

Cisco – Resetting Catalyst Switches to Factory Defaults

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Resetting Catalyst Switches to Factory Defaults

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Introduction

In certain situations, 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 for resetting your switches.

To reset the Catalyst switches to factory defaults, you need access to the switch console using either a physical console or a Telnet connection. You will also need the console/enable passwords. If you forget the console and enable password of your switch, you can not reset the switch configuration to factory default to reset the password. You will need to follow the password recovery procedures for your switch. Refer to the following document for steps to recover the passwords on your Catalyst switches:

- Password Recovery Procedures

Before You Begin

Before resetting the switch to factory defaults, make sure to backup your configuration on a Trivial File Transfer Protocol (TFTP) server, or locally on the bootflash or slot0: device. Once you clear the user configuration, there is no way to recover that configuration without restoring the backed up configuration. To upload a configuration file on a TFTP server, refer to the following document:

- Working with Configuration Files

Resetting Catalyst Switches Running CatOS

This procedure applies to Catalyst 4000/5000/6000 switches running CatOS. These switches store the configuration in NVRAM. The configuration is saved in the NVRAM automatically wherever users enter the commands in enable mode. On Cisco IOS®, the configuration must be saved by issuing the **write memory** command. The system or module configuration on these switches can be reset to factory defaults by issuing the **clear config** command. The command syntax is as follows:

```
clear config {mod | rmon | all | snmp | acl {nvram}}
```

The **clear config all** command clears the user configured system, as well as module configuration. This command will not, however, clear the boot variables, such as config-register and boot system settings. The

boot variable settings can be altered by issuing the **set boot** command. If your switch has any Layer 3 (L3) modules, such as Route Switch Modules (RSMs)/Route Switch Feature Cards (RSFCs) on Catalyst 5000s or the Multilayer Switch Feature Cards (MSFCs) on Catalyst 6000s, the **clear config all** command will not clear the Cisco IOS configuration on this L3 module. To clear the configuration on L3 modules, access the L3 module by issuing the **session** command and resetting the switch to factory defaults using procedure in the Resetting Catalyst Switches Running Cisco IOS section of this document. The following example shows how to reset the configuration on the switch to factory defaults:

```
Cat5k> (enable) clear config all
This command will clear all configuration in NVRAM.
This command will cause ifIndex to be reassigned on the next system startup.
Do you want to continue (y/n) [n]? y
.....
.....
.....
2002 Aug 03 15:16:19 %MLS-5-MCAST_STATUS:IP Multicast Multilayer Switching is disabled

System configuration cleared.
Use 'session' command to clear ATM or Router specific configurations.
Console> (enable)
Console> (enable)
```

When the configuration is erased, you do not need to reload the switch. The configuration takes effect immediately and the switch returns to the factory default configuration. If you want to clear the configuration of a specific module on the switch, issue the **clear config <mod>** command, as shown below.

```
Cat5k> (enable) clear config 5
This command will clear module 5 configuration.
Do you want to continue (y/n) [n]? y
.....
Module 5 configuration cleared.
Cat5k> (enable)
Cat5k> (enable)
```

Resetting Catalyst Switches Running Cisco IOS

This procedure applies to Catalyst 4000/6000 series switches running Integrated Cisco IOS (Native Mode), Catalyst 2950/3550/2900XL/3500XL series switches running Cisco IOS, Catalyst 2948G-L3/4908G-L3 switches running Cisco IOS, and L3 modules running Cisco IOS.

Note: L3 modules include Catalyst 4000s (WS-X4232-L3), Catalyst 5000s (RSM/RSFC), and Catalyst 6000s (MSFC/MSM).

The running configuration and the startup configuration are the two configuration files on switches running Cisco IOS. The running configuration is stored in the RAM and the startup configuration is stored in the NVRAM. When you make a configuration change to a switch, the change becomes part of the running configuration. The change does not automatically become part of the startup configuration, which is used each time the switch restarts. The configuration changes can be saved into NVRAM (startup configuration) by issuing the **write memory** command. If you do not save your changes to NVRAM, they are lost when the switch reloads.

On Catalyst 4000/6000 series switches running Integrated Cisco IOS (Native Mode) and Catalyst 2950/3550/2900XL/3500XL series switches running Cisco IOS, the VLAN information is stored in a separate file called vlan.dat file in Flash or NVRAM. To reset these switches to factory defaults, you need to delete the startup-config and the vlan.dat file. You can delete the startup-config file on Catalyst 2948G-L3/4908G-L3

switches and L3 modules. These switches do not contain VLAN information since they do not participate in VTP.

