\136\245\244\354\131\110\020

```
\015\070\307\260\372\303\104\155\004\365\170\120\034\222\226\133
\332\365\270\056\272\133\317\345\360\152\235\113\057\130\163\055
\117\055\304\034\076\364\263\077\253\025\016\073\031\101\212\244
\301\127\022\146\161\114\372\123\343\127\353\142\225\011\236\124
\335\321\302\074\127\074\275\070\255\230\144\267\270\003\232\123
\126\140\135\263\330\102\033\134\113\022\212\034\353\353\175\306
\172\151\307\047\177\244\370\213\362\344\224\146\207\113\351\224
\007\011\022\171\212\262\353\164\004\334\316\364\104\131\340\026
\312\305\054\130\327\074\173\317\142\206\152\120\175\065\066\146
\247\373\067\347\050\307\330\320\255\245\151\224\217\350\301\337
\044\370\033\007\061\207\201\330\135\366\350\050\330\112\122\200
\254\023\356\120\024\036\230\307
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Telia Root CA v2"
```

```
# Issuer: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Serial Number:01:67:5f:27:d6:fe:7a:e3:e4:ac:be:09:5b:05:9e
```

```
# Subject: CN=Telia Root CA v2,O=Telia Finland Oyj,C=FI
```

```
# Not Valid Before: Thu Nov 29 11:55:54 2018
```

```
# Not Valid After : Sun Nov 29 11:55:54 2043
```

```
# Fingerprint (SHA-256):
```

```
24:2B:69:74:2F:CB:1E:5B:2A:BF:98:89:8B:94:57:21:87:54:4E:5B:4D:99:11:78:65:73:62:1F:6A:74:B8:2C
```

```
# Fingerprint (SHA1): B9:99:CD:D1:73:50:8A:C4:47:05:08:9C:8C:88:FB:BE:A0:2B:40:CD
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Telia Root CA v2"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\271\231\315\321\163\120\212\304\107\005\010\234\214\210\373\276
```

```
\240\053\100\315
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\016\217\254\252\202\337\205\261\364\334\020\034\374\231\331\110
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\104\061\013\060\011\006\003\125\004\006\023\002\106\111\061
```

```
\032\060\030\006\003\125\004\012\014\021\124\145\154\151\141\040
```

```
\106\151\156\154\141\156\144\040\117\171\152\061\031\060\027\006
```

```
\003\125\004\003\014\020\124\145\154\151\141\040\122\157\157\164
```

```
\040\103\101\040\166\062
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\017\001\147\137\047\326\376\172\343\344\254\276\011\133\005
```

```
\236
```

```

END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST BR Root CA 1 2020"
#
# Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\174
\311\217\053\204\327\337\352\017\311\145\232\323\113\115\226\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142

```

\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\102\122\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\060
\071\064\065\060\060\132\027\015\063\065\060\062\061\061\060\071
\064\064\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\102\122
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\306\313\307\050\321\373\204\365\232
\357\102\024\040\341\103\153\156\165\255\374\053\003\204\324\166
\223\045\327\131\073\101\145\153\036\346\064\052\273\164\366\022
\316\350\155\347\253\344\074\116\077\104\010\213\315\026\161\313
\277\222\231\364\244\327\074\120\124\122\220\205\203\170\224\147
\147\243\034\011\031\075\165\064\205\336\355\140\175\307\014\264
\101\122\271\156\345\356\102\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\163\221\020\253\377
\125\263\132\174\011\045\325\262\272\010\240\153\253\037\155\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\142\162\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\102
\122\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\224\220\055\023
\372\341\143\370\141\143\350\255\205\170\124\221\234\270\223\070
\076\032\101\332\100\026\123\102\010\312\057\216\361\076\201\126
\300\252\330\355\030\304\260\256\364\076\372\046\002\061\000\363
\050\342\306\333\053\231\373\267\121\270\044\243\244\224\172\032
\077\346\066\342\003\127\063\212\060\313\202\307\326\024\021\325
\165\143\133\024\225\234\037\001\317\330\325\162\247\017\073

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "D-TRUST BR Root CA 1 2020"
Issuer: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE

```
# Serial Number:7c:c9:8f:2b:84:d7:df:ea:0f:c9:65:9a:d3:4b:4d:96
# Subject: CN=D-TRUST BR Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 09:45:00 2020
# Not Valid After : Sun Feb 11 09:44:59 2035
# Fingerprint (SHA-256):
E5:9A:AA:81:60:09:C2:2B:FF:5B:25:BA:D3:7D:F3:06:F0:49:79:7C:1F:81:D8:5A:B0:89:E6:57:BD:8F:00:44
# Fingerprint (SHA1): 1F:5B:98:F0:E3:B5:F7:74:3C:ED:E6:B0:36:7D:32:CD:F4:09:41:67
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST BR Root CA 1 2020"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\037\133\230\360\343\265\367\164\074\355\346\260\066\175\062\315
\364\011\101\147
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\265\252\113\325\355\367\343\125\056\217\162\012\363\165\270\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\102\122\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\174\311\217\053\204\327\337\352\017\311\145\232\323\113
\115\226
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "D-TRUST EV Root CA 1 2020"
#
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
# Not Valid Before: Tue Feb 11 10:00:00 2020
# Not Valid After : Sun Feb 11 09:59:59 2035
# Fingerprint (SHA-256):
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\333\060\202\002\140\240\003\002\001\002\002\020\137
\002\101\327\172\207\174\114\003\243\254\226\215\373\377\320\060
\012\006\010\052\206\110\316\075\004\003\003\060\110\061\013\060
\011\006\003\125\004\006\023\002\104\105\061\025\060\023\006\003
\125\004\012\023\014\104\055\124\162\165\163\164\040\107\155\142
\110\061\042\060\040\006\003\125\004\003\023\031\104\055\124\122
\125\123\124\040\105\126\040\122\157\157\164\040\103\101\040\061
\040\062\060\062\060\060\036\027\015\062\060\060\062\061\061\061
\060\060\060\060\060\132\027\015\063\065\060\062\061\061\060\071
\065\071\065\071\132\060\110\061\013\060\011\006\003\125\004\006
\023\002\104\105\061\025\060\023\006\003\125\004\012\023\014\104
\055\124\162\165\163\164\040\107\155\142\110\061\042\060\040\006
\003\125\004\003\023\031\104\055\124\122\125\123\124\040\105\126
\040\122\157\157\164\040\103\101\040\061\040\062\060\062\060\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\361\013\335\206\103\040\031\337\227
\205\350\042\112\233\317\235\230\277\264\005\046\311\313\343\246
\322\217\305\236\170\173\061\211\251\211\255\047\074\145\020\202
\374\337\303\235\116\360\063\043\304\322\062\365\034\260\337\063
\027\135\305\360\261\212\371\357\271\267\024\312\051\112\302\017
\251\177\165\145\111\052\060\147\364\144\367\326\032\167\332\303
\302\227\141\102\173\111\255\243\202\001\015\060\202\001\011\060
\017\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377
\060\035\006\003\125\035\016\004\026\004\024\177\020\001\026\067
```

```
\072\244\050\344\120\370\244\367\354\153\062\266\376\351\213\060
\016\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060
\201\306\006\003\125\035\037\004\201\276\060\201\273\060\076\240
\074\240\072\206\070\150\164\164\160\072\057\057\143\162\154\056
\144\055\164\162\165\163\164\056\156\145\164\057\143\162\154\057
\144\055\164\162\165\163\164\137\145\166\137\162\157\157\164\137
\143\141\137\061\137\062\060\062\060\056\143\162\154\060\171\240
\167\240\165\206\163\154\144\141\160\072\057\057\144\151\162\145
\143\164\157\162\171\056\144\055\164\162\165\163\164\056\156\145
\164\057\103\116\075\104\055\124\122\125\123\124\045\062\060\105
\126\045\062\060\122\157\157\164\045\062\060\103\101\045\062\060
\061\045\062\060\062\060\062\060\054\117\075\104\055\124\162\165
\163\164\045\062\060\107\155\142\110\054\103\075\104\105\077\143
\145\162\164\151\146\151\143\141\164\145\162\145\166\157\143\141
\164\151\157\156\154\151\163\164\060\012\006\010\052\206\110\316
\075\004\003\003\003\151\000\060\146\002\061\000\312\074\306\052
\165\302\136\165\142\071\066\000\140\132\213\301\223\231\314\331
\333\101\073\073\207\231\027\073\325\314\117\312\042\367\240\200
\313\371\264\261\033\126\365\162\322\374\031\321\002\061\000\221
\367\060\223\077\020\106\053\161\244\320\073\104\233\300\051\002
\005\262\101\167\121\363\171\132\236\216\024\240\116\102\322\133
\201\363\064\152\003\347\042\070\120\133\355\031\117\103\026
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "D-TRUST EV Root CA 1 2020"
```

```
# Issuer: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
```

```
# Serial Number:5f:02:41:d7:7a:87:7c:4c:03:a3:ac:96:8d:fb:ff:d0
```

```
# Subject: CN=D-TRUST EV Root CA 1 2020,O=D-Trust GmbH,C=DE
```

```
# Not Valid Before: Tue Feb 11 10:00:00 2020
```

```
# Not Valid After : Sun Feb 11 09:59:59 2035
```

```
# Fingerprint (SHA-256):
```

```
08:17:0D:1A:A3:64:53:90:1A:2F:95:92:45:E3:47:DB:0C:8D:37:AB:AA:BC:56:B8:1A:A1:00:DC:95:89:70:DB
```

```
# Fingerprint (SHA1): 61:DB:8C:21:59:69:03:90:D8:7C:9C:12:86:54:CF:9D:3D:F4:DD:07
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "D-TRUST EV Root CA 1 2020"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\141\333\214\041\131\151\003\220\330\174\234\022\206\124\317\235
```

```
\075\364\335\007
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\214\055\235\160\237\110\231\021\006\021\373\351\313\060\300\156
```

END

```

CKA_ISSUER MULTILINE_OCTAL
\060\110\061\013\060\011\006\003\125\004\006\023\002\104\105\061
\025\060\023\006\003\125\004\012\023\014\104\055\124\162\165\163
\164\040\107\155\142\110\061\042\060\040\006\003\125\004\003\023
\031\104\055\124\122\125\123\124\040\105\126\040\122\157\157\164
\040\103\101\040\061\040\062\060\062\060
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\137\002\101\327\172\207\174\114\003\243\254\226\215\373
\377\320
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert TLS ECC P384 Root G5"
#
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END

```

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
```

```
CKA_VALUE MULTILINE_OCTAL
\060\202\002\031\060\202\001\237\240\003\002\001\002\002\020\011
\340\223\145\254\367\331\310\271\076\034\013\004\052\056\363\060
\012\006\010\052\206\110\316\075\004\003\003\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\036\027\015\062
\061\060\061\061\065\060\060\060\060\060\060\132\027\015\064\066
\060\061\061\064\062\063\065\071\065\071\132\060\116\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\046\060\044\006\003\125\004\003\023\035\104\151
\147\151\103\145\162\164\040\124\114\123\040\105\103\103\040\120
\063\070\064\040\122\157\157\164\040\107\065\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\301\104\241\317\021\227\120\232\336\043\202\065\007
\315\320\313\030\235\322\361\177\167\065\117\073\335\224\162\122
\355\302\073\370\354\372\173\153\130\040\354\231\256\311\374\150
\263\165\271\333\011\354\310\023\365\116\306\012\035\146\060\114
\273\037\107\012\074\141\020\102\051\174\245\010\016\340\042\351
\323\065\150\316\233\143\237\204\265\231\115\130\240\216\365\124
\347\225\311\243\102\060\100\060\035\006\003\125\035\016\004\026
\004\024\301\121\105\120\131\253\076\347\054\132\372\040\042\022
\007\200\210\174\021\152\060\016\006\003\125\035\017\001\001\377
\004\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377
\004\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075
\004\003\003\003\150\000\060\145\002\061\000\211\152\215\107\347
\354\374\156\125\003\331\147\154\046\116\203\306\375\311\373\053
\023\274\267\172\214\264\145\322\151\151\143\023\143\073\046\120
\056\001\241\171\006\221\235\110\277\302\276\002\060\107\303\025
\173\261\240\221\231\111\223\250\074\174\350\106\006\213\054\362
\061\000\224\235\142\310\211\275\031\204\024\351\245\373\001\270
\015\166\103\214\056\123\313\174\337\014\027\226\120
END
```

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert TLS ECC P384 Root G5"
# Issuer: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:09:e0:93:65:ac:f7:d9:c8:b9:3e:1c:0b:04:2a:2e:f3
# Subject: CN=DigiCert TLS ECC P384 Root G5,O="DigiCert, Inc.",C=US
```

```
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
01:8E:13:F0:77:25:32:CF:80:9B:D1:B1:72:81:86:72:83:FC:48:C6:E1:3B:E9:C6:98:12:85:4A:49:0C:1B:05
# Fingerprint (SHA1): 17:F3:DE:5E:9F:0F:19:E9:8E:F6:1F:32:26:6E:20:C4:07:AE:30:EE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert TLS ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\027\363\336\136\237\017\031\351\216\366\037\062\046\156\040\304
\007\256\060\356
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\323\161\004\152\103\034\333\246\131\341\250\243\252\305\161\355
END
CKA_ISSUER MULTILINE_OCTAL
\060\116\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\046\060\044\006\003\125\004
\003\023\035\104\151\147\151\103\145\162\164\040\124\114\123\040
\105\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\011\340\223\145\254\367\331\310\271\076\034\013\004\052
\056\363
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

```
#
# Certificate "DigiCert TLS RSA4096 Root G5"
#
# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
\317\212
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\146\060\202\003\116\240\003\002\001\002\002\020\010
\371\264\170\250\372\176\332\152\063\067\211\336\174\317\212\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\115
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023
\034\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123
\101\064\060\071\066\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\115\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\045\060\043\006\003\125\004\003\023\034
\104\151\147\151\103\145\162\164\040\124\114\123\040\122\123\101
\064\060\071\066\040\122\157\157\164\040\107\065\060\202\002\042
\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000\003
\202\002\017\000\060\202\002\012\002\202\002\001\000\263\320\364
\311\171\021\235\375\374\146\201\347\314\325\344\274\354\201\076
\152\065\216\056\267\347\336\257\371\007\115\317\060\235\352\011
\013\231\275\154\127\332\030\112\270\170\254\072\071\250\246\110
\254\056\162\345\275\353\361\032\315\347\244\003\251\077\021\264
\330\057\211\026\373\224\001\075\273\057\370\023\005\241\170\034
\216\050\340\105\340\203\364\131\033\225\263\256\176\003\105\345
\276\302\102\376\356\362\074\266\205\023\230\062\235\026\250\051
\302\013\034\070\334\237\061\167\134\277\047\243\374\047\254\267
\053\275\164\233\027\055\362\201\332\135\260\341\043\027\076\210
```

\112\022\043\320\352\317\235\336\003\027\261\102\112\240\026\114
\244\155\223\351\077\072\356\072\174\235\130\235\364\116\217\374
\073\043\310\155\270\342\005\332\314\353\354\303\061\364\327\247
\051\124\200\317\104\133\114\157\060\236\363\314\335\037\224\103
\235\115\177\160\160\015\324\072\321\067\360\154\235\233\300\024
\223\130\357\315\101\070\165\274\023\003\225\174\177\343\134\351
\325\015\325\342\174\020\142\252\153\360\075\166\363\077\243\350
\260\301\375\357\252\127\115\254\206\247\030\264\051\301\054\016
\277\144\276\051\214\330\002\055\315\134\057\362\177\357\025\364
\014\025\254\012\260\361\323\015\117\152\115\167\227\001\240\361
\146\267\267\316\357\316\354\354\245\165\312\254\343\341\143\367
\270\241\004\310\274\173\077\135\055\026\042\126\355\110\111\376
\247\057\171\060\045\233\272\153\055\077\235\073\304\027\347\035
\056\373\362\317\246\374\343\024\054\226\230\041\214\264\221\351
\031\140\203\362\060\053\006\163\120\325\230\073\006\351\307\212
\014\140\214\050\370\122\233\156\341\366\115\273\006\044\233\327
\053\046\077\375\052\057\161\365\326\044\276\177\061\236\017\155
\350\217\117\115\243\077\377\065\352\337\111\136\101\217\206\371
\361\167\171\113\033\264\243\136\057\373\106\002\320\146\023\136
\136\205\117\316\330\160\210\173\316\001\265\226\227\327\315\175
\375\202\370\302\044\301\312\001\071\117\215\242\301\024\100\037
\234\146\325\014\011\106\326\362\320\321\110\166\126\072\103\313
\266\012\021\071\272\214\023\154\006\265\236\317\353\002\003\001
\000\001\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\121\063\034\355\066\100\257\027\323\045\315\151\150\362\257
\116\043\076\263\101\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\206\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\015\006\011\052\206\110\206\367\015
\001\001\014\005\000\003\202\002\001\000\140\246\257\133\137\127
\332\211\333\113\120\251\304\043\065\041\377\320\141\060\204\221
\267\077\020\317\045\216\311\277\106\064\331\301\041\046\034\160
\031\162\036\243\311\207\376\251\103\144\226\072\310\123\004\012
\266\101\273\304\107\000\331\237\030\030\073\262\016\363\064\352
\044\367\335\257\040\140\256\222\050\137\066\347\135\344\336\307
\074\333\120\071\255\273\075\050\115\226\174\166\306\133\364\301
\333\024\245\253\031\142\007\030\100\137\227\221\334\234\307\253
\265\121\015\346\151\123\125\314\071\175\332\305\021\125\162\305
\073\213\211\370\064\055\244\027\345\027\346\231\175\060\210\041
\067\315\060\027\075\270\362\274\250\165\240\103\334\076\211\113
\220\256\155\003\340\034\243\240\226\011\273\175\243\267\052\020
\104\113\106\007\064\143\355\061\271\004\356\243\233\232\256\346
\061\170\364\352\044\141\073\253\130\144\377\273\207\047\142\045
\201\337\334\241\057\366\355\247\377\172\217\121\056\060\370\244
\001\322\205\071\137\001\231\226\157\132\133\160\031\106\376\206
\140\076\255\200\020\011\335\071\045\057\130\177\273\322\164\360
\367\106\037\106\071\112\330\123\320\363\056\073\161\245\324\157
\374\363\147\344\007\217\335\046\031\341\215\133\372\243\223\021
\233\351\310\072\303\125\150\232\222\341\122\166\070\350\341\272

```
\275\373\117\325\357\263\347\110\203\061\360\202\041\343\266\276
\247\253\157\357\237\337\114\317\001\270\142\152\043\075\347\011
\115\200\033\173\060\244\303\335\007\177\064\276\244\046\262\366
\101\350\011\035\343\040\230\252\067\117\377\367\361\342\051\160
\061\107\077\164\320\024\026\372\041\212\002\325\212\011\224\167
\056\362\131\050\213\174\120\222\012\146\170\070\203\165\304\265
\132\250\021\306\345\301\235\146\125\317\123\304\257\327\165\205
\251\102\023\126\354\041\167\201\223\132\014\352\226\331\111\312
\241\010\362\227\073\155\233\004\030\044\104\216\174\001\362\334
\045\330\136\206\232\261\071\333\365\221\062\152\321\246\160\212
\242\367\336\244\105\205\046\250\036\214\135\051\133\310\113\330
\232\152\003\136\160\362\205\117\154\113\150\057\312\124\366\214
\332\062\376\303\153\203\077\070\306\176
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DigiCert TLS RSA4096 Root G5"
```

```
# Issuer: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
```

```
# Serial Number:08:f9:b4:78:a8:fa:7e:da:6a:33:37:89:de:7c:cf:8a
```

```
# Subject: CN=DigiCert TLS RSA4096 Root G5,O="DigiCert, Inc.",C=US
```

```
# Not Valid Before: Fri Jan 15 00:00:00 2021
```

```
# Not Valid After : Sun Jan 14 23:59:59 2046
```

```
# Fingerprint (SHA-256):
```

```
37:1A:00:DC:05:33:B3:72:1A:7E:EB:40:E8:41:9E:70:79:9D:2B:0A:0F:2C:1D:80:69:31:65:F7:CE:C4:AD:75
```

```
# Fingerprint (SHA1): A7:88:49:DC:5D:7C:75:8C:8C:DE:39:98:56:B3:AA:D0:B2:A5:71:35
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DigiCert TLS RSA4096 Root G5"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\247\210\111\334\135\174\165\214\214\336\071\230\126\263\252\320
\262\245\161\065
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\254\376\367\064\226\251\362\263\264\022\113\344\047\101\157\341
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\115\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\045\060\043\006\003\125\004
\003\023\034\104\151\147\151\103\145\162\164\040\124\114\123\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\020\010\371\264\170\250\372\176\332\152\063\067\211\336\174
```

```

\317\212
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert SMIME ECC P384 Root G5"
#
# Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
# Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
# Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_VALUE MULTILINE_OCTAL
\060\202\002\034\060\202\001\243\240\003\002\001\002\002\020\005
\077\156\240\006\001\162\175\355\077\303\243\266\243\326\357\060

```

\012\006\010\052\206\110\316\075\004\003\003\060\120\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\027\060\025\006\003
\125\004\012\023\016\104\151\147\151\103\145\162\164\054\040\111
\156\143\056\061\050\060\046\006\003\125\004\003\023\037\104\151
\147\151\103\145\162\164\040\123\115\111\115\105\040\105\103\103
\040\120\063\070\064\040\122\157\157\164\040\107\065\060\036\027
\015\062\061\060\061\061\065\060\060\060\060\060\060\132\027\015
\064\066\060\061\061\064\062\063\065\071\065\071\132\060\120\061
\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060\025
\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164\054
\040\111\156\143\056\061\050\060\046\006\003\125\004\003\023\037
\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040\105
\103\103\040\120\063\070\064\040\122\157\157\164\040\107\065\060
\166\060\020\006\007\052\206\110\316\075\002\001\006\005\053\201
\004\000\042\003\142\000\004\026\235\125\345\266\324\373\373\147
\153\032\324\241\252\322\167\225\076\210\345\007\237\266\160\146
\040\050\244\210\354\160\065\257\263\062\377\067\023\112\236\274
\001\003\336\204\301\270\306\346\145\107\211\362\023\125\277\315
\245\036\010\140\177\255\177\350\141\222\051\317\011\107\136\013
\034\300\037\244\277\362\133\274\230\357\231\114\314\160\153\266
\272\320\050\035\277\276\004\243\102\060\100\060\035\006\003\125
\035\016\004\026\004\024\163\172\153\226\333\102\007\213\122\146
\302\144\062\027\376\340\147\220\056\255\060\016\006\003\125\035
\017\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035
\023\001\001\377\004\005\060\003\001\001\377\060\012\006\010\052
\206\110\316\075\004\003\003\003\147\000\060\144\002\060\067\104
\365\062\200\343\161\353\364\155\317\174\314\221\232\303\156\161
\330\322\043\135\222\115\202\102\155\134\141\225\366\221\365\247
\010\366\152\227\351\234\224\055\230\160\375\063\266\011\002\060
\007\074\057\271\130\202\136\017\243\142\250\223\147\360\040\303
\151\277\003\054\073\120\247\073\257\101\070\311\122\110\221\326
\016\373\274\140\060\174\144\077\022\036\105\177\121\076\364\246

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert SMIME ECC P384 Root G5"
Issuer: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Serial Number:05:3f:6e:a0:06:01:72:7d:ed:3f:c3:a3:b6:a3:d6:ef
Subject: CN=DigiCert SMIME ECC P384 Root G5,O="DigiCert, Inc.",C=US
Not Valid Before: Fri Jan 15 00:00:00 2021
Not Valid After : Sun Jan 14 23:59:59 2046
Fingerprint (SHA-256):
E8:E8:17:65:36:A6:0C:C2:C4:E1:01:87:C3:BE:FC:A2:0E:F2:63:49:70:18:F5:66:D5:BE:A0:F9:4D:0C:11:1B
Fingerprint (SHA1): 1C:B8:A7:08:C9:0D:20:79:01:A0:B2:36:7F:F0:95:65:E4:53:24:FE
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME ECC P384 Root G5"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\034\270\247\010\311\015\040\171\001\240\262\066\177\360\225\145
\344\123\044\376
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\246\376\364\122\066\104\330\356\015\267\003\013\357\164\263\003
END
CKA_ISSUER MULTILINE_OCTAL
\060\120\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\050\060\046\006\003\125\004
\003\023\037\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\105\103\103\040\120\063\070\064\040\122\157\157\164\040
\107\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\077\156\240\006\001\162\175\355\077\303\243\266\243
\326\357
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "DigiCert SMIME RSA4096 Root G5"
#
# Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55
# Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US
# Not Valid Before: Fri Jan 15 00:00:00 2021
# Not Valid After : Sun Jan 14 23:59:59 2046
# Fingerprint (SHA-256):
90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A
# Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004

```

\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\152\060\202\003\122\240\003\002\001\002\002\020\005
\366\272\004\043\203\106\313\175\134\346\271\133\272\034\125\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\060\117
\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027\060
\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162\164
\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003\023
\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105\040
\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065\060
\036\027\015\062\061\060\061\061\065\060\060\060\060\060\060\132
\027\015\064\066\060\061\061\064\062\063\065\071\065\071\132\060
\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061\027
\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145\162
\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004\003
\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115\105
\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107\065
\060\202\002\042\060\015\006\011\052\206\110\206\367\015\001\001
\001\005\000\003\202\002\017\000\060\202\002\012\002\202\002\001
\000\340\152\133\331\370\371\175\354\265\173\357\137\335\134\064
\330\332\135\321\313\145\165\253\041\174\133\000\324\202\157\105
\205\101\212\251\022\002\162\062\360\024\365\003\165\273\143\227
\111\017\100\231\013\032\036\126\247\322\320\341\253\335\345\004
\033\343\037\024\022\002\210\365\240\200\011\366\047\232\120\360
\272\343\242\340\254\152\024\221\265\153\070\020\172\242\061\341
\221\033\267\271\360\053\133\310\167\011\166\267\121\304\066\012
\231\123\124\104\045\267\011\065\206\027\005\126\223\075\101\267
\002\327\142\037\212\222\021\207\352\021\155\352\010\021\334\261
\170\110\111\222\366\264\121\200\170\043\330\376\341\126\032\072
\220\023\126\064\211\325\342\225\213\137\336\262\314\373\077\070
\267\205\367\352\236\277\056\241\056\057\115\175\152\021\056\066
\240\377\021\010\004\225\125\340\033\073\147\223\251\224\125\352

\062\355\006\072\177\302\177\343\255\023\047\321\064\101\263\060
\303\277\264\210\370\003\202\244\337\076\253\170\167\240\131\223
\161\347\335\353\000\004\173\314\110\071\050\340\036\243\025\151
\310\066\262\241\013\227\337\125\326\357\221\234\244\366\026\367
\121\012\356\003\043\221\334\004\377\340\335\070\366\042\003\000
\302\007\161\032\022\311\327\106\052\224\033\315\326\273\033\356
\277\276\115\120\130\260\013\315\060\166\051\365\317\345\266\152
\057\166\260\260\151\152\320\155\145\030\065\176\223\274\162\027
\301\125\102\315\057\302\045\273\364\375\035\241\144\042\124\135
\342\236\162\101\204\156\161\226\352\105\007\266\136\172\112\206
\235\163\144\167\070\003\322\017\123\245\125\040\304\115\377\150
\157\125\251\352\335\161\344\117\331\205\243\174\116\051\002\236
\013\011\362\032\123\314\000\246\335\321\064\366\015\301\060\261
\234\002\144\254\065\355\245\260\051\261\322\225\063\017\322\040
\063\275\354\043\113\362\031\371\332\230\144\344\054\061\037\056
\341\215\034\004\225\050\115\214\130\315\113\345\163\202\206\214
\354\250\326\171\134\373\144\273\334\014\114\050\366\027\257\342
\150\326\026\206\230\333\374\001\334\061\272\370\234\016\371\050
\106\112\341\375\226\006\105\171\021\150\027\145\134\213\046\207
\133\002\003\001\000\001\243\102\060\100\060\035\006\003\125\035
\016\004\026\004\024\321\243\324\127\035\117\125\333\165\114\134
\102\236\143\026\316\264\306\073\037\060\016\006\003\125\035\017
\001\001\377\004\004\003\002\001\206\060\017\006\003\125\035\023
\001\001\377\004\005\060\003\001\001\377\060\015\006\011\052\206
\110\206\367\015\001\001\014\005\000\003\202\002\001\000\007\247
\012\336\123\273\232\353\160\277\262\066\220\315\344\247\270\361
\014\344\135\132\035\170\145\374\311\270\036\043\021\127\174\151
\065\155\001\377\123\120\277\007\016\272\307\001\077\130\052\224
\165\003\253\034\013\043\334\033\212\036\067\075\035\130\217\163
\331\263\052\157\337\020\240\133\014\247\312\260\177\271\044\242
\001\065\062\345\136\106\101\353\330\177\163\347\102\351\244\121
\046\167\201\012\250\353\017\012\120\235\176\212\040\147\374\013
\216\072\021\323\305\214\140\030\331\113\261\374\324\361\264\111
\116\256\207\341\321\373\166\241\137\363\006\317\227\226\014\351
\236\165\201\134\123\015\042\374\066\346\111\156\164\333\000\205
\215\174\042\240\216\373\020\114\324\142\023\133\357\113\162\046
\213\374\116\212\217\376\227\020\123\305\170\213\102\144\033\137
\340\211\375\273\011\177\120\340\124\205\046\021\152\035\145\371
\111\051\334\174\066\337\373\075\367\322\254\356\062\215\156\246
\175\071\234\105\304\312\015\365\073\264\171\123\245\057\126\307
\121\305\212\114\144\135\220\103\043\216\153\114\027\170\314\350
\277\365\073\344\250\110\317\255\233\014\337\062\112\323\331\022
\216\043\170\015\055\257\237\257\236\074\011\302\227\000\355\072
\151\034\161\077\071\337\323\217\304\146\365\357\066\224\017\363
\335\222\266\226\137\220\246\335\163\252\246\040\224\224\045\152
\011\014\162\344\023\043\140\114\243\312\027\056\173\147\000\333
\320\315\352\172\037\071\046\127\211\060\167\313\116\345\225\105
\117\137\373\066\134\075\371\040\265\072\020\045\117\223\062\132

```
\356\301\226\350\351\126\004\260\111\141\115\354\170\250\235\030
\301\377\330\352\057\126\357\225\053\173\004\136\147\343\125\100
\355\071\004\371\013\171\365\152\214\134\017\211\232\220\307\315
\213\336\333\046\065\241\156\315\263\102\362\242\017\073\014\216
\223\377\024\317\374\367\223\367\344\101\010\156\031\122\021\017
\123\031\163\170\014\317\330\205\201\370\255\125\310\260\236\106
\143\257\234\122\356\134\277\360\300\133\067\036\011\040\322\076
\043\306\241\025\112\016\066\176\060\305\171\152\274\042\210\331
\014\122\100\037\335\116\017\147\046\026\322\255\027\034
```

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DigiCert SMIME RSA4096 Root G5"

Issuer: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

Serial Number:05:f6:ba:04:23:83:46:cb:7d:5c:e6:b9:5b:ba:1c:55

Subject: CN=DigiCert SMIME RSA4096 Root G5,O="DigiCert, Inc.",C=US

Not Valid Before: Fri Jan 15 00:00:00 2021

Not Valid After : Sun Jan 14 23:59:59 2046

Fingerprint (SHA-256):

90:37:0D:3E:FA:88:BF:58:C3:01:05:BA:25:10:4A:35:84:60:A7:FA:52:DF:C2:01:1D:F2:33:A0:F4:17:91:2A

Fingerprint (SHA1): 5B:C5:AD:E2:9A:A7:54:DA:84:89:53:A5:FE:D7:5B:46:86:D0:57:08

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DigiCert SMIME RSA4096 Root G5"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

```
\133\305\255\342\232\247\124\332\204\211\123\245\376\327\133\106
\206\320\127\010
```

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

```
\321\173\340\265\077\065\162\237\175\276\013\245\244\035\251\156
```

END

CKA_ISSUER MULTILINE_OCTAL

```
\060\117\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\027\060\025\006\003\125\004\012\023\016\104\151\147\151\103\145
\162\164\054\040\111\156\143\056\061\047\060\045\006\003\125\004
\003\023\036\104\151\147\151\103\145\162\164\040\123\115\111\115
\105\040\122\123\101\064\060\071\066\040\122\157\157\164\040\107
\065
```

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

```
\002\020\005\366\272\004\043\203\106\313\175\134\346\271\133\272
\034\125
```

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certainly Root R1"

#

Issuer: CN=Certainly Root R1,O=Certainly,C=US

Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

Subject: CN=Certainly Root R1,O=Certainly,C=US

Not Valid Before: Thu Apr 01 00:00:00 2021

Not Valid After : Sun Apr 01 00:00:00 2046

Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certainly Root R1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104

\071\267\340

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\107\060\202\003\057\240\003\002\001\002\002\021\000

