

Configure Network File System Repository on ISE

Contents

[Introduction](#)

[Prerequisites](#)

[Requirements](#)

[Components Used](#)

[Configure](#)

[Step 1. Set Up NFS on ubuntu](#)

[Step 2. ISE Configuration](#)

[Verify](#)

[Known Defects](#)

[Troubleshoot](#)

Introduction

This document describes how to configure a Network File System (NFS) repository on Identity Services Engine (ISE).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- ISE 2.x.
- basic shell commands

Components Used

- ISE
- Debian distribution (used Ubuntu here)

Configure

Step 1. Set Up NFS on ubuntu

- You need first to install the **nfs-kernel-server** package on the ubuntu machine:

```
bara@ubuntu:~$ sudo apt-get update
```

```
bara@ubuntu:~$ sudo apt-get install nfs-kernel-server
```

- Create a shared directory called nfs:

```
bara@ubuntu:~$ sudo mkdir /var/nfs/general -p
```

- Change ownership to match **nobody:nogroup**

```
bara@ubuntu:~$ sudo chown nobody:nogroup /var/nfs/general
```

- Configure the ISE as a client on the NFS, with the directory to be exported:

```
bara@ubuntu:~$ more /etc/exports
```

```
# directory_to_share    client(share_option1,...,share_optionN)

# /etc/exports: the access control list for filesystems which may be exported
#
#                to NFS clients.  See exports(5).
#
# Example for NFSv2 and NFSv3:
# /srv/homes           hostname1(rw,sync,no_subtree_check) hostname2(ro,sync,no_subtree_check)
#
# Example for NFSv4:
# /srv/nfs4            gss/krb5i(rw,sync,fsid=0,crossmnt,no_subtree_check)
# /srv/nfs4/homes     gss/krb5i(rw,sync,no_subtree_check)
```

- Open **/etc/export** with nano:

```
bara@ubuntu:~$ sudo nano /etc/exports
```

- Add the following two lines at the end (change the IP to ISE IP)

```
/var/nfs/general 10.48.85.249(rw,sync,no_subtree_check)
/home 10.48.85.249(rw,sync,no_root_squash,no_subtree_check)
```

- Save and close (**Ctrl+x**, when asked to save press **Y** and **enter**) then restart the NFS server using below command:

```
bara@ubuntu:~$ sudo systemctl restart nfs-kernel-server
```

Step 2. ISE Configuration

- Add the NFS repository to the ISE where **/home/bara** is the NFS mounting point

From the CLI:

```
ISE23S/admin(config)# repository NFS
ISE23S/admin(config-Repository)# url nfs://10.48.60.193:/home/bara
```

Note: Repositories configured from the CLI cannot be used from the ISE web UI and are not replicated to other ISE nodes.

From the GUI, go to **Administration -> Maintenance -> Repository:**

Repository List > Add Repository

Repository Configuration

* Repository Name

* Protocol

Location

* Server Name

* Path

Credentials

* User Name

* Password

Note: NFS does not need username and password in this case, but since they are required in the form they must be added, any username and password can be entered.

Verify

- List all files in the NFS repository.

```
ISE23S/admin# show repository NFS
ise-support-bundle-przaise001-a-hv11674-11-04-2019-08-25.tar.gpg
jcameron-key.asc
test.txt
```

- On the NFS you can see the files:

```
bara@ubuntu:~$ pwd
/home/bara
bara@ubuntu:~$ ls
ise-support-bundle-przaise001-a-hv11674-11-04-2019-08-25.tar.gpg  jcameron-key.asc  test.txt
```

Known Defects

[CSCvd73085](#): Error mounting NFS location on ISE

[CSCvk61086](#): ISE 2.4 2.3 2.2 2.1 2.0 : NFS repository credentials are not used

[CSCvk36814](#): ISE 2.4 error mounting nfs repository

[CSCvm41485](#): ISE 2.3 : Unable to access NFS repository and scheduled reports not working using NFS repository

Troubleshoot

- To debug the repository on ISE use following debugs:

```
#debug copy 7  
#debug transfer 7
```

