Reset Catalyst Switches to Factory Defaults

Contents

Introduction

This document describes situations where it is desirable to restore the Catalyst switch configuration to the original default factory settings.

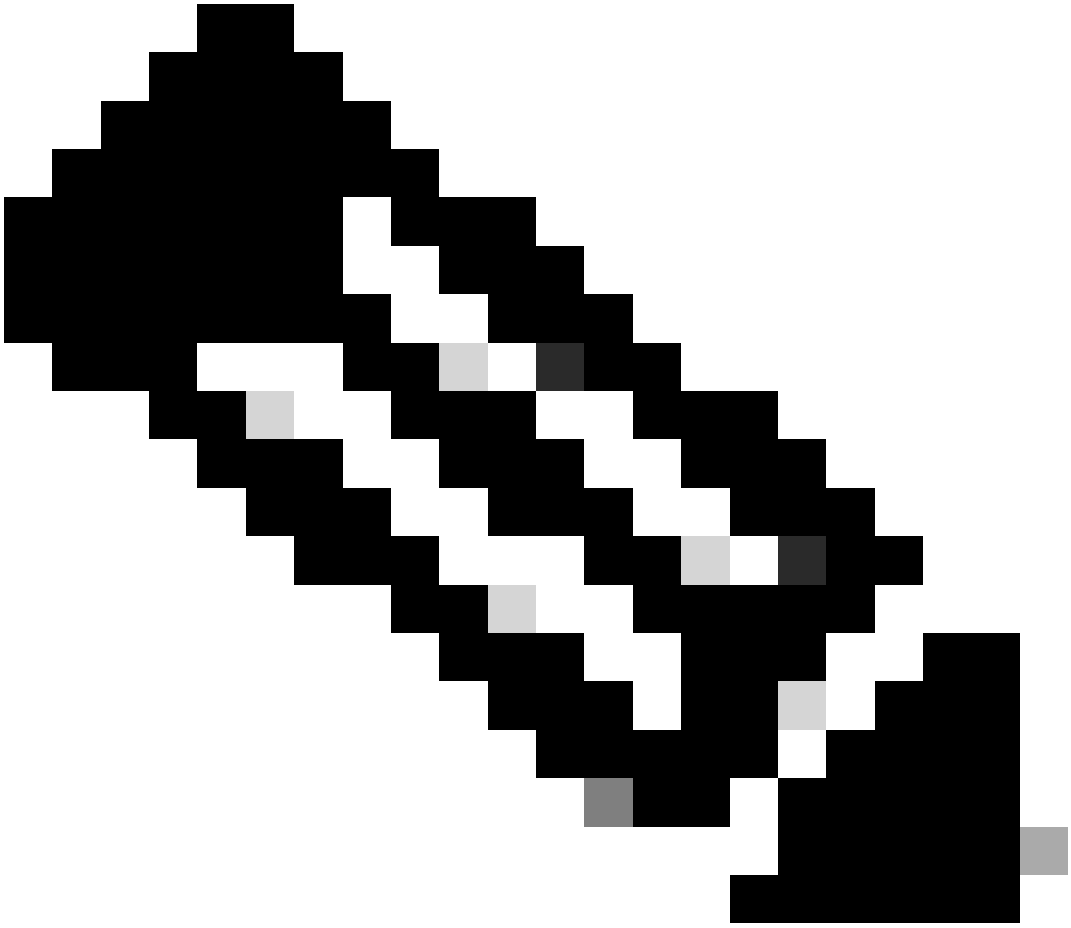
Prerequisites

Requirements

There are no specific requirements for this document.

Components Used

The information in this document was tested with these software and hardware versions:



Note: Although the document was created with these Catalyst switches, the principles apply to the products mentioned in the document.

- Catalyst 2950 switch with Cisco IOS® Software Release 12.1(19)EA1
- Catalyst 6500/6000 switch with Cisco IOS Software Release 12.1(20)E

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. If your network is live, ensure that you understand the potential impact of any command.

Conventions

For more information on document conventions, refer to the Cisco Technical Tips Conventions.

Background Information

This document describes situations where it is desirable to restore the Catalyst switch configuration to the original default factory settings.