\216\017\371\113\220\161\150\145\063\124\364\324\104\071\267\340

\060\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060

\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022

\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156

\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162

\164\141\151\156\154\171\040\122\157\157\164\040\122\061\060\036

\027\015\062\061\060\064\060\061\060\060\060\060\060\132\027

\015\064\066\060\064\060\061\060\060\060\060\060\132\060\075

\061\013\060\011\006\003\125\004\006\023\002\125\123\061\022\060
\020\006\003\125\004\012\023\011\103\145\162\164\141\151\156\154
\171\061\032\060\030\006\003\125\004\003\023\021\103\145\162\164
\141\151\156\154\171\040\122\157\157\164\040\122\061\060\202\002
\042\060\015\006\011\052\206\110\206\367\015\001\001\001\005\000
\003\202\002\017\000\060\202\002\012\002\202\002\001\000\320\066
\324\037\352\335\253\344\321\266\346\373\042\300\335\023\015\152
\173\042\023\034\227\074\150\143\146\062\234\003\265\215\244\201
\203\332\170\060\021\317\334\262\053\276\222\277\216\344\304\023
\276\244\150\114\332\002\150\026\164\276\262\335\004\344\153\052
\335\067\037\140\054\333\365\367\241\174\225\267\014\160\206\056
\361\072\357\122\367\314\323\233\371\213\276\016\337\061\267\235
\150\134\222\246\365\345\363\012\064\265\377\173\242\344\207\241
\306\257\027\000\357\003\221\355\251\034\116\161\075\322\213\154
\211\364\170\206\346\152\111\240\316\265\322\260\253\233\366\364
\324\056\343\162\371\066\306\353\025\267\045\214\072\374\045\015
\263\042\163\041\164\310\112\226\141\222\365\057\013\030\245\364
\255\342\356\101\275\001\171\372\226\214\215\027\002\060\264\371
\257\170\032\214\264\066\020\020\007\005\160\320\364\061\220\212
\121\305\206\046\171\262\021\210\136\305\360\012\124\315\111\246
\277\002\234\322\104\247\355\343\170\357\106\136\155\161\321\171
\160\034\106\137\121\351\311\067\334\137\176\151\173\101\337\064
\105\340\073\204\364\241\212\012\066\236\067\314\142\122\341\211
\015\050\371\172\043\261\015\075\075\232\375\235\201\357\054\220
\300\173\104\116\273\111\340\016\112\126\222\274\313\265\335\171
\027\211\221\336\141\211\164\222\250\343\062\205\276\116\205\244
\113\131\313\053\305\170\216\161\124\320\002\067\231\214\345\111
\352\340\124\162\244\021\006\057\013\214\301\133\276\265\241\260
\123\156\234\270\140\221\037\131\153\371\055\364\224\012\227\265
\354\305\166\003\124\033\145\122\272\114\222\126\121\065\240\100
\330\051\333\256\122\166\073\055\060\100\233\212\320\102\126\264
\267\210\001\244\207\073\123\226\315\243\026\217\363\146\252\027
\261\307\140\340\301\103\005\014\356\233\133\140\157\006\134\207
\133\047\371\100\021\236\234\063\301\267\345\065\127\005\177\047
\316\027\040\214\034\374\361\373\332\061\051\111\355\365\013\204
\247\117\301\366\116\302\050\234\372\356\340\257\007\373\063\021
\172\041\117\013\041\020\266\100\072\253\042\072\004\234\213\233
\204\206\162\232\322\247\245\304\264\165\221\251\053\043\002\003
\001\000\001\243\102\060\100\060\016\006\003\125\035\017\001\001
\377\004\004\003\002\001\006\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\035\006\003\125\035\016\004
\026\004\024\340\252\077\045\215\237\104\134\301\072\350\056\256
\167\114\204\076\147\014\364\060\015\006\011\052\206\110\206\367
\015\001\001\013\005\000\003\202\002\001\000\271\127\257\270\022
\332\127\203\217\150\013\063\035\003\123\125\364\225\160\344\053
\075\260\071\353\372\211\142\375\367\326\030\004\057\041\064\335
\361\150\360\325\226\132\336\302\200\243\301\215\306\152\367\131
\167\256\025\144\317\133\171\005\167\146\352\214\323\153\015\335

\361\131\054\301\063\245\060\200\025\105\007\105\032\061\042\266
\222\000\253\231\115\072\217\167\257\251\042\312\057\143\312\025
\326\307\306\360\075\154\374\034\015\230\020\141\236\021\242\042
\327\012\362\221\172\153\071\016\057\060\303\066\111\237\340\351
\017\002\104\120\067\224\125\175\352\237\366\073\272\224\245\114
\351\274\076\121\264\350\312\222\066\124\155\134\045\050\332\335
\255\024\375\323\356\342\042\005\353\320\362\267\150\022\327\132
\212\101\032\306\222\245\132\073\143\105\117\277\341\072\167\042
\057\134\277\106\371\132\003\205\023\102\137\312\336\123\327\142
\265\246\065\004\302\107\377\231\375\204\337\134\316\351\136\200
\050\101\362\175\347\036\220\330\117\166\076\202\074\015\374\245
\003\372\173\032\331\105\036\140\332\304\216\371\374\053\311\173
\225\305\052\377\252\211\337\202\061\017\162\377\014\047\327\012
\036\126\000\120\036\014\220\301\226\265\330\024\205\273\247\015
\026\301\370\007\044\033\272\205\241\032\005\011\200\272\225\143
\311\072\354\045\237\177\235\272\244\107\025\233\104\160\361\152
\113\326\070\136\103\363\030\176\120\156\351\132\050\346\145\346
\167\033\072\375\035\276\003\046\243\333\324\341\273\176\226\047
\053\035\356\244\373\332\045\124\023\003\336\071\306\303\037\115
\220\354\217\033\112\322\034\355\205\225\070\120\171\106\326\301
\220\120\061\251\134\232\156\035\365\063\126\213\247\231\322\362
\310\054\063\223\222\060\307\116\214\145\063\020\144\027\375\044
\027\226\321\215\302\072\152\053\353\023\213\104\362\041\363\112
\032\267\167\137\327\355\210\244\162\345\071\037\225\235\276\147
\301\160\021\075\273\364\370\111\267\343\046\227\072\237\322\137
\174\373\300\231\174\071\051\340\173\035\277\015\247\217\322\051
\064\156\044\025\313\336\220\136\277\032\304\146\352\302\346\272
\071\137\212\231\251\101\131\007\260\054\257

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Certainly Root R1"

Issuer: CN=Certainly Root R1,O=Certainly,C=US

Serial Number:00:8e:0f:f9:4b:90:71:68:65:33:54:f4:d4:44:39:b7:e0

Subject: CN=Certainly Root R1,O=Certainly,C=US

Not Valid Before: Thu Apr 01 00:00:00 2021

Not Valid After : Sun Apr 01 00:00:00 2046

Fingerprint (SHA-256):

77:B8:2C:D8:64:4C:43:05:F7:AC:C5:CB:15:6B:45:67:50:04:03:3D:51:C6:0C:62:02:A8:E0:C3:34:67:D3:A0

Fingerprint (SHA1): A0:50:EE:0F:28:71:F4:27:B2:12:6D:6F:50:96:25:BA:CC:86:42:AF

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certainly Root R1"

CKA_CERT_SHA1_HASH MULTILINE OCTAL

\240\120\356\017\050\161\364\047\262\022\155\157\120\226\045\272

\314\206\102\257

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\007\160\324\076\202\207\240\372\063\066\023\364\372\063\347\022

END

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\122\061

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\021\000\216\017\371\113\220\161\150\145\063\124\364\324\104

\071\267\340

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "Certainly Root E1"

#

Issuer: CN=Certainly Root E1,O=Certainly,C=US

Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8

Subject: CN=Certainly Root E1,O=Certainly,C=US

Not Valid Before: Thu Apr 01 00:00:00 2021

Not Valid After : Sun Apr 01 00:00:00 2046

Fingerprint (SHA-256):

B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2

Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "Certainly Root E1"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145

\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061

\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151

```
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_VALUE MULTILINE_OCTAL
\060\202\001\367\060\202\001\175\240\003\002\001\002\002\020\006
\045\063\261\107\003\063\047\134\371\215\232\271\277\314\370\060
\012\006\010\052\206\110\316\075\004\003\003\060\075\061\013\060
\011\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003
\125\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032
\060\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156
\154\171\040\122\157\157\164\040\105\061\060\036\027\015\062\061
\060\064\060\061\060\060\060\060\060\060\132\027\015\064\066\060
\064\060\061\060\060\060\060\060\132\060\075\061\013\060\011
\006\003\125\004\006\023\002\125\123\061\022\060\020\006\003\125
\004\012\023\011\103\145\162\164\141\151\156\154\171\061\032\060
\030\006\003\125\004\003\023\021\103\145\162\164\141\151\156\154
\171\040\122\157\157\164\040\105\061\060\166\060\020\006\007\052
\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142\000
\004\336\157\370\177\034\337\355\371\107\207\206\261\244\300\212
\370\202\227\200\352\217\310\112\136\052\175\210\150\247\001\142
\024\221\044\172\134\236\243\027\175\212\206\041\064\030\120\033
\020\336\320\067\113\046\307\031\140\200\351\064\275\140\031\066
\100\326\051\207\011\074\221\172\366\274\023\043\335\131\116\004
\136\317\310\002\034\030\123\301\061\330\332\040\351\104\215\344
\166\243\102\060\100\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\035\006\003\125\035\016\004\026\004
\024\363\050\030\313\144\165\356\051\052\353\355\256\043\130\070
\205\353\310\042\007\060\012\006\010\052\206\110\316\075\004\003
\003\003\150\000\060\145\002\061\000\261\216\132\040\303\262\031
\142\115\336\260\117\337\156\322\160\212\361\237\176\152\214\346
\272\336\203\151\312\151\263\251\005\265\226\222\027\207\302\322
\352\320\173\316\330\101\133\174\256\002\060\106\336\352\313\135
\232\354\062\302\145\026\260\114\060\134\060\363\332\116\163\206
\006\330\316\211\004\110\067\067\370\335\063\121\235\160\257\173
\125\330\001\056\175\005\144\016\206\270\221
END
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Certainly Root E1"
# Issuer: CN=Certainly Root E1,O=Certainly,C=US
# Serial Number:06:25:33:b1:47:03:33:27:5c:f9:8d:9a:b9:bf:cc:f8
```

```

# Subject: CN=Certainly Root E1,O=Certainly,C=US
# Not Valid Before: Thu Apr 01 00:00:00 2021
# Not Valid After : Sun Apr 01 00:00:00 2046
# Fingerprint (SHA-256):
B4:58:5F:22:E4:AC:75:6A:4E:86:12:A1:36:1C:5D:9D:03:1A:93:FD:84:FE:BB:77:8F:A3:06:8B:0F:C4:2D:C2
# Fingerprint (SHA1): F9:E1:6D:DC:01:89:CF:D5:82:45:63:3E:C5:37:7D:C2:EB:93:6F:2B
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Certainly Root E1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\371\341\155\334\001\211\317\325\202\105\143\076\305\067\175\302
\353\223\157\053
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\012\236\312\315\076\122\120\306\066\363\113\243\355\247\123\351
END
CKA_ISSUER MULTILINE_OCTAL
\060\075\061\013\060\011\006\003\125\004\006\023\002\125\123\061
\022\060\020\006\003\125\004\012\023\011\103\145\162\164\141\151
\156\154\171\061\032\060\030\006\003\125\004\003\023\021\103\145
\162\164\141\151\156\154\171\040\122\157\157\164\040\105\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\006\045\063\261\107\003\063\047\134\371\215\232\271\277
\314\370
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Global Root CA RSA v3"
#
# Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34
# Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:07:17 2020
# Not Valid After : Sun Mar 12 09:07:17 2045
# Fingerprint (SHA-256):
EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2
# Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE

```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\363\060\202\003\333\240\003\002\001\002\002\024\015
\115\305\315\026\042\225\226\010\176\270\013\177\025\006\064\373
\171\020\064\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040
\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\122
\123\101\040\166\063\060\036\027\015\062\060\060\063\061\070\060
\071\060\067\061\067\132\027\015\064\065\060\063\061\062\060\071
\060\067\061\067\132\060\201\200\061\013\060\011\006\003\125\004
\006\023\002\124\122\061\017\060\015\006\003\125\004\007\023\006
\101\156\153\141\162\141\061\031\060\027\006\003\125\004\012\023
\020\105\055\124\165\147\162\141\040\105\102\107\040\101\056\123
```

\056\061\035\060\033\006\003\125\004\013\023\024\105\055\124\165
\147\162\141\040\124\162\165\163\164\040\103\145\156\164\145\162
\061\046\060\044\006\003\125\004\003\023\035\105\055\124\165\147
\162\141\040\107\154\157\142\141\154\040\122\157\157\164\040\103
\101\040\122\123\101\040\166\063\060\202\002\042\060\015\006\011
\052\206\110\206\367\015\001\001\001\005\000\003\202\002\017\000
\060\202\002\012\002\202\002\001\000\242\146\360\211\267\162\173
\356\011\311\143\322\323\103\335\136\303\246\204\070\112\361\215
\201\273\024\275\107\350\100\027\363\075\303\170\105\162\246\056
\220\336\232\072\324\040\161\312\274\237\035\113\227\012\307\061
\272\076\327\376\045\251\052\216\066\364\321\057\307\267\251\135
\063\334\060\160\370\100\154\113\262\246\061\141\321\064\074\075
\061\172\307\257\304\247\247\204\341\227\244\350\113\366\027\174
\356\074\007\355\342\212\127\334\266\373\370\103\045\120\352\047
\201\250\206\274\217\122\112\226\072\140\032\226\273\375\163\364
\205\375\203\375\177\204\155\064\154\177\152\267\113\001\003\277
\255\151\267\327\062\331\365\127\152\351\206\202\076\245\146\061
\263\026\075\302\363\046\140\062\323\122\036\260\154\244\067\076
\364\365\257\353\341\337\200\006\317\052\101\347\146\011\341\113
\227\347\167\275\041\155\051\266\147\303\055\176\355\326\171\145
\321\317\072\266\321\261\136\126\141\120\172\132\316\116\120\061
\200\003\230\107\347\344\030\174\104\132\306\244\263\073\306\306
\303\072\360\154\303\213\310\244\221\005\363\365\331\266\252\006
\241\267\253\344\261\352\041\024\134\203\244\374\377\266\120\323
\214\022\046\231\166\160\351\300\017\246\164\374\273\320\033\170
\316\162\222\342\050\234\274\346\351\011\330\072\323\211\346\276
\056\167\337\001\012\157\226\366\345\215\074\115\122\166\032\126
\341\163\176\027\254\075\255\154\243\122\022\030\160\346\200\116
\063\362\176\046\062\254\005\215\070\244\346\166\074\237\020\151
\016\155\235\322\301\171\040\153\133\317\063\215\321\224\166\065
\347\135\125\307\267\254\050\253\106\314\347\073\041\265\012\012
\344\112\131\334\201\065\113\104\225\022\012\147\245\241\377\133
\000\007\322\300\314\371\077\374\237\063\362\000\370\214\154\207
\235\006\055\361\357\343\346\006\372\305\146\023\133\374\120\007
\236\161\206\262\332\157\164\060\317\223\123\350\334\042\326\336
\040\037\141\215\243\056\243\170\062\220\154\334\254\062\265\005
\344\365\074\063\015\326\340\207\167\027\114\235\260\330\011\250
\015\127\367\104\205\360\310\004\276\134\135\132\343\027\216\124
\143\151\177\111\164\144\005\214\243\002\003\001\000\001\243\143
\060\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024
\262\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123
\041\320\110\357\060\035\006\003\125\035\016\004\026\004\024\262
\264\256\346\055\367\046\325\252\165\055\166\113\300\033\123\041
\320\110\357\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001\013
\005\000\003\202\002\001\000\211\250\162\177\214\353\316\056\030
\304\020\200\055\020\014\377\373\024\315\004\340\024\074\116\232

\373\237\051\277\042\236\127\271\202\163\022\143\046\265\314\220
\351\322\052\051\356\234\055\314\054\231\276\105\047\344\261\161
\355\344\070\225\061\101\362\175\172\143\170\337\312\066\026\057
\202\210\237\274\021\107\117\166\115\310\055\216\353\337\055\174
\116\073\332\256\366\343\332\135\024\246\256\350\205\104\235\006
\156\216\373\357\172\112\152\055\053\050\030\376\277\220\054\165
\026\237\017\352\226\175\005\356\233\023\245\104\154\370\003\320
\335\043\341\375\003\022\022\010\364\030\064\263\340\067\013\167
\021\001\110\277\141\264\265\370\031\331\313\115\352\243\214\357
\375\360\006\265\155\222\364\112\141\120\204\355\354\111\323\344
\276\150\346\056\343\061\013\124\013\032\222\326\202\330\266\242
\145\074\146\004\371\125\332\154\373\333\265\024\146\115\224\203
\073\315\036\246\053\262\376\167\100\206\253\347\337\012\311\375
\366\335\207\126\030\330\260\054\125\140\226\372\010\176\122\220
\365\113\246\056\207\174\313\040\333\006\076\240\135\003\167\175
\242\074\023\033\051\242\023\125\240\075\024\042\257\157\270\320
\232\033\162\335\005\001\215\206\140\277\244\147\356\265\245\015
\321\177\346\032\053\142\146\303\007\272\347\240\110\034\070\303
\351\105\373\247\177\374\355\002\150\032\312\167\022\167\246\000
\125\050\024\354\326\307\022\242\033\145\102\351\221\350\313\076
\207\211\124\135\331\257\235\227\234\151\347\012\377\017\132\170
\213\143\052\114\175\107\224\077\336\113\351\123\320\060\361\305
\366\236\111\337\073\240\221\243\243\376\315\130\314\352\337\257
\157\050\073\240\151\233\217\354\254\256\053\124\235\233\004\261
\107\040\257\226\022\076\143\224\035\004\347\056\273\206\307\014
\232\210\277\166\107\357\367\260\013\227\146\322\104\317\140\122
\007\341\325\054\112\072\047\141\167\312\327\217\347\207\016\060
\377\014\273\004\342\141\303\242\310\227\141\216\264\060\152\074
\155\302\007\137\112\163\057\077\371\026\212\001\146\357\272\221
\312\122\127\173\256\324\346\017\335\013\172\177\213\236\046\040
\317\073\357\201\161\203\131

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA RSA v3"

Issuer: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

Serial Number:0d:4d:c5:cd:16:22:95:96:08:7e:b8:0b:7f:15:06:34:fb:79:10:34

Subject: CN=E-Tugra Global Root CA RSA v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR

Not Valid Before: Wed Mar 18 09:07:17 2020

Not Valid After : Sun Mar 12 09:07:17 2045

Fingerprint (SHA-256):

EF:66:B0:B1:0A:3C:DB:9F:2E:36:48:C7:6B:D2:AF:18:EA:D2:BF:E6:F1:17:65:5E:28:C4:06:0D:A1:A3:F4:C2

Fingerprint (SHA1): E9:A8:5D:22:14:52:1C:5B:AA:0A:B4:BE:24:6A:23:8A:C9:BA:E2:A9

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

```

CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA RSA v3"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\351\250\135\042\024\122\034\133\252\012\264\276\044\152\043\212
\311\272\342\251
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\042\276\020\366\302\370\003\210\163\137\063\051\107\050\107\244
END
CKA_ISSUER MULTILINE_OCTAL
\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\122\123\101
\040\166\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\015\115\305\315\026\042\225\226\010\176\270\013\177\025
\006\064\373\171\020\064
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "E-Tugra Global Root CA ECC v3"
#
# Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR
# Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1
# Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR
# Not Valid Before: Wed Mar 18 09:46:58 2020
# Not Valid After : Sun Mar 12 09:46:58 2045
# Fingerprint (SHA-256):
87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13
# Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

```

CKA_SUBJECT MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\245\060\202\002\052\240\003\002\001\002\002\024\046
\106\031\167\061\341\117\157\050\066\336\071\121\206\346\324\227
\210\042\301\060\012\006\010\052\206\110\316\075\004\003\003\060
\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122\061
\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162\141
\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165\147
\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033\006
\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124\162
\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006\003
\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154\157
\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103\040
\166\063\060\036\027\015\062\060\060\063\061\070\060\071\064\066
\065\070\132\027\015\064\065\060\063\061\062\060\071\064\066\065
\070\132\060\201\200\061\013\060\011\006\003\125\004\006\023\002
\124\122\061\017\060\015\006\003\125\004\007\023\006\101\156\153
\141\162\141\061\031\060\027\006\003\125\004\012\023\020\105\055
\124\165\147\162\141\040\105\102\107\040\101\056\123\056\061\035
\060\033\006\003\125\004\013\023\024\105\055\124\165\147\162\141
\040\124\162\165\163\164\040\103\145\156\164\145\162\061\046\060
\044\006\003\125\004\003\023\035\105\055\124\165\147\162\141\040

\107\154\157\142\141\154\040\122\157\157\164\040\103\101\040\105
\103\103\040\166\063\060\166\060\020\006\007\052\206\110\316\075
\002\001\006\005\053\201\004\000\042\003\142\000\004\216\230\051
\277\307\020\036\047\333\253\003\314\050\054\330\136\110\031\020
\051\314\313\131\201\314\214\270\222\027\211\203\052\222\366\303
\244\035\114\142\325\237\326\240\106\334\034\274\166\301\343\107
\320\133\023\332\347\245\263\146\110\347\041\232\112\117\206\012
\175\154\352\115\062\200\012\262\172\011\233\151\113\230\201\342
\056\354\002\160\226\037\375\365\106\316\312\334\202\243\143\060
\141\060\017\006\003\125\035\023\001\001\377\004\005\060\003\001
\001\377\060\037\006\003\125\035\043\004\030\060\026\200\024\377
\202\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245
\220\314\365\060\035\006\003\125\035\016\004\026\004\024\377\202
\061\162\076\371\304\146\154\255\070\236\321\260\121\210\245\220
\314\365\060\016\006\003\125\035\017\001\001\377\004\004\003\002
\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003\151
\000\060\146\002\061\000\346\005\130\151\141\345\055\312\015\313
\361\031\010\275\326\375\121\222\032\176\143\124\004\220\221\232
\065\221\071\231\372\007\251\146\223\272\310\150\324\212\077\372
\355\156\026\002\047\267\002\061\000\335\132\027\053\166\035\145
\102\226\246\254\135\212\171\126\330\212\033\337\232\336\137\307
\120\217\261\133\161\014\046\337\152\100\000\354\063\221\041\161
\276\150\344\043\244\331\255\241\067

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "E-Tugra Global Root CA ECC v3"

Issuer: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG A.S.,L=Ankara,C=TR

Serial Number:26:46:19:77:31:e1:4f:6f:28:36:de:39:51:86:e6:d4:97:88:22:c1

Subject: CN=E-Tugra Global Root CA ECC v3,OU=E-Tugra Trust Center,O=E-Tugra EBG
A.S.,L=Ankara,C=TR

Not Valid Before: Wed Mar 18 09:46:58 2020

Not Valid After : Sun Mar 12 09:46:58 2045

Fingerprint (SHA-256):

87:3F:46:85:FA:7F:56:36:25:25:2E:6D:36:BC:D7:F1:6F:C2:49:51:F2:64:E4:7E:1B:95:4F:49:08:CD:CA:13

Fingerprint (SHA1): 8A:2F:AF:57:53:B1:B0:E6:A1:04:EC:5B:6A:69:71:6D:F6:1C:E2:84

CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "E-Tugra Global Root CA ECC v3"

CKA_CERT_SHA1_HASH MULTILINE_OCTAL

\212\057\257\127\123\261\260\346\241\004\354\133\152\151\161\155
\366\034\342\204

END

CKA_CERT_MD5_HASH MULTILINE_OCTAL

\106\274\201\273\361\265\036\367\113\226\274\024\342\347\047\144

END

CKA_ISSUER MULTILINE_OCTAL

\060\201\200\061\013\060\011\006\003\125\004\006\023\002\124\122
\061\017\060\015\006\003\125\004\007\023\006\101\156\153\141\162
\141\061\031\060\027\006\003\125\004\012\023\020\105\055\124\165
\147\162\141\040\105\102\107\040\101\056\123\056\061\035\060\033
\006\003\125\004\013\023\024\105\055\124\165\147\162\141\040\124
\162\165\163\164\040\103\145\156\164\145\162\061\046\060\044\006
\003\125\004\003\023\035\105\055\124\165\147\162\141\040\107\154
\157\142\141\154\040\122\157\157\164\040\103\101\040\105\103\103
\040\166\063

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\046\106\031\167\061\341\117\157\050\066\336\071\121\206
\346\324\227\210\042\301

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR

CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST

CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DIGITALSIGN GLOBAL ROOT RSA CA"

#

Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87

Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT

Not Valid Before: Thu Jan 21 10:50:34 2021

Not Valid After : Mon Jan 15 10:50:34 2046

Fingerprint (SHA-256):

82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95

Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
\152\377\305\324\225\207

END

CKA_VALUE MULTILINE_OCTAL

\060\202\005\265\060\202\003\235\240\003\002\001\002\002\024\135
\131\310\312\253\011\127\365\346\265\332\051\224\004\152\377\305
\324\225\207\060\015\006\011\052\206\110\206\367\015\001\001\015
\005\000\060\142\061\013\060\011\006\003\125\004\006\023\002\120
\124\061\052\060\050\006\003\125\004\012\014\041\104\151\147\151
\164\141\154\123\151\147\156\040\103\145\162\164\151\146\151\143
\141\144\157\162\141\040\104\151\147\151\164\141\154\061\047\060
\045\006\003\125\004\003\014\036\104\111\107\111\124\101\114\123
\111\107\116\040\107\114\117\102\101\114\040\122\117\117\124\040
\122\123\101\040\103\101\060\036\027\015\062\061\060\061\062\061
\061\060\065\060\063\064\132\027\015\064\066\060\061\061\065\061
\060\065\060\063\064\132\060\142\061\013\060\011\006\003\125\004
\006\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041
\104\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164
\151\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141
\154\061\047\060\045\006\003\125\004\003\014\036\104\111\107\111
\124\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122
\117\117\124\040\122\123\101\040\103\101\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\310\207\266\070\323
\034\360\336\022\370\203\307\304\212\342\211\270\264\042\172\170
\370\014\146\121\150\166\067\012\325\117\302\132\010\270\026\134
\367\162\001\011\067\204\201\052\124\153\327\222\320\154\372\250
\247\103\022\064\353\016\333\067\017\051\376\212\061\121\102\350
\113\234\220\250\310\054\021\323\375\240\051\176\316\336\224\366
\202\340\130\264\116\105\045\361\042\362\075\323\017\173\124\032
\334\062\266\326\121\116\176\101\264\127\270\054\306\271\016\056
\312\127\361\325\310\323\130\347\245\351\102\021\256\323\040\045
\224\151\327\217\312\242\015\303\323\237\007\150\077\025\322\147
\056\123\375\166\202\233\013\163\251\051\015\236\021\223\024\010
\230\354\236\124\022\112\126\242\006\025\354\153\154\056\222\140
\056\206\015\256\202\037\121\115\343\262\007\327\020\031\127\042
\366\251\151\104\204\363\331\075\240\006\277\314\210\176\177\365

\316\133\245\302\052\152\164\102\352\157\246\377\371\150\261\320
\137\275\221\322\125\157\063\127\114\036\235\344\342\213\301\205
\145\240\340\152\234\000\000\210\222\335\130\010\026\362\160\061
\250\034\341\336\275\116\161\351\326\276\176\265\241\132\303\115
\367\277\233\275\224\244\375\365\252\123\223\106\311\046\001\004
\160\304\240\161\272\316\045\146\373\221\176\125\160\356\111\012
\115\142\177\302\120\232\162\362\030\147\235\351\105\250\064\204
\350\370\201\366\321\132\042\036\007\117\073\263\177\335\021\245
\163\334\276\251\031\072\151\251\155\033\062\342\211\252\245\047
\013\132\176\164\342\017\144\071\135\176\134\271\301\027\374\307
\215\136\311\354\044\355\322\362\077\172\204\105\067\002\276\076
\153\131\304\346\133\026\155\300\252\236\252\265\131\056\054\160
\125\234\314\231\226\230\044\124\321\216\332\312\264\021\264\267
\160\103\037\157\220\013\040\240\250\166\023\145\333\333\043\132
\165\113\241\013\061\167\012\356\175\150\141\032\023\214\352\121
\176\134\126\243\127\114\135\241\353\023\145\277\124\024\314\363
\356\334\327\354\074\227\362\170\126\270\337\162\134\160\374\316
\006\335\237\322\007\061\357\347\122\221\236\315\272\327\300\030
\104\007\061\145\111\062\151\023\112\353\217\002\003\001\000\001
\243\143\060\141\060\017\006\003\125\035\023\001\001\377\004\005
\060\003\001\001\377\060\037\006\003\125\035\043\004\030\060\026
\200\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024
\332\223\045\025\326\206\060\035\006\003\125\035\016\004\026\004
\024\265\066\274\074\214\032\253\054\366\131\031\055\203\024\332
\223\045\025\326\206\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001
\001\015\005\000\003\202\002\001\000\024\373\061\045\070\061\370
\312\010\262\043\166\070\255\370\323\131\365\314\264\127\045\341
\104\276\176\374\026\354\256\372\046\237\117\147\026\112\126\360
\375\355\307\031\001\064\216\220\132\055\326\200\134\354\161\322
\201\045\202\036\000\161\337\232\321\325\035\042\273\321\245\363
\142\017\264\353\334\044\163\376\246\126\315\232\024\305\004\065
\026\061\242\007\353\245\000\342\266\370\137\162\375\077\141\111
\216\336\176\115\070\327\172\036\164\067\154\121\334\276\000\004
\270\070\024\363\040\301\355\233\247\043\375\015\102\204\035\177
\362\163\303\320\170\143\361\237\354\327\133\351\361\276\154\240
\113\003\236\215\151\341\024\332\210\020\201\043\123\377\332\124
\053\013\306\271\226\225\004\030\106\363\173\250\227\330\133\150
\244\344\070\034\016\105\345\230\323\011\256\232\136\354\263\171
\015\071\162\362\364\224\235\016\236\140\042\346\250\366\114\205
\315\007\202\072\150\071\315\075\137\343\070\364\266\257\073\153
\112\237\140\121\105\242\100\002\345\252\014\343\076\321\170\324
\242\164\234\046\272\005\232\050\160\112\076\246\013\320\035\111
\360\272\370\256\101\020\176\244\007\022\275\250\317\051\075\127
\273\307\361\103\107\000\076\256\160\030\132\040\173\011\313\072
\072\160\200\345\114\140\230\301\025\301\035\112\367\310\360\233
\341\162\255\347\135\150\130\013\004\261\214\274\237\267\373\156
\213\133\004\125\373\353\043\125\327\170\120\332\045\313\276\047

```
\066\273\044\032\171\034\121\321\376\023\273\377\170\054\334\244
\276\057\366\305\113\123\317\247\114\231\136\160\254\131\210\004
\256\144\004\277\173\246\172\115\323\350\167\275\241\176\120\025
\363\357\111\060\205\115\041\127\252\333\054\165\227\255\201\001
\207\242\261\160\235\036\006\132\003\140\261\077\246\155\202\054
\324\024\261\201\245\350\075\210\035\264\162\054\130\067\212\216
\070\224\270\163\335\251\340\270\366\167\242\263\174\130\336\256
\151\072\265\213\245\032\273\362\330\164\006\234\375\142\163\040
\041\166\261\176\160\236\031\324\353\027\142\031\070\231\315\066
\053\107\376\061\313\337\271\344\254\010\323\330\246\353\324\236
\176\113\144\244\125\135\053\027\311
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRUST_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRUST_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "DIGITALSIGN GLOBAL ROOT RSA CA"
```

```
# Issuer: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Serial Number:5d:59:c8:ca:ab:09:57:f5:e6:b5:da:29:94:04:6a:ff:c5:d4:95:87
```

```
# Subject: CN=DIGITALSIGN GLOBAL ROOT RSA CA,O=DigitalSign Certificadora Digital,C=PT
```

```
# Not Valid Before: Thu Jan 21 10:50:34 2021
```

```
# Not Valid After : Mon Jan 15 10:50:34 2046
```

```
# Fingerprint (SHA-256):
```

```
82:BD:5D:85:1A:CF:7F:6E:1B:A7:BF:CB:C5:30:30:D0:E7:BC:3C:21:DF:77:2D:85:8C:AB:41:D1:99:BD:F5:95
```

```
# Fingerprint (SHA1): B9:82:07:97:AE:52:A5:68:6F:46:07:DF:FD:03:72:3D:92:86:88:2D
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT RSA CA"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\271\202\007\227\256\122\245\150\157\106\007\337\375\003\162\075
\222\206\210\055
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\033\032\275\032\171\306\333\264\355\263\207\314\251\323\116\170
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\142\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\047\060\045\006
\003\125\004\003\014\036\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\122\123
\101\040\103\101
```

END

