

Recover a Cisco IOS Catalyst 4500/4000 Series Switch from a Corrupt or Missing Image or in Rommon Mode

Document ID: 24061

Introduction

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Introduction

This document explains how to recover a Catalyst 4500/4000 Series Supervisor II-Plus (WS-X4013+), Supervisor III (WS-X4014), Supervisor IV (WS-X4515), or Supervisor V (WS-X4516) from a missing or corrupted system image, or an incorrect boot variable. The Supervisor II-Plus, III, IV or V module image can sometimes be corrupted during a Trivial File Transfer Protocol (TFTP) download, or when manually deleted by the user. The switch provides a number of ways to recover should any of these events occur on these Supervisor Engines.

The Catalyst 4500/4000 Series Supervisor II-Plus, III, IV and V runs Cisco IOS® software only, and does not run Catalyst OS software. If you wish to try to recover a Catalyst 4500/4000 Series Supervisor (I and II) that runs Catalyst OS, refer to this document:

Recovering Catalyst 4000 and Catalyst 5000 Switches from Corrupted or Missing Software, or an Upgrade Failure, or from ROMmon Mode

When the Supervisor II-Plus, III, IV or V-equipped switch boots up or resets, there are these two possibilities:

1. The switch starts up normally and displays the `Hostname>` prompt or the default `Switch>` prompt.
2. The switch cannot find the image, the image is corrupt, no image is present in the bootflash device, or the boot variable is set incorrectly and therefore winds up in ROM monitor (ROMmon) mode. It displays the `rommon>` prompt. In ROMmon mode, the switch must be able to locate a valid system image from either the bootflash device or the slot0 Compact Flash card. These Supervisor Engines also provide an Ethernet Management port (10/100 Base T), which is available only from ROMmon mode and can be configured to download a new valid image through TFTP from a TFTP process. There is no option for Xmodem or Ymodem which allows you to copy an image through the console port.

In addition to the 64 MB internal Flash Single In-Line Memory Module (SIMM), these Supervisor Engines have one Type 1 Compact Flash card slot which has a capacity of up to 128 MB. If the system or the boot

Recover from ROMmon Mode

The switch could wind up in ROMmon mode due to these reasons:

1. A switch reload or crash after the image was corrupted or deleted. See the Recover from a Corrupt or Missing Image section of this document for more information.
2. The Compact Flash which holds the system image has been removed. See the Recover from a Continuous Reboot section of this document to determine if a valid system image is present in the bootflash:. If there is no file present, see the Recover from a Corrupt or Missing Image section of this document
3. The configuration register has been changed incorrectly. The configuration register value of 0x0 always brings the switch to ROMmon mode. The typical configuration register is 0x2102, with the **boot system flash** command pointing to the system image to load. Refer to this document for more information about the configuration register:
 - ◆ The Configuring the Software Configuration Register section of Configuring the Catalyst 4000 Family Switch for the First Time.
4. The boot variable is incorrect, but a valid image is still present. See the Recover from a Continuous Reboot section of this document for more information.

These primary symptoms occur in your network if the switch is in ROMmon mode:

- Routing failures occur because ROMmon mode cannot route between VLAN interfaces, and is only designed to recover the switch.
- If you try to Telnet to any of the interfaces it fails, and if you are connected to the console port of the Supervisor, you see this prompt:

```
rommon 1 >
```

Recover from a Continuous Reboot

The switch might end up in a continuous reboot sequence if the boot variable is not set to the correct system image file and proper destination device. For example, the configuration register value of 0x2102 requires that a boot variable is specified by issuing the **boot system flash** configuration command.