- If **#show rep NFS** is failing, take captures and debugs, below is a screenshot of a working scenario:

```
90 4.404133 10.48.85.249 10.48.60.193 NFS 250 V4 Call (Reply In 91) SETCLIENTID  
91 4.406119 10.48.60.193 10.48.85.249 NFS 130 V4 Reply (Call In 90) SETCLIENTID  
92 4.406172 10.48.85.249 10.48.60.193 NFS 170 V4 Call (Reply In 93) SETCLIENTID_CONFIRM  
93 4.408060 10.48.60.193 10.48.85.249 NFS 114 V4 Reply (Call In 92) SETCLIENTID_CONFIRM  
94 4.408144 10.48.85.249 10.48.60.193 NFS 182 V4 Call (Reply In 96) PUTROOTFH | GETATTR  
96 4.408813 10.48.60.193 10.48.85.249 NFS 286 V4 Reply (Call In 94) PUTROOTFH | GETATTR  
97 4.408853 10.48.85.249 10.48.60.193 NFS 186 V4 Call (Reply In 98) GETATTR FH: 0x62d40c52  
98 4.411316 10.48.60.193 10.48.85.249 NFS 162 V4 Reply (Call In 97) GETATTR  
99 4.411371 10.48.85.249 10.48.60.193 NFS 190 V4 Call (Reply In 100) GETATTR FH: 0x62d40c52  
100 4.412407 10.48.60.193 10.48.85.249 NFS 178 V4 Reply (Call In 99) GETATTR  
101 4.412441 10.48.85.249 10.48.60.193 NFS 186 V4 Call (Reply In 102) GETATTR FH: 0x62d40c52  
102 4.414590 10.48.60.193 10.48.85.249 NFS 162 V4 Reply (Call In 101) GETATTR  
103 4.414635 10.48.85.249 10.48.60.193 NFS 190 V4 Call (Reply In 104) GETATTR FH: 0x62d40c52  
104 4.414923 10.48.60.193 10.48.85.249 NFS 178 V4 Reply (Call In 103) GETATTR  
105 4.414954 10.48.85.249 10.48.60.193 NFS 186 V4 Call (Reply In 106) GETATTR FH: 0x62d40c52
```

```
> Frame 91: 130 bytes on wire (1040 bits), 130 bytes captured (1040 bits)  
> Ethernet II, Src: Cisco_2a:c4:a3 (00:06:f6:2a:c4:a3), Dst: Vmware_8d:9a:86 (00:50:56:8d:9a:86)  
> Internet Protocol Version 4, Src: 10.48.60.193, Dst: 10.48.85.249  
> Transmission Control Protocol, Src Port: 2049, Dst Port: 952, Seq: 29, Ack: 229, Len: 64  
▼ Remote Procedure Call, Type:Reply, XID:0xfaf136502  
  > Fragment header: Last fragment, 60 bytes  
    XID: 0xfaf136502 (4195575042)  
    Message Type: Reply (1)  
    [Program: NFS (100003)]  
    [Program Version: 4]  
    [Procedure: COMPOUND (1)]  
    Reply State: accepted (0)  
    [This is a reply to a request in frame 90]  
    [Time from request: 0.001986000 seconds]  
  ▼ Verifier  
    Flavor: AUTH_NULL (0)  
    Length: 0  
    Accept State: RPC executed successfully (0)  
> Network File System, Ops(1): SETCLIENTID
```

Working

- Below is a non-working scenario, it could be that ISE isn't listed in the /etc/exports

455	4.273621	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 456)	SETCLIENTID
456	4.275495	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 455)	
463	4.279409	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 465)	SETCLIENTID
465	4.281223	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 463)	
473	4.284947	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 475)	SETCLIENTID
475	4.286759	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 473)	
477	4.286834	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 478)	SETCLIENTID
478	4.288635	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 477)	
485	4.292429	10.240.239.68	10.235.139.48	NFS	262 V4 Call (Reply In 487)	SETCLIENTID
487	4.294249	10.235.139.48	10.240.239.68	NFS	90 V4 Reply (Call In 485)	

Frame 456: 90 bytes on wire (720 bits), 90 bytes captured (720 bits)
 Ethernet II, Src: Cisco_c7:04:40 (00:c1:64:c7:04:40), Dst: Cisco_e7:76:84 (70:0f:6a:e7:76:84)
 Internet Protocol Version 4, Src: 10.235.139.48, Dst: 10.240.239.68
 Transmission Control Protocol, Src Port: 2049, Dst Port: 766, Seq: 29, Ack: 241, Len: 24
 Remote Procedure Call, Type:Reply XID:0x1da7b938

> Fragment header: Last fragment, 20 bytes
 XID: 0x1da7b938 (497531192)
 Message Type: Reply (1)
 [Program: NFS (100003)]
 [Program Version: 4]
 [Procedure: COMPOUND (1)]
 Reply State: denied (1)
 [This is a reply to a request in frame 455]
 [Time from request: 0.001874000 seconds]
 Reject State: AUTH_ERROR (1)
 Auth State: bad credential (seal broken) (1)