```
CKA_SERIAL_NUMBER MULTILINE_OCTAL
```

```
\002\024\135\131\310\312\253\011\127\365\346\265\332\051\224\004
```

\152\377\305\324\225\207

END

CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#

Certificate "DIGITALSIGN GLOBAL ROOT ECDSA CA"

#

Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

Not Valid Before: Thu Jan 21 11:07:50 2021

Not Valid After : Mon Jan 15 11:07:50 2046

Fingerprint (SHA-256):

26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE

Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A

CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE

CKA_TOKEN CK_BBOOL CK_TRUE

CKA_PRIVATE CK_BBOOL CK_FALSE

CKA_MODIFIABLE CK_BBOOL CK_FALSE

CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"

CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509

CKA_SUBJECT MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101

END

CKA_ID UTF8 "0"

CKA_ISSUER MULTILINE_OCTAL

\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101

END

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\152\060\202\001\360\240\003\002\001\002\002\024\066
\055\217\162\210\242\050\047\344\000\377\044\306\055\344\353\372
\235\266\341\060\012\006\010\052\206\110\316\075\004\003\003\060
\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061\052
\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141\154
\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144\157
\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006\003
\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107\116
\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103\104
\123\101\040\103\101\060\036\027\015\064\066\060\061\061\065\061\061
\061\060\067\065\060\132\027\015\064\066\060\061\061\065\061\061
\060\067\065\060\132\060\144\061\013\060\011\006\003\125\004\006
\023\002\120\124\061\052\060\050\006\003\125\004\012\014\041\104
\151\147\151\164\141\154\123\151\147\156\040\103\145\162\164\151
\146\151\143\141\144\157\162\141\040\104\151\147\151\164\141\154
\061\051\060\047\006\003\125\004\003\014\040\104\111\107\111\124
\101\114\123\111\107\116\040\107\114\117\102\101\114\040\122\117
\117\124\040\105\103\104\123\101\040\103\101\060\166\060\020\006
\007\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003
\142\000\004\156\013\243\253\063\115\034\352\112\350\374\004\215
\024\240\175\360\010\054\137\203\253\223\321\322\173\272\327\111
\175\217\354\022\120\137\324\271\313\345\360\371\063\143\037\311
\127\354\100\330\021\013\227\350\122\026\314\051\216\364\006\206
\036\070\334\075\127\304\356\252\275\310\124\004\046\132\047\023
\121\107\075\037\037\032\216\250\225\244\063\320\314\107\314\155
\270\374\110\243\143\060\141\060\017\006\003\125\035\023\001\001
\377\004\005\060\003\001\001\377\060\037\006\003\125\035\043\004
\030\060\026\200\024\316\257\112\213\032\165\342\361\070\347\002
\360\026\255\136\352\144\325\173\264\060\035\006\003\125\035\016
\004\026\004\024\316\257\112\213\032\165\342\361\070\347\002\360
\026\255\136\352\144\325\173\264\060\016\006\003\125\035\017\001
\001\377\004\004\003\002\001\006\060\012\006\010\052\206\110\316
\075\004\003\003\003\150\000\060\145\002\060\012\210\304\161\234
\104\003\115\215\264\307\274\250\256\331\060\047\065\152\153\026
\143\327\374\347\131\341\247\211\033\114\061\232\043\125\104\346
\363\103\041\325\107\047\157\155\127\001\252\002\061\000\373\262
\352\342\227\177\121\265\237\110\353\274\157\065\211\250\144\160
\253\127\166\315\300\306\024\140\312\177\342\202\000\163\367\314
\065\352\216\044\233\345\010\131\307\004\214\163\170\376

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "DIGITALSIGN GLOBAL ROOT ECDSA CA"

Issuer: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

Serial Number:36:2d:8f:72:88:a2:28:27:e4:00:ff:24:c6:2d:e4:eb:fa:9d:b6:e1

Subject: CN=DIGITALSIGN GLOBAL ROOT ECDSA CA,O=DigitalSign Certificadora Digital,C=PT

```

# Not Valid Before: Thu Jan 21 11:07:50 2021
# Not Valid After : Mon Jan 15 11:07:50 2046
# Fingerprint (SHA-256):
26:1D:71:14:AE:5F:8F:F2:D8:C7:20:9A:9D:E4:28:9E:6A:FC:9D:71:70:23:D8:54:50:90:91:99:F1:85:7C:FE
# Fingerprint (SHA1): 67:A8:08:EB:8F:88:F5:80:6C:05:45:1B:17:F3:D7:00:2F:D2:4A:8A
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "DIGITALSIGN GLOBAL ROOT ECDSA CA"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\147\250\010\353\217\210\365\200\154\005\105\033\027\363\327\000
\057\322\112\212
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\252\055\241\316\377\041\302\210\313\132\036\214\341\311\222\217
END
CKA_ISSUER MULTILINE_OCTAL
\060\144\061\013\060\011\006\003\125\004\006\023\002\120\124\061
\052\060\050\006\003\125\004\012\014\041\104\151\147\151\164\141
\154\123\151\147\156\040\103\145\162\164\151\146\151\143\141\144
\157\162\141\040\104\151\147\151\164\141\154\061\051\060\047\006
\003\125\004\003\014\040\104\111\107\111\124\101\114\123\111\107
\116\040\107\114\117\102\101\114\040\122\117\117\124\040\105\103
\104\123\101\040\103\101
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\024\066\055\217\162\210\242\050\047\344\000\377\044\306\055
\344\353\372\235\266\341
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication RootCA3"
#
# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 06:17:16 2016
# Not Valid After : Mon Jan 18 06:17:16 2038
# Fingerprint (SHA-256):
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE

```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication RootCA3"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\177\060\202\003\147\240\003\002\001\002\002\011\000
\341\174\067\100\375\033\376\147\060\015\006\011\052\206\110\206
\367\015\001\001\014\005\000\060\135\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060
\045\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122
\157\157\164\103\101\063\060\036\027\015\061\066\060\066\061\066
\060\066\061\067\061\066\132\027\015\063\070\060\061\061\070\060
\066\061\067\061\066\132\060\135\061\013\060\011\006\003\125\004
\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023\034
\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163\164
\145\155\163\040\103\117\056\054\114\124\104\056\061\047\060\045
\006\003\125\004\003\023\036\123\145\143\165\162\151\164\171\040
\103\157\155\155\165\156\151\143\141\164\151\157\156\040\122\157
\157\164\103\101\063\060\202\002\042\060\015\006\011\052\206\110
\206\367\015\001\001\001\005\000\003\202\002\017\000\060\202\002
\012\002\202\002\001\000\343\311\162\111\367\060\336\011\174\251
\100\201\130\323\264\072\335\272\141\017\223\120\156\151\074\065
\302\356\133\163\220\033\147\114\041\354\137\065\273\071\076\053
\012\140\357\273\155\053\206\373\161\242\310\254\344\126\224\371
\311\257\261\162\324\040\254\164\322\270\025\255\121\376\205\164
```

\241\271\020\376\005\200\371\122\223\263\100\075\165\020\254\300
\226\267\247\176\166\274\343\033\122\031\316\021\037\013\004\064
\365\330\365\151\074\167\363\144\364\015\252\205\336\340\011\120
\004\027\226\204\267\310\212\274\115\162\374\034\273\317\363\006
\115\371\237\144\367\176\246\146\206\065\161\310\021\200\114\301
\161\100\130\036\276\240\163\366\374\076\120\341\340\057\046\075
\176\134\043\265\171\160\336\372\340\321\245\326\014\101\161\173
\367\352\214\034\210\307\354\213\365\321\057\125\226\106\174\132
\073\130\073\373\272\330\055\265\045\332\172\116\317\104\256\041
\246\236\230\312\040\156\174\273\210\205\133\373\300\020\142\273
\362\371\047\107\357\321\211\071\103\304\337\336\341\101\277\124
\163\040\227\055\154\332\363\324\007\243\346\271\330\157\256\374
\214\031\056\323\147\147\053\225\333\130\134\265\152\002\363\270
\203\136\264\153\276\101\176\127\011\165\104\120\125\315\132\021
\141\041\012\141\302\251\210\375\023\274\055\211\057\315\141\340
\225\276\312\265\173\341\173\064\147\013\037\266\014\307\174\036
\031\123\312\247\261\112\025\040\126\024\160\075\053\202\054\017
\235\025\035\107\200\107\377\170\231\016\061\257\157\076\217\355
\206\151\036\173\030\210\024\262\302\374\202\063\056\234\113\055
\373\160\073\161\252\053\173\046\047\363\032\302\334\373\027\270
\241\352\313\240\264\256\323\224\176\172\320\253\303\354\070\055
\021\056\210\277\324\077\255\022\073\102\254\217\002\156\175\314
\321\137\141\276\241\274\072\152\110\352\046\125\042\026\135\137
\015\377\047\063\237\030\003\164\212\133\122\040\107\153\105\115
\042\167\214\125\047\360\257\036\214\311\203\042\124\267\232\320
\117\331\316\374\331\056\034\226\050\261\002\323\003\275\045\122
\034\064\146\117\043\253\364\167\202\226\035\321\127\060\010\021
\005\375\127\321\331\307\002\003\001\000\001\243\102\060\100\060
\035\006\003\125\035\016\004\026\004\024\144\024\174\374\130\162
\026\246\012\051\064\025\157\052\313\274\374\257\250\253\060\016
\006\003\125\035\017\001\001\377\004\004\003\002\001\006\060\017
\006\003\125\035\023\001\001\377\004\005\060\003\001\001\377\060
\015\006\011\052\206\110\206\367\015\001\001\014\005\000\003\202
\002\001\000\334\002\043\010\342\357\041\072\307\015\267\046\322
\142\223\247\245\043\162\007\040\202\140\337\030\327\124\255\151
\045\222\236\331\024\317\231\271\122\201\317\256\154\212\073\132
\071\310\154\001\103\302\042\155\002\360\142\315\116\143\103\300
\024\332\364\143\360\352\364\161\356\116\207\343\161\251\364\311
\127\345\056\137\034\171\273\043\252\207\104\127\351\275\065\115
\101\273\113\050\243\230\262\033\331\013\027\007\345\367\352\235
\365\166\327\277\304\266\201\130\377\310\377\144\151\142\171\255
\156\016\037\177\356\035\151\345\267\162\161\263\376\245\001\065
\224\124\053\300\122\155\217\125\304\311\322\270\313\312\064\010
\121\205\240\365\274\264\027\130\352\012\134\172\275\143\306\072
\057\377\226\111\031\204\352\147\330\004\261\141\364\000\133\112
\267\234\161\067\031\205\171\277\201\260\307\023\016\166\161\076
\072\200\006\256\006\026\247\215\265\302\304\313\377\100\245\134
\215\245\311\072\355\162\201\312\134\230\074\322\064\003\167\010

```
\375\360\051\131\135\041\010\307\140\277\244\161\173\270\331\036
\202\276\011\257\145\157\050\253\277\113\265\356\076\010\107\047
\240\017\157\017\213\077\254\225\030\363\271\016\334\147\125\156
\142\236\106\016\321\004\170\312\162\256\166\331\245\370\262\337
\210\011\141\213\357\044\116\321\131\077\132\324\075\311\223\074
\053\144\365\201\015\026\226\367\222\303\376\061\157\350\052\062
\164\016\364\114\230\112\030\016\060\124\325\305\353\274\305\025
\236\350\231\041\353\047\053\011\012\333\361\346\160\030\126\273
\014\344\276\371\350\020\244\023\222\270\034\340\333\147\035\123
\003\244\042\247\334\135\222\020\074\352\377\374\033\020\032\303
\330\320\234\235\145\313\320\053\047\061\003\036\066\341\075\166
\165\014\377\105\046\271\335\121\274\043\307\137\330\330\207\020
\100\022\015\075\070\067\347\104\074\030\300\123\011\144\217\377
\325\232\246\174\160\056\163\125\041\350\337\377\203\271\035\076
\062\036\326\246\175\054\361\146\351\134\035\247\243\316\136\045
\062\053\343\225\254\052\007\316\264\050\170\206\074\055\246\235
\115\322\164\060\335\144\121\025\333\203\203\121\327\257\375\063
\235\115\146
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "Security Communication RootCA3"
```

```
# Issuer: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Serial Number:00:e1:7c:37:40:fd:1b:fe:67
```

```
# Subject: CN=Security Communication RootCA3,O="SECOM Trust Systems CO.,LTD.",C=JP
```

```
# Not Valid Before: Thu Jun 16 06:17:16 2016
```

```
# Not Valid After : Mon Jan 18 06:17:16 2038
```

```
# Fingerprint (SHA-256):
```

```
24:A5:5C:2A:B0:51:44:2D:06:17:76:65:41:23:9A:4A:D0:32:D7:C5:51:75:AA:34:FF:DE:2F:BC:4F:5C:52:94
```

```
# Fingerprint (SHA1): C3:03:C8:22:74:92:E5:61:A2:9C:5F:79:91:2B:1E:44:13:91:30:3A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "Security Communication RootCA3"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\303\003\310\042\164\222\345\141\242\234\137\171\221\053\036\104
\023\221\060\072
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\034\232\026\377\236\134\340\115\212\024\001\364\065\135\051\046
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\135\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
```

```

\056\054\114\124\104\056\061\047\060\045\006\003\125\004\003\023
\036\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\122\157\157\164\103\101\063
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\341\174\067\100\375\033\376\147
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "Security Communication ECC RootCA1"
#
# Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Serial Number:00:d6:5d:9b:b3:78:81:2e:eb
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After : Mon Jan 18 05:15:28 2038
# Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END

```

CKA_SERIAL_NUMBER MULTILINE_OCTAL

\002\011\000\326\135\233\263\170\201\056\353

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\070\060\202\001\276\240\003\002\001\002\002\011\000
\326\135\233\263\170\201\056\353\060\012\006\010\052\206\110\316
\075\004\003\003\060\141\061\013\060\011\006\003\125\004\006\023
\002\112\120\061\045\060\043\006\003\125\004\012\023\034\123\105
\103\117\115\040\124\162\165\163\164\040\123\171\163\164\145\155
\163\040\103\117\056\054\114\124\104\056\061\053\060\051\006\003
\125\004\003\023\042\123\145\143\165\162\151\164\171\040\103\157
\155\155\165\156\151\143\141\164\151\157\156\040\105\103\103\040
\122\157\157\164\103\101\061\060\036\027\015\061\066\060\066\061
\066\060\065\061\065\062\070\132\027\015\063\070\060\061\061\070
\060\065\061\065\062\070\132\060\141\061\013\060\011\006\003\125
\004\006\023\002\112\120\061\045\060\043\006\003\125\004\012\023
\034\123\105\103\117\115\040\124\162\165\163\164\040\123\171\163
\164\145\155\163\040\103\117\056\054\114\124\104\056\061\053\060
\051\006\003\125\004\003\023\042\123\145\143\165\162\151\164\171
\040\103\157\155\155\165\156\151\143\141\164\151\157\156\040\105
\103\103\040\122\157\157\164\103\101\061\060\166\060\020\006\007
\052\206\110\316\075\002\001\006\005\053\201\004\000\042\003\142
\000\004\244\245\157\140\003\003\303\275\061\364\323\027\234\053
\204\165\254\345\375\075\127\156\327\143\277\346\004\211\222\216
\201\234\343\351\107\156\312\220\022\310\023\340\247\235\367\145
\164\037\154\020\262\350\344\351\357\155\205\062\231\104\261\136
\375\314\166\020\330\133\275\242\306\371\326\102\344\127\166\334
\220\302\065\251\113\210\074\022\107\155\134\377\111\117\032\112
\120\261\243\102\060\100\060\035\006\003\125\035\016\004\026\004
\024\206\034\347\376\055\245\112\213\010\376\050\021\372\276\243
\146\370\140\131\057\060\016\006\003\125\035\017\001\001\377\004
\004\003\002\001\006\060\017\006\003\125\035\023\001\001\377\004
\005\060\003\001\001\377\060\012\006\010\052\206\110\316\075\004
\003\003\003\150\000\060\145\002\060\025\135\102\075\374\266\356
\367\073\261\066\350\236\366\304\106\050\111\063\320\130\103\052
\143\051\314\115\261\264\172\242\271\015\070\245\135\110\052\375
\313\262\163\135\243\210\010\307\014\002\061\000\300\253\055\016
\155\355\030\242\333\123\351\045\333\125\010\340\120\314\337\104
\141\026\202\253\111\260\262\201\354\163\207\170\264\114\262\142
\033\022\372\026\115\045\113\143\275\036\067\331

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "Security Communication ECC RootCA1"

Issuer: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP

Serial Number:00:d6:5d:9b:b3:78:81:2e:eb

```
# Subject: CN=Security Communication ECC RootCA1,O="SECOM Trust Systems CO.,LTD.",C=JP
# Not Valid Before: Thu Jun 16 05:15:28 2016
# Not Valid After : Mon Jan 18 05:15:28 2038
# Fingerprint (SHA-256):
E7:4F:BD:A5:5B:D5:64:C4:73:A3:6B:44:1A:A7:99:C8:A6:8E:07:74:40:E8:28:8B:9F:A1:E5:0E:4B:BA:CA:11
# Fingerprint (SHA1): B8:0E:26:A9:BF:D2:B2:3B:C0:EF:46:C9:BA:C7:BB:F6:1D:0D:41:41
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "Security Communication ECC RootCA1"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\270\016\046\251\277\322\262\073\300\357\106\311\272\307\273\366
\035\015\101\101
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\176\103\260\222\150\354\005\103\114\230\253\135\065\056\176\206
END
CKA_ISSUER MULTILINE_OCTAL
\060\141\061\013\060\011\006\003\125\004\006\023\002\112\120\061
\045\060\043\006\003\125\004\012\023\034\123\105\103\117\115\040
\124\162\165\163\164\040\123\171\163\164\145\155\163\040\103\117
\056\054\114\124\104\056\061\053\060\051\006\003\125\004\003\023
\042\123\145\143\165\162\151\164\171\040\103\157\155\155\165\156
\151\143\141\164\151\157\156\040\105\103\103\040\122\157\157\164
\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\011\000\326\135\233\263\170\201\056\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA1"
#
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:16:17 2019
# Not Valid After : Mon Dec 12 03:16:17 2044
# Fingerprint (SHA-256):
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA1"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_VALUE MULTILINE_OCTAL
\060\202\005\164\060\202\003\134\240\003\002\001\002\002\020\125
\157\145\343\264\331\220\152\033\011\321\154\076\300\154\040\060
\015\006\011\052\206\110\206\367\015\001\001\013\005\000\060\124
\061\013\060\011\006\003\125\004\006\023\002\103\116\061\046\060
\044\006\003\125\004\012\014\035\102\105\111\112\111\116\107\040
\103\105\122\124\111\106\111\103\101\124\105\040\101\125\124\110
\117\122\111\124\131\061\035\060\033\006\003\125\004\003\014\024
\102\112\103\101\040\107\154\157\142\141\154\040\122\157\157\164
\040\103\101\061\060\036\027\015\061\071\061\062\061\071\060\063
\061\066\061\067\132\027\015\064\064\061\062\061\062\060\063\061
\066\061\067\132\060\124\061\013\060\011\006\003\125\004\006\023
\002\103\116\061\046\060\044\006\003\125\004\012\014\035\102\105
\111\112\111\116\107\040\103\105\122\124\111\106\111\103\101\124
\105\040\101\125\124\110\117\122\111\124\131\061\035\060\033\006
\003\125\004\003\014\024\102\112\103\101\040\107\154\157\142\141
\154\040\122\157\157\164\040\103\101\061\060\202\002\042\060\015
\006\011\052\206\110\206\367\015\001\001\001\005\000\003\202\002
\017\000\060\202\002\012\002\202\002\001\000\361\146\010\275\331
\305\025\141\313\204\004\101\245\151\067\167\035\301\260\173\372
\303\167\110\220\023\162\144\321\270\174\220\065\235\030\171\210
\343\227\001\074\107\201\362\016\242\230\015\236\077\067\340\031
\262\220\362\106\034\222\261\072\141\316\372\267\106\236\003\206
```

\327\063\156\355\367\105\214\166\067\336\156\226\221\367\327\176
\053\207\027\325\213\065\356\204\221\162\127\334\140\303\303\271
\347\307\147\044\043\117\143\012\143\366\146\175\113\125\247\077
\170\144\111\151\022\227\340\114\015\323\011\240\062\060\072\372
\237\300\362\234\305\022\052\056\034\265\004\063\332\244\070\021
\152\336\306\030\366\107\072\042\101\207\042\374\304\211\050\124
\330\214\245\060\012\370\027\026\312\254\067\375\171\247\221\027
\170\070\231\255\130\355\262\336\314\211\175\003\234\263\211\145
\347\343\073\261\042\206\217\006\155\170\007\375\221\022\177\260
\153\034\211\015\371\270\313\164\133\007\302\310\364\065\321\144
\143\172\351\156\232\050\326\060\275\346\033\335\025\257\204\352
\234\307\312\365\016\352\362\135\051\207\217\151\163\071\276\056
\044\157\105\041\254\305\324\151\045\006\203\255\172\110\205\023
\054\015\006\270\154\171\126\374\243\147\062\201\365\127\245\312
\127\102\151\351\134\044\141\357\342\060\030\116\104\230\125\157
\172\302\223\330\031\266\336\174\107\212\021\116\111\107\333\050
\224\002\013\224\112\054\371\022\320\117\350\061\176\154\172\277
\246\077\233\071\075\002\026\243\030\263\147\254\133\077\054\203
\053\147\071\201\134\271\176\224\325\144\335\236\217\156\256\350
\174\133\264\327\152\107\110\327\176\263\324\055\216\126\166\116
\317\151\361\156\104\154\324\044\352\215\044\241\030\277\275\127
\376\251\231\065\265\333\020\167\270\075\110\272\326\301\347\361
\043\076\327\337\205\235\047\074\324\100\275\012\014\275\365\347
\215\045\326\201\164\207\106\324\051\165\242\102\154\367\163\211
\347\175\277\172\112\037\323\042\311\025\125\317\337\157\174\125
\320\244\213\007\021\067\137\203\246\046\127\246\001\133\176\376
\130\150\007\251\351\172\331\271\350\377\120\037\253\302\264\300
\316\350\352\375\017\275\215\115\270\274\161\002\003\001\000\001
\243\102\060\100\060\035\006\003\125\035\016\004\026\004\024\305
\357\355\314\330\215\041\306\110\344\343\327\024\056\247\026\223
\345\230\001\060\017\006\003\125\035\023\001\001\377\004\005\060
\003\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004
\003\002\001\006\060\015\006\011\052\206\110\206\367\015\001\001
\013\005\000\003\202\002\001\000\122\202\254\041\064\037\043\362
\242\330\371\270\257\067\066\040\211\321\067\003\326\151\237\270
\141\020\272\242\061\230\131\107\350\321\015\045\036\025\101\014
\340\052\125\325\127\122\313\370\344\307\151\243\035\115\161\002
\136\137\041\105\140\110\134\011\216\111\020\301\004\334\251\142
\153\002\360\103\310\116\235\070\111\164\311\062\160\124\155\301
\107\374\216\264\066\236\324\234\275\335\040\326\123\311\030\251
\265\126\271\166\213\225\147\146\356\275\230\376\256\357\276\156
\373\140\366\375\131\306\052\033\077\043\112\224\044\060\047\310
\211\274\353\104\044\232\313\075\276\117\325\172\316\216\027\313
\142\301\331\336\036\016\172\377\103\206\064\122\274\141\077\074
\137\273\331\166\264\123\274\227\263\376\212\114\022\056\053\363
\327\316\341\242\377\335\173\160\373\073\241\115\244\143\002\375
\070\227\225\077\005\160\240\153\337\142\201\103\213\264\131\015
\112\214\124\234\305\273\201\237\315\175\245\357\013\045\036\072

```
\040\333\034\374\037\230\147\002\012\324\163\104\023\333\121\204
\032\125\003\126\340\000\176\164\006\377\070\304\162\035\323\250
\077\150\061\135\323\011\307\056\214\133\143\340\350\334\036\322
\354\141\036\362\336\345\357\366\231\166\140\055\036\224\162\161
\306\013\052\062\307\222\116\325\106\327\035\371\251\031\012\310
\372\225\316\155\043\230\252\013\070\255\232\126\015\157\215\361
\061\000\210\301\027\234\315\031\066\065\376\125\123\240\340\074
\063\137\226\136\342\062\351\337\063\273\006\112\251\330\204\163
\316\167\322\306\254\161\341\134\243\035\014\273\012\337\137\342
\243\161\330\332\067\132\240\170\053\364\324\175\353\166\355\362
\141\160\245\145\232\323\211\064\030\253\373\162\076\327\264\075
\171\134\330\037\241\063\173\331\202\120\014\223\027\252\154\334
\302\202\273\002\127\066\257\230\047\052\071\120\341\260\211\365
\045\227\176\107\150\020\264\354\163\312\263\227\321\044\334\366
\142\240\050\323\265\243\270\144\267\210\142\102\317\235\123\315
\231\276\144\150\217\117\036\022\110\367\322\051\303\230\050\312
\362\062\013\223\214\051\117\074\140\062\315\005\226\141\354\362
\257\376\263\160\054\056\246\362
```

END

```
CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE
CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE
CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE
```

```
# Trust for "BJCA Global Root CA1"
```

```
# Issuer: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
```

```
# Serial Number:55:6f:65:e3:b4:d9:90:6a:1b:09:d1:6c:3e:c0:6c:20
```

```
# Subject: CN=BJCA Global Root CA1,O=BEIJING CERTIFICATE AUTHORITY,C=CN
```

```
# Not Valid Before: Thu Dec 19 03:16:17 2019
```

```
# Not Valid After : Mon Dec 12 03:16:17 2044
```

```
# Fingerprint (SHA-256):
```

```
F3:89:6F:88:FE:7C:0A:88:27:66:A7:FA:6A:D2:74:9F:B5:7A:7F:3E:98:FB:76:9C:1F:A7:B0:9C:2C:44:D5:AE
```

```
# Fingerprint (SHA1): D5:EC:8D:7B:4C:BA:79:F4:E7:E8:CB:9D:6B:AE:77:83:10:03:21:6A
```

```
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
```

```
CKA_TOKEN CK_BBOOL CK_TRUE
```

```
CKA_PRIVATE CK_BBOOL CK_FALSE
```

```
CKA_MODIFIABLE CK_BBOOL CK_FALSE
```

```
CKA_LABEL UTF8 "BJCA Global Root CA1"
```

```
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
```

```
\325\354\215\173\114\272\171\364\347\350\313\235\153\256\167\203
\020\003\041\152
```

END

```
CKA_CERT_MD5_HASH MULTILINE_OCTAL
```

```
\102\062\231\166\103\063\066\044\065\007\202\233\050\371\320\220
```

END

```
CKA_ISSUER MULTILINE_OCTAL
```

```
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
```

```

\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\061
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\125\157\145\343\264\331\220\152\033\011\321\154\076\300
\154\040
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE

#
# Certificate "BJCA Global Root CA2"
#
# Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb
# Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN
# Not Valid Before: Thu Dec 19 03:18:21 2019
# Not Valid After : Mon Dec 12 03:18:21 2044
# Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_CERTIFICATE
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERTIFICATE_TYPE CK_CERTIFICATE_TYPE CKC_X_509
CKA_SUBJECT MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_ID UTF8 "0"
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL

```

\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353

END

CKA_VALUE MULTILINE_OCTAL

\060\202\002\045\060\202\001\253\240\003\002\001\002\002\020\054
\027\010\175\144\052\300\376\205\030\131\006\317\264\112\353\060
\012\006\010\052\206\110\316\075\004\003\003\060\124\061\013\060
\011\006\003\125\004\006\023\002\103\116\061\046\060\044\006\003
\125\004\012\014\035\102\105\111\112\111\116\107\040\103\105\122
\124\111\106\111\103\101\124\105\040\101\125\124\110\117\122\111
\124\131\061\035\060\033\006\003\125\004\003\014\024\102\112\103
\101\040\107\154\157\142\141\154\040\122\157\157\164\040\103\101
\062\060\036\027\015\061\071\061\062\061\071\060\063\061\070\062
\061\132\027\015\064\064\061\062\061\062\060\063\061\070\062\061
\132\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116
\061\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111
\116\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101
\125\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004
\003\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122
\157\157\164\040\103\101\062\060\166\060\020\006\007\052\206\110
\316\075\002\001\006\005\053\201\004\000\042\003\142\000\004\235
\313\200\221\215\123\147\265\271\120\261\003\370\345\111\037\101
\042\011\260\121\122\130\326\053\064\217\305\022\106\024\305\213
\057\054\204\377\054\156\250\325\361\011\343\003\041\024\304\103
\075\174\301\054\304\113\152\112\315\351\207\340\175\366\042\276
\372\112\121\270\060\212\375\341\336\030\022\012\366\107\267\347
\027\277\047\212\324\101\114\226\074\140\226\301\375\025\034\243
\102\060\100\060\035\006\003\125\035\016\004\026\004\024\322\112
\261\121\177\006\360\321\202\037\116\156\137\253\203\374\110\324
\260\221\060\017\006\003\125\035\023\001\001\377\004\005\060\003
\001\001\377\060\016\006\003\125\035\017\001\001\377\004\004\003
\002\001\006\060\012\006\010\052\206\110\316\075\004\003\003\003
\150\000\060\145\002\060\032\274\133\327\376\251\322\124\016\112
\135\322\155\261\100\334\364\103\325\322\112\231\031\022\126\200
\367\203\064\341\065\116\110\155\004\017\127\061\060\060\055\261
\252\235\003\070\333\006\002\061\000\313\314\207\123\313\172\337
\040\121\163\220\300\250\133\141\320\305\120\071\375\205\376\301
\343\170\370\246\326\113\275\233\207\217\017\345\326\123\226\253
\074\310\100\332\141\367\123\243\367

END

CKA_NSS_MOZILLA_CA_POLICY CK_BBOOL CK_TRUE

CKA_NSS_SERVER_DISTRICT_AFTER CK_BBOOL CK_FALSE

CKA_NSS_EMAIL_DISTRICT_AFTER CK_BBOOL CK_FALSE

Trust for "BJCA Global Root CA2"

Issuer: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

Serial Number:2c:17:08:7d:64:2a:c0:fe:85:18:59:06:cf:b4:4a:eb

Subject: CN=BJCA Global Root CA2,O=BEIJING CERTIFICATE AUTHORITY,C=CN

```
# Not Valid Before: Thu Dec 19 03:18:21 2019
# Not Valid After : Mon Dec 12 03:18:21 2044
# Fingerprint (SHA-256):
57:4D:F6:93:1E:27:80:39:66:7B:72:0A:FD:C1:60:0F:C2:7E:B6:6D:D3:09:29:79:FB:73:85:64:87:21:28:82
# Fingerprint (SHA1): F4:27:86:EB:6E:B8:6D:88:31:67:02:FB:BA:66:A4:53:00:AA:7A:A6
CKA_CLASS CK_OBJECT_CLASS CKO_NSS_TRUST
CKA_TOKEN CK_BBOOL CK_TRUE
CKA_PRIVATE CK_BBOOL CK_FALSE
CKA_MODIFIABLE CK_BBOOL CK_FALSE
CKA_LABEL UTF8 "BJCA Global Root CA2"
CKA_CERT_SHA1_HASH MULTILINE_OCTAL
\364\047\206\353\156\270\155\210\061\147\002\373\272\146\244\123
\000\252\172\246
END
CKA_CERT_MD5_HASH MULTILINE_OCTAL
\136\012\366\107\137\246\024\350\021\001\225\077\115\001\353\074
END
CKA_ISSUER MULTILINE_OCTAL
\060\124\061\013\060\011\006\003\125\004\006\023\002\103\116\061
\046\060\044\006\003\125\004\012\014\035\102\105\111\112\111\116
\107\040\103\105\122\124\111\106\111\103\101\124\105\040\101\125
\124\110\117\122\111\124\131\061\035\060\033\006\003\125\004\003
\014\024\102\112\103\101\040\107\154\157\142\141\154\040\122\157
\157\164\040\103\101\062
END
CKA_SERIAL_NUMBER MULTILINE_OCTAL
\002\020\054\027\010\175\144\052\300\376\205\030\131\006\317\264
\112\353
END
CKA_TRUST_SERVER_AUTH CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_EMAIL_PROTECTION CK_TRUST CKT_NSS_TRUSTED_DELEGATOR
CKA_TRUST_CODE_SIGNING CK_TRUST CKT_NSS_MUST_VERIFY_TRUST
CKA_TRUST_STEP_UP_APPROVED CK_BBOOL CK_FALSE
```

Found in path(s):

```
* /opt/cola/permits/1679450782_1685340861.071418/0/ca-certificates-20230506-tar-bz2/ca-certificates-20230506/certdata.txt
```

1.104 ucf 3.0043

1.104.1 Available under license :

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```

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```
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```

```
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Java8Compatibility.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingCondition.java
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Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AtomicLongMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Present.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListeningScheduledExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/UnsignedInts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/RemovalListeners.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Hashing.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/CacheStats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/MathPreconditions.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/FutureCallback.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/AbstractCompositeHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AsyncFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/DoubleMath.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Funnels.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EmptyContiguousSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Hasher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/WrappingExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/hash/BloomFilter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/CacheBuilderSpec.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Murmur3_32HashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/HashCode.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/TypeParameter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/UnsignedLongs.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/DoubleUtils.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/MediaType.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Optional.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/HashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/RemovalListener.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/LongMath.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Murmur3_128HashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractScheduledService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/UnsignedLong.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Funnel.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingListeningExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/base/FunctionalEquivalence.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularContiguousSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/AbstractNonStreamingHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/BigIntegerMath.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ExecutionError.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/LoadingCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractListeningExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/CycleDetectingLockFactory.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/UncheckedExecutionException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/TreeRangeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/DescendingImmutableSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/net/HttpHeaders.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/HashingOutputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/BoundType.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/AbstractLoadingCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/PrimitiveSink.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/ParseRequest.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Queues.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/AbstractStreamingHasher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Absent.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/Weigher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/Crc32cHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/AbstractHasher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Uninterruptibles.java
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jar/com/google/common/collect/BaseImmutableMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/IndexedImmutableSet.java

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/**

* Holder for web specializations of methods of { @code Shorts }. Intended to be empty for regular

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*/

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jar/com/google/common/primitives/ShortsMethodsForWeb.java

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jar/com/google/common/collect/ForwardingSetMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractSequentialIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/collect/SortedMapDifference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingSortedSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RowSortedTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/UnmodifiableListIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingImmutableCollection.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MinMaxPriorityQueue.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/Quantiles.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberRegistry.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/Dispatcher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/MoreObjects.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/TrustedListenableFutureTask.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenerCallQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/Subscriber.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Strings.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ThreadFactoryBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Atomics.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedLists.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Monitor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Ascii.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/annotations/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListeningExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ContiguousSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/annotations/Beta.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Equivalence.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/UncaughtExceptionHandler.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/package-info.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Runnables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberExceptionContext.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/TypeVisitor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/HashingInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/WrappingScheduledExecutorService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CharSequenceReader.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Utf8.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/VerifyException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/thirdparty/publicsuffix/PublicSuffixType.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/SubscriberExceptionHandler.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Verify.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FilteredMultimapValues.java
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*/
/**
* Holder for extra methods of { @code Objects } only in web. Intended to be empty for regular
* version.
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/ExtraObjectsMethodsForWeb.java
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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/AbstractValueGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/MapRetrievalCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/DirectedNetworkConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/ForwardingNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashMultimapGwtSerializationDependencies.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/UndirectedGraphConnections.java
```

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Comparators.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EdgesConnecting.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/NetworkBuilder.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableValueGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardNetwork.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ForwardingValueGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ValueGraphBuilder.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MapIteratorCache.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/NetworkConnections.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphBuilder.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayListMultimapGwtSerializationDependencies.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractDirectedNetworkConnections.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedHashMultimapGwtSerializationDependencies.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardValueGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphConstants.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeGwtSerializationDependencies.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EndpointPairIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableValueGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/EndpointPair.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/GraphConnections.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/UndirectedMultiNetworkConnections.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ValueGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ForwardingGraph.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MultiEdgesConnecting.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableValueGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/UndirectedNetworkConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractGraphBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractUndirectedNetworkConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/DirectedMultiNetworkConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/StandardMutableNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/DirectedGraphConnections.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ElementOrder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableMultisetGwtSerializationDependencies.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/AbstractGraph.java

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*/

/**

* Holder for web specializations of methods of { @code Floats }. Intended to be empty for regular
* version.