This output is an example of a situation in which an incorrect boot image is specified when setting up the boot variable, which prevents the booting of the system image. This output is only seen on the console of the switch, as the switch is not yet functional.

```
*****
* *
* Welcome to Rom Monitor for WS-X4014 System. *
* Copyright (c) 2002 by Cisco Systems, Inc. *
* All rights reserved. *
* *
*****

ROM Monitor Program Version 12.1(11br)EW

Board type 1, Board revision 5
Swamp FPGA revision 14, Dagobah FPGA revision 48

MAC Address : 00-01-96-d9-f6-fe
Ip Address : Not set.
Netmask : Not set.
Gateway : Not set.
```

```
TftpServer : Not set.  
Main Memory : 256 MBytes
```

```
***** The system will autoboot in 5 seconds *****
```

```
Type control-C to prevent autobooting.  
. . . . .
```

```
***** The system will autoboot now *****
```

```
config-register = 0x2102  
Autobooting using BOOT variable specified file.....
```

```
Current BOOT file is --- bootflash:cat4000-is-mz.121-8a.Ew  
boot: can not load "bootflash:cat4000-is-mz.121-8a.Ew"
```

```
The switch will automatically reboot now...
```

```
rommon 1 >
```

This reboot is continuous.

Step-by-Step Instructions

These steps show how you can recover the switch.

1. You should already have a console connection to the Supervisor to see the previous output and perform the recovery. On a standard Windows operating system platform, configure a HyperTerminal connection directly to COM1 with these settings:

- ◆ 9600 bps
- ◆ Eight data bits
- ◆ No parity
- ◆ One stop bit
- ◆ Flow control = none

Use a rolled male RJ-45 cable to connect from COM1 on the PC to the console port on the Supervisor module. Use a DB-9 connector on the PC.

2. The reboot continues until autoboot is prevented when you press **Control-C** and go into ROMmon mode.

This is shown in this example:

```
*****  
*                                                                 *  
* Welcome to ROM Monitor for WS-X4014 System.                   *  
* Copyright (c) 2002 by Cisco Systems, Inc.                     *  
* All rights reserved.                                          *  
*                                                                 *  
*****  
  
ROM Monitor Program Version 12.1(11br)EW  
  
Board type 1, Board revision 5  
Swamp FPGA revision 14, Dagobah FPGA revision 48
```

```
MAC Address : 00-01-96-d9-f6-fe
Ip Address  : Not set.
Netmask     : Not set.
Gateway     : Not set.
TftpServer  : Not set.
Main Memory : 256 Mbytes
```

***** The system will autoboot in 5 seconds *****

Type control-C to prevent autobooting.

!--- Press Control-C.

```
Autoboot cancelled..... please wait!!!
rommon 1 > [interrupt]
```

3. Issue the **dir bootflash:** command to list the files present in the bootflash, or issue the **dir slot0:** command to list the files present in the Compact Flash device.

In the example, the files are in the bootflash: device:

```
rommon 1 >dir bootflash:
```

File size	Checksum	File name
6516904 bytes (0x6370a8)	0x7b7edb21	cat4000-is-mz.121-11b.EW

Total space = 61341696 bytes, Available = 54824664 bytes

```
rommon 2 >dir slot0:
```

File size	Checksum	File name
6516904 bytes (0x6370a8)	0x7b7edb21	cat4000-is-mz.121-11b.EW

Total space = 128057344 bytes, Available = 121540312 bytes

Note: The reason the switch reboots continuously is because the system image file name specified does not exist, but there is a valid file in the bootflash and slot0:. Also, the system image file name specified is case sensitive. If it is not specified correctly, it causes a continuous reboot.

4. Since you have the required system image file present in the bootflash:, you can issue the **boot bootflash:<filename>** command to boot the switch. Issue the **boot slot0:<filename>** command if you want to load the system from the file present in slot0:. The system is booted with that specified image. If the switch fails to load due to the specified system image being corrupt, or the valid system file is not present, see the Recover from a Corrupt or Missing Image section of this document.

This is shown in this example:

```
rommon 2 >boot bootflash:cat4000-is-mz.121-11b.EW
Rommon reg: 0x30004180
```

Running diags...

Decompressing the image

```
#####
##### [OK]
```

k2diags version 1.6

```
prod: WS-X4014 part: 73-6854-05 serial: JAB054109FE
Power-on-self-test for Module 1: WS-X4014
```

Status: (. = Pass, F = Fail)

Traffic using serdes loopback (L2; one port at a time)...