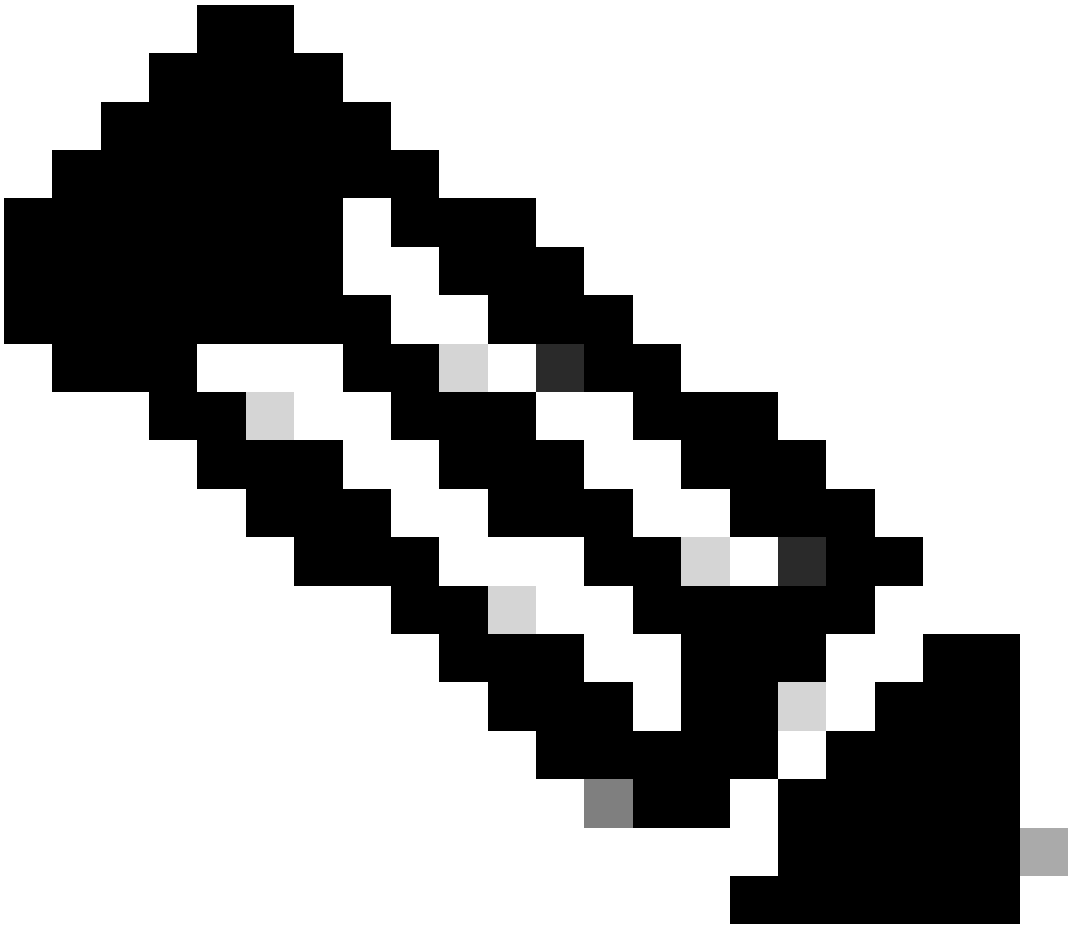
This is useful when you want to remove an undesirable configuration that is present in the switch. If you have configured a switch and the configuration has become very complex or if you want to move a switch from one network to other, you can reset the switch to factory defaults and configure it as a new switch. This document provides information and sample command logs to reset your switches.

To reset the Catalyst switches to factory defaults, you need access to the switch console through either a physical console or a Telnet connection.

You also need the console/enable passwords. If you forget the console and enable password of your switch, you cannot reset the switch configuration to factory default to reset the password.

In this case, you need to do the steps in the password recovery procedure for your switch. Refer to this document for steps to recover the passwords on your Catalyst switches:

- Password Recovery Procedures



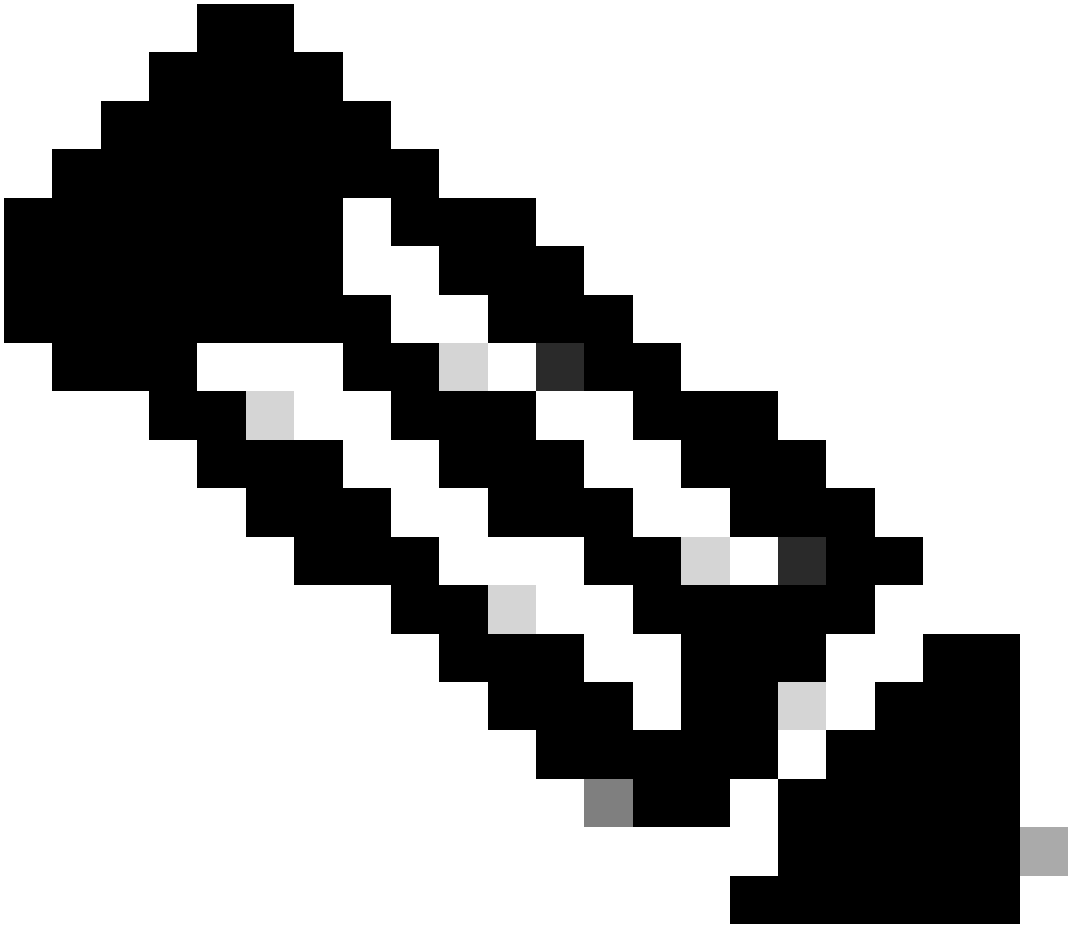
Note: If you reset the switch to factory defaults while you access the switch by Telnet connection, you lose connectivity to the switch.

Before You Begin

Before you reset the switch to factory defaults, performone of these tasks:

- Back up your configuration on a TFTP server.
- Copy your configuration to a text file.
- Copy the configuration locally on the bootflash or slot0: device.

Once you clear the user configuration, there is no way to recover the configuration unless you restore the backed-up configuration.



> **Note**: You can restore the complete configuration if you copy the text file configuration and paste it to the command line.

Reset Catalyst Switches with Cisco IOS Software

The procedure in this section applies to the router cards, the modular or fixed configuration switches, and GL-3 Catalyst series switches which run Cisco IOS Software:

- Router cards
    - WS-X4232-L3 (Catalyst 4006/4000)
    - MSFC/MSM (Catalyst 6500/6000)
- Catalyst modular switches
    - Catalyst 6500/6000
    - Catalyst 4500/4000
- Catalyst fixed configuration switches
    - Catalyst 2940
    - Catalyst 2950/2955
    - Catalyst 2970
    - Catalyst 3550
    - Catalyst 3560
    - Catalyst 3750
    - Catalyst 2900XL/3500XL
- GL-3 Catalyst switches
    - Catalyst 2948G-L3
    - Catalyst 4908G-L3

Switches which run Cisco IOS Software have a run configuration file and a startup configuration file. The RAM stores the run configuration, and the NVRAM stores the startup configuration.

When you make a configuration change to a switch which runs Cisco IOS Software, the change becomes part of the run configuration.