*/

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/FloatsMethodsForWeb.java

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```

```
*/
```

```
/**
```

```
 * Returns an array containing all of the elements in the specified collection. This method
 * returns the elements in the order they are returned by the collection's iterator. The returned
 * array is "safe" in that no references to it are maintained by the collection. The caller is
 * thus free to modify the returned array.
 *
 * <p>This method assumes that the collection size doesn't change while the method is running.
 *
 * <p>TODO(kevinb): support concurrently modified collections?
 *
 * @param c the collection for which to return an array of elements
 */
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ObjectArrays.java
```

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```

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*/

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMultisets.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMultiset.java

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*/

/**

* Holder for web specializations of methods of { @code Ints }. Intended to be empty for regular version.

*/

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/IntsMethodsForWeb.java

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- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AsyncCallable.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LittleEndianByteArray.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AggregateFutureState.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/MacHashFunction.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/FarmHashFingerprint64.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Platform.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ReaderInputStream.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ConsumingQueueIterator.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/InterruptibleTask.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/CombinedFuture.java

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- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/SuccessorsFunction.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableGraph.java
- * /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/graph/Network.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/PredecessorsFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/Graphs.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TopKSelector.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/MutableNetwork.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ImmutableNetwork.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/DescendingImmutableSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactLinkedHashSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableAsList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredEntrySetMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EvictingQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredEntryMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractSortedKeySortedSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredKeyListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractNavigableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/UnmodifiableSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TransformedIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeRangeMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeTraverser.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedMultisetBridge.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AllEqualOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactHashSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ForwardingBlockingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingNavigableMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactHashMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableEnumMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingNavigableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingBlockingDeque.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingImmutableList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/DescendingMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredKeySetMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompactLinkedHashMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TransformedListIterator.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/Reflection.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LongAdder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/LongAdder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AtomicDoubleArray.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/Striped64.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MultimapBuilder.java

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*

* As of 2010/06/11, this method is identical to the (package private) hash method in OpenJDK 7's
* `java.util.HashMap` class.

*/

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Striped.java

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```
*/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/package-info.java
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/**
 * Not supported. <b>You are attempting to create a map that may contain a non-{@code Comparable}
 * key.</b> Proper calls will resolve to the version in {@code ImmutableSortedMap}, not this dummy
 * version.
 *
 * @throws UnsupportedOperationException always
 * @deprecated <b>Pass a key of type {@code Comparable} to use {@link
 *     ImmutableSortedMap#of(Comparable, Object)}.</b>
 */
```

Found in path(s):

```
*/opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedMapFauxverideShim.java
```

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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Platform.java
```

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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/GwtTransient.java
```

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/MultiInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Objects.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizableSoftReference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LineReader.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Charsets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizableWeakReference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/LineBuffer.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Predicate.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ExecutionList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteStreams.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Function.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Files.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/AsyncEventBus.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/AbstractIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/DeadEvent.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/FinalizablePhantomReference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/base/FinalizableReferenceQueue.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Interners.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Predicates.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CountingInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CharStreams.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Suppliers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenableFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Supplier.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Primitives.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/EventBus.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/CountingOutputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Closeables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Defaults.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Flushables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Throwables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/HashBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/AllowConcurrentEvents.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/LittleEndianDataInputStream.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Functions.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/Resources.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/FinalizableReference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EnumMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/io/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Preconditions.java
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jar/com/google/common/io/LittleEndianDataOutputStream.java
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jar/com/google/common/util/concurrent/DirectExecutor.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ClosingFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/AbstractBaseGraph.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/Traverser.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/BaseGraph.java
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jar/com/google/common/collect/ObjectCountHashMap.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteSink.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/StandardSystemProperty.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ImmutableTypeToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CartesianList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ServiceManager.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableRangeMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/PairedStatsAccumulator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/AbstractByteHasher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/Closer.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/PairedStats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/SipHashFunction.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LongAddable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ClassPath.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/CharSink.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/ChecksumHashFunction.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/TypeCapture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/FilteredKeyMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/FileWriteMode.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/Invokable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableRangeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/LongAddable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/CharSource.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/MutableTypeToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/TypeToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/LinearTransformation.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ListenableScheduledFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/SmoothRateLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/RateLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/LongAddables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ByteSource.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/StatsAccumulator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/Stats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/LongAddables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/Parameter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/AbstractInvocationHandler.java

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/*
* This following method is a modified version of one found in
* http://gee.cs.oswego.edu/cgi-bin/viewcvs.cgi/jsr166/src/test/tck/AbstractExecutorServiceTest.java?revision=1.30
* which contained the following notice:
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*
* Other contributors include Andrew Wright, Jeffrey Hayes, Pat Fisher, Mike Judd.
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/MoreExecutors.java
```

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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/graph/IncidentEdgeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/CompactHashing.java
```

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 */
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ArrayTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ComputationException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractIndexedListIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/EmptyImmutableSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableEnumSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ComparisonChain.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableAsList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SingletonImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

```
jar/com/google/common/collect/DiscreteDomain.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ImmutableSortedSetFauxverideShim.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/ForwardingTable.java
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```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Floats.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/SequentialExecutor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Shorts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Ints.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/InetAddresses.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Longs.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/MultiReader.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/UnicodeEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Doubles.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ListenableFutureTask.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Chars.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/PercentEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
```

jar/com/google/common/base/internal/Finalizer.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/CharMatcher.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/thirdparty/publicsuffix/TrieParser.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Joiner.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/Escaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Converter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Booleans.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Stopwatch.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/FluentIterable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/Bytes.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/FileBackedOutputStream.java
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 * or implied. See the License for the specific language governing permissions and limitations under  
 * the License.  
 */  
/**  
 * Outer class that exists solely to let us write {@code Partially.GwtIncompatible} instead of plain  
 * {@code GwtIncompatible}. This is more accurate for {@link Futures#catching}, which is available  
 * under GWT but with a slightly different signature.  
 *  
 * <p>We can't use {@code PartiallyGwtIncompatible} because then the GWT compiler wouldn't recognize  
 * it as a {@code GwtIncompatible} annotation. And for {@code Futures.catching}, we need the GWT  
 * compiler to autostrip the normal server method in order to expose the special, inherited GWT  
 * version.  
 */
```

Found in path(s):

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/Partially.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingMapEntry.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ExplicitOrdering.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Multiset.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LexicographicalOrdering.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractSortedSetMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/UsingToStringOrdering.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RegularImmutableSet.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingObject.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingQueue.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EnumBiMap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/EnumHashBiMap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ConcurrentHashMultiset.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/NullsFirstOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/HashMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Multimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/CompoundOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMapBasedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ByFunctionOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SortedSetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingList.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/HashMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMapEntry.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/package-info.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Lists.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingListIterator.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/NaturalOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractBiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedHashMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingMultimap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ReverseNaturalOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SetMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Multisets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/SingletonImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/MutableClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/MapDifference.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/NullsLastOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Ordering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Sets.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingCollection.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Synchronized.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ReverseOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/AbstractMapBasedMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Multimaps.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ArrayListMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingConcurrentMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/TreeMultimap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingIterator.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ClassToInstanceMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Iterators.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Maps.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ComparatorOrdering.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/LinkedHashMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Interner.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/BiMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Iterables.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/hash/package-info.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/ArrayBasedUnicodeEscaper.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/MapMakerInternalMap.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AbstractExecutionThreadService.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/HostSpecifier.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/TypeResolver.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/Platform.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/annotations/GwtIncompatible.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/annotations/GwtCompatible.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AbstractIdleService.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/ReferenceEntry.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/primitives/UnsignedBytes.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ArrayBasedCharEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteProcessor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/html/HtmlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/UrlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Cut.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Callables.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/InternetDomainName.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteArrayDataInput.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ArrayBasedEscaperMap.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/MapMaker.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingFluentFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/JdkFutureAdapters.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/ForwardingListenableFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/Escapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/DenseImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/CacheBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/ByteArrayDataOutput.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/SettableFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/Service.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/Platform.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AbstractService.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/cache/LocalCache.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/io/LineProcessor.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/xml/XmlEscapers.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SparseImmutableTable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/Splitter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/SignedBytes.java
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 */
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 * http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
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jar/com/google/common/base/SmallCharMatcher.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/CommonPattern.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/JdkPattern.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/CommonMatcher.java

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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/Count.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/RangeSet.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ForwardingSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ImmutableSortedMultisetFauxverideShim.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-

jar/com/google/common/collect/GeneralRange.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/SortedIterable.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/RegularImmutableSortedMultiset.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/AbstractRangeSet.java
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jar/com/google/common/base/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/math/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/net/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/html/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/cache/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/eventbus/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/reflect/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/hash/ElementTypesAreNonnullByDefault.java

* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/html/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/net/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/xml/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/math/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/primitives/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/eventbus/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/graph/ParametricNullness.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/reflect/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/collect/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/base/ElementTypesAreNonnullByDefault.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/cache/ElementTypesAreNonnullByDefault.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/TimeoutFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/FluentFuture.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/escape/CharEscaper.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/UncheckedTimeoutException.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/GwtFuturesCatchingSpecialization.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/AbstractTransformFuture.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/io/PatternFilenameFilter.java
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* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/TimeLimiter.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-jar/com/google/common/util/concurrent/FakeTimeLimiter.java

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/escape/CharEscaperBuilder.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/AggregateFuture.java
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```

```
*/
```

```
/**
```

```
* Holder for web specializations of methods of { @code Doubles }. Intended to be empty for regular
* version.
```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/primitives/DoublesMethodsForWeb.java
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```

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```

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```
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/util/concurrent/NullnessCasts.java
```

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/base/NullnessCasts.java
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/NullnessCasts.java
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```
*/
```

```
/*
```

```
* This method was rewritten in Java from an intermediate step of the Murmur hash function in
```

```
* http://code.google.com/p/smhasher/source/browse/trunk/MurmurHash3.cpp, which contained the
```

```
* following header:
```

```
*
```

```
* MurmurHash3 was written by Austin Appleby, and is placed in the public domain. The author
```

```
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```

```
*/
```

Found in path(s):

```
* /opt/cola/permits/1312950193_1650560245.64/0/guava-31-0-1-android-sources-1-
jar/com/google/common/collect/Hashing.java
```

1.106 usrmerge 25ubuntu2

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1.108 dpkg 1.21.1ubuntu2.2

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1.109 libpammodulesbin 1.4.0-11ubuntu2.3

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1.110 alpine-keys 2.4-r1

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1.111 java-common 0.72build2

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1.112 locales 2.35-0ubuntu3.1

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END OF TERMS AND CONDITIONS

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APPDYNAMICS, INC.

END USER LICENSE AGREEMENT

1. SOFTWARE LICENSE.

1.1 LICENSE GRANT.

This End User License Agreement (this Agreement) between AppDynamics, Inc., a Delaware corporation with its principal place of business located at 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107 (AppDynamics) and the customer set forth in the Order Form (as defined below) (End User) is effective as of the date the initial Order Form is executed or the date this Agreement is referenced by the applicable purchase order (the Effective Date). This Agreement shall govern each order form, sales quotation, proposal, purchase order or other

ordering document that references this Agreement (each an Order Form). Each Order Form will form part of this Agreement. Subject to the terms and conditions of this Agreement, AppDynamics hereby grants to End User, during the License Term (as defined below), a non-exclusive, non-transferable, non-sublicensable right and license to use the software-as-a-service and/or on-premises version of AppDynamics application intelligence software product, including one Controller, as designated in the Order Forms (the Software) for internal business purposes only for the quantity of units in the Order Form. AppDynamics Test & Dev Edition licenses shall only be used in test-only non-production environments. For purposes hereof, the License Term begins on the date AppDynamics delivers the Software license keys to End User and extends for the period specified in the applicable Order Form (unless earlier terminated in accordance with this Agreement). For the avoidance of doubt, End Users affiliates (and employees thereof) shall not use the Software without AppDynamics prior written consent. Notwithstanding anything to the contrary herein, this Agreement does not supersede a signed agreement between AppDynamics and End User with respect to the Software.

1.2 RESTRICTIONS ON USE.

Except as otherwise expressly provided in this Agreement, End User shall not (and shall not permit any third party to): (a) sublicense, sell, resell, transfer, assign, distribute, share, lease, rent, make any external commercial use of, outsource, use on a timeshare or service bureau, or use in an application service provider or managed service provider environment, or otherwise generate income from the Software; (b) copy the Software onto any public or distributed network, except for an internal and secure cloud computing environment; (c) cause the decompiling, disassembly, or reverse engineering of any portion of the Software, or attempt to discover any source code or other operational mechanisms of the Software (except where such restriction is expressly prohibited by law without the possibility of waiver, and then only upon prior written notice to AppDynamics); (d) modify, adapt, translate or create derivative works based on all or any part of the Software; (e) use any Third Party Software (as defined below) provided with the Software other than with the Software; (f) modify any proprietary rights notices that appear in the Software or components thereof; (g) publish the results of any benchmarking tests run on any Third Party Software; (h) use any Software in violation of any applicable laws and regulations (including any export laws, restrictions, national security controls and regulations) or outside of the license scope set forth in Section 1.1; (i) use the Software in support of any nuclear proliferation, chemical weapon, biological weapon or missile proliferation activity; (j) configure the Software to collect any (1) social security numbers or other government-issued identification numbers, (2) passwords or other authentication credentials, (3) health information, biometric data, genetic data, or payment/financial information, (4) any data relating to a person under the age of 13 years old, or (5) any other data that is subject to regulatory or contractual handling requirements (e.g., PCI, HIPAA, or state and federal data security laws) (collectively, Prohibited Data); or (k) use the Software to (1) store, download or transmit infringing, libelous, or otherwise unlawful or tortious material, or malicious code or malware, or (2) engage in phishing, spamming, denial-of-service attacks or other fraudulent or criminal activity, (3) interfere with or disrupt the integrity or performance of third party systems, or the Software or data contained therein, or (4) attempt to gain unauthorized access to the Software or AppDynamics' systems or networks, or (5) perform, or engage any third party to perform, authenticated or unauthenticated penetration testing, vulnerability assessments or other security assessments on the SaaS version of the Software. End User shall not export or re-export, directly or indirectly, any Software or technical data or any copy, portions or direct product thereof (i) in violation of any applicable laws and regulations, (ii) to any country for which the United States or any other government, or any agency thereof, at the time of export requires an export license or other governmental approval, including Cuba, Libya, North Korea, Iran, Iraq, or Rwanda or any other Group D:1 or E:2 country (or to a national or resident thereof) specified in the then current Supplement No. 1 to part 740 of the U.S. Export Administration Regulations (or any successor supplement or regulations, without first obtaining such license or approval) or (ii) to anyone on the U.S. Treasury Departments list of Specially Designated Nationals or the U.S. Commerce Departments Table of Denial Orders. End User shall, at its own expense, obtain all necessary customs, import, or other governmental authorizations and approvals.

1.3 EVALUATION USE.

If End User accessed the Software pursuant to a no-fee or beta evaluation (Evaluation Use), then the License Term is for the period enabled by the license key for the Software provided by AppDynamics. AppDynamics shall have the right to downgrade, limit or otherwise modify the Software provided for Evaluation Use at any time without notice, and no warranty, indemnity, Maintenance or Support obligations of AppDynamics will apply to Evaluation Use. End User may use the number and type of licenses indicated by AppDynamics in writing prior to End User downloading or accessing the Software, which will be enabled by End Users specific license key. AppDynamics has the right to immediately revoke and terminate any Evaluation Use at any time. End User agrees to provide feedback related to the Software as reasonably requested by AppDynamics. End User grants to AppDynamics, without charge, the fully paid-up, perpetual, sublicensable right to exploit such feedback for any purpose. Evaluation Use is not a guarantee of future product features and should not be relied upon in making any purchasing decisions.

1.4 UNAUTHORIZED USE.

End User shall notify AppDynamics promptly of any unauthorized use of any password or account or any other known or suspected breach of security or misuse of the Software. End User is responsible for use of the Software by any and all employees, contractors, or other users that it allows to access the Software.

1.5 MAINTENANCE AND SUPPORT.

Support is defined as AppDynamics' obligations to respond to support requests as described in Exhibit A (Enterprise Support). Maintenance means AppDynamics obligations related to error resolution, bug fixes and the provision of updates and upgrades made generally commercially available by AppDynamics in its sole discretion, all as described in Exhibit A. Subject to End Users payment of the fees set forth in the applicable Order Form(s), AppDynamics will (a) provide Maintenance and Support for the Software, and (b) solely if End User has purchased access to the software-as-a-service version of the Software, make the Software available to End User in accordance with Exhibit B (Availability and Security). For time-limited licenses for the Software (as set forth in an Order Form, Subscription Licenses), the fees for Maintenance and Support are included in the fees for the Software. For perpetual licenses, (i) AppDynamics shall invoice End User the applicable fees for Maintenance and Support (Maintenance and Support Fees) upon execution of the Order Form, and (ii) subject to payment of the Maintenance and Support Fees, AppDynamics will provide Support for the Maintenance and Support period set forth in the Order Form, as it may be renewed (the Maintenance and Support Term). If Maintenance and Support terminates with respect to any perpetual licenses, and End User is in good standing under this Agreement, then End User may reinstate Maintenance and Support on payment of the cumulative Maintenance and Support Fees applicable for the period during which Maintenance and Support lapsed, plus Maintenance and Support Fees for the reinstated Maintenance and Support Term. Notwithstanding anything herein to the contrary, if End User receives Support from an authorized partner of AppDynamics (Partner), then the support terms agreed upon by End User and such Partner shall govern in lieu of those set forth in Exhibit A, and AppDynamics shall have no support obligations to End User.

1.6 SERVICES.

Subject to the terms hereof (including payment of any applicable fees set forth in the Order Form), AppDynamics will provide the training, enablement and/or other services described in an Order Form (or statement of work referencing this Agreement), if any (Services). All Services will be rendered on a time and materials basis. AppDynamics will not exceed the total time purchased without prior written approval from End User. If the Services purchased have been consumed, AppDynamics will stop the Services until additional Services have been purchased.

If End User elects not to purchase additional Services, then the Services will be deemed complete. If not used, pre-purchased Services and expenses expire twelve (12) months after the date purchased (unless otherwise set forth in the applicable Order Form). End User agrees to provide reasonable cooperation and information as necessary to permit AppDynamics to perform the Services. End User will reimburse AppDynamics for travel and expenses (at cost) incurred in connection with the Services (if any) by the Invoice Due Date (as defined below). Services will be performed on business days (a business day means Monday through Friday, excluding national holidays, during working hours, in the location where the Services are delivered). Saturday Services, and hours worked during the week that exceed the local working hours in a week, will be charged at the agreed rate x 1.5. Services performed on Sundays or national holidays will be charged at 2 x the agreed rate. If End User cancels or delays any scheduled Services less than ten (10) business days before the start date of such Services, then AppDynamics will deduct from End User's account (or End User will pay for) the amount of Services that were scheduled in any of the ten (10) business days following the date of cancellation (or notification of the delay, as applicable), and End User will fully reimburse AppDynamics for any reasonable travel and expenses incurred by AppDynamics for such Services (and for any Services rescheduled by End User) for which AppDynamics is unable to obtain a refund. During the License Term (for Subscription Licenses) or during the Maintenance and Support Term (for perpetual licenses), and in each case for a period of twelve (12) months thereafter, without AppDynamics prior written approval, End User will not solicit for employment or consultancy any AppDynamics employees who participated in the performance of Services.

2. FEES.

2.1 PRICING.

End User will be invoiced for those amounts and at those prices set forth in an Order Form (an Invoice), provided, however, that, for Evaluation Use, End User shall not be billed unless otherwise specified by AppDynamics in writing prior to End User downloading or accessing (as applicable) the Software. Fees do not include any customization of the Software (nor support for any such customizations, unless otherwise agreed in writing). If End Users usage of the Software is in excess of those amounts set forth in the Order Form, End User will be billed for those overages at a pro-rated amount for the remainder of the applicable License Term, based on AppDynamics then-current standard pricing. If AppDynamics believes in good faith that End Users usage of the Software exceeds that set forth on the applicable Order Form, End User agrees to allow AppDynamics to audit End Users use of the Software (not more frequently than twice per calendar year), upon at least twenty-four (24) hours notice, to determine the actual Software use, using a commercially reasonable auditing procedure. End User acknowledges that purchases made under this Agreement are neither contingent on the delivery of any future functionality or features nor dependent on any oral or written public comments made by AppDynamics regarding future functionality or features.

2.2 PAYMENTS.

End User shall pay Invoices within thirty (30) days of the invoice date (the Invoice Due Date). If End User reasonably disputes any Invoice, (i) End User shall provide AppDynamics with written notice of such dispute, including the grounds therefor (a Dispute Notice), prior to the Invoice Due Date, (ii) End User and AppDynamics shall, for a period of fifteen (15) days following AppDynamics receipt of such Dispute Notice, negotiate in good faith to resolve the dispute and (iii) if such dispute remains unresolved at the end of such period, the parties shall retain all of their respective rights under this Agreement (including, without limitation, any action for non-payment of the fees set forth herein). All payment obligations are non-cancelable and all amounts paid are non-refundable, except (a) for amounts paid in error that are not actually due under this Agreement, and (b) as set forth in Sections 6.1 and 7.1. The fees paid by End User are exclusive of all taxes, levies, or duties imposed by taxing authorities, if

any, and End User shall be responsible for payment of all such taxes, levies, or duties, excluding taxes based on AppDynamics income. End User represents and warrants that the billing and contact information provided to AppDynamics is complete and accurate, and AppDynamics shall have no responsibility for any Invoices that are not received due to inaccurate or missing information provided by End User. End User shall pay interest on all payments not received by the Invoice Due Date at a rate of one percent (1%) per month or the maximum amount allowed by law, whichever is lesser. All amounts due under this Agreement shall be paid by End User in full without any set-off, counterclaim, deduction or withholding (other than any deduction or withholding of tax as required by law). If requested by AppDynamics, End User will obtain and furnish to AppDynamics tax receipts or other certificates issued by the competent taxation office showing the payments of the withholding tax within a reasonable time after payment. Following written notice, AppDynamics shall be entitled to suspend End Users access to the Software if payments are not received within thirty (30) days of the Invoice Due Date. Notwithstanding anything herein to the contrary, if End User makes its payments pursuant to this Agreement to a Partner, then the payment terms agreed by End User and such Partner shall govern to the extent anything in this Section 2 conflicts with such Partner payment terms.

3. CONFIDENTIALITY

3.1 SCOPE AND RESTRICTIONS.

Confidential Information means all information of a party (Disclosing Party) disclosed to the other party (Receiving Party) that is designated in writing or identified as confidential at the time of disclosure or should be reasonably known by the Receiving Party to be confidential due to the nature of the information disclosed and the circumstances surrounding the disclosure. The terms of this Agreement, the Software, any technical or other documentation relating to the Software, logins, passwords and other access codes and any and all information regarding AppDynamics business, products and services are the Confidential Information of AppDynamics. The Receiving Party will: (i) not use the Disclosing Partys Confidential Information for any purpose outside of this Agreement; (ii) not disclose such Confidential Information to any person or entity, other than its affiliates, employees, consultants, agents and professional advisers who have a need to know for the Receiving Party to exercise its rights or perform its obligations hereunder, provided that such employees, consultants, and agents are bound by agreements or, in the case of professional advisers, ethical duties respecting such Confidential Information in accordance with the terms of this Section 3; and (iii) use reasonable measures to protect the confidentiality of such Confidential Information. If the Receiving Party is required by applicable law or court order to make any disclosure of such Confidential Information, it will first give written notice of such requirement to the Disclosing Party, and, to the extent within its control, permit the Disclosing Party to intervene in any relevant proceedings to protect its interests in its Confidential Information, and provide full cooperation to the Disclosing Party in seeking to obtain such protection. Further, this Section 3 will not apply to information that the Receiving Party can document: (i) was rightfully in its possession or known to it prior to receipt without any restriction on its disclosure; (ii) is or has become public knowledge or publicly available through no fault of the Receiving Party; (iii) is rightfully obtained by the Receiving Party from a third party without breach of any confidentiality obligation; or (iv) is independently developed by employees of the Receiving Party who had no access to such information.

3.2 EQUITABLE RELIEF.

The Receiving Party acknowledges that unauthorized disclosure of the Disclosing Partys Confidential Information could cause substantial harm to the Disclosing Party for which damages alone might not be a sufficient remedy and, therefore, that upon any such disclosure by the Receiving Party the Disclosing Party will be entitled to seek appropriate equitable relief in addition to whatever other remedies it might have at law or equity.

4. PROPRIETARY RIGHTS. AppDynamics and its suppliers own and shall retain all proprietary rights, including all copyright, patent, trade secret, trademark and all other intellectual property rights, in and to the Software and the results of any Services. End User acknowledges that the rights granted under this Agreement do not provide End User with title to or ownership of the Software. Certain free or open source based software (the FOSS Software) and third party software included with the Software (the Third Party Software) is shipped with the Software but is not considered part of the Software hereunder. A list of the FOSS Software and Third Party Software is set forth on the webpage located at <https://docs.appdynamics.com/display/DASH/Legal+Notices> With respect to Third Party Software included with the Software, such Third Party Software suppliers are third party beneficiaries of this Agreement. End Users use of such FOSS Software is subject to the terms of the licenses set forth on such webpage. The Software and Third Party Software may only be used by End User as prescribed by the AppDynamics documentation located at <http://docs.appdynamics.com> (as it may be updated from time to time, the Documentation).

5. TERM AND TERMINATION.

The term of this Agreement begins on the Effective Date and will remain in effect until all Subscription Licenses (and Maintenance and Support Terms, if applicable) expire or until this Agreement is otherwise terminated in accordance with the terms hereof, whichever occurs first (the Term). This Agreement may be renewed at any time by execution of an Order Form referencing this Agreement, and any such renewal will be deemed part of the Term hereunder. If either party commits a material breach of this Agreement, and such breach has not been cured within thirty (30) days after receipt of written notice thereof, the non-breaching party may terminate this Agreement, except that AppDynamics may immediately terminate this Agreement and/or End Users license to the Software upon End Users breach of Section 1.2. Either party may also terminate this Agreement upon written notice if the other party suspends payment of its debts or experiences any other insolvency or bankruptcy-type event. Upon expiration or termination of this Agreement for any reason, (i) with respect to Subscription Licenses, all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; (ii) with respect to perpetual licenses, these will survive termination of this Agreement unless AppDynamics terminates the Agreement for End Users breach of this Agreement in which case all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; and (iii) each Receiving Party will return or destroy, at the Disclosing Partys option, the Disclosing Partys Confidential Information in the Receiving Partys possession or control. All fees that have accrued as of such expiration or termination, and Sections 1.2, 1.3, 1.4, 2, 3, 4, 5, 6.2 and 7 through 12, will survive any expiration or termination hereof.

6. WARRANTIES.

6.1 LIMITED WARRANTY. The limits below will not apply to the extent prohibited by applicable law.

AppDynamics warrants that during the first thirty (30) days following the date the Software is purchased, the Software will, in all material respects, conform to the functionality described in the then-current Documentation for the applicable Software version. AppDynamics sole and exclusive obligation, and End Users sole and exclusive remedy, for a breach of this warranty shall be that AppDynamics shall be required to use commercially reasonable efforts to repair or replace the Software to conform in all material respects to the Documentation, and if AppDynamics is unable to materially restore such functionality within thirty (30) days from the date of written notice of such breach, End User shall be entitled to terminate the license to the affected Software upon written notice and AppDynamics shall promptly provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). End User must notify AppDynamics in writing of any

warranty breaches within such warranty period, and End User must have installed and configured the Software in accordance with the Documentation to be eligible for the foregoing remedy.

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7. INDEMNIFICATION.

7.1 BY APPDYNAMICS.

AppDynamics agrees at its expense to defend End User against (or, at AppDynamics option, settle), any third party claim to the extent such claim alleges that the Software infringes or misappropriates any patent, copyright, trademark or trade secret of a third party, and AppDynamics shall pay all costs and damages finally awarded against End User by a court of competent jurisdiction as a result of any such claim. In the event that the use of the Software is, or in AppDynamics sole opinion is likely to become, subject to such a claim, AppDynamics, at its option and expense, may (a) replace the applicable Software with functionally equivalent non-infringing technology, (b) obtain a license for End Users continued use of the applicable Software, or (c) terminate the license and provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). The foregoing indemnification obligation of AppDynamics will not apply: (1) if the Software is modified by End User or its agent; (2) if the Software is combined with other non-AppDynamics products, applications, or processes, but solely to the extent the alleged infringement is caused by such combination; or (3) to any unauthorized use of the Software. The foregoing shall be End Users sole remedy with respect to any claim of infringement of third party intellectual property rights.

7.2 BY END USER.

End User agrees to defend, at its expense, AppDynamics and its affiliates, its suppliers and its resellers against any

third party claim to the extent such claim arises from or is made in connection with End Users breach of Section 1 or End Users negligence or willful misconduct, and End User shall pay all costs and damages finally awarded against AppDynamics by a court of competent jurisdiction as a result of any such claim.

7.3 INDEMNIFICATION REQUIREMENTS.

In connection with any claim for indemnification under this Section 7, the indemnified party must promptly provide the indemnifying party with notice of any claim that the indemnified party believes is within the scope of the obligation to indemnify, provided, however, that the failure to provide such notice shall not relieve the indemnifying party of its obligations under this Section 7, except to the extent that such failure materially prejudices the indemnifying partys defense of such claim. The indemnified party may, at its own expense, assist in the defense if it so chooses, but the indemnifying party shall control the defense and all negotiations related to the settlement of any such claim. Any such settlement intended to bind either party shall not be final without the other partys written consent, which consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that End Users consent shall not be required when AppDynamics is the indemnifying party if the settlement involves only the payment of money by AppDynamics.

8. LIMITATION OF LIABILITY. The limits below will not apply to the extent prohibited by applicable law.

8.1 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), IN NO EVENT SHALL EITHER PARTY BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOSS OF REVENUES OR PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, OR LOSS OF DATA, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8.2 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), NEITHER PARTYS LIABILITY FOR ANY DAMAGES (WHETHER FOR BREACH OF CONTRACT, MISREPRESENTATIONS, NEGLIGENCE, STRICT LIABILITY, OTHER TORTS OR OTHERWISE) UNDER THIS AGREEMENT SHALL EXCEED AN AMOUNT EQUAL TO THE TOTAL FEES PAID (PLUS FEES PAYABLE) TO APPDYNAMICS DURING THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM GIVING RISE TO SUCH DAMAGES. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

9. FORCE MAJEURE.

Except for payment obligations, neither party hereto will be liable for defaults or delays due to acts of God, or the public enemy, acts or demands of any government or governmental agency, fires, earthquakes, floods, accidents, or other unforeseeable causes beyond its reasonable control and not due to its fault or negligence.

10. DATA COLLECTION.

End User acknowledges that AppDynamics application server and machine software agents (the Agents) collect metrics that relate to the performance, health and resource of an application, its components (transactions, code libraries) and related infrastructure (nodes, tiers) that service those components. In addition, AppDynamics collects metrics on End Users activities, such as web pages visited, length of visit, and which features of the Software an End User uses. If End User provides AppDynamics with any personally identifiable information (personal data), End User represents and warrants that such information has been collected by End User in accordance with the

provisions of all applicable data protection legislation and that End User has all right and consents necessary to provide such personal data to AppDynamics. End User will indemnify AppDynamics for reasonable costs and other amounts that AppDynamics may incur relating to any breach of this Section.

11. US GOVERNMENT MATTERS.

As defined in FAR section 2.101, the Software and Documentation are commercial items and according to DFAR section 252.227 7014(a)(1) and (5) are deemed to be commercial computer software and commercial computer software documentation. Consistent with DFAR section 227.7202 and FAR section 12.212, any use modification, reproduction, release, performance, display, or disclosure of such commercial software or commercial software documentation by the U.S. Government will be governed solely by the terms of this Agreement and will be prohibited except to the extent expressly permitted by the terms of this Agreement.

12. MISCELLANEOUS.

This Agreement shall be governed by and construed under the laws of the State of California, U.S.A. The parties consent to the exclusive jurisdiction and venue of the courts located in and serving San Francisco, California. Failure by either Party to exercise any of its rights under, or to enforce any provision of, this Agreement will not be deemed a waiver or forfeiture of such rights or ability to enforce such provision. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or unenforceable, such provision will be amended to achieve as nearly as possible the same economic effect of the original provision and the remainder of this Agreement will remain in full force and effect. This Agreement and its exhibits, together with the Order Form(s) and any statements of work incorporating this Agreement, if applicable, represent the entire agreement between the parties and supersede any previous or contemporaneous oral or written agreements or communications regarding the subject matter of this Agreement. The person signing or otherwise accepting this Agreement for End User represents that s/he is duly authorized by all necessary and appropriate corporate action to enter this Agreement on behalf of End User. Any modification to this Agreement must be in writing and signed by a duly authorized agent of both parties. The Uniform Computer Information Transactions Act (UCITA) does not apply to this Agreement. This Agreement shall control over additional or different terms of any purchase order, confirmation, invoice, statement of work or similar document (other than an AppDynamics Order Form, which will take precedence), even if accepted in writing by both parties, and waivers and amendments to this Agreement shall be effective only if made by non-pre-printed agreements clearly understood by both parties to be an amendment or waiver to this Agreement. For purposes of this Agreement, including means including without limitation. The rights and remedies of the parties hereunder will be deemed cumulative and not exclusive of any other right or remedy conferred by this Agreement or by law or equity. No joint venture, partnership, employment, or agency relationship exists between the parties as a result of this Agreement or use of the Software. AppDynamics reserves the right to perform its obligations from locations and/or through use of affiliates and subcontractors, worldwide, provided that AppDynamics will be responsible for such parties. End User may not assign this Agreement without the prior written approval of AppDynamics and any purported assignment in violation of this section shall be void; AppDynamics may assign, transfer or subcontract this Agreement in whole or in part. Upon any assignment of this Agreement by End User that is approved by AppDynamics, any licenses that contain an unlimited aspect will, with respect to End User or the successor entity, as applicable, be capped at the number of authorized Software units in use immediately prior to such assignment. End User agrees that AppDynamics may refer to End User by its trade name and logo, and may briefly describe End Users business, in AppDynamics marketing materials and website. AppDynamics may give notice to End User by electronic mail to End Users email address on record in End Users account information, or by written communication sent by first class mail or pre-paid post to End Users address on record in End Users account information. End User may give notice to AppDynamics at any time by any letter delivered by nationally recognized overnight delivery service or first class postage prepaid mail to AppDynamics at the following address or such other

address as may be notified to End User from time to time: AppDynamics, Inc., 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107, Attn: Legal Department. Notice under this Agreement shall be deemed given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by email; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested.

EXHIBIT A

ENTERPRISE SUPPORT

GENERAL REQUIREMENTS.

AppDynamics will provide access to a ticketing system and email address (help@appdynamics.com), which will be available twenty-four (24) hours per day, seven (7) days per week. The email account will be maintained by qualified support specialists, who shall use commercially reasonable efforts to answer questions and resolve problems regarding the Software.

HOURS OF OPERATION.

Support is available twenty-four (24) hours per day, seven (7) days per week.

ERROR CLASSIFICATION.

Any reported errors are classified in the following manner, in each case when caused by the Software:

Error Classification Criteria

=====

Urgent End User production application is down or there is a major malfunction, resulting in a business revenue loss and impacting the End User application functionality for a majority of users.

High Critical loss of End User application functionality or performance, impacting the application functionality for a high number of users.

Normal Moderate loss of End User application functionality or performance, impacting multiple users.

Low Minor loss of End User application functionality or product feature in question.

ERROR DEFINITION.

An error means a reproducible malfunction in the Software that is reported by End User through AppDynamics

ticketing system that prevents the Software from performing in accordance with the operating specifications described in the then-current Documentation.

AUTHORIZED SUPPORT CONTACTS.

Maintenance and Support will be provided solely to End Users designated support contacts. The Order Form may indicate a maximum number of designated support contacts for End Users service level. End User will provide its designated support contacts, including its primary email address.

END USERS OBLIGATION TO ASSIST.

If End User reports a purported error in the Software to AppDynamics, AppDynamics ticketing system will request the following minimum information:

- A general description of the operating environment
- A list of all hardware components, operating systems and networks
- A reproducible test case
- Any log files, trace and systems files

End Users failure to provide this information may prevent or significantly delay AppDynamics ability to identify and fix the reported error. AppDynamics time to respond to any error will begin when AppDynamics has received all requested information from the End User and is able to reproduce the error.

ERROR RESOLUTION.

If AppDynamics determines there is an error in the Software, AppDynamics may, at its sole option, repair that error in the version of the Software that End User is currently using or instruct End User to install a newer version of the Software with that error repaired. AppDynamics reserves the right to provide End User with a workaround in lieu of fixing an error.

SOFTWARE UPDATES AND UPGRADES. End User must be current on fees in order to receive access to Maintenance.

RESPONSE TIME. AppDynamics shall respond to error tickets in accordance with the tables set forth below. AppDynamics will use reasonable means to repair the error and keep End User informed of progress. AppDynamics makes no representations as to when a full resolution of the error may be made.

Error Initial Response Manager Escalation VP Escalation Email Status Updates

=====

| | | | | |
|--------|-----------------|--------------------|---------|--------|
| Urgent | 1 Hour | 1 Business Day | 1 Week | Daily |
| High | 6 Hours | 1 Week | 2 Weeks | Weekly |
| Normal | 1 Business Day | Quarterly Review | None | None |
| Low | 2 Business Days | Semi-Annual Review | None | None |

Maintenance and Support Policy: The Maintenance and Support policy is as follows:

AppDynamics provides Maintenance and Support for each version of the Software for a period of twelve (12) months after the generally available release of the next major version of the Software (a major release is a change in the first number to the right of the decimal point). For example, if version 4.1 is released on January 1, 2015, then AppDynamics will provide Maintenance and Support for version 4.0 until January 1, 2016. AppDynamics does not provide Maintenance or Support for any customized software (or components thereof).

For third party software or technology used by End User with the Software but not included with the Software (a Platform, such as Java Virtual Machines), AppDynamics will follow the end-of-life (EOL) support timeline announced by the third party vendor of such Platform. AppDynamics will stop providing Maintenance and Support for an EOLd Platform version when the Platform vendor stops providing maintenance and support for that Platform version.

EXHIBIT B AVAILABILITY AND SECURITY

The terms set forth in this Exhibit B apply only if End User has purchased access to the online software-as-a-service (SaaS) version of the Software, as indicated on the Order Form.

AVAILABILITY.

AppDynamics will provide System Availability (as defined below) of ninety-nine and one-half percent (99.5%) (the Availability SLA), excluding situations identified as Exclusions below. For purposes of the Availability SLA, the AppDynamics network extends to, includes and terminates at the data center located router that provides the outside interface of each of AppDynamics WAN connections to its backbone providers (the AppDynamics Network).

Exclusions means any outage that results from any of the following:

- a. Any Maintenance performed by AppDynamics during AppDynamics standard Maintenance windows. AppDynamics will notify End User within forty-eight (48) hours of any standard Maintenance and within twenty-four (24) hours for other non-standard emergency Maintenance (collectively referred to herein as Scheduled Maintenance).
- b. End User's information content or application programming, or the acts or omissions of End User or its agents, including, without limitation, the following:
 1. End Users use of any programs not supplied by AppDynamics;
 2. End Users failure to provide AppDynamics with reasonable advance prior notice of any pending unusual large deployments of new nodes (i.e., adding over ten percent (10%) total nodes in less than twenty-four (24) hours);
 3. End Users implementation of any significant configuration changes, including changes that lead to a greater than thirty percent (30%) change in a one week period or greater than fifty percent (50%) change in a one month period in the number of key objects in the system including but not limited to metrics, snapshots, nodes, events and business transactions;
 4. Any misconfiguration by End User (as determined in AppDynamics sole discretion), including configuration errors and unintended usage of the Software;
 5. End Users failure to upgrade the Agents to keep the Agent versions within six (6) months of the Controller version; or
 6. End Users implementation of configuration changes in the number of key objects in the Software (including metrics, snapshots, nodes, events and business transactions) that results in, or is likely to result in, an adverse impact on other customers.

- c. Force majeure or other circumstances beyond AppDynamics reasonable control that could not be avoided by its exercise of due care.
- d. Failures of the Internet backbone itself and the network by which End User connects to the Internet backbone or any other network unavailability outside of the AppDynamics Network, such as misconfigurations, proxies or firewalls.
- e. Any window of time when End User agrees that Software availability/unavailability will not be monitored or counted.
- f. Any problems resulting from End User combining or merging the Software with any hardware or software not supplied by AppDynamics or not identified by AppDynamics in the Documentation as being compatible with the Software.
- g. End Users or any third partys use of the Software in an unauthorized or unlawful manner.

Remedies for Excessive Downtime:

In the event the availability of the Software falls below the Availability SLA in a given calendar quarter, AppDynamics will pay End User a service credit (Service Credit) as follows, corresponding to the actual Availability of the Software during the applicable calendar quarter (on pro-rated basis for annual or multi-year fees): if the Availability is 99.5% or greater, End User is entitled to receive no credits; if the Availability is 97.0% - 99.49%, then End User is entitled to receive Service Credits equal to five percent of the fees for the applicable calendar quarter (not to exceed \$280); if the Availability is 95.0% - 96.9%, then End User is entitled to receive Service Credits equal to ten percent of the fees for the applicable calendar quarter (not to exceed \$560); and if the Availability is less than 95.0%, then End User is entitled to receive Service Credits equal to twenty percent of the fees for the applicable calendar quarter (not to exceed \$1120). Such Service Credit will be issued as a credit against any fees owed by End User for the next calendar quarter of the Term, or, if End User does not owe any additional fees, then AppDynamics will pay End User the amount of the applicable Service Credit within thirty (30) days after the end of the calendar quarter in which such credit accrued. To receive Service Credits, End User must submit a written request to AppDynamics (to customersuccess@appdynamics.com with a copy to legal@appdynamics.com) within 15 days after the end of the quarter in which the Software was unavailable, or End Users right to receive Service Credits with respect to such unavailability will be waived. The remedies stated in this section are End Users sole and exclusive remedies and AppDynamics sole and exclusive obligations for service interruption or unavailability.

System Availability is measured by the following formula: $(n - y) * 100 / n$

(1) n is the total number of minutes in the given calendar quarter minus the Exclusions (as defined above); and y is the total number of minutes in the given calendar quarter that the Controller is not accessible by End User (as determined by AppDynamics tools).

(2) Specifically excluded from n and y in this calculation are the Exclusions.

SECURITY INFORMATION.

For all End User data stored in the software-as-a-service version of the Software, AppDynamics will satisfy all of its obligations under Section 3 by maintaining the security precautions described below.

Certifications

AppDynamics is SOC 2 Type II compliant, meaning it has been independently audited to verify the validity and functionality of its control activities and processes. Customers may request AppDynamics report at any time. AppDynamics data center provider is also SOC 2 Type II compliant.

Secure Connections

Agents initiate connections to a single Controller, which can either be hosted on-premises by the customer or by AppDynamics via the AppDynamics software-as-a-service platform. The Controller is the central repository and analytics engine where all performance data is stored, baselined, and analyzed. If End User downloads the Agent from End Users controller (ie., using the installation wizard provided by AppDynamics), then transport layer security (TLS) for Agent-to-Controller communication is enabled by default. For other installations, AppDynamics recommends enabling SSL/TLS encryption for Agent communications. For detailed instructions please see docs.appdynamics.com. Agents also support outbound HTTP proxies for customers using these security mechanisms. For Software user interface access, AppDynamics redirects all traffic to HTTPS.

Access Controls to Data

Access to collected data and data collection features is restricted to authenticated customer users by role-based access controls (RBAC). In addition, customer users do not have native access to run queries on the Controllers MySQL database.

Availability

Servers for the software are operated in fault-tolerant architecture in a manner designed to ensure availability. Data is backed up nightly and stored redundantly. AppDynamics also provides an off-site backup service. Software security updates and patches are evaluated by engineers and are deployed based upon the security risks and stability benefits they offer to the Software and End Users.

Security

Access to the Software platform infrastructure and data by AppDynamics personnel is secured by authentication methods including public key authentication, passwords and network access control lists. Infrastructure and data access is restricted to AppDynamics employees and contractors subject to confidentiality agreements. System and network activity for the Software are regularly monitored by a team of engineers. Failed authentication attempts are audited and engineers are paged so that intrusions or threats can be investigated. Standard firewall policies are deployed to block access except to ports required for Software and Agent communication.

Sensitive Data

AppDynamics recommends on-premises (rather than software-as-a-service) deployments for customers subject to heightened regulatory oversight of data.

More Information

For more information on data privacy or security processes please contact help@appdynamics.com or your account representative. To report a suspected security breach, contact security@appdynamics.com.

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1.114 gson 2.8.9

1.114.1 Available under license :

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 */
```