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

Traffic using asic loopback (L2; all ports at once)...

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

Traffic using asic loopback (L3; all ports at once)...

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

Module 1 Passed

Exiting to ios...

Rommon reg: 0x30000180

Running IOS...

Decompressing the image

```
#####
#####
#####
#####
#####
#####
#####
#####
#####
#####
##### [OK]
```

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Software clause at DFARS sec. 252.227-7013.

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San Jose, California 95134-1706

Cisco Internetwork Operating System Software
IOS (tm) Catalyst 4000 L3 Switch Software (cat4000-IS-M), Version 12.1(11b)EW,
EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)
TAC Support: <http://www.cisco.com/tac>
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Tue 14-May-02 13:31 by hqluong
Image text-base: 0x00000000, data-base: 0x00B1C1F8

cisco WS-C4006 (MPC8245) processor (revision 5) with 262144K bytes of memory.
Processor board ID FOX04169082
Last reset from Reload
32 FastEthernet/IEEE 802.3 interface(s)
18 Gigabit Ethernet/IEEE 802.3 interface(s)
467K bytes of non-volatile configuration memory.

Uncompressed configuration from 1732 bytes to 4359 bytes

Press RETURN to get started!

```
00:00:21: %SYS-5-CONFIG_I: Configured from memory by console
00:00:21: %LINK-3-UPDOWN: Interface GigabitEthernet1/2, changed state to up
00:00:21: %SYS-5-RESTART: System restarted --
Cisco Internetwork Operating System Software
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M), Version 12.1(11b)EW,
EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)
TAC Support: http://www.cisco.com/tac
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Tue 14-May-02 13:31 by hqluong
00:00:21: %SNMP-5-COLDSTART: SNMP agent on host Switch is undergoing a cold start
00:00:22: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/2,
changed state to up
00:00:24: %LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet1/2,
changed state to up
Switch>
Switch>
Switch>
```

5. Issue the **enable** command to enter into EXEC mode, as this example shows:

```
Switch>enable
Password:
Switch#
```

6. The system is back up. Issue the **dir bootflash:** command to note the file in the bootflash:. Issue the **dir slot0:** command if you loaded the system file present in the slot0:.

```
Switch#dir bootflash:
Directory of bootflash:/

   1  -rw-          6516904  Aug 13 2000 13:37:13  cat4000-is-mz.121-11b.EW

61341696 bytes total (54824664 bytes free)
```

7. Issue the **show bootvar** command to check the current boot variable.

```
Switch#show bootvar
BOOT variable = bootflash:cat4000-is-mz.121-8a.Ew,1
CONFIG_FILE variable does not exist
BOOTLDR variable does not exist
Configuration register is 0x2102
```

8. Remove the existing incorrect boot variable and add the correct one. Issue the **configure terminal** command in order to do this.

```
Switch#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Switch(config)#no boot system flash bootflash:cat4000-is-mz.121-8a.Ew
Switch(config)#boot system flash bootflash:cat4000-is-mz.121-11b.EW
Switch(config)#end
```

```
00:01:31: %SYS-5-CONFIG_I: Configured from console by consol
```

9. Save the configuration from running to startup, by issuing the **write memory** command.

```
Switch#write memory
Building configuration...
Compressed configuration from 4359 bytes to 1730 bytes[OK]
Switch#
```

10. Check the boot variable again to make sure it is set properly so that the switch boots up the correct system file on the next reboot. Issue the **show bootvar** command in order to do this.

```
Switch#show bootvar
BOOT variable = bootflash:cat4000-is-mz.121-11b.EW,1
CONFIG_FILE variable does not exist
BOOTLDR variable does not exist
Configuration register is 0x2102
```

Recover from a Corrupt or Missing Image

The Supervisor boots into ROMmon mode if the image specified is corrupt or no image file exists. Typically, you should have more than one image in the bootflash: or slot0: devices so that the switch can be recovered.