You must save the configuration changes to the startup configuration; otherwise, the configuration is lost during the next reload or power outage.

This is because you lose the run configuration stored in RAM when you reload the switch or turn off the power. To save the configuration into NVRAM, issue the **write memory** command or the **copy running-config startup-config** command.

If you do not save your changes to NVRAM, the changes clear from RAM and are no longer part of the startup configuration when the switch reloads.

On the Catalyst modular or fixed configuration switches which run Cisco IOS Software, a separate file stores the VLAN information. The file is called **vlan.dat** file and is stored in NVRAM for modular switches or in Flash for fixed configuration switches.

To reset these switches to factory defaults, you need to delete the startup configuration and the vlan.dat file. To restore the Catalyst 2948G-L3/4908G-L3 switches and router cards to the factory defaults, you only need to delete the startup configuration file.

These switches do not contain VLAN information because they do not participate in VLAN Trunk Protocol (VTP).

Reset Switch Configuration

To reset the switch to factory default, issue the **erase startup-config** or **write erase** command. This command does not clear the boot variables, such as config-register and boot system settings.

You can alter the boot system parameters with the **boot** command. In Catalyst 4500/4000 and 6500/6000 series switches which run Cisco IOS Software, you can change the configuration register value with the **config-register** command.

This example shows how to reset a switch which runs Cisco IOS Software to factory defaults with the **write erase** command:

```
<#root>

Cat2950#

write erase

Erasing the nvram filesystem will remove all files! Continue? [confirm]

y

[OK]
Erase of nvram: complete
Cat2950#
Cat2950#

reload


System configuration has been modified. Save? [yes/no]:

n



!--- Do not save the configuration at this prompt. Otherwise, the switch !--- reloads with the cur

Proceed with reload? [confirm]

y



2w0d: %SYS-5-RELOAD: Reload requested

C2950 Boot Loader (C2950-HBOOT-M) Version 12.1(11r)EA1, RELEASE SOFTWARE (fc1)
Compiled Mon 22-Jul-02 18:57 by antonino
WS-C2950G-12-EI starting...


!--- Output suppressed.
```

```
32K bytes of flash-simulated non-volatile configuration memory.
Base ethernet MAC Address: 00:05:DC:C9:79:00
Motherboard assembly number: 73-5781-08
Motherboard serial number: FAB0515A069
Model revision number: 02
Model number: WS-C2950-24
System serial number: FAB0517Q00B

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]:n
00:00:16: %SPANTREE-5-EXTENDED_SYSID: Extended SysId enabled for type vlan
00:00:21: %SYS-5-RESTART: System restarted --
Cisco Internetwork Operating System Software
Cisco IOS (tm) C2950 Software(C2950-I6Q4L2-M)Version 12.1(19)EA1, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2003 by cisco Systems, Inc.
Compiled Tue 09-Dec-03 00:12 by yenanh

Press RETURN to get started!

00:00:37: %LINK-5-CHANGED: Interface Vlan1, changed state to administratively down
00:00:38: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed state to down
Switch>
Switch>
```

At this stage, the switch configuration has reset to the factory defaults, with the exclusion of the VLAN information.

Reset VLAN Information

To reset the VLAN information to the factory defaults, delete the vlan.dat file from the Flash or NVRAM and reload the switch. On the 6500/6000 series switches which run Cisco IOS Software, the vlan.dat file is stored in **const_nvram**.

On the 4500/4000 series switches which run Cisco IOS Software, the vlan.dat file is stored in **cat4000_flash:** . **On the 2940, 2950/2955, 2970, 3550, 3550, 3560, 3570, and 2900XL/3500XL fixed configuration switches, the vlan.dat file is stored in flash:**.

To erase the vlan.dat file on the 6500/6000 switches, issue the **erase const_nvram:** command. On the 4500/4000 switches, issue the **erase cat4000_flash:** command. On the fixed configuration switches, issue the **delete flash:vlan.dat** command.

