



Working with Files

This chapter contains the following sections:

- [Information About Files, on page 1](#)
- [Navigating the File System, on page 1](#)
- [Copying and Backing Up Files, on page 4](#)
- [Creating a Directory, on page 6](#)
- [Removing an Existing Directory, on page 7](#)
- [Moving Files, on page 7](#)
- [Deleting Files or Directories, on page 8](#)
- [Compressing Files, on page 9](#)
- [Uncompressing Files, on page 10](#)
- [Directing Command Output to a File, on page 11](#)
- [Verifying a Configuration File before Loading, on page 12](#)
- [Displaying Files, on page 13](#)
- [Feature History for File Management, on page 15](#)

Information About Files

The Cisco Nexus 1000V file system provides a single interface to all the file systems that the Cisco Nexus 1000V switch uses, including:

- Flash memory file systems
- Network file systems (TFTP and FTP)
- Any other endpoint for reading or writing data (such as the running configuration)

Navigating the File System

Specifying File Systems

The syntax for specifying a file system is `<file system name>:[//server/]`. The following table describes file system syntax.

File System Name	Server	Description
bootflash	sup-active sup-local sup-1 module-1	Internal memory located on the active supervisor used for storing system images, configuration files, and other miscellaneous files. Cisco Nexus 1000V CLI defaults to the bootflash: file system
	sup-standby sup-remote sup-2 module-2	Internal memory located on the standby supervisor used for storing system images, configuration files, and other miscellaneous files.
volatile	—	Volatile random-access memory (VRAM) located on a supervisor module used for temporary or pending changes.

Identifying the Directory You are Working From

You can display the directory name of your current CLI location.

Before you begin

Log in to the CLI in any command mode.

Procedure

	Command or Action	Purpose
Step 1	switch# pwd	Displays the present working directory.

Example

```
switch# pwd
bootflash:
```

Listing the Files in a File System

Procedure

	Command or Action	Purpose
Step 1	switch# dir [<i>directory</i> <i>filename</i>]	Displays the contents of a directory or file.

Example

```
switch# dir log:

      31   Feb 27 02:12:34 2013  dmesg
      74   Feb 27 02:12:34 2013  ee.log
       0   Feb 27 02:12:38 2013  libfipf.2289
  13458   Feb 27 03:14:40 2013  messages
       0   Feb 27 02:12:36 2013  startupdebug

Usage for log://sup-local
  79081472 bytes used
 235491328 bytes free
 314572800 bytes total
switch#
```

Identifying Available File Systems for Copying Files

Before you begin

Log in to the CLI in EXEC mode.

Procedure

	Command or Action	Purpose
Step 1	switch# copy ?	Displays the source file systems available to the copy command.
Step 2	switch# copy source filesystem name:filename ?	Displays the destination file systems available to the copy command for a specific file.

Example

```
switch# copy ?

bootflash:      Select source filesystem
core:           Select source filesystem
debug:          Select source filesystem
ftp:            Select source filesystem
licenses        Backup license files
log:            Select source filesystem
modflash:       Select source filesystem
nvram:          Select source filesystem
running-config Copy running configuration to destination
scp:            Select source filesystem
sftp:           Select source filesystem
startup-config Copy startup configuration to destination
system:         Select source filesystem
tftp:           Select source filesystem
volatile:       Select source filesystem
```

Using Tab Completion

You can have the CLI complete a partial file name in a command.

Procedure

	Command or Action	Purpose
Step 1	switch# show file <i>filesystem name: partial filename</i> <Tab>	Completes the filename when you type a partial filename and then press Tab and if the characters you typed are unique to a single file. If not, the CLI lists a selection of file names that match the characters that you typed. You can then retype enough characters to make the file name unique; and CLI completes the filename for you.
Step 2	switch# show file bootflash:c <Tab>	Completes the file name for you

Example

```
switch# show file bootflash:n1000v
bootflash:n1000vh-dk9-kickstart.5.2.1.SM1.5.1.bin
bootflash:n1000vh-dk9.5.2.1.SM1.5.1.bin
```

Copying and Backing Up Files

You can copy a file, such as a configuration file, to save it or reuse it at another location. If your internal file systems are corrupted, you could potentially lose your configuration. Save and back up your configuration files periodically. Also, before installing or migrating to a new software configuration, back up the existing configuration files.