Found in path(s):

```
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/TreeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/DateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/ConstructorConstructor.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/sql/SqlDateTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/UnsafeAllocator.java
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jar/com/google/gson/internal/sql/SqlTimeTypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/LazilyParsedNumber.java
```

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```
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/GsonBuildConfig.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/ArrayAdapter.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/JsonTreeReader.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/TypeAdapterRuntimeTypeWrapper.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/CollectionAdapterFactory.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/MapAdapterFactory.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/TypeAdapterFactory.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/JsonReaderInternalAccess.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-

jar/com/google/gson/internal/bind/ReflectiveTypeAdapterFactory.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/TypeAdapter.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/bind/JsonTreeWriter.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonStreamParser.java
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jar/com/google/gson/LongSerializationPolicy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/FieldAttributes.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonParser.java
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Found in path(s):

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/\$Gson\$Types.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/GsonBuilder.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonSerializer.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/annotations/Since.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonPrimitive.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/ExclusionStrategy.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/annotations/Until.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/InstanceCreator.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/JsonNull.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/LinkedHashMap.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/LinkedTreeMap.java

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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/MalformedJsonException.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonScope.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonToken.java

* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/stream/JsonWriter.java

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- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/PreJava9ReflectionAccessor.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/ReflectionAccessor.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/reflect/UnsafeReflectionAccessor.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/PreJava9DateFormatProvider.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/JavaVersion.java

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- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/ToNumberPolicy.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/ToNumberStrategy.java

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jar/com/google/gson/internal/bind/NumberTypeAdapter.java
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* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/JsonSyntaxException.java
* /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-
jar/com/google/gson/internal/Streams.java
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- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/internal/bind/JsonAdapterAnnotationTypeAdapterFactory.java
- * /opt/cola/permits/1330613678_1652979131.328877/0/gson-2-8-9-sources-2-jar/com/google/gson/annotations/JsonAdapter.java

1.115 zulu-repo 1.0.0-3

1.115.1 Available under license :

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1.117 libjpeg 6b

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1.117.2 Available under license :

The Independent JPEG Group's JPEG software

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README for release 6b of 27-Mar-1998
=====

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Serious users of this software (particularly those incorporating it into larger programs) should contact IJG at jpeg-info@uunet.uu.net to be added to our electronic mailing list. Mailing list members are notified of updates and have a chance to participate in technical discussions, etc.

This software is the work of Tom Lane, Philip Gladstone, Jim Boucher, Lee Crocker, Julian Minguillon, Luis Ortiz, George Phillips, Davide Rossi, Guido Vollbeding, Ge' Weijers, and other members of the Independent JPEG Group.

IJG is not affiliated with the official ISO JPEG standards committee.

DOCUMENTATION ROADMAP

=====
This file contains the following sections:

OVERVIEW General description of JPEG and the IJG software.
LEGAL ISSUES Copyright, lack of warranty, terms of distribution.
REFERENCES Where to learn more about JPEG.
ARCHIVE LOCATIONS Where to find newer versions of this software.
RELATED SOFTWARE Other stuff you should get.
FILE FORMAT WARS Software *not* to get.
TO DO Plans for future IJG releases.

Other documentation files in the distribution are:

User documentation:

install.doc How to configure and install the IJG software.
usage.doc Usage instructions for cjpeg, djpeg, jpegtran,
rdjpgcom, and wjjpgcom.

*.1 Unix-style man pages for programs (same info as usage.doc).
wizard.doc Advanced usage instructions for JPEG wizards only.
change.log Version-to-version change highlights.
Programmer and internal documentation:
libjpeg.doc How to use the JPEG library in your own programs.
example.c Sample code for calling the JPEG library.
structure.doc Overview of the JPEG library's internal structure.
filelist.doc Road map of IJG files.
coderrules.doc Coding style rules --- please read if you contribute code.

Please read at least the files install.doc and usage.doc. Useful information can also be found in the JPEG FAQ (Frequently Asked Questions) article. See ARCHIVE LOCATIONS below to find out where to obtain the FAQ article.

If you want to understand how the JPEG code works, we suggest reading one or more of the REFERENCES, then looking at the documentation files (in roughly the order listed) before diving into the code.

OVERVIEW

=====

This package contains C software to implement JPEG image compression and decompression. JPEG (pronounced "jay-peg") is a standardized compression method for full-color and gray-scale images. JPEG is intended for compressing "real-world" scenes; line drawings, cartoons and other non-realistic images are not its strong suit. JPEG is lossy, meaning that the output image is not exactly identical to the input image. Hence you must not use JPEG if you have to have identical output bits. However, on typical photographic images, very good compression levels can be obtained with no visible change, and remarkably high compression levels are possible if you can tolerate a low-quality image. For more details, see the references, or just experiment with various compression settings.

This software implements JPEG baseline, extended-sequential, and progressive compression processes. Provision is made for supporting all variants of these processes, although some uncommon parameter settings aren't implemented yet. For legal reasons, we are not distributing code for the arithmetic-coding variants of JPEG; see LEGAL ISSUES. We have made no provision for supporting the hierarchical or lossless processes defined in the standard.

We provide a set of library routines for reading and writing JPEG image files, plus two sample applications "cjpeg" and "djpeg", which use the library to perform conversion between JPEG and some other popular image file formats. The library is intended to be reused in other applications.

In order to support file conversion and viewing software, we have included considerable functionality beyond the bare JPEG coding/decoding capability;

for example, the color quantization modules are not strictly part of JPEG decoding, but they are essential for output to colormapped file formats or colormapped displays. These extra functions can be compiled out of the library if not required for a particular application. We have also included "jpegtran", a utility for lossless transcoding between different JPEG processes, and "rdjpgcom" and "wrjpgcom", two simple applications for inserting and extracting textual comments in JFIF files.

The emphasis in designing this software has been on achieving portability and flexibility, while also making it fast enough to be useful. In particular, the software is not intended to be read as a tutorial on JPEG. (See the REFERENCES section for introductory material.) Rather, it is intended to be reliable, portable, industrial-strength code. We do not claim to have achieved that goal in every aspect of the software, but we strive for it.

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The Unix configuration script "configure" was produced with GNU Autoconf. It is copyright by the Free Software Foundation but is freely distributable. The same holds for its supporting scripts (config.guess, config.sub, ltconfig, ltmain.sh). Another support script, install-sh, is copyright by M.I.T. but is also freely distributable.

It appears that the arithmetic coding option of the JPEG spec is covered by patents owned by IBM, AT&T, and Mitsubishi. Hence arithmetic coding cannot legally be used without obtaining one or more licenses. For this reason, support for arithmetic coding has been removed from the free JPEG software. (Since arithmetic coding provides only a marginal gain over the unpatented Huffman mode, it is unlikely that very many implementations will support it.) So far as we are aware, there are no patent restrictions on the remaining code.

The IJG distribution formerly included code to read and write GIF files. To avoid entanglement with the Unisys LZW patent, GIF reading support has

been removed altogether, and the GIF writer has been simplified to produce "uncompressed GIFs". This technique does not use the LZW algorithm; the resulting GIF files are larger than usual, but are readable by all standard GIF decoders.

We are required to state that

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REFERENCES

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We highly recommend reading one or more of these references before trying to understand the innards of the JPEG software.

The best short technical introduction to the JPEG compression algorithm is Wallace, Gregory K. "The JPEG Still Picture Compression Standard", Communications of the ACM, April 1991 (vol. 34 no. 4), pp. 30-44. (Adjacent articles in that issue discuss MPEG motion picture compression, applications of JPEG, and related topics.) If you don't have the CACM issue handy, a PostScript file containing a revised version of Wallace's article is available at <ftp://ftp.uu.net/graphics/jpeg/wallace.ps.gz>. The file (actually a preprint for an article that appeared in IEEE Trans. Consumer Electronics) omits the sample images that appeared in CACM, but it includes corrections and some added material. Note: the Wallace article is copyright ACM and IEEE, and it may not be used for commercial purposes.

A somewhat less technical, more leisurely introduction to JPEG can be found in "The Data Compression Book" by Mark Nelson and Jean-loup Gailly, published by M&T Books (New York), 2nd ed. 1996, ISBN 1-55851-434-1. This book provides good explanations and example C code for a multitude of compression methods including JPEG. It is an excellent source if you are comfortable reading C code but don't know much about data compression in general. The book's JPEG sample code is far from industrial-strength, but when you are ready to look at a full implementation, you've got one here...

The best full description of JPEG is the textbook "JPEG Still Image Data Compression Standard" by William B. Pennebaker and Joan L. Mitchell, published by Van Nostrand Reinhold, 1993, ISBN 0-442-01272-1. Price US\$59.95, 638 pp. The book includes the complete text of the ISO JPEG standards (DIS 10918-1 and draft DIS 10918-2). This is by far the most complete exposition of JPEG in existence, and we highly recommend it.

The JPEG standard itself is not available electronically; you must order a paper copy through ISO or ITU. (Unless you feel a need to own a certified official copy, we recommend buying the Pennebaker and Mitchell book instead;

it's much cheaper and includes a great deal of useful explanatory material.) In the USA, copies of the standard may be ordered from ANSI Sales at (212) 642-4900, or from Global Engineering Documents at (800) 854-7179. (ANSI doesn't take credit card orders, but Global does.) It's not cheap: as of 1992, ANSI was charging \$95 for Part 1 and \$47 for Part 2, plus 7% shipping/handling. The standard is divided into two parts, Part 1 being the actual specification, while Part 2 covers compliance testing methods. Part 1 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 1: Requirements and guidelines" and has document numbers ISO/IEC IS 10918-1, ITU-T T.81. Part 2 is titled "Digital Compression and Coding of Continuous-tone Still Images, Part 2: Compliance testing" and has document numbers ISO/IEC IS 10918-2, ITU-T T.83.

Some extensions to the original JPEG standard are defined in JPEG Part 3, a newer ISO standard numbered ISO/IEC IS 10918-3 and ITU-T T.84. IJG currently does not support any Part 3 extensions.

The JPEG standard does not specify all details of an interchangeable file format. For the omitted details we follow the "JFIF" conventions, revision 1.02. A copy of the JFIF spec is available from:

Literature Department
C-Cube Microsystems, Inc.
1778 McCarthy Blvd.
Milpitas, CA 95035
phone (408) 944-6300, fax (408) 944-6314

A PostScript version of this document is available by FTP at <ftp://ftp.uu.net/graphics/jpeg/jfif.ps.gz>. There is also a plain text version at <ftp://ftp.uu.net/graphics/jpeg/jfif.txt.gz>, but it is missing the figures.

The TIFF 6.0 file format specification can be obtained by FTP from <ftp://ftp.sgi.com/graphics/tiff/TIFF6.ps.gz>. The JPEG incorporation scheme found in the TIFF 6.0 spec of 3-June-92 has a number of serious problems. IJG does not recommend use of the TIFF 6.0 design (TIFF Compression tag 6). Instead, we recommend the JPEG design proposed by TIFF Technical Note #2 (Compression tag 7). Copies of this Note can be obtained from [ftp.sgi.com](ftp://ftp.sgi.com) or from <ftp://ftp.uu.net/graphics/jpeg/>. It is expected that the next revision of the TIFF spec will replace the 6.0 JPEG design with the Note's design. Although IJG's own code does not support TIFF/JPEG, the free libtiff library uses our library to implement TIFF/JPEG per the Note. libtiff is available from <ftp://ftp.sgi.com/graphics/tiff/>.

ARCHIVE LOCATIONS

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The "official" archive site for this software is [ftp.uu.net](ftp://ftp.uu.net) (Internet address 192.48.96.9). The most recent released version can always be found

there in directory graphics/jpeg. This particular version will be archived as ftp://ftp.uu.net/graphics/jpeg/jpegsrc.v6b.tar.gz. If you don't have direct Internet access, UUNET's archives are also available via UUCP; contact help@uunet.uu.net for information on retrieving files that way.

Numerous Internet sites maintain copies of the UUNET files. However, only ftp.uu.net is guaranteed to have the latest official version.

You can also obtain this software in DOS-compatible "zip" archive format from the SimTel archives (ftp://ftp.simtel.net/pub/simtelnet/msdos/graphics/), or on CompuServe in the Graphics Support forum (GO CIS:GRAPHSUP), library 12 "JPEG Tools". Again, these versions may sometimes lag behind the ftp.uu.net release.

The JPEG FAQ (Frequently Asked Questions) article is a useful source of general information about JPEG. It is updated constantly and therefore is not included in this distribution. The FAQ is posted every two weeks to Usenet newsgroups comp.graphics.misc, news.answers, and other groups. It is available on the World Wide Web at <http://www.faqs.org/faqs/jpeg-faq/> and other news.answers archive sites, including the official news.answers archive at rtfm.mit.edu: ftp://rtfm.mit.edu/pub/usenet/news.answers/jpeg-faq/. If you don't have Web or FTP access, send e-mail to mail-server@rtfm.mit.edu with body

send usenet/news.answers/jpeg-faq/part1

send usenet/news.answers/jpeg-faq/part2

RELATED SOFTWARE

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Numerous viewing and image manipulation programs now support JPEG. (Quite a few of them use this library to do so.) The JPEG FAQ described above lists some of the more popular free and shareware viewers, and tells where to obtain them on Internet.

If you are on a Unix machine, we highly recommend Jef Poskanzer's free PBPLUS software, which provides many useful operations on PPM-format image files. In particular, it can convert PPM images to and from a wide range of other formats, thus making cjpeg/djpeg considerably more useful. The latest version is distributed by the NetPBM group, and is available from numerous sites, notably ftp://wuarchive.wustl.edu/graphics/graphics/packages/NetPBM/. Unfortunately PBPLUS/NETPBM is not nearly as portable as the IJG software is; you are likely to have difficulty making it work on any non-Unix machine.

A different free JPEG implementation, written by the PVRG group at Stanford, is available from ftp://havefun.stanford.edu/pub/jpeg/. This program is designed for research and experimentation rather than production use; it is slower, harder to use, and less portable than the IJG code, but it

is easier to read and modify. Also, the PVRG code supports lossless JPEG, which we do not. (On the other hand, it doesn't do progressive JPEG.)

FILE FORMAT WARS

=====

Some JPEG programs produce files that are not compatible with our library. The root of the problem is that the ISO JPEG committee failed to specify a concrete file format. Some vendors "filled in the blanks" on their own, creating proprietary formats that no one else could read. (For example, none of the early commercial JPEG implementations for the Macintosh were able to exchange compressed files.)

The file format we have adopted is called JFIF (see REFERENCES). This format has been agreed to by a number of major commercial JPEG vendors, and it has become the de facto standard. JFIF is a minimal or "low end" representation. We recommend the use of TIFF/JPEG (TIFF revision 6.0 as modified by TIFF Technical Note #2) for "high end" applications that need to record a lot of additional data about an image. TIFF/JPEG is fairly new and not yet widely supported, unfortunately.

The upcoming JPEG Part 3 standard defines a file format called SPIFF. SPIFF is interoperable with JFIF, in the sense that most JFIF decoders should be able to read the most common variant of SPIFF. SPIFF has some technical advantages over JFIF, but its major claim to fame is simply that it is an official standard rather than an informal one. At this point it is unclear whether SPIFF will supersede JFIF or whether JFIF will remain the de-facto standard. IJG intends to support SPIFF once the standard is frozen, but we have not decided whether it should become our default output format or not. (In any case, our decoder will remain capable of reading JFIF indefinitely.)

Various proprietary file formats incorporating JPEG compression also exist. We have little or no sympathy for the existence of these formats. Indeed, one of the original reasons for developing this free software was to help force convergence on common, open format standards for JPEG files. Don't use a proprietary file format!

TO DO

=====

The major thrust for v7 will probably be improvement of visual quality. The current method for scaling the quantization tables is known not to be very good at low Q values. We also intend to investigate block boundary smoothing, "poor man's variable quantization", and other means of improving quality-vs-file-size performance without sacrificing compatibility.

In future versions, we are considering supporting some of the upcoming JPEG Part 3 extensions --- principally, variable quantization and the SPIFF file format.

As always, speeding things up is of great interest.

Please send bug reports, offers of help, etc. to jpeg-info@uunet.uu.net.

1.118 servlet-api 3.0.1

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(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application. Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit

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1.121 alpine-baselayout 3.4.0-r0

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```
# Automatically generated by apkbuild-cpan, template 1
# Contributor: Francesco Colista <francesco.colista@gmail.com>
# Maintainer: Francesco Colista <francesco.colista@gmail.com>
pkgname=perl-software-license
_pkgreal=Software-License
pkgver=0.103004
pkgrel=0
pkgdesc="packages that provide templated software licenses"
url="http://search.cpan.org/dist/Software-License/"
arch="noarch"
license="GPL PerlArtistic"
cpandepends="perl-text-template perl-data-section perl-sub-install"
cpanmakedepends=""
depends="$cpandepends"
makedepends="perl-dev $cpanmakedepends"
subpackages="$pkgname-doc"
source="http://search.cpan.org/CPAN/authors/id/R/RJ/RJBS/${_pkgreal}-${pkgver}.tar.gz"

_builddir="$srcdir/${_pkgreal}-${pkgver}"

prepare() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor
}

build() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}`
    make && make test
}
```

```
package() {  
  cd "$_builddir"  
  make DESTDIR="$pkgdir" install || return 1  
  find "$pkgdir" \( -name perllocal.pod -o -name .packlist \) -delete  
}
```

md5sums="0c5fd53d93818566234578b27d667b35 Software-License-0.103004.tar.gz"

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```
see http://www.sqlite.org/copyright.html
# Automatically generated by apkbuild-cpan, template 1
# Contributor: Valery Kartel <valery.kartel@gmail.com>
# Maintainer: Valery Kartel <valery.kartel@gmail.com>
pkgname=perl-bsd-resource
_pkgreal=BSD-Resource
```

```

pkgver=1.2909
pkgrel=0
pkgdesc="Perl extension implements the BSD process resource limit functions"
url="http://search.cpan.org/dist/BSD-Resource/"
arch="all"
license="GPL PerlArtistic"
cpandepends=""
cpanmakedepends=""
depends="$cpandepends"
makedepends="perl-dev $cpanmakedepends"
subpackages="$pkgname-doc"
source="http://search.cpan.org/CPAN/authors/id/J/JH/JHI/${_pkgreal}-${pkgver}.tar.gz"

_builddir="$srcdir/${_pkgreal}-${pkgver}"

prepare() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}'`
    PERL_MM_USE_DEFAULT=1 perl Makefile.PL INSTALLDIRS=vendor
}

build() {
    cd "$_builddir"
    export CFLAGS=`perl -MConfig -E 'say $Config{ccflags}'`
    make && make test || return 1
}

package() {
    cd "$_builddir"
    make DESTDIR="$pkgdir" install || return 1
    find "$pkgdir" \( -name perllocal.pod -o -name .packlist \) -delete
}

md5sums="3c6dd2fa953088aa87e263f40818d012 BSD-Resource-1.2909.tar.gz"
sha256sums="c47d460e2bd00d8d049f6ff4a0f1f61957e289e8de45af5fc79e851e2e855e06 BSD-Resource-1.2909.tar.gz"
sha512sums="5f489eaac5089e82081b7cf51d62638750e443751b49415407354da96b17771819b5e6e85529faa41ddd85743363750157943c7f7700276cce2bd40a429fa430 BSD-Resource-1.2909.tar.gz"
# Contributor: Fabian Affolter <fabian@affolter-engineering.ch>
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pkgname=py-flake8-copyright
_pkgname=flake8-copyright
pkgver=0.1
pkgrel=1
pkgdesc="Extension for flake8 which checks for copyrights"
url="https://github.com/savoirfairelinux/flake8-copyright"
arch="noarch"
license="MIT"

```

```

depends="python flake8"
depends_dev=""
makedepends="python-dev py-setuptools"
install=""
subpackages=""
source="http://pypi.python.org/packages/source/${_pkgname:0:1}/${_pkgname}/${_pkgname}-${pkgver}.tar.gz"

_buildddir="${srcdir}/${_pkgname}-${pkgver}
prepare() {
    local i
    cd "$_buildddir"
    for i in $source; do
        case $i in
            *.patch) msg $i; patch -p1 -i "$srcdir"/$i || return 1;;
        esac
    done
}

build() {
    cd "$_buildddir"
    python setup.py build || return 1
}

package() {
    cd "$_buildddir"
    python setup.py install --prefix=/usr --root="$pkgdir" || return 1
}

md5sums="8fab17d27f0b417c44ea0bebf579d71b flake8-copyright-0.1.tar.gz"
sha256sums="34cba5411ef3f677b7ba8d7b063493c9ed5af9985b2da77807be94bf9e65823b flake8-copyright-
0.1.tar.gz"
sha512sums="c1ef4b8ad4bd422b629ec481074256d33ca4c8e8f10c7a7da6619b01c18ccf6f8a86bf6c7ce4d73f29a93e
0f23797c1a356abcf242e9f556b979b75e3a8bfe46 flake8-copyright-0.1.tar.gz"
# Maintainer: Natanael Copa <ncopa@alpinelinux.org>
pkgname=libart-igpl
pkgver=2.3.21
pkgrel=5
pkgdesc="A library for high-performance 2D graphics"
url="http://www.levien.com/libart/"
arch="all"
license="LGPL"
depends=
makedepends=
subpackages="$pkgname-dev"
source="http://ftp.gnome.org/pub/GNOME/sources/libart_igpl/2.3/libart_igpl-${pkgver}.tar.bz2
"

_buildddir="${srcdir}/libart_igpl-${pkgver}

```

```
prepare() {
  cd "$_builddir"
  update_config_sub || return 1
}
build() {
  cd "$_builddir"
  ./configure \
  --build=$CBUILD \
  --host=$CHOST \
  --prefix=/usr \
  || return 1
  make || return 1
}
```

```
package() {
  cd "$_builddir"
  make DESTDIR="$pkgdir" install || return 1
}
```

```
md5sums="08559ff3c67fd95d57b0c5e91a6b4302 libart_lgpl-2.3.21.tar.bz2"
mini_sendmail - accept email on behalf of real sendmail
```

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1.122 zulu-jdk-headless 11.0.20-1

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1.123 openssl 3.0.2-0ubuntu1.10

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1.124 libkeyutils 1.6.1-2ubuntu3

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```

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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Files: install-sh

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Calling this script `install-sh` is preferred over `install.sh`, to prevent `make` implicit rules from creating a file called `install` from it when there is no `Makefile`.