The example steps show how to delete the VLAN information on Catalyst fixed configuration switches. You can use the same steps, with their respective commands, for the 6500/6000 and 4500/4000 which run Cisco IOS Software:

1. To verify the VLAN information, issue the **show vlan** command, and to verify the vlan.dat file, issue the **dir** command.

```
<#root>

Cat2950#

show vlan
```

```
VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24

2    VLAN0002                         active
3    VLAN0003                         active
4    VLAN0004                         active


!--- Despite the erase of the startup configuration file, !--- these user-created VLANs rema


600  VLAN0600                         active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active

VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        1002   1003
2    enet  100002     1500  -      -      -        -    -        0      0
3    enet  100003     1500  -      -      -        -    -        0      0
4    enet  100004     1500  -      -      -        -    -        0      0
600  enet  100600     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        1      1003
1003 tr    101003     1500  1005   -      -        -    srb      1      1002
1004 fdnet 101004     1500  -      -      1        ibm  -        0      0
1005 trnet 101005     1500  -      -      1        IBM  -        0      0
Switch#


Cat2950#

dir flash:


!--- On the 4500/4000, issue the dir cat4000_flash: command. !--- On the 6500/6000, issue th

Directory of flash:/

2  -rwx     2487439   Mar 11 1993 01:25:32  c2950-i6q4l2-mz.121-9.EA1d.bin
3  -rwx         840   Mar 20 1993 09:20:09  vlan.dat

!--- This vlan.dat file stores user-configured VLANs.

4  -rwx     2491435   Mar 08 1993 16:14:13  c2950-mvr.bin
6  -rwx          42   Mar 01 1993 00:07:35  env_vars
7  -rwx         109   Mar 11 1993 01:23:56  info
8  drwx         640   Mar 11 1993 01:26:35  html
19  -rwx         109   Mar 11 1993 01:26:35  info.ver

7741440 bytes total (1088512 bytes free)
Switch#
```

2. Delete the VLAN information from Flash or NVRAM, and reload the switch.

> **Note**: On the 6500/6000 and 4500/4000 which run early versions of Cisco IOS Software, the delete command does not always work. Instead, issue the command **erase const_nvram** : or the **command erase cat4000_flash:.**

3. Do not specify the vlan.dat file in the command syntax. However, on later versions of Cisco IOS Software, the **delete const_nvram:vlan.dat** command works for the 6500/6000, and the **delete cat4000_flash:vlan.dat** command works on the 4500/4000.

```
<#root>

Cat2950#

delete flash:vlan.dat

Delete filename [vlan.dat]?

!--- Press Enter.

Delete flash:vlan.dat? [confirm]

y


Cat2950#

reload

Proceed with reload? [confirm]y
4w5d: %SYS-5-RELOAD: Reload requested
```

4. After reload, check the VLAN information with the **show vlan** command.

   The user-configured VLANs no longer appear in the command output. Only factory-default VLAN information is on the switch.

```
<#root>

Cat2950#

show vlan


VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
```

```
VLAN Type  SAID       MTU   Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
---- ----- ---------- ----- ------ ------ -------- ---- -------- ------ ------
1    enet  100001     1500  -      -      -        -    -        0      0
1002 fddi  101002     1500  -      -      -        -    -        0      0
1003 tr    101003     1500  -      -      -        -    -        0      0
1004 fdnet 101004     1500  -      -      -        ieee -        0      0
1005 trnet 101005     1500  -      -      -        IBM  -        0      0
Switch#
```

Reset Catalyst Switches in Redundant Mode

For the 6500/6000 and 5500/5000 switches which run CatOS in redundant mode, the standby Supervisor Engine synchronizes with changes made to the active Supervisor Engine.

So, if you reset the configuration on the active Supervisor Engine to factory defaults with the **clear config** command, the standby Supervisor Engine also resets to factory defaults.

Whether you set the configuration mode to binary or text mode with the **set config mode** command, the switch resets to factory defaults when you clear the configuration on the active Supervisor Engine.

To reset 6500/6000 switches which run Cisco IOS Software in redundant mode to factory defaults, you need to complete these steps:

1. Erase the startup configuration with the **erase startup-config** command on the active Supervisor Engine. This also erases the startup configuration on the standby Supervisor Engine.

2. Delete the vlan.dat file as shown in theReset VLAN Informationsection of this document.

3. Reload the active Supervisor Engine with the **reload** command

If the Supervisor Engine enters the ROMmon mode after it reloads, check the boot variable to see if it is set to boot from the proper image.

Refer also to the documentRecover a Catalyst 6500/6000 Running Cisco IOS System Software from a Corrupted or Missing Boot Loader Image or ROMmon Modefor further information.

Related Information

- **All Products Support**
- **Cisco Technical Support & Downloads**