

Configuración de un switch Catalyst 9600

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Introducción

Este documento describe el procedimiento de configuración y verificación inicial para configurar el switch Catalyst 9600.

Prerequisites

Requirements

Cisco recomienda que tenga conocimiento sobre estos temas:

Asegúrese de que el chasis y el supervisor están instalados de acuerdo con las guías de instalación.

- [Guía de instalación del chasis](#)
- [Guía de instalación del supervisor](#)

Componentes Utilizados

La información de este documento se basa y configura en estas versiones de software y hardware:

- Hardware Switch Catalyst 9600
- Software: Cisco IOS® XE 16.12.3a

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. Si tiene una red en vivo, asegúrese de entender el posible impacto de cualquier comando.

Antecedentes

Puede iniciar, configurar y verificar Catalyst 9600 en tres pasos.

Traer

- Conecte la consola
- Encienda el sistema
- Observar mensajes de consola
- Seleccionar opción de diálogo de configuración

Configurar

- Gestión de dispositivos
- Hostname
- Reloj
- Guarde la configuración

Verificación

- Versión y paquete de software
- Hardware del sistema, alimentación, etc.
- Conectividad IP de administración
- Estado del sistema
- Hora



Traer

- Conecte el PC a la consola de Catalyst 9600 con RJ45 o USB
- Encienda el sistema
- Observe que la consola imprime la inicialización del hardware del sistema y otra información en la pantalla

Inicio inicial:

```
Initializing Hardware...
Initializing Hardware.....
System Bootstrap, Version 17.3.1r[FC2], RELEASE SOFTWARE (P)
Compiled 30-04-2020 12:00:00.00 by rel

Current ROMMON image : Primary Rommon Image

Last reset cause:LocalSoft
C9600-SUP-1 platform with 16777216 Kbytes of main memory

Preparing to autoboot. [Press Ctrl-C to interrupt] 0
boot: attempting to boot from [bootflash:packages.conf]
boot: reading file packages.conf
<truncated>
#####
<truncated>

Base Ethernet MAC Address      : 6c:b2:ae:4a:70:c0
Motherboard Assembly Number    : 4C57
Motherboard Serial Number      : FXS230103TN
Model Revision Number          : V02
Motherboard Revision Number    : 3
Model Number                   : C9606R
System Serial Number           : FXS2302Q2EP
```

Espere hasta que vea el cuadro de diálogo **Configuración del sistema**. Seleccione la opción **No** para ingresar al modo de configuración manual y seleccione **Sí** para terminar la autoinstalación, para entrar en la configuración manual simple.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Would you like to terminate autointall? [yes]: yes

Press RETURN to get started

*Nov 5 15:40:26.909: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
*Nov 5 15:40:26.909: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to down

Configurar

Nota: Utilice el comando **show running-config** en cualquier momento en el modo "habilitar" para verificar los valores configurados.

Configure el puerto de administración con una dirección IP de la red y habilite el puerto.

```
Switch#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#interface gigabitEthernet 0/0  
Switch(config-if)#ip address 10.122.186.8 255.255.255.240  
Switch(config-if)#no shutdown
```

Configure una ruta estática para alcanzar la puerta de enlace predeterminada para la red de administración, utilice la red IP y la puerta de enlace.

```
Switch(config)#ip route vrf Mgmt-vrf 10.122.157.250 255.255.255.255 10.122.186.1
```

Configure Line VTY (Línea VTY), Virtual Terminal (Terminal virtual) para acceder a través de telnet y establecer una contraseña de su elección.

```
Switch(config)#line vty 0 4  
Switch(config-line)#password cisco  
Switch(config-line)#login
```

Transport **input all** permite todos los protocolos (p. ej. ssh, telnet) para acceder al dispositivo a través de sesiones VTY.

```
Switch(config-line)#transport input all  
Switch(config-line)#exit
```

Configure la contraseña de modo de usuario para el acceso a la consola.

```
Switch(config)#line console 0  
Switch(config-line)#password cisco  
Switch(config-line)#login  
Switch(config-line)#exit
```

Configure una contraseña de modo de habilitación fuerte.

```
Switch(config)#enable secret cisco
```

Configure el reloj del sistema.

```
Switch(config)#clock timezone utc +5 30
```

```
*Nov 6 04:34:58.910: %SYS-6-CLOCKUPDATE: System clock has been updated from 10:05:58 utc Fri Nov 6 2020 to 10:04:58 utc Fri Nov 6 2020, configured from console by console.
```

```
*Nov 6 04:35:59.634: %SYS-5-CONFIG_I: Configured from console by console
```

```
Switch#clock set 04:30:00 6 Nov 2020
```

```
*Nov 5 23:00:00.000: %SYS-6-CLOCKUPDATE: System clock has been updated from 10:06:19 utc Fri Nov 6 2020 to 04:30:00 utc Fri Nov 6 2020, configured from console by console.
```

```
Nov 5 23:00:00.000: %PKI-6-AUTHORITATIVE_CLOCK: The system clock has been set.
```

Configure el nombre de host para el sistema.

```
Switch(config)#hostname Catalyst-9600
```