This script is compatible with the BSD `install` script, but was written from scratch. It can only install one file at a time, a restriction shared with many OS's `install` programs.

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-- vile: txtmode file-encoding=utf-8

1.127 libhogweed6 3.7.3-1build2

1.127.1 Available under license :

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Version 2, June 1991

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Version 3.1, 31 March 2009

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Julian Seward, jseward@bzip.org
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```

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```
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```

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```
<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
```

```

<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
<!-- site wide top running header menu -->

<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">

    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>

```

```
</ul>
</div>
</div>
```

```
<div id="page">
<div class="plain">
<h2>The home of the GNU Modula-2 compiler</h2>
<p>The compiler is held under the GNU Public Licence v3.</p>
<p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions. Copies of the
licences can be found on the
<a href="http://www.gnu.org/licenses">GNU</a> web site.</p>
</div>
</div>
</body>
</html>
```

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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h

lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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```
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## jQuery v1.20.2
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jQuery v 1.10.2
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* Author: Jim Fulton, MIT The Open Group

*

* Xlib Extension-Writing Utilities

*

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man/sha2.3

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Todd C. Miller modified the MD5 code to do MD4 based on RFC 1186.

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include/sha1.h

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*/

/**

* Checks if this content model has had its min/maxOccurs values reduced for
* purposes of speeding up UPA. If so, this content model should not be used
* for any purpose other than checking unique particle attribution

*

* @return a boolean that says whether this content has been compacted for UPA

*/

Found in path(s):

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSCMValidator.java

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*/

/**

* DOM Level 3 LS CR - Experimental.

* Create a new `LSParser`. The newly constructed parser may

* then be configured by means of its `DOMConfiguration`

* object, and used to parse documents by means of its `parse`

* method.

* @param mode The `mode` argument is either

* `MODE_SYNCHRONOUS` or `MODE_ASYNCHRONOUS`, if

* `mode` is `MODE_SYNCHRONOUS` then the

* `LSParser` that is created will operate in synchronous

* mode, if it's `MODE_ASYNCHRONOUS` then the

* `LSParser` that is created will operate in asynchronous

* mode.

* @param schemaType An absolute URI representing the type of the schema

- * language used during the load of a `Document` using the
- * newly created `LSParser`. Note that no lexical checking
- * is done on the absolute URI. In order to create a
- * `LSParser` for any kind of schema types (i.e. the
- * `LSParser` will be free to use any schema found), use the value
- * `null`.
- *

Note: For W3C XML Schema [[XML Schema Part 1](http://www.w3.org/TR/2001/REC-xmlschema-1-20010502/)],
- * , applications must use the value
- * `"http://www.w3.org/2001/XMLSchema"`. For XML DTD [[XML 1.0](http://www.w3.org/TR/2000/REC-xml-20001006/)],
- * applications must use the value
- * `"http://www.w3.org/TR/REC-xml"`. Other Schema languages
- * are outside the scope of the W3C and therefore should recommend an
- * absolute URI in order to use this method.
- * @return The newly created `LSParser` object. This
- * `LSParser` is either synchronous or asynchronous
- * depending on the value of the `mode` argument.
- *

Note: By default, the newly created `LSParser`
- * does not contain a `DOMErrorHandler`, i.e. the value of
- * the "[parameter-error-handler](http://www.w3.org/TR/2003/WD-DOM-Level-3-Core-20030609/core.html#parameter-error-handler)
- * `error-handler`" configuration parameter is `null`. However, implementations
- * may provide a default error handler at creation time. In that case,
- * the initial value of the `"error-handler"` configuration
- * parameter on the new created `LSParser` contains a
- * reference to the default error handler.
- * @exception DOMException
- * NOT_SUPPORTED_ERR: Raised if the requested mode or schema type is
- * not supported.

Found in path(s):

`/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/CoreDOMImplementationImpl.java`

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*/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DOMImplementationListImpl.java
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*/
/**
* used to check the 3 constraints against each complex type
* (should be each model group):
* Unique Particle Attribution, Particle Derivation (Restriction),
* Element Declarations Consistent.
*/

Found in path(s):

*/opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSConstraints.java
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- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDocumentInfo.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDElementTraverser.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLErrorHandler.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/html/dom/HTMLFrameElementImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/XMLEntityDescriptionImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/util/ShadowedSymbolTable.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/util/ObjectListImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLImgElementImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLOptgroupElement.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xni/parser/XMLInputSource.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLImgElement.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/dom/DeferredCDATASectionImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDAbstractIDConstraintTraverser.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLTimerElementImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/XSParticle.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/dom/WMLWmlElementImpl.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/AnySimpleDV.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/xs/StringList.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/wml/WMLTimerElement.java
- * /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/impl/xpath/regex/CaseInsensitiveMap.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/xerces/xinclude/MultipleScopeNamespaceSupport.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/wml/dom/WMLMetaElementImpl.java
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jar/org/apache/html/dom/HTMLQuoteElementImpl.java
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jar/org/apache/xerces/util/EncodingMap.java
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jar/org/apache/xerces/xinclude/XIncludeTextReader.java
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/xerces/jaxp/datatype/DurationImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/NonValidatingConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLImageElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/DecimalDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/XSModelImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/ShortList.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/dtd/ListDatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dtd/DTDGrammar.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DeferredEntityReferenceImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLHeadElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/ProcessingInstructionImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLPrevElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/DOMXSImplementationSourceImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/Augmentations.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/NotationImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/html/dom/HTMLFontElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLTableElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/HTMLAppletElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/SecuritySupport.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSObject.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/SchemaDVFactory.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-

jar/org/apache/xerces/impl/dtd/XMLEntityDecl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/ErrorHandlerProxy.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/WMLTemplateElement.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/XML11Configurable.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/InvalidDatatypeFacetException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSDAbstractParticleTraverser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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jar/org/apache/html/dom/HTMLTableCaptionElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/XMLEntityHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/StandardParserConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/models/XSAllCM.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/opti/AttrImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLFieldsetElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLDoElementImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/RangeToken.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/DOMASBuilderImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/html/dom/NameNodeListImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/wml/dom/WMLDOMImplementationImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/io/UCSReader.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/XIncludeAwareParserConfiguration.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/RevalidationHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xs/XSValue.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/dom/NodeImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/dtd/XML11IDREFDatatypeValidator.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/xni/parser/XMLConfigurationException.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/util/AttributesProxy.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/jaxp/validation/ValidatorImpl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/parsers/XMLGrammarParser.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dtd/XMLSimpleType.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/SchemaNamespaceSupport.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/DateDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSDUniqueOrKeyTraverser.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/MonthDV.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/traversers/XSAttributeChecker.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/dv/xs/YearMonthDV.java

* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-jar/org/apache/xerces/impl/xs/XSModelGroupImpl.java

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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/XSSimpleTypeDecl.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xs/traversers/XSDHandler.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/dv/xs/DayDV.java
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DOMMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XPointerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/DatatypeMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/xpath/regex/message_fr.properties
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jar/org/apache/xerces/impl/msg/XIncludeMessages.properties
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* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
jar/org/apache/xerces/impl/msg/XMLSerializerMessages.properties
* /opt/cola/permits/1257218116_1642790294.82/0/xercesimpl-2-12-0-sources-
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1.139 mawk 1.3.4.20200120-3

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 */

/*****
 *
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 *
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 *
 */
```

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jopt-simple v5.0.4

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xwd v1.0.7

xwd utility

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include/GL/gl.h :

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include/GL/glxext.h
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1.143 jzmq-core 3.1.1-SNAPSHOT

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This package was debianized by

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1.144 pam 1.4.0-11ubuntu2.3

1.144.1 Available under license :

Patch for Ubuntu bug #399071

Display the contents of /etc/legal as part of the MOTD, the first time the user logs in, and set a flag in the user's homedir if possible to prevent repeat displays.

Authors: Dustin Kirkland <kirkland@canonical.com>

Upstream status: Ubuntu-specific, maybe submit to Debian

Index: pam/modules/pam_motd/pam_motd.c

=====

```
--- pam.orig/modules/pam_motd/pam_motd.c
+++ pam/modules/pam_motd/pam_motd.c
@@ -282,6 +282,65 @@ static void try_to_display_directories_w
    _pam_drop(dirscans);
}
```

```
+int display_legal(pam_handle_t *pamh)
```

```
+{
```

```

+ int retval = PAM_IGNORE, rc;
+ char *user = NULL;
+ char *dir = NULL;
+ char *flag = NULL;
+ struct passwd *pwd = NULL;
+ struct stat s;
+ int f;
+ /* Get the user name to determine if we need to print the disclaimer */
+ rc = pam_get_item(pamh, PAM_USER, &user);
+ if (rc == PAM_SUCCESS && user != NULL && *(const char *)user != '\0')
+ {
+     PAM_MODUTIL_DEF_PRIVS(privs);
+
+     /* Get the password entry */
+     pwd = pam_modutil_getpwnam (pamh, user);
+     if (pwd != NULL)
+     {
+         if (pam_modutil_drop_priv(pamh, &privs, pwd)) {
+             pam_syslog(pamh, LOG_ERR,
+                 "Unable to change UID to %d temporarily\n",
+                 pwd->pw_uid);
+             retval = PAM_SESSION_ERR;
+             goto finished;
+         }
+
+         if (asprintf(&dir, "%s/.cache", pwd->pw_dir) == -1 || !dir)
+             goto finished;
+         if (asprintf(&flag, "%s/motd.legal-displayed", dir) == -1 || !flag)
+             goto finished;
+
+         if (stat(flag, &s) != 0)
+         {
+             int fd = open("/etc/legal", O_RDONLY, 0);
+             if (fd >= 0) {
+                 try_to_display_fd(pamh, fd);
+                 close(fd);
+             }
+             mkdir(dir, 0700);
+             f = open(flag, O_WRONLY|O_CREAT|O_EXCL,
+                 S_IRUSR|S_IWUSR|S_IRGRP|S_IROTH);
+             if (f >= 0) close(f);
+         }
+
+     }
+
+ finished:
+     if (pam_modutil_regain_priv(pamh, &privs)) {
+         pam_syslog(pamh, LOG_ERR,
+             "Unable to change UID back to %d\n", privs.old_uid);
+         retval = PAM_SESSION_ERR;
+     }

```

```

+     }
+
+     _pam_drop(flag);
+     _pam_drop(dir);
+ }
+ }
+ return retval;
+}
+
int pam_sm_open_session(pam_handle_t *pamh, int flags,
    int argc, const char **argv)
{
@@ -396,6 +455,9 @@ int pam_sm_open_session(pam_handle_t *pa
try_to_display_directories_with_overrides(pamh, motd_dir_path_split,
    num_motd_dir_paths, report_missing);

+ /* Display the legal disclaimer only if necessary */
+ retval = display_legal(pamh);
+
out:
    _pam_drop(motd_path_copy);
    _pam_drop(motd_path_split);

```

This package was debianized by J.H.M. Dassen (Ray) jdassen@debian.org on
Wed, 23 Sep 1998 20:29:32 +0200.

It was downloaded from <ftp://ftp.kernel.org/pub/linux/libs/pam/pre/>

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1.145 jackson-annotations 2.15.2

1.145.1 Available under license :

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Jackson is a high-performance, Free/Open Source JSON processing library. It was originally written by Tatu Saloranta (tatu.saloranta@iki.fi), and has been in development since 2007. It is currently developed by a community of developers.

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1.146 jackson 2.15.2

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Found in path(s):

- * /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-jar/android/annotation/SuppressLint.java
- * /opt/cola/permits/1258811491_1643111603.33/0/annotations-4-1-1-4-sources-jar/android/annotation/TargetApi.java

1.148 keyutils 1.6.1-2ubuntu3

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```
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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1.149 openssl 3.0.10-r0

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```
<one line to give the program's name and a brief idea of what it does.>  
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```

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This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

The hypothetical commands `show w' and `show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than `show w' and `show c'; they could even be mouse-clicks or menu items--whatever suits your program.

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```
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program `Gnomovision' (a program to direct compilers to make passes
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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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NR START END SECTORS SIZE NAME UUID

```
1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
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```
x ?"U@,5 @mISmIN<GimCN7g1u|E
43mI,5WEV @@ WEV @mImImIAmImImI0mImImI*mImI
A0mImImI...
lost+found...
```

```
;9GimCN7g
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~
```

```
!"#$%&'()*+,-
./0123456789:;<=>?@ABCDEFGHIJKLMNOPQRSTUVWXYZ[\]^_`abcdefghijklmnopqrstuvwxyz{|}~WEV @@
WEV[B "1
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1.151 libpamg 1.4.0-11ubuntu2.3

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1.152 openjdk-jre 11.0.20u8

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Double-conversion v1.1.5

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Mesa 3-D Graphics Library v21.0.3

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include/GL/gl.h :

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xwd v1.0.7

xwd utility

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* /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java

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- * /opt/cola/permits/1264660152_1643871085.34/0/error-prone-annotations-2-3-3-sources-jar/com/google/errorprone/annotations/DoNotCall.java
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jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java  
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```

1.155 libsemanage-common 3.3-1build2

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1.156 sysv-init 3.01-1ubuntu1

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1.157 libcrypto3 3.0.10-r0

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builds/unix/pkg.m4

#

docs/FTL.TXT

docs/GPLv2.TXT

#

include/freetype/internal/fthash.h

#

src/base/fthash.c

src/base/md5.c

src/base/md5.h

#

src/bdf/bdf.c

src/bdf/bdf.h

src/bdf/bdfdrivr.c

src/bdf/bdfdrivr.h

src/bdf/bdferror.h

src/bdf/bdflib.c

src/bdf/module.mk

src/bdf/README

```
src/bdf/rules.mk
#
src/pcf/module.mk
src/pcf/pcf.c
src/pcf/pcf.h
src/pcf/pcfdrivr.c
src/pcf/pcfdrivr.h
src/pcf/pcferror.h
src/pcf/pcfread.c
src/pcf/pcfread.h
src/pcf/pcfutil.c
src/pcf/pcfutil.h
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftandom/ftandom.c
#
subprojects/dlg
#
# EOF
```

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```
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This is free software, and you are welcome to redistribute it
under certain conditions; type `show c' for details.
```

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```
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```

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<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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1.160 libkrb 1.19.2-2ubuntu0.2

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cmd/krb5/ipropl/ipropl.x
cmd/krb5/ipropl/ipropl_hdr.h
cmd/krb5/kadmin/server/ipropl_svc.c
cmd/krb5/kproplog/kproplog.c
cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
lib/libgss/g_acquire_cred.c
lib/libgss/g_canon_name.c
lib/libgss/g_compare_name.c
lib/libgss/g_context_time.c
lib/libgss/g_delete_sec_context.c
lib/libgss/g_dsp_name.c
lib/libgss/g_dsp_status.c
lib/libgss/g_dup_name.c
lib/libgss/g_exp_sec_context.c
lib/libgss/g_export_name.c
lib/libgss/g_glue.c
lib/libgss/g_imp_name.c
lib/libgss/g_imp_sec_context.c
lib/libgss/g_init_sec_context.c
lib/libgss/g_initialize.c
lib/libgss/g_inquire_context.c
lib/libgss/g_inquire_cred.c
lib/libgss/g_inquire_names.c
lib/libgss/g_process_context.c
```

lib/libgss/g_rel_buffer.c
lib/libgss/g_rel_cred.c
lib/libgss/g_rel_name.c
lib/libgss/g_rel_oid_set.c
lib/libgss/g_seal.c
lib/libgss/g_sign.c
lib/libgss/g_store_cred.c
lib/libgss/g_unseal.c
lib/libgss/g_userok.c
lib/libgss/g_utils.c
lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
uts/common/gssapi/include/gssapi_err_generic.h
uts/common/gssapi/include/mechglueP.h

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- lib/gssapi/generic/gssapi_err_generic.et
- lib/gssapi/mechglue/g_accept_sec_context.c
- lib/gssapi/mechglue/g_acquire_cred.c
- lib/gssapi/mechglue/g_canon_name.c
- lib/gssapi/mechglue/g_compare_name.c
- lib/gssapi/mechglue/g_context_time.c
- lib/gssapi/mechglue/g_delete_sec_context.c
- lib/gssapi/mechglue/g_dsp_name.c
- lib/gssapi/mechglue/g_dsp_status.c
- lib/gssapi/mechglue/g_dup_name.c
- lib/gssapi/mechglue/g_exp_sec_context.c
- lib/gssapi/mechglue/g_export_name.c
- lib/gssapi/mechglue/g_glue.c
- lib/gssapi/mechglue/g_imp_name.c
- lib/gssapi/mechglue/g_imp_sec_context.c
- lib/gssapi/mechglue/g_init_sec_context.c
- lib/gssapi/mechglue/g_initialize.c
- lib/gssapi/mechglue/g_inquire_context.c
- lib/gssapi/mechglue/g_inquire_cred.c
- lib/gssapi/mechglue/g_inquire_names.c
- lib/gssapi/mechglue/g_process_context.c
- lib/gssapi/mechglue/g_rel_buffer.c
- lib/gssapi/mechglue/g_rel_cred.c
- lib/gssapi/mechglue/g_rel_name.c
- lib/gssapi/mechglue/g_rel_oid_set.c
- lib/gssapi/mechglue/g_seal.c
- lib/gssapi/mechglue/g_sign.c
- lib/gssapi/mechglue/g_store_cred.c
- lib/gssapi/mechglue/g_unseal.c
- lib/gssapi/mechglue/g_userok.c
- lib/gssapi/mechglue/g_utils.c
- lib/gssapi/mechglue/g_verify.c

lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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2. FEES.

2.1 PRICING.

End User will be invoiced for those amounts and at those prices set forth in an Order Form (an Invoice), provided, however, that, for Evaluation Use, End User shall not be billed unless otherwise specified by AppDynamics in writing prior to End User downloading or accessing (as applicable) the Software. Fees do not include any customization of the Software (nor support for any such customizations, unless otherwise agreed in writing). If End Users usage of the Software is in excess of those amounts set forth in the Order Form, End User will be billed for those overages at a pro-rated amount for the remainder of the applicable License Term, based on AppDynamics then-current standard pricing. If AppDynamics believes in good faith that End Users usage of the Software exceeds that set forth on the applicable Order Form, End User agrees to allow AppDynamics to audit End Users use of the Software (not more frequently than twice per calendar year), upon at least twenty-four (24) hours notice, to determine the actual Software use, using a commercially reasonable auditing procedure. End User acknowledges that purchases made under this Agreement are neither contingent on the delivery of any future functionality or features nor dependent on any oral or written public comments made by AppDynamics regarding future

functionality or features.

2.2 PAYMENTS.

End User shall pay Invoices within thirty (30) days of the invoice date (the Invoice Due Date). If End User reasonably disputes any Invoice, (i) End User shall provide AppDynamics with written notice of such dispute, including the grounds therefor (a Dispute Notice), prior to the Invoice Due Date, (ii) End User and AppDynamics shall, for a period of fifteen (15) days following AppDynamics receipt of such Dispute Notice, negotiate in good faith to resolve the dispute and (iii) if such dispute remains unresolved at the end of such period, the parties shall retain all of their respective rights under this Agreement (including, without limitation, any action for non-payment of the fees set forth herein). All payment obligations are non-cancelable and all amounts paid are non-refundable, except (a) for amounts paid in error that are not actually due under this Agreement, and (b) as set forth in Sections 6.1 and 7.1. The fees paid by End User are exclusive of all taxes, levies, or duties imposed by taxing authorities, if any, and End User shall be responsible for payment of all such taxes, levies, or duties, excluding taxes based on AppDynamics income. End User represents and warrants that the billing and contact information provided to AppDynamics is complete and accurate, and AppDynamics shall have no responsibility for any Invoices that are not received due to inaccurate or missing information provided by End User. End User shall pay interest on all payments not received by the Invoice Due Date at a rate of one percent (1%) per month or the maximum amount allowed by law, whichever is lesser. All amounts due under this Agreement shall be paid by End User in full without any set-off, counterclaim, deduction or withholding (other than any deduction or withholding of tax as required by law). If requested by AppDynamics, End User will obtain and furnish to AppDynamics tax receipts or other certificates issued by the competent taxation office showing the payments of the withholding tax within a reasonable time after payment. Following written notice, AppDynamics shall be entitled to suspend End Users access to the Software if payments are not received within thirty (30) days of the Invoice Due Date. Notwithstanding anything herein to the contrary, if End User makes its payments pursuant to this Agreement to a Partner, then the payment terms agreed by End User and such Partner shall govern to the extent anything in this Section 2 conflicts with such Partner payment terms.

3. CONFIDENTIALITY

3.1 SCOPE AND RESTRICTIONS.

Confidential Information means all information of a party (Disclosing Party) disclosed to the other party (Receiving Party) that is designated in writing or identified as confidential at the time of disclosure or should be reasonably known by the Receiving Party to be confidential due to the nature of the information disclosed and the circumstances surrounding the disclosure. The terms of this Agreement, the Software, any technical or other documentation relating to the Software, logins, passwords and other access codes and any and all information regarding AppDynamics business, products and services are the Confidential Information of AppDynamics. The Receiving Party will: (i) not use the Disclosing Partys Confidential Information for any purpose outside of this Agreement; (ii) not disclose such Confidential Information to any person or entity, other than its affiliates, employees, consultants, agents and professional advisers who have a need to know for the Receiving Party to exercise its rights or perform its obligations hereunder, provided that such employees, consultants, and agents are bound by agreements or, in the case of professional advisers, ethical duties respecting such Confidential Information in accordance with the terms of this Section 3; and (iii) use reasonable measures to protect the confidentiality of such Confidential Information. If the Receiving Party is required by applicable law or court order to make any disclosure of such Confidential Information, it will first give written notice of such requirement to the Disclosing Party, and, to the extent within its control, permit the Disclosing Party to intervene in any relevant proceedings to protect its interests in its Confidential Information, and provide full cooperation to the Disclosing Party in seeking to

obtain such protection. Further, this Section 3 will not apply to information that the Receiving Party can document: (i) was rightfully in its possession or known to it prior to receipt without any restriction on its disclosure; (ii) is or has become public knowledge or publicly available through no fault of the Receiving Party; (iii) is rightfully obtained by the Receiving Party from a third party without breach of any confidentiality obligation; or (iv) is independently developed by employees of the Receiving Party who had no access to such information.

3.2 EQUITABLE RELIEF.

The Receiving Party acknowledges that unauthorized disclosure of the Disclosing Partys Confidential Information could cause substantial harm to the Disclosing Party for which damages alone might not be a sufficient remedy and, therefore, that upon any such disclosure by the Receiving Party the Disclosing Party will be entitled to seek appropriate equitable relief in addition to whatever other remedies it might have at law or equity.

4. PROPRIETARY RIGHTS. AppDynamics and its suppliers own and shall retain all proprietary rights, including all copyright, patent, trade secret, trademark and all other intellectual property rights, in and to the Software and the results of any Services. End User acknowledges that the rights granted under this Agreement do not provide End User with title to or ownership of the Software. Certain free or open source based software (the FOSS Software) and third party software included with the Software (the Third Party Software) is shipped with the Software but is not considered part of the Software hereunder. A list of the FOSS Software and Third Party Software is set forth on the webpage located at <https://docs.appdynamics.com/display/DASH/Legal+Notices> With respect to Third Party Software included with the Software, such Third Party Software suppliers are third party beneficiaries of this Agreement. End Users use of such FOSS Software is subject to the terms of the licenses set forth on such webpage. The Software and Third Party Software may only be used by End User as prescribed by the AppDynamics documentation located at <http://docs.appdynamics.com> (as it may be updated from time to time, the Documentation).

5. TERM AND TERMINATION.

The term of this Agreement begins on the Effective Date and will remain in effect until all Subscription Licenses (and Maintenance and Support Terms, if applicable) expire or until this Agreement is otherwise terminated in accordance with the terms hereof, whichever occurs first (the Term). This Agreement may be renewed at any time by execution of an Order Form referencing this Agreement, and any such renewal will be deemed part of the Term hereunder. If either party commits a material breach of this Agreement, and such breach has not been cured within thirty (30) days after receipt of written notice thereof, the non-breaching party may terminate this Agreement, except that AppDynamics may immediately terminate this Agreement and/or End Users license to the Software upon End Users breach of Section 1.2. Either party may also terminate this Agreement upon written notice if the other party suspends payment of its debts or experiences any other insolvency or bankruptcy-type event. Upon expiration or termination of this Agreement for any reason, (i) with respect to Subscription Licenses, all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; (ii) with respect to perpetual licenses, these will survive termination of this Agreement unless AppDynamics terminates the Agreement for End Users breach of this Agreement in which case all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; and (iii) each Receiving Party will return or destroy, at the Disclosing Partys option, the Disclosing Partys Confidential Information in the Receiving Partys possession or control. All fees that have accrued as of such expiration or termination, and Sections 1.2, 1.3, 1.4, 2, 3, 4, 5, 6.2 and 7 through 12, will survive any expiration or termination hereof.

6. WARRANTIES.

6.1 LIMITED WARRANTY. The limits below will not apply to the extent prohibited by applicable law.

AppDynamics warrants that during the first thirty (30) days following the date the Software is purchased, the Software will, in all material respects, conform to the functionality described in the then-current Documentation for the applicable Software version. AppDynamics sole and exclusive obligation, and End Users sole and exclusive remedy, for a breach of this warranty shall be that AppDynamics shall be required to use commercially reasonable efforts to repair or replace the Software to conform in all material respects to the Documentation, and if AppDynamics is unable to materially restore such functionality within thirty (30) days from the date of written notice of such breach, End User shall be entitled to terminate the license to the affected Software upon written notice and AppDynamics shall promptly provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). End User must notify AppDynamics in writing of any warranty breaches within such warranty period, and End User must have installed and configured the Software in accordance with the Documentation to be eligible for the foregoing remedy.

6.2 WARRANTY DISCLAIMER.

EXCEPT AS EXPRESSLY PROVIDED IN THIS SECTION 6, ALL SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT AND SERVICES ARE PROVIDED AS IS AND APPDYNAMICS AND ITS SUPPLIERS EXPRESSLY DISCLAIM ANY AND ALL OTHER REPRESENTATIONS AND WARRANTIES, EITHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT THERETO, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, OR THE CONTINUOUS, UNINTERRUPTED, ERROR-FREE, VIRUS-FREE, OR SECURE ACCESS TO OR OPERATION OF THE SOFTWARE. APPDYNAMICS EXPRESSLY DISCLAIMS ANY WARRANTY AS TO THE ACCURACY OR COMPLETENESS OF ANY INFORMATION OR DATA ACCESSED OR USED IN CONNECTION WITH THE SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT, OR SERVICES. AppDynamics is not responsible for any delays, delivery failures, or any other loss or damage resulting from the transfer of data over communications networks and facilities, including the Internet, and End User acknowledges that the Software and Documentation may be subject to limitations, delays and other problems inherent in the use of such communications facilities. The Software is not fault-tolerant and is not designed or intended for use in hazardous environments, including without limitation, in the operation of aircraft or other modes of human mass transportation, nuclear or chemical facilities, life support systems, implantable medical equipment, motor vehicles or weaponry systems, or any other application in which failure of the Software could lead to death or serious bodily injury of a person, or to severe physical or environmental damage (each, a High Risk Use). AppDynamics expressly disclaims any express or implied warranty or representation of fitness for High Risk Use. AppDynamics shall not be liable to End User for any loss, damage or harm suffered by End User that is directly or indirectly caused by End Users unauthorized use of the Software to process Prohibited Data.

7. INDEMNIFICATION.

7.1 BY APPDYNAMICS.

AppDynamics agrees at its expense to defend End User against (or, at AppDynamics option, settle), any third party claim to the extent such claim alleges that the Software infringes or misappropriates any patent, copyright, trademark or trade secret of a third party, and AppDynamics shall pay all costs and damages finally awarded against End User by a court of competent jurisdiction as a result of any such claim. In the event that the use of the Software is, or in AppDynamics sole opinion is likely to become, subject to such a claim, AppDynamics, at its option and

expense, may (a) replace the applicable Software with functionally equivalent non-infringing technology, (b) obtain a license for End Users continued use of the applicable Software, or (c) terminate the license and provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). The foregoing indemnification obligation of AppDynamics will not apply: (1) if the Software is modified by End User or its agent; (2) if the Software is combined with other non-AppDynamics products, applications, or processes, but solely to the extent the alleged infringement is caused by such combination; or (3) to any unauthorized use of the Software. The foregoing shall be End Users sole remedy with respect to any claim of infringement of third party intellectual property rights.

7.2 BY END USER.

End User agrees to defend, at its expense, AppDynamics and its affiliates, its suppliers and its resellers against any third party claim to the extent such claim arises from or is made in connection with End Users breach of Section 1 or End Users negligence or willful misconduct, and End User shall pay all costs and damages finally awarded against AppDynamics by a court of competent jurisdiction as a result of any such claim.

7.3 INDEMNIFICATION REQUIREMENTS.

In connection with any claim for indemnification under this Section 7, the indemnified party must promptly provide the indemnifying party with notice of any claim that the indemnified party believes is within the scope of the obligation to indemnify, provided, however, that the failure to provide such notice shall not relieve the indemnifying party of its obligations under this Section 7, except to the extent that such failure materially prejudices the indemnifying partys defense of such claim. The indemnified party may, at its own expense, assist in the defense if it so chooses, but the indemnifying party shall control the defense and all negotiations related to the settlement of any such claim. Any such settlement intended to bind either party shall not be final without the other partys written consent, which consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that End Users consent shall not be required when AppDynamics is the indemnifying party if the settlement involves only the payment of money by AppDynamics.

8. LIMITATION OF LIABILITY. The limits below will not apply to the extent prohibited by applicable law.

8.1 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), IN NO EVENT SHALL EITHER PARTY BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOSS OF REVENUES OR PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, OR LOSS OF DATA, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8.2 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), NEITHER PARTYS LIABILITY FOR ANY DAMAGES (WHETHER FOR BREACH OF CONTRACT, MISREPRESENTATIONS, NEGLIGENCE, STRICT LIABILITY, OTHER TORTS OR OTHERWISE) UNDER THIS AGREEMENT SHALL EXCEED AN AMOUNT EQUAL TO THE TOTAL FEES PAID (PLUS FEES PAYABLE) TO APPDYNAMICS DURING THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM GIVING RISE TO SUCH DAMAGES. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

9. FORCE MAJEURE.

Except for payment obligations, neither party hereto will be liable for defaults or delays due to acts of God, or the public enemy, acts or demands of any government or governmental agency, fires, earthquakes, floods, accidents, or other unforeseeable causes beyond its reasonable control and not due to its fault or negligence.

10. DATA COLLECTION.

End User acknowledges that AppDynamics application server and machine software agents (the Agents) collect metrics that relate to the performance, health and resource of an application, its components (transactions, code libraries) and related infrastructure (nodes, tiers) that service those components. In addition, AppDynamics collects metrics on End Users activities, such as web pages visited, length of visit, and which features of the Software an End User uses. If End User provides AppDynamics with any personally identifiable information (personal data), End User represents and warrants that such information has been collected by End User in accordance with the provisions of all applicable data protection legislation and that End User has all right and consents necessary to provide such personal data to AppDynamics. End User will indemnify AppDynamics for reasonable costs and other amounts that AppDynamics may incur relating to any breach of this Section.

11. US GOVERNMENT MATTERS.

As defined in FAR section 2.101, the Software and Documentation are commercial items and according to DFAR section 252.227 7014(a)(1) and (5) are deemed to be commercial computer software and commercial computer software documentation. Consistent with DFAR section 227.7202 and FAR section 12.212, any use modification, reproduction, release, performance, display, or disclosure of such commercial software or commercial software documentation by the U.S. Government will be governed solely by the terms of this Agreement and will be prohibited except to the extent expressly permitted by the terms of this Agreement.

12. MISCELLANEOUS.

This Agreement shall be governed by and construed under the laws of the State of California, U.S.A. The parties consent to the exclusive jurisdiction and venue of the courts located in and serving San Francisco, California. Failure by either Party to exercise any of its rights under, or to enforce any provision of, this Agreement will not be deemed a waiver or forfeiture of such rights or ability to enforce such provision. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or unenforceable, such provision will be amended to achieve as nearly as possible the same economic effect of the original provision and the remainder of this Agreement will remain in full force and effect. This Agreement and its exhibits, together with the Order Form(s) and any statements of work incorporating this Agreement, if applicable, represent the entire agreement between the parties and supersede any previous or contemporaneous oral or written agreements or communications regarding the subject matter of this Agreement. The person signing or otherwise accepting this Agreement for End User represents that s/he is duly authorized by all necessary and appropriate corporate action to enter this Agreement on behalf of End User. Any modification to this Agreement must be in writing and signed by a duly authorized agent of both parties. The Uniform Computer Information Transactions Act (UCITA) does not apply to this Agreement. This Agreement shall control over additional or different terms of any purchase order, confirmation, invoice, statement of work or similar document (other than an AppDynamics Order Form, which will take precedence), even if accepted in writing by both parties, and waivers and amendments to this Agreement shall be effective only if made by non-pre-printed agreements clearly understood by both parties to be an amendment or waiver to this Agreement. For purposes of this Agreement, including means including without limitation. The rights and remedies of the parties hereunder will be deemed cumulative and not exclusive of any other right or remedy conferred by this Agreement or by law or equity. No joint venture, partnership, employment, or agency relationship exists between the parties as a

result of this Agreement or use of the Software. AppDynamics reserves the right to perform its obligations from locations and/or through use of affiliates and subcontractors, worldwide, provided that AppDynamics will be responsible for such parties. End User may not assign this Agreement without the prior written approval of AppDynamics and any purported assignment in violation of this section shall be void; AppDynamics may assign, transfer or subcontract this Agreement in whole or in part. Upon any assignment of this Agreement by End User that is approved by AppDynamics, any licenses that contain an unlimited aspect will, with respect to End User or the successor entity, as applicable, be capped at the number of authorized Software units in use immediately prior to such assignment. End User agrees that AppDynamics may refer to End User by its trade name and logo, and may briefly describe End Users business, in AppDynamics marketing materials and website. AppDynamics may give notice to End User by electronic mail to End Users email address on record in End Users account information, or by written communication sent by first class mail or pre-paid post to End Users address on record in End Users account information. End User may give notice to AppDynamics at any time by any letter delivered by nationally recognized overnight delivery service or first class postage prepaid mail to AppDynamics at the following address or such other address as may be notified to End User from time to time: AppDynamics, Inc., 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107, Attn: Legal Department. Notice under this Agreement shall be deemed given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by email; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested.

EXHIBIT A

ENTERPRISE SUPPORT

GENERAL REQUIREMENTS.

AppDynamics will provide access to a ticketing system and email address (help@appdynamics.com), which will be available twenty-four (24) hours per day, seven (7) days per week. The email account will be maintained by qualified support specialists, who shall use commercially reasonable efforts to answer questions and resolve problems regarding the Software.

HOURS OF OPERATION.

Support is available twenty-four (24) hours per day, seven (7) days per week.

ERROR CLASSIFICATION.

Any reported errors are classified in the following manner, in each case when caused by the Software:

Error Classification Criteria

=====

Urgent End User production application is down or there is a major malfunction, resulting in a business revenue loss and impacting the End User application functionality for a majority of users.

High Critical loss of End User application functionality or

performance, impacting the application functionality for a high number of users.

Normal Moderate loss of End User application functionality or performance, impacting multiple users.

Low Minor loss of End User application functionality or product feature in question.

ERROR DEFINITION.

An error means a reproducible malfunction in the Software that is reported by End User through AppDynamics ticketing system that prevents the Software from performing in accordance with the operating specifications described in the then-current Documentation.

AUTHORIZED SUPPORT CONTACTS.

Maintenance and Support will be provided solely to End Users designated support contacts. The Order Form may indicate a maximum number of designated support contacts for End Users service level. End User will provide its designated support contacts, including its primary email address.

END USERS OBLIGATION TO ASSIST.

If End User reports a purported error in the Software to AppDynamics, AppDynamics ticketing system will request the following minimum information:

- A general description of the operating environment
- A list of all hardware components, operating systems and networks
- A reproducible test case
- Any log files, trace and systems files

End Users failure to provide this information may prevent or significantly delay AppDynamics ability to identify and fix the reported error. AppDynamics time to respond to any error will begin when AppDynamics has received all requested information from the End User and is able to reproduce the error.

ERROR RESOLUTION.

If AppDynamics determines there is an error in the Software, AppDynamics may, at its sole option, repair that error in the version of the Software that End User is currently using or instruct End User to install a newer version of the Software with that error repaired. AppDynamics reserves the right to provide End User with a workaround in lieu of fixing an error.

SOFTWARE UPDATES AND UPGRADES. End User must be current on fees in order to receive access to Maintenance.

RESPONSE TIME. AppDynamics shall respond to error tickets in accordance with the tables set forth below. AppDynamics will use reasonable means to repair the error and keep End User informed of progress. AppDynamics makes no representations as to when a full resolution of the error may be made.

Error Initial Response Manager Escalation VP Escalation Email Status Updates

=====
Urgent 1 Hour 1 Business Day 1 Week Daily
High 6 Hours 1 Week 2 Weeks Weekly
Normal 1 Business Day Quarterly Review None None
Low 2 Business Days Semi-Annual Review None None

Maintenance and Support Policy: The Maintenance and Support policy is as follows:

AppDynamics provides Maintenance and Support for each version of the Software for a period of twelve (12) months after the generally available release of the next major version of the Software (a major release is a change in the first number to the right of the decimal point). For example, if version 4.1 is released on January 1, 2015, then AppDynamics will provide Maintenance and Support for version 4.0 until January 1, 2016. AppDynamics does not provide Maintenance or Support for any customized software (or components thereof).

For third party software or technology used by End User with the Software but not included with the Software (a Platform, such as Java Virtual Machines), AppDynamics will follow the end-of-life (EOL) support timeline announced by the third party vendor of such Platform. AppDynamics will stop providing Maintenance and Support for an EOLd Platform version when the Platform vendor stops providing maintenance and support for that Platform version.

EXHIBIT B AVAILABILITY AND SECURITY

The terms set forth in this Exhibit B apply only if End User has purchased access to the online software-as-a-service (SaaS) version of the Software, as indicated on the Order Form.

AVAILABILITY.

AppDynamics will provide System Availability (as defined below) of ninety-nine and one-half percent (99.5%) (the Availability SLA), excluding situations identified as Exclusions below. For purposes of the Availability SLA, the AppDynamics network extends to, includes and terminates at the data center located router that provides the outside interface of each of AppDynamics WAN connections to its backbone providers (the AppDynamics Network).

Exclusions means any outage that results from any of the following:

- a. Any Maintenance performed by AppDynamics during AppDynamics standard Maintenance windows. AppDynamics will notify End User within forty-eight (48) hours of any standard Maintenance and within twenty-four (24) hours for other non-standard emergency Maintenance (collectively referred to herein as Scheduled Maintenance).
- b. End User's information content or application programming, or the acts or omissions of End User or its agents, including, without limitation, the following:
 1. End Users use of any programs not supplied by AppDynamics;

2. End Users failure to provide AppDynamics with reasonable advance prior notice of any pending unusual large deployments of new nodes (i.e., adding over ten percent (10%) total nodes in less than twenty-four (24) hours);
 3. End Users implementation of any significant configuration changes, including changes that lead to a greater than thirty percent (30%) change in a one week period or greater than fifty percent (50%) change in a one month period in the number of key objects in the system including but not limited to metrics, snapshots, nodes, events and business transactions;
 4. Any misconfiguration by End User (as determined in AppDynamics sole discretion), including configuration errors and unintended usage of the Software;
 5. End Users failure to upgrade the Agents to keep the Agent versions within six (6) months of the Controller version; or
 6. End Users implementation of configuration changes in the number of key objects in the Software (including metrics, snapshots, nodes, events and business transactions) that results in, or is likely to result in, an adverse impact on other customers.
- c. Force majeure or other circumstances beyond AppDynamics reasonable control that could not be avoided by its exercise of due care.
- d. Failures of the Internet backbone itself and the network by which End User connects to the Internet backbone or any other network unavailability outside of the AppDynamics Network, such as misconfigurations, proxies or firewalls.
- e. Any window of time when End User agrees that Software availability/unavailability will not be monitored or counted.
- f. Any problems resulting from End User combining or merging the Software with any hardware or software not supplied by AppDynamics or not identified by AppDynamics in the Documentation as being compatible with the Software.
- g. End Users or any third partys use of the Software in an unauthorized or unlawful manner.

Remedies for Excessive Downtime:

In the event the availability of the Software falls below the Availability SLA in a given calendar quarter, AppDynamics will pay End User a service credit (Service Credit) as follows, corresponding to the actual Availability of the Software during the applicable calendar quarter (on pro-rated basis for annual or multi-year fees): if the Availability is 99.5% or greater, End User is entitled to receive no credits; if the Availability is 97.0% - 99.49%, then End User is entitled to receive Service Credits equal to five percent of the fees for the applicable calendar quarter (not to exceed \$280); if the Availability is 95.0% - 96.9%, then End User is entitled to receive Service Credits equal to ten percent of the fees for the applicable calendar quarter (not to exceed \$560); and if the Availability is less than 95.0%, then End User is entitled to receive Service Credits equal to twenty percent of the fees for the applicable calendar quarter (not to exceed \$1120). Such Service Credit will be issued as a credit against any fees owed by End User for the next calendar quarter of the Term, or, if End User does not owe any additional fees, then AppDynamics will pay End User the amount of the applicable Service Credit within thirty (30) days after the end of the calendar quarter in which such credit accrued. To receive Service Credits, End User must submit a written request to AppDynamics (to customersuccess@appdynamics.com with a copy to legal@appdynamics.com) within 15 days after the end of the quarter in which the Software was unavailable, or End Users right to receive Service Credits with respect to such unavailability will be waived. The remedies stated in this section are End Users sole and exclusive remedies and AppDynamics sole and exclusive obligations for service interruption or

unavailability.

System Availability is measured by the following formula: $(n - y) * 100 / n$

(1) n is the total number of minutes in the given calendar quarter minus the Exclusions (as defined above); and y is the total number of minutes in the given calendar quarter that the Controller is not accessible by End User (as determined by AppDynamics tools).

(2) Specifically excluded from n and y in this calculation are the Exclusions.

SECURITY INFORMATION.

For all End User data stored in the software-as-a-service version of the Software, AppDynamics will satisfy all of its obligations under Section 3 by maintaining the security precautions described below.

Certifications

AppDynamics is SOC 2 Type II compliant, meaning it has been independently audited to verify the validity and functionality of its control activities and processes. Customers may request AppDynamics report at any time.

AppDynamics data center provider is also SOC 2 Type II compliant.

Secure Connections

Agents initiate connections to a single Controller, which can either be hosted on-premises by the customer or by AppDynamics via the AppDynamics software-as-a-service platform. The Controller is the central repository and analytics engine where all performance data is stored, baselined, and analyzed. If End User downloads the Agent from End Users controller (ie., using the installation wizard provided by AppDynamics), then transport layer security (TLS) for Agent-to-Controller communication is enabled by default. For other installations, AppDynamics recommends enabling SSL/TLS encryption for Agent communications. For detailed instructions please see docs.appdynamics.com. Agents also support outbound HTTP proxies for customers using these security mechanisms. For Software user interface access, AppDynamics redirects all traffic to HTTPS.

Access Controls to Data

Access to collected data and data collection features is restricted to authenticated customer users by role-based access controls (RBAC). In addition, customer users do not have native access to run queries on the Controllers MySQL database.

Availability

Servers for the software are operated in fault-tolerant architecture in a manner designed to ensure availability. Data is backed up nightly and stored redundantly. AppDynamics also provides an off-site backup service. Software security updates and patches are evaluated by engineers and are deployed based upon the security risks and stability benefits they offer to the Software and End Users.

Security

Access to the Software platform infrastructure and data by AppDynamics personnel is secured by authentication methods including public key authentication, passwords and network access control lists. Infrastructure and data access is restricted to AppDynamics employees and contractors subject to confidentiality agreements. System and network activity for the Software are regularly monitored by a team of engineers. Failed authentication attempts are audited and engineers are paged so that intrusions or threats can be investigated. Standard firewall policies are deployed to block access except to ports required for Software and Agent communication.

Sensitive Data

AppDynamics recommends on-premises (rather than software-as-a-service) deployments for customers subject to

heightened regulatory oversight of data.

More Information

For more information on data privacy or security processes please contact help@appdynamics.com or your account representative. To report a suspected security breach, contact security@appdynamics.com.

AppDynamics Proprietary and Confidential * Revision 2016.11.01

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1.168 diffutils 3.8-0ubuntu2

1.168.1 Available under license :

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Version 3, 29 June 2007

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@subheading END OF TERMS AND CONDITIONS

@page

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@var{signature of Ty Coon}, 1 April 1990

Ty Coon, President of Vice

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If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

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You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a) Accompany the work with the complete corresponding

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The "source code" for a work means the preferred form of the work for making modifications to it. "Object code" means any non-source form of a work.

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is widely used among developers working in that language.

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1.172 libncurses 6.3-2ubuntu0.1

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This package is used for testing builds of ncurses.

Current ncurses maintainer: Thomas Dickey <dickey@invisible-island.net>

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-- vile: txtmode file-encoding=utf-8

1.173 nettle 3.7.3-1build2

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1.174 opentelemetry-semconv 1.24.0-alpha

1.174.1 Available under license :

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1.175 libkrb5support 1.19.2-2ubuntu0.2

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cmd/krb5/iproplib/iproplib_hdr.h
cmd/krb5/kadmin/server/iproplib_svc.c
```