Step-by-Step Instructions

Complete these steps, in the order given, to facilitate a successful image recovery from ROMmon mode without any valid image.

1. Make a console connection to the Supervisor. Typically on a standard Windows operating system platform, configure a HyperTerminal connection directly to COM1 with these settings:

- ◆ 9600 BPS
- ◆ Eight data bits
- ◆ No parity
- ◆ One stop bit
- ◆ One stop bit

Use a rolled male RJ-45 cable to connect from COM1 on the PC to the console port on the Supervisor module. Use a DB-9 connector on the PC, and a HyperTerminal connect window to connect to the Supervisor.

2. Press **Enter**. If you get the `rommon >` prompt, skip to Step 3. If the switch continuously reboots, press **Control-C** to prevent autoboot and to get into ROMmon mode.

```
*****
*
* Welcome to ROM Monitor for WS-X4014 System.
* Copyright (c) 2002 by Cisco Systems, Inc.
* All rights reserved.
*
```



```
*
*****
```

```
ROM Monitor Program Version 12.1(11br)EW
```

```
Board type 1, Board revision 5
Swamp FPGA revision 14, Dagobah FPGA revision 48
```

```
MAC Address   : 00-01-96-d9-f6-fe
Ip Address    : Not set.
Netmask       : Not set.
Gateway       : Not set.
TftpServer    : Not set.
Main Memory   : 256 Mbytes
```

```
***** The system will autoboot in 5 seconds *****
```

```
Type control-C to prevent autobooting.
!--- Press Control-C.
Autoboot cancelled..... please wait!!!
rommon 1 > [interrupt]
```

3. Verify that there is a valid file present in the bootflash: by issuing the **dir bootflash:** command, and the **dir slot0:** command to check the slot0:, as this example shows. If you do have any valid file, see the Recovering from a Continuous Reboot section of this document for the recovery. Otherwise, continue to the next step.

```
rommon 1 >dir bootflash:
```

```
File size Checksum File name
-----
```

```
Total space = 61341696 bytes, Available = 61341696 bytes
```

```
rommon 2 >dir slot0:
```

```
File size Checksum File name
-----
```

```
Total space = 128057344 bytes, Available = 128057344 bytes
```

4. Issue the **set** command to display the current environmental variables.

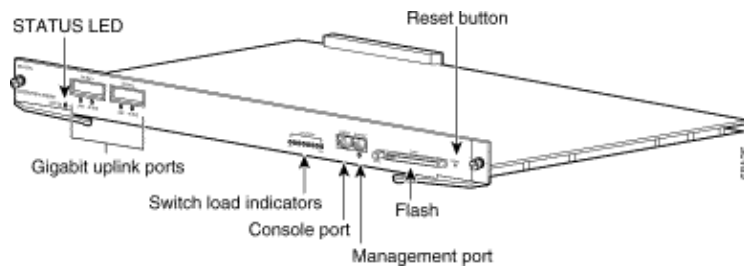
```
rommon 3 >set
PS1=rommon ! >
RommonBuild=5
ConfigReg=0x2102
BOOT=bootflash:cat4000-is-mz.121-11b.EW,1
SkipDiags=0
BSI=0
RET_2_RTS=13:36:46 UTC Tue Aug 15 2000
RET_2_RUTC=966346606
BootStatus=Failure
BootedFileName=bootflash:cat4000-is-mz.121-11b.EW
RommonVer=12.1(11br)EW
```

5. Issue the **unset boot** command to clear the current invalid boot variable, which defines the file to load.

```
rommon 6 >unset boot
```

6. Connect the management port on the Supervisor to the network to access a TFTP server. The Fast Ethernet port (10/100 MGT) on the Supervisor Engine is inoperative in normal operation in current

software releases. An Ethernet cable plugged into the 10/100 MGT is active only in ROMmon mode. Refer to this example of a Catalyst 4500/4000 Series Supervisor Engine II–Plus, III, IV or V for the location of the MGT port:



