

Een Catalyst 9600 Switch configureren

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Inleiding

In dit document wordt de procedure beschreven voor het instellen van de Catalyst 9600 switch en voor het instellen van de configuratie en verificatie.

Voorwaarden

Vereisten

Cisco raadt kennis van de volgende onderwerpen aan:

Zorg ervoor dat het chassis en de supervisor overeenkomstig de installatiehandleidingen zijn geïnstalleerd.

- [Installatie-handleiding voor chassis](#)
- [Installatiehandleiding voor supervisor](#)

Gebruikte componenten

De informatie in dit document is gebaseerd en geconfigureerd op deze software en hardwareversies:

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

De informatie in dit document is gebaseerd op de apparaten in een specifieke laboratoriumomgeving. Alle apparaten die in dit document worden beschreven, hadden een opgeschoonde (standaard)configuratie. Als uw netwerk levend is, zorg er dan voor dat u de mogelijke impact van om het even welke opdracht begrijpt.

Achtergrondinformatie

U kunt Catalyst 9600 in drie stappen opstarten, configureren en controleren.

Ophalen

- Sluit de console aan
- Schakel het systeem uit
- console-berichten bekijken
- Selecteer een dialoogvenster voor configuratie

Configureren

- Apparaatbeheer
- schuilnaam
- Kloktijd
- Bewaar de configuratie

Verifiëren

- Software, versie en pakket
- Systeemhardware, stroom enzovoort.
- IP-connectiviteit beheer
- Systeemgezondheid
- tijd



Ophalen

- Sluit de PC aan op de console van Catalyst 9600 met RJ45 of USB
- Schakel het systeem in
- Contacteer de computer hardware initialisatie en andere informatie op het scherm

Eerste start:

```
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
```

Wacht tot u het dialoogvenster **Systeemconfiguratie** ziet. Selecteer optie **Nee** om handmatige configuratie in te voeren en selecteer **Ja** om auto-installatie te stoppen, om in de eenvoudige

handmatige configuratie te belanden.

```
--- System Configuration Dialog ---
```

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

Configureren

Opmerking: Gebruik het bevel **van de show in werking stellen**-configuratie op elk punt van tijd in "laat"modus om gevormde waarden te controleren.

Configureer de beheerpoort met een IP-adres van het netwerk en stel de poort in.

```
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
```

Configureer een statische route om de standaardgateway voor een beheernetwerk te bereiken, gebruik uw netwerk-IP en gateway.

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

Configuratie VTY, Virtuele terminal van de Lijn om toegang via telnet te hebben en stel een wachtwoord van uw keus in.

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

Alle protocollen kunnen worden **ingevoerd** via transport (bijvoorbeeld: ssh, telnet) om het apparaat te bereiken door VTY sessies.

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

Configureer het wachtwoord van de gebruikersmodus voor toegang tot de console.

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

Configureer de modus met het wachtwoord.

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

Stel de systeemklok in.

```
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.
```

Configureer de hostnaam voor het systeem.

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

Sla de configuratie die tot nu toe is ingesteld op in een opstartbeeld.

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

```
Building configuration...
```

```
[OK]
```

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

Verifiëren

Controleer de softwareversie op het systeem, let op de beschikbare tijd, systeemdetails, enzovoort.

```
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 (fc1)
```

```
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

Controleer de geïnstalleerde pakketten.

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  
-----
```

Auto abort timer: inactive

Controleer de route voor het beheer VRF.

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

Controleer bereikbaarheid aan het netwerk via default-gateway.

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#

Controleer welke modules in het systeem zijn geïnstalleerd.

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

Controleer de systeemstatus met behulp van Power-on zelftest (POST) en diagnostische resultaten.

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 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 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 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
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

```

Controleer of de klok goed is ingesteld.

```

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

```

Controleer de geïnstalleerde voedingseenheid en de juiste status.

```

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                Maximum
(in Watts)   Used           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

```

Gerelateerde informatie

- Volg de [systeembeheerdershandleiding](#) voor gedetailleerde configuratieopties.
- [Technische ondersteuning en documentatie – Cisco Systems](#)