Resetting Switch Configuration

The switch can be reset to factory defaults by issuing the **erase startup-config** or **write erase** command. This command will not, however, clear the boot variables, such as config-register and boot system settings. The boot system parameters can be altered by issuing the **boot** command. In Catalyst 4000/6000 switches running Integrated Cisco IOS (Native Mode), the configuration register value can be changed by issuing the **config-register** command. The following example shows how to reset the switch to factory defaults:

```
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
!-- Please make sure not to save the configuration at this
!-- prompt. Otherwise, the switch the will not be reset to default.
Proceed with reload? [confirm]y

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

C2950 Boot Loader (CALHOUN-HBOOT-M) Version 12.0(5)WC(1), RELEASE SOFTWARE (fc1)
Compiled Tue 27-Mar-01 23:28 by devgoyal
WS-C2950-24 starting...

--- Output Skipped ---

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
IOS (tm) C2950 Software (C2950-I6Q4L2-M), Version 12.1(9)EA1d, RELEASE SOFTWARE (fc1)
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Mon 17-Jun-02 18:55 by antoninon

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 is reset to its factory defaults, excluding the VLAN information.

Resetting VLAN Information

To reset the VLAN information to its factory defaults, delete the `vlan.dat` file from the Flash or NVRAM and reload the switch. On Catalyst 6000 switches running Integrated Cisco IOS (Native Mode), the `vlan.dat` file is stored in `const_nvram`. On Catalyst 4000 switches running Integrated Cisco IOS (Native Mode), the `vlan.dat` file is stored in `cat4000_flash`. On Catalyst 2950/3550/2900XL/3500XLs, the `vlan.dat` file is stored in `flash`.

On Catalyst 6000s, issue the **`erase const_nvram`** command. On Catalyst 4000s, issue the **`erase cat4000_flash`** command. On Catalyst 2950/3550/2900XL/3500XLs, issue the **`delete flash:vlan.dat`** command. Use the same steps as below for Catalyst 4000/6000 series switches running Integrated Cisco IOS (Native Mode). The following steps show how to delete the VLAN information on Catalyst 2950/3550/2900XL/3500XL switches:

1. Verify the VLAN information by issuing the **`show vlan`** command, and verify the `vlan.dat` file by issuing the **`dir`** command.

```
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
```

```
!-- Although the startup configuration file is erased,
!-- these user created VLANs are not removed.
```

```
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  Transl  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 Catalyst 4000, issue the dir cat4000_flash: command,
!-- and on the Catalyst 6000, issue the dir const_nvram: command.
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 Catalyst 6000 and 4000, the **delete** command does not work. Instead you must issue the **erase const_nvram:** or **erase cat4000_flash:** command. Do not specify the vlan.dat file in the command syntax.

```

Cat2950#delete flash:vlan.dat
Delete filename [vlan.dat]?
!-- Press Enter.
Delete flash:vlan.dat? [confirm]y
Switch#
Switch#reload
Proceed with reload? [confirm]y
4w5d: %SYS-5-RELOAD: Reload requested

```

3. After reload, check the VLAN information by issuing the **show vlan** command. The user configured VLANs are removed, and only factory default VLAN information is present on the switch.

```

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#

```

Resetting Catalyst Switches in Redundant Mode

In Catalyst 5000/6000 switches running CatOS in redundant mode, if the configuration on the active Supervisor (Sup) is reset to factory defaults by issuing the **clear config** command, the standby Sup synchronizes with changes made on the active Sup and the switch resets to factory defaults. On these switches, whether the configuration mode is set to binary or text mode, the switch resets to factory defaults

when the configuration is cleared on the active Sup.

The behavior is not the same in Catalyst 6000 switches running Integrated Cisco IOS (Native Mode) in redundant mode. If you reset the configuration on active Sup to factory defaults (which requires reloading the Sup module), the standby Sup becomes active and it loads the same user configuration. The switch never returns to factory defaults. In this case, you would need to physically remove the standby Sup module from the chassis and reset the active Sup configuration to factory defaults using the procedure in the Resetting Catalyst Switches Running Cisco IOS section of this document. When the active Sup comes online with the factory default configuration, insert the standby Sup back into the chassis. This will synchronize with the configuration on the active Sup, which is the factory default.

Related Information

- [Technology Support](#)
- [Product Support](#)
- [Technical Assistance Center](#)

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