As this example shows, if you plan to connect the 10/100 MGT port to the PC/Router directly, use a straight cable. If you connect to another switch, use a crossover cable.

```
rommon 7 >
```

```
!--- Connect the appropriate cable to connect to the network.
```

```
Established physical link 100MB Full Duplex
Network layer connectivity may take a few seconds
```

The MGT port auto–negotiates speed and duplex with the connected device. Currently, you can not hardcode speed and duplex settings. Since this port is available only in ROMmon mode and for TFTP only, it is not a major concern if the speed and duplex are mismatched due to any potential auto–negotiating problem. The TFTP application has an internal packet loss mechanism to prevent any corruption of the system image being downloaded.

7. Issue the **set interface fa1** *<ip address>* *<subnet mask>* command to configure an IP address for the 10/100 MGT port, as this example shows. If the subnet mask is not specified, the IP address would take the default classful mask.

```
rommon 7 >set interface fa1 14.18.2.234 255.255.255.0
```

8. Issue the **set ip route default** *<gateway_ip_address>* command to configure the default gateway for the switch to use to get to the TFTP server, as this example shows. The default gateway should be a routing device in the same subnet as the IP address configured in Step 7.

```
rommon 8 >set ip route default 14.18.2.21
```

In ROMmon versions earlier than 12.1(12r)EW, even if the TFTP server is in the same subnet as the 10/100 MGT port, you still need to configure the default gateway by issuing the **set ip route default** *<gateway_ip_address>* command. If you are directly connecting your PC, which has the TFTP server application installed, use the IP address of the PC for the default gateway IP address. If the default gateway is not configured, the TFTP can not be performed. This restriction is resolved starting in ROMmon version 12.1(12r)EW or later. You do not need to specify the default gateway IP address if the TFTP server is in the same subnet as the management IP address.

9. Issue the **set** command to verify the configurations which have been made.

```
rommon 11 >set
PS1=rommon ! >
RommonBuild=5
ConfigReg=0x2102
SkipDiags=0
BSI=0
RET_2_RTS=13:36:46 UTC Tue Aug 15 2000
RET_2_RUTC=966346606
BootStatus=Failure
```

```
BootedFileName=bootflash:cat4000-is-mz.121-11b.EW
RommonVer=12.1(11br)EW
IpAddr=14.18.2.234
Netmask=255.255.255.0
Broadcast=14.18.2.255
Gateway=14.18.2.21
```

10. Ping the TFTP server to ensure that there is connectivity to the server from the MGT port on the Supervisor Engine. Enter the **ping** `<tftp_server_ip_address>` command, as this example shows:

```
rommon 9 >ping 172.18.125.3

Host 172.18.125.3 is alive
```

If the ping is not successful, troubleshoot the IP connectivity issue from the default gateway to the TFTP server. If the TFTP server is the same subnet, make sure it is configured with the IP address you are ping.

11. Once the ping to the TFTP server is successful, you can issue the **boot tftp://<tftp_server_ip_address>/<image_path_and_file_name>** command to specify the system image which is available in the TFTP server to boot the Supervisor III.

```
rommon 6 >boot tftp://172.18.125.3/cat4000-is-mz.121-11b.EW
```

```
Tftp Session details are ....
```

```
Filename : /cat4000-is-mz.121-11b.EW
IP Address : 14.18.2.234
Loading from TftpServer: 172.18.125.3
```

```
Received data packet # 12729
```

```
Loaded 6516904 bytes successfully.
```

```
Rommon reg: 0x30004180
```

```
Running diags...
```

```
Decompressing the image
```

```
#####
##### [OK]
```

```
k2diags version 1.6
```

```
prod: WS-X4014 part: 73-6854-05 serial: JAB054109FE
```

```
Power-on-self-test for Module 1: WS-X4014
```

```
Status: (. = Pass, F = Fail)
```

```
Traffic using serdes loopback (L2; one port at a time)...
```

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

```
Traffic using asic loopback (L2; all ports at once)...
```