Guarde la configuración configurada hasta ahora en startup-config.

```
Catalyst-9600#write memory
```

```
Building configuration...
```

```
[OK]
```

```
*Nov 5 16:11:46.061: %SYS-2-PRIVCFG_ENCRYPT: Successfully encrypted private config file
```

Verificación

Compruebe la versión del software en el sistema, observe el tiempo de actividad, los detalles del sistema, etc.

```
Catalyst-9600#show version
```

```
Cisco IOS XE Software, Version 16.12.03a
```

```
Cisco IOS Software [Gibraltar], Catalyst L3 Switch Software (CAT9K_IOSXE), Version 16.12.3a, RELEASE SOFTWARE (fcl)
```

```
Technical Support: http://www.cisco.com/techsupport
```

```
Copyright (c) 1986-2020 by Cisco Systems, Inc.
```

```
Compiled Tue 28-Apr-20 09:37 by mcpre
```

```
Cisco IOS-XE software, Copyright (c) 2005-2020 by cisco Systems, Inc.  
All rights reserved. Certain components of Cisco IOS-XE software are  
licensed under the GNU General Public License ("GPL") Version 2.0. The  
software code licensed under GPL Version 2.0 is free software that comes  
with ABSOLUTELY NO WARRANTY. You can redistribute and/or modify such  
GPL code under the terms of GPL Version 2.0. For more details, see the  
documentation or "License Notice" file accompanying the IOS-XE software,  
or the applicable URL provided on the flyer accompanying the IOS-XE  
software.
```

```
ROM: IOS-XE ROMMON
```

```
BOOTLDR: System Bootstrap, Version 17.3.1r[FC2], RELEASE SOFTWARE (P)
```

```
Catalyst-9600 uptime is 36 minutes
```

```
Uptime for this control processor is 37 minutes
```

```
System returned to ROM by Reload Command
```

```
System image file is "bootflash:packages.conf"
```

```
Last reload reason: Reload Command
```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at: <http://www.cisco.com/wvl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to export@cisco.com.

Technology Package License Information:

```
-----  
Technology-package           Technology-package  
Current                       Type                       Next reboot  
-----  
network-advantage   Smart License           network-advantage  
dna-advantage       Subscription Smart License   dna-advantage  
AIR License Level: AIR DNA Advantage  
Next reload AIR license Level: AIR DNA Advantage
```

Smart Licensing Status: UNREGISTERED/EVAL MODE

cisco C9606R (X86) processor (revision V00) with 1867991K/6147K bytes of memory.
Processor board ID FXS2302Q2EP
1 Virtual Ethernet interface
24 Forty/Hundred Gigabit Ethernet interfaces
48 TwentyFive Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
16009160K bytes of physical memory.
11161600K bytes of Bootflash at bootflash:.
1638400K bytes of Crash Files at crashinfo:.
0K bytes of WebUI ODM Files at webui:.

```
Base Ethernet MAC Address       : 6c:b2:ae:4a:70:c0  
Motherboard Assembly Number     : 4C57  
Motherboard Serial Number       : FXS230103TN  
Model Revision Number           : V02  
Motherboard Revision Number     : 3  
Model Number                     : C9606R  
System Serial Number            : FXS2302Q2EP
```

Configuration register is 0x102

Verifique los paquetes instalados.

Catalyst-9600#**show install summary**

[R0 R1] Installed Package(s) Information:

State (St): I - Inactive, U - Activated & Uncommitted,
C - Activated & Committed, D - Deactivated & Uncommitted

```
-----  
Type  St  Filename/Version  
-----  
IMG   C   16.12.3a.0.4
```

Auto abort timer: inactive

Verifique la ruta para el VRF de administración.

Switch#**show ip route vrf Mgmt-vrf**

Routing Table: Mgmt-vrf

Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, m - OMP
n - NAT, Ni - NAT inside, No - NAT outside, Nd - NAT DIA
i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
ia - IS-IS inter area, * - candidate default, U - per-user static route
H - NHRP, G - NHRP registered, g - NHRP registration summary
o - ODR, P - periodic downloaded static route, l - LISP
a - application route
+ - replicated route, % - next hop override, p - overrides from PfR

Gateway of last resort is not set

S* 0.0.0.0/0 [1/0] via 10.122.186.1 <--- the default gateway
10.0.0.0/8 is variably subnetted, 3 subnets, 2 masks
S 10.122.157.250/32 [1/0] via 10.122.186.1
C 10.122.186.0/28 is directly connected, GigabitEthernet0/0
L 10.122.186.8/32 is directly connected, GigabitEthernet0/0

Verifique el alcance de la red a través del gateway predeterminado.

Switch#**ping vrf Mgmt-vrf 10.122.186.1**

Type escape sequence to abort.

Sending 5, 100-byte ICMP Echos to **10.122.186.1**, timeout is 2 seconds:

!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/4 ms

Switch#

Compruebe los módulos instalados en el sistema.