cmd/krb5/kproplog/kproplog.c
cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
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uts/common/gssapi/include/gssapi_err_generic.h
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The implementations of GSSAPI mechglue in GSSAPI-SPNEGO in "src/lib/gssapi", including the following files:

lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c

lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
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lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h
lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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man/bitstring.3bsd
man/errc.3bsd
man/explicit_bzero.3bsd
man/fgetln.3bsd
man/fgetwln.3bsd
man/fpurge.3bsd
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man/strtoi.3bsd
man/strtou.3bsd
man/unvis.3bsd
man/vis.3bsd
man/wcsncpy.3bsd
src/getbsize.c
src/heapsort.c
src/merge.c
src/nlist.c
src/pwcache.c
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src/arc4random_uniform.c
src/arc4random_unix.h
src/arc4random_win.h
src/closefrom.c
src/freezero.c
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src/getentropy_linux.c
src/getentropy_osx.c
src/getentropy_solaris.c
src/getentropy_win.c
src/readpassphrase.c
src/reallocarray.c
src/reallocarray.c
src/strlcat.c
src/strncpy.c

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/RestrictedApi.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/MustBeClosed.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/CompatibleWith.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/DoNotMock.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/FormatMethod.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/FormatString.java
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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/InlineMeValidationDisabled.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/InlineMe.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/Modifier.java

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/LockMethod.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/UnlockMethod.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/NoAllocation.java

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* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/DoNotCall.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/CheckReturnValue.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/concurrent/GuardedBy.java

* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-jar/com/google/errorprone/annotations/OverridingMethodsMustInvokeSuper.java

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jar/com/google/errorprone/annotations/RequiredModifiers.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/CanIgnoreReturnValue.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/concurrent/LazyInit.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/Var.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/CompileTimeConstant.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/Immutable.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/IncompatibleModifiers.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/SuppressPackageLocation.java
* /opt/cola/permits/1287386049_1647249958.14/0/error-prone-annotations-2-10-0-sources-
jar/com/google/errorprone/annotations/ForOverride.java

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Double-conversion v1.1.5

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Mesa 3-D Graphics Library v21.0.3

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include/GL/gl.h :

Mesa 3-D graphics library

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```
include/GL/glex.h
include/GL/glxext.h
include/GL/wglxext.h :
```

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```
include/KHR/khrplatform.h :
```

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The Unicode Standard, Unicode Character Database, Version 10.0.0

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```
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1.183 appdynamics-alpine 23.8.0.6156

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Support is defined as AppDynamics' obligations to respond to support requests as described in Exhibit A (Enterprise Support). Maintenance means AppDynamics obligations related to error resolution, bug fixes and the provision of updates and upgrades made generally commercially available by AppDynamics in its sole discretion, all as described in Exhibit A. Subject to End Users payment of the fees set forth in the applicable Order Form(s), AppDynamics will (a) provide Maintenance and Support for the Software, and (b) solely if End User has purchased access to the software-as-a-service version of the Software, make the Software available to End User in accordance with Exhibit B (Availability and Security). For time-limited licenses for the Software (as set forth in an Order Form, Subscription Licenses), the fees for Maintenance and Support are included in the fees for the Software. For perpetual

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2. FEES.

2.1 PRICING.

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that set forth on the applicable Order Form, End User agrees to allow AppDynamics to audit End Users use of the Software (not more frequently than twice per calendar year), upon at least twenty-four (24) hours notice, to determine the actual Software use, using a commercially reasonable auditing procedure. End User acknowledges that purchases made under this Agreement are neither contingent on the delivery of any future functionality or features nor dependent on any oral or written public comments made by AppDynamics regarding future functionality or features.

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3.2 EQUITABLE RELIEF.

The Receiving Party acknowledges that unauthorized disclosure of the Disclosing Party's Confidential Information could cause substantial harm to the Disclosing Party for which damages alone might not be a sufficient remedy and, therefore, that upon any such disclosure by the Receiving Party the Disclosing Party will be entitled to seek appropriate equitable relief in addition to whatever other remedies it might have at law or equity.

4. PROPRIETARY RIGHTS. AppDynamics and its suppliers own and shall retain all proprietary rights, including all copyright, patent, trade secret, trademark and all other intellectual property rights, in and to the Software and the results of any Services. End User acknowledges that the rights granted under this Agreement do not provide End User with title to or ownership of the Software. Certain free or open source based software (the FOSS Software) and third party software included with the Software (the Third Party Software) is shipped with the Software but is not considered part of the Software hereunder. A list of the FOSS Software and Third Party Software is set forth on the webpage located at <https://docs.appdynamics.com/display/DASH/Legal+Notices> With respect to Third Party Software included with the Software, such Third Party Software suppliers are third party beneficiaries of this Agreement. End Users use of such FOSS Software is subject to the terms of the licenses set forth on such webpage. The Software and Third Party Software may only be used by End User as prescribed by the AppDynamics documentation located at <http://docs.appdynamics.com> (as it may be updated from time to time, the Documentation).

5. TERM AND TERMINATION.

The term of this Agreement begins on the Effective Date and will remain in effect until all Subscription Licenses (and Maintenance and Support Terms, if applicable) expire or until this Agreement is otherwise terminated in accordance with the terms hereof, whichever occurs first (the Term). This Agreement may be renewed at any time by execution of an Order Form referencing this Agreement, and any such renewal will be deemed part of the Term hereunder. If either party commits a material breach of this Agreement, and such breach has not been cured within thirty (30) days after receipt of written notice thereof, the non-breaching party may terminate this Agreement, except that AppDynamics may immediately terminate this Agreement and/or End Users license to the Software upon End Users breach of Section 1.2. Either party may also terminate this Agreement upon written notice if the other party suspends payment of its debts or experiences any other insolvency or bankruptcy-type event. Upon expiration or termination of this Agreement for any reason, (i) with respect to Subscription Licenses, all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; (ii) with respect to perpetual licenses, these will survive termination of this Agreement unless AppDynamics terminates the Agreement for End Users breach of this Agreement in which case all rights granted to End User shall terminate and End User shall destroy any copies of the Software and Documentation within End Users possession and control; and (iii) each Receiving Party will return or destroy, at the Disclosing

Partys option, the Disclosing Partys Confidential Information in the Receiving Partys possession or control. All fees that have accrued as of such expiration or termination, and Sections 1.2, 1.3, 1.4, 2, 3, 4, 5, 6.2 and 7 through 12, will survive any expiration or termination hereof.

6. WARRANTIES.

6.1 LIMITED WARRANTY. The limits below will not apply to the extent prohibited by applicable law.

AppDynamics warrants that during the first thirty (30) days following the date the Software is purchased, the Software will, in all material respects, conform to the functionality described in the then-current Documentation for the applicable Software version. AppDynamics sole and exclusive obligation, and End Users sole and exclusive remedy, for a breach of this warranty shall be that AppDynamics shall be required to use commercially reasonable efforts to repair or replace the Software to conform in all material respects to the Documentation, and if AppDynamics is unable to materially restore such functionality within thirty (30) days from the date of written notice of such breach, End User shall be entitled to terminate the license to the affected Software upon written notice and AppDynamics shall promptly provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). End User must notify AppDynamics in writing of any warranty breaches within such warranty period, and End User must have installed and configured the Software in accordance with the Documentation to be eligible for the foregoing remedy.

6.2 WARRANTY DISCLAIMER.

EXCEPT AS EXPRESSLY PROVIDED IN THIS SECTION 6, ALL SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT AND SERVICES ARE PROVIDED AS IS AND APPDYNAMICS AND ITS SUPPLIERS EXPRESSLY DISCLAIM ANY AND ALL OTHER REPRESENTATIONS AND WARRANTIES, EITHER EXPRESS, IMPLIED, STATUTORY, OR OTHERWISE WITH RESPECT THERETO, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, TITLE, NON-INFRINGEMENT, OR THE CONTINUOUS, UNINTERRUPTED, ERROR-FREE, VIRUS-FREE, OR SECURE ACCESS TO OR OPERATION OF THE SOFTWARE. APPDYNAMICS EXPRESSLY DISCLAIMS ANY WARRANTY AS TO THE ACCURACY OR COMPLETENESS OF ANY INFORMATION OR DATA ACCESSED OR USED IN CONNECTION WITH THE SOFTWARE, DOCUMENTATION, MAINTENANCE AND SUPPORT, OR SERVICES. AppDynamics is not responsible for any delays, delivery failures, or any other loss or damage resulting from the transfer of data over communications networks and facilities, including the Internet, and End User acknowledges that the Software and Documentation may be subject to limitations, delays and other problems inherent in the use of such communications facilities. The Software is not fault-tolerant and is not designed or intended for use in hazardous environments, including without limitation, in the operation of aircraft or other modes of human mass transportation, nuclear or chemical facilities, life support systems, implantable medical equipment, motor vehicles or weaponry systems, or any other application in which failure of the Software could lead to death or serious bodily injury of a person, or to severe physical or environmental damage (each, a High Risk Use). AppDynamics expressly disclaims any express or implied warranty or representation of fitness for High Risk Use. AppDynamics shall not be liable to End User for any loss, damage or harm suffered by End User that is directly or indirectly caused by End Users unauthorized use of the Software to process Prohibited Data.

7. INDEMNIFICATION.

7.1 BY APPDYNAMICS.

AppDynamics agrees at its expense to defend End User against (or, at AppDynamics option, settle), any third party claim to the extent such claim alleges that the Software infringes or misappropriates any patent, copyright, trademark or trade secret of a third party, and AppDynamics shall pay all costs and damages finally awarded against End User by a court of competent jurisdiction as a result of any such claim. In the event that the use of the Software is, or in AppDynamics sole opinion is likely to become, subject to such a claim, AppDynamics, at its option and expense, may (a) replace the applicable Software with functionally equivalent non-infringing technology, (b) obtain a license for End Users continued use of the applicable Software, or (c) terminate the license and provide a pro-rata refund of the Software license fees (or Maintenance and Support Fees, for perpetual licenses) that have been paid in advance for the remainder of the License Term for the applicable Software (beginning on the date of termination). The foregoing indemnification obligation of AppDynamics will not apply: (1) if the Software is modified by End User or its agent; (2) if the Software is combined with other non-AppDynamics products, applications, or processes, but solely to the extent the alleged infringement is caused by such combination; or (3) to any unauthorized use of the Software. The foregoing shall be End Users sole remedy with respect to any claim of infringement of third party intellectual property rights.

7.2 BY END USER.

End User agrees to defend, at its expense, AppDynamics and its affiliates, its suppliers and its resellers against any third party claim to the extent such claim arises from or is made in connection with End Users breach of Section 1 or End Users negligence or willful misconduct, and End User shall pay all costs and damages finally awarded against AppDynamics by a court of competent jurisdiction as a result of any such claim.

7.3 INDEMNIFICATION REQUIREMENTS.

In connection with any claim for indemnification under this Section 7, the indemnified party must promptly provide the indemnifying party with notice of any claim that the indemnified party believes is within the scope of the obligation to indemnify, provided, however, that the failure to provide such notice shall not relieve the indemnifying party of its obligations under this Section 7, except to the extent that such failure materially prejudices the indemnifying partys defense of such claim. The indemnified party may, at its own expense, assist in the defense if it so chooses, but the indemnifying party shall control the defense and all negotiations related to the settlement of any such claim. Any such settlement intended to bind either party shall not be final without the other partys written consent, which consent shall not be unreasonably withheld, conditioned or delayed; provided, however, that End Users consent shall not be required when AppDynamics is the indemnifying party if the settlement involves only the payment of money by AppDynamics.

8. LIMITATION OF LIABILITY. The limits below will not apply to the extent prohibited by applicable law.

8.1 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), IN NO EVENT SHALL EITHER PARTY BE LIABLE UNDER THIS AGREEMENT FOR ANY INDIRECT, INCIDENTAL, SPECIAL, PUNITIVE OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOSS OF REVENUES OR PROFITS, LOSS OF USE, BUSINESS INTERRUPTION, OR LOSS OF DATA, WHETHER IN AN ACTION IN CONTRACT OR TORT, EVEN IF THE OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

8.2 EXCEPT FOR LIABILITY ARISING OUT OF END USERS BREACH OF SECTION 1.2 (RESTRICTIONS ON USE), NEITHER PARTYS LIABILITY FOR ANY DAMAGES (WHETHER FOR BREACH OF CONTRACT, MISREPRESENTATIONS, NEGLIGENCE, STRICT LIABILITY, OTHER TORTS OR OTHERWISE) UNDER THIS AGREEMENT SHALL EXCEED AN AMOUNT EQUAL TO THE TOTAL FEES

PAID (PLUS FEES PAYABLE) TO APPDYNAMICS DURING THE TWELVE (12) MONTHS IMMEDIATELY PRECEDING THE CLAIM GIVING RISE TO SUCH DAMAGES. THESE LIMITATIONS SHALL APPLY NOTWITHSTANDING ANY FAILURE OF ESSENTIAL PURPOSE OF ANY REMEDY.

9. FORCE MAJEURE.

Except for payment obligations, neither party hereto will be liable for defaults or delays due to acts of God, or the public enemy, acts or demands of any government or governmental agency, fires, earthquakes, floods, accidents, or other unforeseeable causes beyond its reasonable control and not due to its fault or negligence.

10. DATA COLLECTION.

End User acknowledges that AppDynamics application server and machine software agents (the Agents) collect metrics that relate to the performance, health and resource of an application, its components (transactions, code libraries) and related infrastructure (nodes, tiers) that service those components. In addition, AppDynamics collects metrics on End Users activities, such as web pages visited, length of visit, and which features of the Software an End User uses. If End User provides AppDynamics with any personally identifiable information (personal data), End User represents and warrants that such information has been collected by End User in accordance with the provisions of all applicable data protection legislation and that End User has all right and consents necessary to provide such personal data to AppDynamics. End User will indemnify AppDynamics for reasonable costs and other amounts that AppDynamics may incur relating to any breach of this Section.

11. US GOVERNMENT MATTERS.

As defined in FAR section 2.101, the Software and Documentation are commercial items and according to DFAR section 252.227 7014(a)(1) and (5) are deemed to be commercial computer software and commercial computer software documentation. Consistent with DFAR section 227.7202 and FAR section 12.212, any use modification, reproduction, release, performance, display, or disclosure of such commercial software or commercial software documentation by the U.S. Government will be governed solely by the terms of this Agreement and will be prohibited except to the extent expressly permitted by the terms of this Agreement.

12. MISCELLANEOUS.

This Agreement shall be governed by and construed under the laws of the State of California, U.S.A. The parties consent to the exclusive jurisdiction and venue of the courts located in and serving San Francisco, California. Failure by either Party to exercise any of its rights under, or to enforce any provision of, this Agreement will not be deemed a waiver or forfeiture of such rights or ability to enforce such provision. If any provision of this Agreement is held by a court of competent jurisdiction to be illegal, invalid or unenforceable, such provision will be amended to achieve as nearly as possible the same economic effect of the original provision and the remainder of this Agreement will remain in full force and effect. This Agreement and its exhibits, together with the Order Form(s) and any statements of work incorporating this Agreement, if applicable, represent the entire agreement between the parties and supersede any previous or contemporaneous oral or written agreements or communications regarding the subject matter of this Agreement. The person signing or otherwise accepting this Agreement for End User represents that s/he is duly authorized by all necessary and appropriate corporate action to enter this Agreement on behalf of End User. Any modification to this Agreement must be in writing and signed by a duly authorized agent of both parties. The Uniform Computer Information Transactions Act (UCITA) does not apply to this Agreement. This Agreement shall control over additional or different terms of any purchase order, confirmation, invoice, statement of work or similar document (other than an AppDynamics Order Form, which will take precedence), even if accepted

in writing by both parties, and waivers and amendments to this Agreement shall be effective only if made by non-pre-printed agreements clearly understood by both parties to be an amendment or waiver to this Agreement. For purposes of this Agreement, including means including without limitation. The rights and remedies of the parties hereunder will be deemed cumulative and not exclusive of any other right or remedy conferred by this Agreement or by law or equity. No joint venture, partnership, employment, or agency relationship exists between the parties as a result of this Agreement or use of the Software. AppDynamics reserves the right to perform its obligations from locations and/or through use of affiliates and subcontractors, worldwide, provided that AppDynamics will be responsible for such parties. End User may not assign this Agreement without the prior written approval of AppDynamics and any purported assignment in violation of this section shall be void; AppDynamics may assign, transfer or subcontract this Agreement in whole or in part. Upon any assignment of this Agreement by End User that is approved by AppDynamics, any licenses that contain an unlimited aspect will, with respect to End User or the successor entity, as applicable, be capped at the number of authorized Software units in use immediately prior to such assignment. End User agrees that AppDynamics may refer to End User by its trade name and logo, and may briefly describe End Users business, in AppDynamics marketing materials and website. AppDynamics may give notice to End User by electronic mail to End Users email address on record in End Users account information, or by written communication sent by first class mail or pre-paid post to End Users address on record in End Users account information. End User may give notice to AppDynamics at any time by any letter delivered by nationally recognized overnight delivery service or first class postage prepaid mail to AppDynamics at the following address or such other address as may be notified to End User from time to time: AppDynamics, Inc., 303 Second Street, North Tower, 8th Floor, San Francisco, CA 94107, Attn: Legal Department. Notice under this Agreement shall be deemed given when received, if personally delivered; when receipt is electronically confirmed, if transmitted by email; the day after it is sent, if sent for next day delivery by recognized overnight delivery service; and upon receipt, if sent by certified or registered mail, return receipt requested.

EXHIBIT A

ENTERPRISE SUPPORT

GENERAL REQUIREMENTS.

AppDynamics will provide access to a ticketing system and email address (help@appdynamics.com), which will be available twenty-four (24) hours per day, seven (7) days per week. The email account will be maintained by qualified support specialists, who shall use commercially reasonable efforts to answer questions and resolve problems regarding the Software.

HOURS OF OPERATION.

Support is available twenty-four (24) hours per day, seven (7) days per week.

ERROR CLASSIFICATION.

Any reported errors are classified in the following manner, in each case when caused by the Software:

Error Classification Criteria

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Urgent End User production application is down or there is a

major malfunction, resulting in a business revenue loss and impacting the End User application functionality for a majority of users.

High Critical loss of End User application functionality or performance, impacting the application functionality for a high number of users.

Normal Moderate loss of End User application functionality or performance, impacting multiple users.

Low Minor loss of End User application functionality or product feature in question.

ERROR DEFINITION.

An error means a reproducible malfunction in the Software that is reported by End User through AppDynamics ticketing system that prevents the Software from performing in accordance with the operating specifications described in the then-current Documentation.

AUTHORIZED SUPPORT CONTACTS.

Maintenance and Support will be provided solely to End Users designated support contacts. The Order Form may indicate a maximum number of designated support contacts for End Users service level. End User will provide its designated support contacts, including its primary email address.

END USERS OBLIGATION TO ASSIST.

If End User reports a purported error in the Software to AppDynamics, AppDynamics ticketing system will request the following minimum information:

- A general description of the operating environment
- A list of all hardware components, operating systems and networks
- A reproducible test case
- Any log files, trace and systems files

End Users failure to provide this information may prevent or significantly delay AppDynamics ability to identify and fix the reported error. AppDynamics time to respond to any error will begin when AppDynamics has received all requested information from the End User and is able to reproduce the error.

ERROR RESOLUTION.

If AppDynamics determines there is an error in the Software, AppDynamics may, at its sole option, repair that error in the version of the Software that End User is currently using or instruct End User to install a newer version of the Software with that error repaired. AppDynamics reserves the right to provide End User with a workaround in lieu of fixing an error.

SOFTWARE UPDATES AND UPGRADES. End User must be current on fees in order to receive access to Maintenance.