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
```

```
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

Traffic using asic loopback (L3; all ports at once)...

```
switch port 0: .      switch port 1: .      switch port 2: .
switch port 3: .      switch port 4: .      switch port 5: .
switch port 6: .      switch port 7: .      switch port 8: .
switch port 9: .      switch port 10: .     switch port 11: .
switch port 12: .     switch port 13: .     switch port 14: .
switch port 15: .     switch port 16: .     switch port 17: .
switch port 18: .     switch port 19: .     switch port 20: .
switch port 21: .     switch port 22: .     switch port 23: .
switch port 24: .     switch port 25: .     switch port 26: .
switch port 27: .     switch port 28: .     switch port 29: .
switch port 30: .     switch port 31: .
```

Module 1 Passed

Exiting to ios...

Rommon reg: 0x30000180

Running IOS...

Decompressing the image

```
#####
#####
#####
#####
#####
#####
#####
#####
#####
##### [OK]
```

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Cisco Internetwork Operating System Software
IOS (TM) Catalyst 4000 L3 Switch Software (cat4000-IS-M), Version 12.1(11b)EW,
EARLY DEPLOYMENT RELEASE SOFTWARE (fc2)
TAC Support: <http://www.cisco.com/tac>
Copyright (c) 1986-2002 by cisco Systems, Inc.
Compiled Tue 14-May-02 13:31 by hqluong
Image text-base: 0x00000000, database: 0x00B1C1F8


```
1 -rw-      6516904   Aug 13 2000 13:37:13  cat4000-is-mz.121-11b.EW
```

```
61341696 bytes total (54824664 bytes free)
```

18. Issue the **verify** command to verify the integrity of the downloaded file. If the verification fails, you have to download the file again.

```
Switch#verify bootflash:cat4000-is-mz.121-11b.EW  
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC  
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC  
CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC  
CCCCCCCCCCCCCCCC  
Verified bootflash:cat4000-is-mz.121-11b.EW
```

19. Issue the **show bootvar** command to check the current boot variable and the configuration register variable.

```
Switch#show bootvar  
BOOT variable = bootflash:cat4000-is-mz.121-8a.EW1,1  
CONFIG_FILE variable does not exist  
BOOTLDR variable does not exist  
Configuration register is 0x2102
```

20. You might have to remove any existing incorrect boot variables and add the correct one, as this example shows. In this example, the configuration register is already at the desired 0x2102 value. If this is not the case, issue the global **config-register 0x2102** command.

```
Switch#configure terminal  
Enter configuration commands, one per line. End with CNTL/Z.  
Switch(config)#no boot system flash bootflash:cat4000-is-mz.121-8a.EW1  
Switch(config)#boot system flash bootflash:cat4000-is-mz.121-11b.EW  
  
Switch(config)#config-register 0x2102  
Switch(config)#end
```

```
00:01:31: %SYS-5-CONFIG_I: Configured from console by consol
```

Note: If you have no boot variable, directly issue the **boot system flash bootflash:<filename>** command. Or if you are booting from slot0:, issue the **boot system flash slot0:<filename>** command.

21. Issue the **write memory** command to save the configuration from running to startup.

```
Switch#write memory  
Building configuration...  
Compressed configuration from 4359 bytes to 1730 bytes[OK]  
Switch#
```

22. Check the boot variable again to make sure it is set correctly, so that the switch boots up the correct system file on the next reboot. Issue the **show bootvar** command in order to do this.

```
Switch#show bootvar  
BOOT variable = bootflash:cat4000-is-mz.121-11b.EW,1  
CONFIG_FILE variable does not exist  
BOOTLDR variable does not exist  
Configuration register is 0x2102
```

Verify

There is currently no verification procedure available for this configuration.

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.

Related Information

- **Recovering Catalyst 4000 and Catalyst 5000 Switches from Corrupted or Missing Software, or an Upgrade Failure, or from ROMmon Mode**
 - **Cisco Download Software Area**
 - **LAN Product Support**
 - **LAN Switching Technology Support**
 - **Technical Support & Documentation – Cisco Systems**
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