Catalyst-9600#**show module**

Chassis Type: C9606R

Mod	Ports	Card Type	Model	Serial No.
1	24	24-Port 40GE/12-Port 100GE	C9600-LC-24C	CAT2252L0PY
3	0	Supervisor 1 Module	C9600-SUP-1	CAT2252L0SH
4	0	Supervisor 1 Module	C9600-SUP-1	CAT2252L0SU
6	48	48-Port 10GE / 25GE	C9600-LC-48YL	CAT2302L16G

Mod	MAC addresses	Hw	Fw	Sw	Status
1	70B3.175A.7580 to 70B3.175A.75FF	0.10	17.3.1r[FC2]	16.12.03a	ok
3	70B3.175A.5680 to 70B3.175A.56FF	0.10	17.3.1r[FC2]	16.12.03a	ok
4	70B3.175A.5600 to 70B3.175A.567F	0.10	17.3.1r[FC2]	16.12.03a	ok
6	6C8B.D307.6680 to 6C8B.D307.66FF	0.10	17.3.1r[FC2]	16.12.03a	ok

Mod	Redundancy Role	Operating Redundancy Mode	Configured Redundancy Mode
3	Active	sso	sso
4	Standby	sso	sso

Chassis MAC address range: 64 addresses from 6cb2.ae4a.70c0 to 6cb2.ae4a.70ff

Compruebe el estado del sistema mediante los resultados de prueba automática de encendido (POST) y diagnóstico.

Catalyst-9600#show post

Stored system POST messages:

Switch C9606R

Thu Nov 5 15:34:27 2020 POST: Module: 6 Mac Loopback Begin
Thu Nov 5 15:34:27 2020 POST: Module: 6 Mac Loopback: loopback Test: End, Status Passed
Thu Nov 5 15:34:27 2020 POST: Module: 1 Mac Loopback Begin
Thu Nov 5 15:34:27 2020 POST: Module: 1 Mac Loopback: loopback Test: End, Status Passed

Catalyst-9600#show diagnostic result module all

Current bootup diagnostic level: minimal

module 1: SerialNo : CAT2252L0PY

Overall Diagnostic Result for module 1 : PASS

Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) TestGoldPktLoopback:

Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Port	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

2) TestOBFL -----> U

3) TestThermal -----> .

4) TestPortTxMonitoring:

Port	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
	U	U	U	U	U	U	U	U	U	.	U	.	U	U	U	U	U	U	U	U	U	U	.	U
Port	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48
	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

module 3: SerialNo : CAT2252L0SH

Overall Diagnostic Result for module 3 : PASS

Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) TestOBFL -----> U

2) TestFantray -----> .

3) TestThermal -----> .

4) TestScratchRegister -----> .

module 4: SerialNo : CAT2252L0SU

Overall Diagnostic Result for module 4 : PASS

Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

- 1) TestOBFL -----> U
- 2) TestFantray -----> U
- 3) TestThermal -----> .
- 4) TestScratchRegister -----> U

module 6: SerialNo : CAT2302L16G

Overall Diagnostic Result for module 6 : PASS

Diagnostic level at card bootup: minimal

Test results: (. = Pass, F = Fail, U = Untested)

1) TestGoldPktLoopback:

```

Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
-----
      U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U
Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
-----
      U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U  U

```

- 2) TestOBFL -----> U
- 3) TestThermal -----> .
- 4) TestPortTxMonitoring:

```

Port  1  2  3  4  5  6  7  8  9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24
-----
      .  .  U  U  U  .  U  .  U  .  .  .  U  U  .  U  U  U  U  U  U  U  U  U  U
Port 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48
-----
      U  U  .  U  U  U  U  U  U  U  U  U  U  U  .  U  .  U  U  U  U  .  .  U

```

Compruebe si el reloj está configurado correctamente.

Catalyst-9600#show clock
*16:32:55.196 UTC Thu Nov 5 2020

Compruebe las fuentes de alimentación instaladas y su estado.

Catalyst-9600#show power detail

Power					Fan States	
Supply	Model No	Type	Capacity	Status	1	2
PS1	C9600-PWR-2KWAC	ac	2000 W	active	good	good
PS4	C9600-PWR-2KWAC	ac	2000 W	active	good	good

PS Current Configuration Mode : none

PS Current Operating State : none

Power supplies currently active : 2

Power supplies currently available : 2

Power Summary (in Watts)	Used	Maximum Available
-----	-----	-----
System Power	2800	3940
-----	-----	-----
Total	2800	3940

Power Budget Mode : Dual Sup

Mod	Model No	Power State	Budget	Instantaneous	Peak	Out of Reset	In Reset
---	-----	-----	-----	-----	-----	-----	-----
1	C9600-LC-24C	accepted	300	0	0	300	10
3	C9600-SUP-1	accepted	950	0	0	950	202
4	C9600-SUP-1	accepted	950	0	0	950	202
6	C9600-LC-48YL	accepted	300	0	0	300	10
FM1	C9606-FAN	accepted	300	--	--	300	--
---	-----	-----	-----	-----	-----	-----	-----

Total allocated power: 2800

Total required power: 2800

Información Relacionada

- Siga la [guía de configuración de administración del sistema](#) para ver opciones de configuración detalladas.
- [Soporte Técnico y Documentación - Cisco Systems](#)