RESPONSE TIME. AppDynamics shall respond to error tickets in accordance with the tables set forth below. AppDynamics will use reasonable means to repair the error and keep End User informed of progress. AppDynamics makes no representations as to when a full resolution of the error may be made.

Error Initial Response Manager Escalation VP Escalation Email Status Updates

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Urgent	1 Hour	1 Business Day	1 Week	Daily
High	6 Hours	1 Week	2 Weeks	Weekly
Normal	1 Business Day	Quarterly	Review	None None
Low	2 Business Days	Semi-Annual	Review	None None

Maintenance and Support Policy: The Maintenance and Support policy is as follows:

AppDynamics provides Maintenance and Support for each version of the Software for a period of twelve (12) months after the generally available release of the next major version of the Software (a major release is a change in the first number to the right of the decimal point). For example, if version 4.1 is released on January 1, 2015, then AppDynamics will provide Maintenance and Support for version 4.0 until January 1, 2016. AppDynamics does not provide Maintenance or Support for any customized software (or components thereof).

For third party software or technology used by End User with the Software but not included with the Software (a Platform, such as Java Virtual Machines), AppDynamics will follow the end-of-life (EOL) support timeline announced by the third party vendor of such Platform. AppDynamics will stop providing Maintenance and Support for an EOLd Platform version when the Platform vendor stops providing maintenance and support for that Platform version.

EXHIBIT B AVAILABILITY AND SECURITY

The terms set forth in this Exhibit B apply only if End User has purchased access to the online software-as-a-service (SaaS) version of the Software, as indicated on the Order Form.

AVAILABILITY.

AppDynamics will provide System Availability (as defined below) of ninety-nine and one-half percent (99.5%) (the Availability SLA), excluding situations identified as Exclusions below. For purposes of the Availability SLA, the AppDynamics network extends to, includes and terminates at the data center located router that provides the outside interface of each of AppDynamics WAN connections to its backbone providers (the AppDynamics Network).

Exclusions means any outage that results from any of the following:

- a. Any Maintenance performed by AppDynamics during AppDynamics standard Maintenance windows. AppDynamics will notify End User within forty-eight (48) hours of any standard Maintenance and within twenty-four (24) hours for other non-standard emergency Maintenance (collectively referred to herein as Scheduled

Maintenance).

b. End User's information content or application programming, or the acts or omissions of End User or its agents, including, without limitation, the following:

1. End Users use of any programs not supplied by AppDynamics;
2. End Users failure to provide AppDynamics with reasonable advance prior notice of any pending unusual large deployments of new nodes (i.e., adding over ten percent (10%) total nodes in less than twenty-four (24) hours);
3. End Users implementation of any significant configuration changes, including changes that lead to a greater than thirty percent (30%) change in a one week period or greater than fifty percent (50%) change in a one month period in the number of key objects in the system including but not limited to metrics, snapshots, nodes, events and business transactions;
4. Any misconfiguration by End User (as determined in AppDynamics sole discretion), including configuration errors and unintended usage of the Software;
5. End Users failure to upgrade the Agents to keep the Agent versions within six (6) months of the Controller version; or
6. End Users implementation of configuration changes in the number of key objects in the Software (including metrics, snapshots, nodes, events and business transactions) that results in, or is likely to result in, an adverse impact on other customers.

c. Force majeure or other circumstances beyond AppDynamics reasonable control that could not be avoided by its exercise of due care.

d. Failures of the Internet backbone itself and the network by which End User connects to the Internet backbone or any other network unavailability outside of the AppDynamics Network, such as misconfigurations, proxies or firewalls.

e. Any window of time when End User agrees that Software availability/unavailability will not be monitored or counted.

f. Any problems resulting from End User combining or merging the Software with any hardware or software not supplied by AppDynamics or not identified by AppDynamics in the Documentation as being compatible with the Software.

g. End Users or any third partys use of the Software in an unauthorized or unlawful manner.

Remedies for Excessive Downtime:

In the event the availability of the Software falls below the Availability SLA in a given calendar quarter, AppDynamics will pay End User a service credit (Service Credit) as follows, corresponding to the actual Availability of the Software during the applicable calendar quarter (on pro-rated basis for annual or multi-year fees): if the Availability is 99.5% or greater, End User is entitled to receive no credits; if the Availability is 97.0% - 99.49%, then End User is entitled to receive Service Credits equal to five percent of the fees for the applicable calendar quarter (not to exceed \$280); if the Availability is 95.0% - 96.9%, then End User is entitled to receive Service Credits equal to ten percent of the fees for the applicable calendar quarter (not to exceed \$560); and if the Availability is less than 95.0%, then End User is entitled to receive Service Credits equal to twenty percent of the fees for the applicable calendar quarter (not to exceed \$1120). Such Service Credit will be issued as a credit against any fees owed by End User for the next calendar quarter of the Term, or, if End User does not owe any additional fees, then AppDynamics will pay End User the amount of the applicable Service Credit within thirty (30) days after

the end of the calendar quarter in which such credit accrued. To receive Service Credits, End User must submit a written request to AppDynamics (to customersuccess@appdynamics.com with a copy to legal@appdynamics.com) within 15 days after the end of the quarter in which the Software was unavailable, or End Users right to receive Service Credits with respect to such unavailability will be waived. The remedies stated in this section are End Users sole and exclusive remedies and AppDynamics sole and exclusive obligations for service interruption or unavailability.

System Availability is measured by the following formula: $(n - y) * 100 / n$

(1) n is the total number of minutes in the given calendar quarter minus the Exclusions (as defined above); and y is the total number of minutes in the given calendar quarter that the Controller is not accessible by End User (as determined by AppDynamics tools).

(2) Specifically excluded from n and y in this calculation are the Exclusions.

SECURITY INFORMATION.

For all End User data stored in the software-as-a-service version of the Software, AppDynamics will satisfy all of its obligations under Section 3 by maintaining the security precautions described below.

Certifications

AppDynamics is SOC 2 Type II compliant, meaning it has been independently audited to verify the validity and functionality of its control activities and processes. Customers may request AppDynamics report at any time.

AppDynamics data center provider is also SOC 2 Type II compliant.

Secure Connections

Agents initiate connections to a single Controller, which can either be hosted on-premises by the customer or by AppDynamics via the AppDynamics software-as-a-service platform. The Controller is the central repository and analytics engine where all performance data is stored, baselined, and analyzed. If End User downloads the Agent from End Users controller (ie., using the installation wizard provided by AppDynamics), then transport layer security (TLS) for Agent-to-Controller communication is enabled by default. For other installations, AppDynamics recommends enabling SSL/TLS encryption for Agent communications. For detailed instructions please see docs.appdynamics.com. Agents also support outbound HTTP proxies for customers using these security mechanisms. For Software user interface access, AppDynamics redirects all traffic to HTTPS.

Access Controls to Data

Access to collected data and data collection features is restricted to authenticated customer users by role-based access controls (RBAC). In addition, customer users do not have native access to run queries on the Controllers MySQL database.

Availability

Servers for the software are operated in fault-tolerant architecture in a manner designed to ensure availability. Data is backed up nightly and stored redundantly. AppDynamics also provides an off-site backup service. Software security updates and patches are evaluated by engineers and are deployed based upon the security risks and stability benefits they offer to the Software and End Users.

Security

Access to the Software platform infrastructure and data by AppDynamics personnel is secured by authentication methods including public key authentication, passwords and network access control lists. Infrastructure and data access is restricted to AppDynamics employees and contractors subject to confidentiality agreements. System and network activity for the Software are regularly monitored by a team of engineers. Failed authentication attempts are

audited and engineers are paged so that intrusions or threats can be investigated. Standard firewall policies are deployed to block access except to ports required for Software and Agent communication.

Sensitive Data

AppDynamics recommends on-premises (rather than software-as-a-service) deployments for customers subject to heightened regulatory oversight of data.

More Information

For more information on data privacy or security processes please contact help@appdynamics.com or your account representative. To report a suspected security breach, contact security@appdynamics.com.

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1.184 libbrotli1 1.0.9-2build6

1.184.1 Available under license :

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1.185 libgpg-error 1.43-3

1.185.1 Available under license :

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Version 2, June 1991

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Preamble

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Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free

software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

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0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

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You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1

above, provided that you also meet all of these conditions:

- a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
- b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
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1.187 libsemanage 3.3-1build2

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- * /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-jar/com/google/j2objc/annotations/J2ObjCIncompatible.java
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- * /opt/cola/permits/1704412778_1685746927.655543/0/j2objc-annotations-2-8-sources-jar/com/google/j2objc/annotations/ObjectiveCName.java

1.189 libcap-ng 0.7.9-2.2build3

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```

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```
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```
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```

```
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1.192 zulu11-ca 11.0.20-1

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1.193 libxau 1.0.9-1build5

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1.194 libssl3 3.0.2-0ubuntu1.10

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```

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```

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<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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- cipher/sha256-ssse3-amd64.S
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1.196 libstd-c 12.3.0-1ubuntu1~22.04

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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GCC RUNTIME LIBRARY EXCEPTION

Version 3.1, 31 March 2009

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1.197 xerces-j 2.12.2

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```

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1.201 systemd 249.11-0ubuntu3.9

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```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
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1.202 tdb 1.46.5

1.202.1 Available under license :

This is the Debian GNU/Linux prepackaged version of the static EXT2 file system consistency checker (e2fsck.static). The EXT2 utilities were written by Theodore Ts'o <tytso@mit.edu> and Remy Card <card@masi.ibp.fr>.

Sources were obtained from <http://sourceforge.net/projects/e2fsprogs>

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```
#  
# This is a Makefile stub which handles the creation of BSD shared  
# libraries.  
#  
# In order to use this stub, the following makefile variables must be defined.  
#  
# BSDLIB_VERSION = 1.0  
# BSDLIB_IMAGE = libce  
# BSDLIB_MYDIR = et  
# BSDLIB_INSTALL_DIR = $(SHLIBDIR)  
#
```

```
all:: image
```

```
real-subdirs:: Makefile  
@echo " MKDIR pic"  
@mkdir -p pic
```

```
BSD_LIB = $(BSDLIB_IMAGE).so.$(BSDLIB_VERSION)  
BSDLIB_PIC_FLAG = -fpic
```

```
image: $(BSD_LIB)
```

```
$(BSD_LIB): $(OBJS)  
(cd pic; ld -Bshareable -o $(BSD_LIB) $(LDFLAGS_SHLIB) $(OBJS))  
$(MV) pic/$(BSD_LIB) .  
$(RM) -f ../$(BSD_LIB)  
(cd ..; $(LN) $(LINK_BUILD_FLAGS) \  
`echo $(my_dir) | sed -e 's;lib/;;'`/$(BSD_LIB) $(BSD_LIB))
```

```
install-shlibs install:: $(BSD_LIB)
```

```
@echo " INSTALL_PROGRAM $(BSDLIB_INSTALL_DIR)/$(BSD_LIB)"
@$(INSTALL_PROGRAM) $(BSD_LIB) \
$(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
@-$(LDCONFIG)
```

install-strip: install

install-shlibs-strip:: install-shlibs

uninstall-shlibs uninstall::

```
$(RM) -f $(DESTDIR)$$(BSDLIB_INSTALL_DIR)/$(BSD_LIB)
```

clean::

```
$(RM) -rf pic
```

```
$(RM) -f $(BSD_LIB)
```

```
$(RM) -f ../$(BSD_LIB)
```

This package was added to the e2fsprogs debian source package by Theodore Ts'o <tytso@mit.edu> on Sat Mar 15 15:33:37 EST 2003

It is part of the main e2fsprogs distribution, which can be found at:

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Index: tdbsa/tdb.c

=====

--- tdbsa.orig/tdb.c

+++ tdbsa/tdb.c

@@ -4,11 +4,11 @@ Rev: 23371

Last Changed Date: 2007-06-06 20:14:06 -0400 (Wed, 06 Jun 2007)

*/

/*

- Unix SMB/CIFS implementation.
- + trivial database library - standalone version

- trivial database library - private includes
-
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Theodore Ts'o
23-June-2007

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It is part of the main e2fsprogs distribution, which can be found at:

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1.206 musl-utils 1.2.3-r5

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1.207 apk-tools 2.12.10-r1

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1.210 libsepol 3.3-1build1

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1.211 kerberos 1.19.2-2ubuntu0.2

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[NOTE: MIT has only incorporated the mechglue and spnego change, and
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cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
lib/krb5/kdb/kdb_hdr.h
lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
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lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
uts/common/gssapi/include/gssapi_err_generic.h
uts/common/gssapi/include/mechglueP.h

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lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/ipropr_hdr.h
kadmin/server/ipropr_svc.c
lib/kdb/ipropr.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h

lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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1.212 pcre 8.39-13ubuntu0.22.04.1

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1.213 apache-log4j 2.17.1

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1.214 libsystemd 249.11-0ubuntu3.9

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1.216 zulu-ca-jdk-headless 11.0.20-1

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1.217 libcrypt 4.4.27-1

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1.218 lz4 1.9.3-2build2

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Ty Coon, President of Vice
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Upstream-Name: liblz4

Upstream-Contact: Yann Collet <Cyan4973@github.com>

Source: <https://github.com/lz4/lz4>

Files: *

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1.219 libgssapikrb 1.19.2-2ubuntu0.2

1.219.1 Available under license :

[NOTE: MIT has only incorporated the mechglue and spnego change, and not the incremental propagation changes. The filenames are different between the Sun and MIT sources. The actual MIT filenames appear in the top-level README file. Original text of Sun's LICENSE file follows.]

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cmd/krb5/slave/kpropd_rpc.c
lib/gss_mechs/mech_krb5/et/kdb5_err.c
lib/gss_mechs/mech_spnego/mech/gssapiP_spnego.h
lib/gss_mechs/mech_spnego/mech/spnego_mech.c
lib/krb5/kadm5/kadm_host_srv_names.c
lib/krb5/kdb/kdb_convert.c
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lib/krb5/kdb/kdb_log.c
lib/krb5/kdb/kdb_log.h
lib/libgss/g_accept_sec_context.c
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lib/libgss/g_delete_sec_context.c
lib/libgss/g_dsp_name.c
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lib/libgss/g_glue.c
lib/libgss/g_imp_name.c
lib/libgss/g_imp_sec_context.c
lib/libgss/g_init_sec_context.c
lib/libgss/g_initialize.c
lib/libgss/g_inquire_context.c
lib/libgss/g_inquire_cred.c
lib/libgss/g_inquire_names.c
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lib/libgss/g_rel_buffer.c
lib/libgss/g_rel_cred.c
lib/libgss/g_rel_name.c
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lib/libgss/g_store_cred.c
lib/libgss/g_unseal.c
lib/libgss/g_userok.c
lib/libgss/g_utils.c
lib/libgss/g_verify.c
lib/libgss/gssd_pname_to_uid.c
uts/common/gssapi/include/gssapi_err_generic.h
uts/common/gssapi/include/mechglueP.h

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lib/gssapi/generic/gssapi_err_generic.et
lib/gssapi/mechglue/g_accept_sec_context.c
lib/gssapi/mechglue/g_acquire_cred.c
lib/gssapi/mechglue/g_canon_name.c
lib/gssapi/mechglue/g_compare_name.c
lib/gssapi/mechglue/g_context_time.c
lib/gssapi/mechglue/g_delete_sec_context.c
lib/gssapi/mechglue/g_dsp_name.c
lib/gssapi/mechglue/g_dsp_status.c
lib/gssapi/mechglue/g_dup_name.c
lib/gssapi/mechglue/g_exp_sec_context.c
lib/gssapi/mechglue/g_export_name.c
lib/gssapi/mechglue/g_glue.c
lib/gssapi/mechglue/g_imp_name.c
lib/gssapi/mechglue/g_imp_sec_context.c
lib/gssapi/mechglue/g_init_sec_context.c
lib/gssapi/mechglue/g_initialize.c
lib/gssapi/mechglue/g_inquire_context.c
lib/gssapi/mechglue/g_inquire_cred.c
lib/gssapi/mechglue/g_inquire_names.c
lib/gssapi/mechglue/g_process_context.c
lib/gssapi/mechglue/g_rel_buffer.c
lib/gssapi/mechglue/g_rel_cred.c
lib/gssapi/mechglue/g_rel_name.c
lib/gssapi/mechglue/g_rel_oid_set.c
lib/gssapi/mechglue/g_seal.c
lib/gssapi/mechglue/g_sign.c
lib/gssapi/mechglue/g_store_cred.c
lib/gssapi/mechglue/g_unseal.c
lib/gssapi/mechglue/g_userok.c
lib/gssapi/mechglue/g_utils.c
lib/gssapi/mechglue/g_verify.c
lib/gssapi/mechglue/gssd_pname_to_uid.c
lib/gssapi/mechglue/mglueP.h
lib/gssapi/mechglue/oid_ops.c
lib/gssapi/spnego/gssapiP_spnego.h
lib/gssapi/spnego/spnego_mech.c

and the initial implementation of incremental propagation, including the following new or changed files:

include/iprop_hdr.h
kadmin/server/ipropd_svc.c
lib/kdb/iprop.x
lib/kdb/kdb_convert.c
lib/kdb/kdb_log.c
lib/kdb/kdb_log.h

lib/krb5/error_tables/kdb5_err.et
kprop/kpropd_rpc.c
kprop/kproplog.c

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Upstream-Contact:

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- .
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- .
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Comment:

From: Lasse Collin <lasse.collin@tukaani.org>

To: Jonathan Nieder <jrnieder@gmail.com>

Subject: Re: XZ utils for Debian

Date: Sun, 19 Jul 2009 13:28:23 +0300

Message-Id: <200907191328.23816.lasse.collin@tukaani.org>

[...]

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> dos/README, windows/README

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Files: src/liblzma/check/crc32_table_?e.h

src/liblzma/check/crc64_table_?e.h

src/liblzma/lzma/fastpos_table.c

src/liblzma/rangecoder/price_table.c

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src/liblzma/check/crc32_tablegen.c

src/liblzma/check/crc64_tablegen.c

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changelog.gz (commit 975d8fd) explains:

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Other-Authors: Roland McGrath, Akim Demaille, Paul Eggert,
David Mackenzie, Bruno Haible, and many others.

Origin: configure.ac from XZ Utils,
visibility.m4 serial 1 (gettext-0.15),
Autoconf 2.52g

License: config-h

configure.ac:

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Author: Lasse Collin

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[...]

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dos/config.h was generated with autoheader, which tells Autoconf to
output a script to generate a config.h file and then runs it.

Files: po/Makevars

Origin: gettext-runtime/po/Makevars (gettext-0.12)

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Authors: Bruno Haible

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```
<signature of Ty Coon>, 1 April 1989  
Ty Coon, President of Vice
```

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Version 3, 29 June 2007

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1.232 util-linux 2.37.2-4ubuntu3

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*/

NR START END SECTORS SIZE NAME UUID

```
1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
5 7936 12799 4864 2.4M
6 12544 16127 3584 1.8M
```

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```
WEV @@ WEV[B "1
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```

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at assemblers) written by James Hacker.
```

```
<signature of Ty Coon>, 1 April 1989
Ty Coon, President of Vice
```

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If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object

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@subheading END OF TERMS AND CONDITIONS

@page

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@var{signature of Ty Coon}, 1 April 1990

Ty Coon, President of Vice

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2019/03/12

wepoll - epoll for Windows

<https://github.com/piscisaureus/wepoll>

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2018/11/05

1.238 perfmark-api 0.17.0

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Found in path(s):

```
* /opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Impl.java
* /opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/PerfMark.java
* /opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/package-
```

info.java

* /opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Link.java

* /opt/cola/permits/1656707133_1682600610.4687467/0/perfmark-api-0-17-0-sources-1-jar/io/perfmark/Tag.java

1.239 x11-common 7.7+23ubuntu2

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Source Package: xorg

Debian/Ubuntu package authors: Branden Robinson, Fabio M. Di Nitto, Daniel Stone and others

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1.240 libapt-pkg 2.4.9

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1.241 libgcc-s1 12.3.0-1ubuntu1~22.04

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Version 3.1, 31 March 2009

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Julian Seward, jseward@bzip.org
bzip2/libbzip2 version 1.0.6 of 6 September 2010

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Version 3, 29 June 2007

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```

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[applies only to hppa*-*-pro* targets]

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```
<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
<!-- site wide top running header menu -->

<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
  </li>
  <li>
    <a href="development.html" title="Development">Development</a>
  </li>
  <li>
```

```

    <a href="community.html" title="Community">Community</a>
  </li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">

    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
<div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions. Copies of the
  licences can be found on the
  <a href="http://www.gnu.org/licenses">GNU</a> web site.</p>
</div>
</div>
</body>
</html>

```

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## Constant-time SSSE3 AES core implementation.
```

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1.246 commons-codec 1.15

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1.248 gcc-12 12.3.0-1ubuntu1~22.04

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GCC RUNTIME LIBRARY EXCEPTION

Version 3.1, 31 March 2009

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bzip2/libbzip2 version 1.0.6 of 6 September 2010

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```
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[applies only to hppa*-*-pro* targets]

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```
<!-- Creator   : groff version 1.20.1 -->
<!-- CreationDate: Fri Jan 14 19:57:50 2011 -->
<!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<meta name="generator" content="groff -Thtml, see www.gnu.org">
<meta http-equiv="Content-Type" content="text/html; charset=US-ASCII">
<meta name="Content-Style" content="text/css">
<link rel="stylesheet" type="text/css" href="texi2tr.css" />
<title>GNU Modula-2</title>
</head>

<body>
<!-- site wide top running header menu -->

<ul id="overview">
  <li class="home">
    HOME_HREF
  </li>
  <li class="release">
    12_HREF
  </li>

  <li>
    <a href="news.html" title="News">News</a>
```

```

</li>
<li>
  <a href="development.html" title="Development">Development</a>
</li>
<li>
  <a href="community.html" title="Community">Community</a>
</li>
</ul>

<div id="header">
  <h1>
    <span style="display:inline-block; vertical-align:middle">

    </span>
    <span style="display:inline-block; vertical-align:middle; font-size: 50px">
GNU Modula-2
    </span>
  </h1>

  <!-- homepage tab menu -->

  <div id="tabmenu">
    <ul id="tab">
<li><a href="about.html"><span>About</span></a></li>
<li><a href="download.html"><span>Download</span></a></li>
<li><a href="release.html"><span>Latest Release</span></a></li>
<li class="selected"><a href="license.html"><span>License</span></a></li>
<li><a href="platforms.html"><span>Platforms</span></a></li>
<li><a href="users.html"><span>Users</span></a></li>
    </ul>
  </div>
</div>

<div id="page">
<div class="plain">
  <h2>The home of the GNU Modula-2 compiler</h2>
  <p>The compiler is held under the GNU Public Licence v3.</p>
  <p>The ISO and PIM libraries are under the GPL v3.1 with GCC runtime extensions. Copies of the
  licences can be found on the
  <a href="http://www.gnu.org/licenses">GNU</a> web site.</p>
</div>
</div>
</body>
</html>

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src/base/fthash.c
src/base/md5.c
src/base/md5.h
#
src/bdf/bdf.c
src/bdf/bdf.h
src/bdf/bdfdrivr.c
src/bdf/bdfdrivr.h
src/bdf/bdferror.h
src/bdf/bdflib.c
src/bdf/module.mk
src/bdf/README
src/bdf/rules.mk
#
src/pcf/module.mk
src/pcf/pcf.c
src/pcf/pcf.h
src/pcf/pcfdrivr.c
src/pcf/pcfdrivr.h
src/pcf/pcferror.h
src/pcf/pcfread.c
src/pcf/pcfread.h
src/pcf/pcfutil.c
src/pcf/pcfutil.h
src/pcf/README
src/pcf/rules.mk
#
src/gzip/adler32.c
src/gzip/infblock.c
```

```
src/gzip/infblock.h
src/gzip/infcodes.c
src/gzip/infcodes.h
src/gzip/inffixed.h
src/gzip/inflate.c
src/gzip/inftrees.c
src/gzip/inftrees.h
src/gzip/infutil.c
src/gzip/infutil.h
src/gzip/zconf.h
src/gzip/zlib.h
src/gzip/zutil.c
src/gzip/zutil.h
#
src/tools/apinames.c
src/tools/ftrandom/ftrandom.c
#
subprojects/dlg
#
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1.252 libc-utils 0.7.2-r3

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1.253 mount 2.37.2-4ubuntu3

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```
<one line to give the program's name and a brief idea of what it does.>  
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```

```
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it under the terms of the GNU General Public License as published by  
the Free Software Foundation, either version 3 of the License, or
```

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```
<program> Copyright (C) <year> <name of author>
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This is free software, and you are welcome to redistribute it
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```

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```
NR START END SECTORS SIZE NAME UUID
1 32 7679 7648 3.7M 8f8378c0-01
2 7680 16383 8704 4.3M 8f8378c0-02
5 7936 12799 4864 2.4M
6 12544 16127 3584 1.8M
```

WEV @@ WEV[B "1

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Version 2.1, February 1999

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1.258 asm 6.0

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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/xml/package.html

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*/

/**

* Creates a new {@link GeneratorAdapter}. *Subclasses must not use this*

* constructor*.* Instead, they must use the

* {@link #GeneratorAdapter(int, MethodVisitor, int, String, String)}

* version.

*

* @param mv

* the method visitor to which this adapter delegates calls.

* @param access

```
*      the method's access flags (see { @link Opcodes }).
* @param name
*      the method's name.
* @param desc
*      the method's descriptor (see { @link Type Type }).
* @throws IllegalStateException
*      If a subclass calls this constructor.
*/
```

Found in path(s):

```
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/GeneratorAdapter.java
```

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*/
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```
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/ASMifiable.java
```

```
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/Textifiable.java
```

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jar/org/objectweb/asm/tree/analysis/package.html
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/package.html
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/package.html
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/package.html
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/signature/package.html
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/package.html

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*/

/**

* Constructs a new { @link LocalVariableAnnotationNode }. *<i>*Subclasses must
* not use this constructor</i>. Instead, they must use the
* { @link #LocalVariableAnnotationNode(int, TypePath, LabelNode[], LabelNode[], int[], String) }
* version.

*

* @param typeRef

* a reference to the annotated type. See { @link TypeReference }.

* @param typePath

* the path to the annotated type argument, wildcard bound, array
* element type, or static inner type within 'typeRef'. May be
* <tt>null</tt> if the annotation targets 'typeRef' as a whole.

* @param start

* the first instructions corresponding to the continuous ranges
* that make the scope of this local variable (inclusive).

* @param end

* the last instructions corresponding to the continuous ranges
* that make the scope of this local variable (exclusive). This
* array must have the same size as the 'start' array.

* @param index

* the local variable's index in each range. This array must have
* the same size as the 'start' array.

* @param desc

* the class descriptor of the annotation class.

*/

Found in path(s):

* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/LocalVariableAnnotationNode.java

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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/InnerClassNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/CurrentFrame.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/FrameNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/InsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/AnalyzerException.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/LookupSwitchInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ModuleOpenNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ParameterNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/RemappingFieldAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/TraceModuleVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/MethodWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/Analyzer.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/CheckModuleAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Frame.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/MethodVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ModuleProvideNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-

jar/org/objectweb/asm/tree/analysis/Frame.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/FieldWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/IntInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/FieldNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/SerialVersionUIDAdder.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/SmallSet.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/AbstractInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ModuleExportNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/Remapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/FieldRemapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/RemappingClassAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/AnnotationWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/InsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/LabelNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/ASMifier.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/CheckMethodAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/SourceInterpreter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/BasicInterpreter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/ModuleResolutionAttribute.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/InstructionAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/CheckFieldAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/TableSwitchInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/TraceMethodVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/MethodRemapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ModuleWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ByteVector.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/SimpleVerifier.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/TraceFieldVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Label.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-

jar/org/objectweb/asm/commons/Method.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tools/Retrofitter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/VarInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Edge.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/AnnotationRemapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ClassReader.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/TraceAnnotationVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/CheckSignatureAdapter.java
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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/InsnList.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/CodeSizeEvaluator.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/AnnotationVisitor.java
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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ModuleRequireNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/BasicValue.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Type.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/commons/ModuleTargetAttribute.java
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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ModuleNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/LineNumberNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/AnnotationNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/analysis/Value.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/FieldVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-

jar/org/objectweb/asm/tree/TypeInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/RemappingAnnotationAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/ModuleRemapper.java
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jar/org/objectweb/asm/signature/SignatureReader.java
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jar/org/objectweb/asm/tree/TypeAnnotationNode.java
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jar/org/objectweb/asm/tree/analysis/SourceValue.java
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jar/org/objectweb/asm/tree/MultiANewArrayInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Handler.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ClassVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/LdcInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/Printer.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/RemappingMethodAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/analysis/Subroutine.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/MethodNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/signature/SignatureWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/ClassRemapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/FieldInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/analysis/Interpreter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tools/ModuleInfoBndPlugin.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/TableSwitchGenerator.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/LocalVariablesSorter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/SignatureRemapper.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/LocalVariableNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Item.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/TryCatchBlockSorter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/JumpInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/util/CheckAnnotationAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-

```
jar/org/objectweb/asm/commons/ModuleHashesAttribute.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Handle.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/Attribute.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/InvokeDynamicInsnNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ModuleVisitor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/tree/TryCatchBlockNode.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/StaticInitMerger.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/ClassWriter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/signature/SignatureVisitor.java
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```

```
/**
```

```
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```

```
*/
```

```
/**
```

```
* Creates a new JSRInliner. <i>Subclasses must not use this
* constructor</i>. Instead, they must use the
* {@link #JSRInlinerAdapter(int, MethodVisitor, int, String, String, String, String[])}
```

```

* version.
*
* @param mv
*     the <code>MethodVisitor</code> to send the resulting inlined
*     method code to (use <code>null</code> for none).
* @param access
*     the method's access flags (see { @link Opcodes}). This
*     parameter also indicates if the method is synthetic and/or
*     deprecated.
* @param name
*     the method's name.
* @param desc
*     the method's descriptor (see { @link Type}).
* @param signature
*     the method's signature. May be <tt>null</tt>.
* @param exceptions
*     the internal names of the method's exception classes (see
*     { @link Type#getInternalName() getInternalName}). May be
*     <tt>null</tt>.
* @throws IllegalStateException
*     If a subclass calls this constructor.
*/

```

Found in path(s):

```

* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/JSRInlinerAdapter.java

```

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```

/****

```

```

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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/SAXModuleAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/SAXAnnotationAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/SAXFieldAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/ASMContentHandler.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/xml/SAXAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/xml/Processor.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/SAXClassAdapter.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/xml/SAXCodeAdapter.java

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*/

/**

* Creates a new { @link AnalyzerAdapter }. *<i>Subclasses must not use this
* constructor</i>. Instead, they must use the
* { @link #AnalyzerAdapter(int, String, int, String, String, MethodVisitor) }
* version.
*
* @param owner
* the owner's class name.
* @param access
* the method's access flags (see { @link Opcodes }).
* @param name
* the method's name.
* @param desc
* the method's descriptor (see { @link Type Type }).
* @param mv
* the method visitor to which this adapter delegates calls. May
* be `<tt>null</tt>`.
* @throws IllegalStateException
* If a subclass calls this constructor.
/

Found in path(s):

* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-
jar/org/objectweb/asm/commons/AnalyzerAdapter.java

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* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/TypePath.java
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/TypeReference.java

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*/

/**

* Constructs a new { @link Textifier}. <i>Subclasses must not use this

* constructor</i>. Instead, they must use the { @link #Textifier(int)}

* version.

*

* @throws IllegalStateException

* If a subclass calls this constructor.

*/

Found in path(s):

* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/util/Textifier.java

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*/

/**

* Constructs a new { @link ClassNode}. <i>Subclasses must not use this

* constructor</i>. Instead, they must use the { @link #ClassNode(int)}

* version.

```
*
* @throws IllegalStateException
*     If a subclass calls this constructor.
*/
```

Found in path(s):

```
* /opt/cola/permits/1138554392_1614291227.62/0/asm-6-0-sources-1-jar/org/objectweb/asm/tree/ClassNode.java
```

1.259 jctools-core 4.0.1

1.259.1 Available under license :

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Manifest-Version: 1.0

Bnd-LastModified: 1662622707903

Build-Jdk-Spec: 11

Bundle-Description: Java Concurrency Tools Core Library

Bundle-License: <http://www.apache.org/licenses/LICENSE-2.0.txt>

Bundle-ManifestVersion: 2

Bundle-Name: Java Concurrency Tools Core Library

Bundle-SymbolicName: org.jctools.core

Bundle-Version: 4.0.1

Created-By: Apache Maven Bundle Plugin 5.1.6

Export-Package: org.jctools.maps;version="4.0.1",org.jctools.util;uses
:="sun.misc";version="4.0.1",org.jctools.queues;version="4.0.1",org.j
ctools.queues.atomic;uses:="org.jctools.queues";version="4.0.1",org.j
ctools.queues.unpadded;uses:="org.jctools.queues";version="4.0.1",org
.jctools.counters;version="4.0.1"

Import-Package: sun.misc;resolution:=optional

Require-Capability: osgi.ee;filter:="(&(osgi.ee=JavaSE)(version=1.6))"

Tool: Bnd-6.2.0.202202251641

Found in path(s):

```
* /opt/cola/permits/1500645298_1670406227.9308958/0/jctools-core-4-0-1-jar/META-INF/MANIFEST.MF
```

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```
* /opt/cola/permits/1500645298_1670406227.9308958/0/jctools-core-4-0-1-jar/META-  
INF/maven/org.jctools/jctools-core/pom.xml
```

1.260 scanelf 1.3.5-r1

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1.262 zulu-ca-jdk 11.0.20-1

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1.263 libssl3 3.0.10-r0

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1.264 busybox 1.35.0-r29

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