

配置Catalyst 9600交換機

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簡介

本文描述設定Catalyst 9600交換機的初始配置和驗證過程。

必要條件

需求

思科建議您瞭解以下主題：

確保按照安裝指南安裝機箱和管理引擎。

- [機箱安裝指南](#)
- [Supervisor安裝指南](#)

採用元件

本檔案中的資訊是根據以下軟體和硬體版本設定和設定：

- 硬體：Catalyst 9600交換器
- 軟體：Cisco IOS® XE 16.12.3a

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路運作中，請確保您瞭解任何指令可能造成的影響。

背景資訊

您可以分三個步驟啟動、設定和驗證Catalyst 9600。

啟動

- 連線控制檯
- 啟動系統

- 觀察控制檯消息
- 選擇配置對話方塊選項

設定

- 裝置管理
- 主機名
- 時鐘
- 儲存組態

驗證

- 軟體版本和軟體包
- 系統硬體、電源等。
- 管理IP連線
- 系統運行狀況
- 時間



啟動

- 使用RJ45或USB將PC連線到Catalyst 9600的控制檯
- 啟動系統
- 觀察控制檯在螢幕上列印系統硬體初始化及其他資訊

初始啟動：

```

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

```

請等待您看到**System Configuration**對話框。選擇**No**選項以進入手動配置模式，選擇**Yes**以終止自動安裝，進入簡單的手動配置。

```
--- 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

設定

附註：在「enable」模式下的任何時間點使用**show running-config**命令檢查配置的值。

使用網路的IP地址配置管理埠並啟用該埠。

```
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
```

配置靜態路由以到達管理網路的預設網關，使用您的網路IP和網關。

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

配置線路VTY和虛擬終端，以便通過telnet訪問並設定您選擇的密碼。

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

Transport input all允許所有協定(例如ssh、telnet)，以便通過VTY會話訪問裝置。

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

配置控制檯訪問的使用者模式口令。

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

配置強啟用模式密碼。

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

設定系統時鐘。

```
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.

配置系統的主機名。

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

將已配置的配置儲存到啟動配置。

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

```
Building configuration...
```

```
[OK]
```

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

驗證

檢查系統上的軟體版本、觀察運行時間、系統詳細資訊等。

```
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

檢查已安裝的軟體包。

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

檢查管理VRF的路由。

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
```

檢查通過預設網關到網路的可達性。

```
Switch#ping vrf Mgmg-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#
```

檢查系統中安裝的模組。

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

使用開機自檢(POST)和診斷結果檢查系統運行狀況。

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

```

檢查時鐘是否設定正確。

```

Catalyst-9600#show clock
*16:32:55.196 UTC Thu Nov 5 2020
檢查已安裝的電源及其運行狀況。

```

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	Used	Maximum Available
(in Watts)		
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				

相關資訊

- 有關詳細的配置選項，請按照[系統管理配置指南](#)。
- [技術支援與文件 - Cisco Systems](#)