Note Use the **dir** command to ensure that enough space is available in the destination file system. If enough space is not available, use the **delete** command to remove unneeded files.

Before you begin

- Log in to the CLI through a Telnet, or SSH connection.
- Verify your device has a route to the destination if you are copying to a remote location. Your device and the remote destination must be in the same subnetwork if you do not have a router or default gateway to route traffic between subnets.
- Verify our device has connectivity to the destination. Use the **ping** command to be sure.
- Verify the source configuration file is in the correct directory on the remote server.

- Verify the permissions on the source file are set correctly. Permissions on the file should be set to world-read.

Procedure

	Command or Action	Purpose
Step 1	<p>switch# copy <i>[source filesystem:] filename</i> <i>[destination filesystem:] filename</i></p> <ul style="list-style-type: none"> • switch# copy bootflash:run-cfg bootflash://sup-standby/system_image Copies a file from bootflash in the active supervisor module to bootflash in the standby supervisor module. • switch# copy system:running-config bootflash:config Copies a running configuration to the bootflash: file system. • switch# copy scp://[username@]server[/path]/filename Copies a source or destination URL for a network server that supports Secure Shell (SSH) and accepts copies of files using the secure copy protocol (scp). • switch# copy sftp://[username@]server[/path]/filename// Copies a source or destination URL for an SSH FTP (SFTP) network server • switch# copy system:running-config bootflash:my-config Places a back up copy of the running configuration on the bootflash: file system (ASCII file). • switch# copy bootflash: filename bootflash:directory/filename Copies the specified file from the root directory of the bootflash: file system to the specified directory. • switch# copy filename directory/filename Copies a file within the current file system. • switch# copy tftp://server[:port][[/path]/filename 	<p>Copies a file from the specified source location to the specified destination location.</p>

	Command or Action	Purpose
	Copies the source file to the running configuration on the switch, and configures the switch as the file is parsed line by line.	

Example

```
switch# copy system:running-config tftp://10.10.1.1/home/configs/switch3-run.cfg
switch# copy bootflash:system_image bootflash://sup-2/system_image
switch# copy system:running-config bootflash:my-config
switch# copy scp://user@10.1.7.2/system-image bootflash:system-image
switch# copy sftp://172.16.10.100/myscript.txt volatile:myscript.txt
switch# copy system:running-config bootflash:my-config
switch# copy bootflash:samplefile bootflash:mystorage/samplefile
switch# copy samplefile mystorage/samplefile
switch# copy tftp://10.10.1.1/home/configs/switch3-run.cfg system:running-config
```

Creating a Directory

Procedure

	Command or Action	Purpose
Step 1	<p>switch# mkdir <i>directory name</i></p> <ul style="list-style-type: none"> • mkdir {bootflash: debug: volatile:} <p>Specifies the directory name you choose:</p> <ul style="list-style-type: none"> • bootflash: • debug: • volatile: <ul style="list-style-type: none"> • switch# mkdir bootflash:<i>directory name</i> <p>Creates a directory that you name in the bootflash: directory.</p>	Creates a directory at the current directory level.

Example

```
switch# mkdir test
switch# mkdir bootflash:test
```

Removing an Existing Directory

This command is valid only on Flash file systems.

Before you begin

Before beginning this procedure, be sure of the following:

- You are logged in to the CLI.
- The directory you want to remove is empty.

Procedure

	Command or Action	Purpose
Step 1	<pre>switch# rmdir [filesystem:[//module/]]directory</pre> <ul style="list-style-type: none"> • <code>switch# rmdir directory</code> Removes the specified directory at the current directory level. • <code>switch# rmdir {bootflash: debug: volatile;} directory</code> Removes a directory from the file system. 	<p>Removes a directory.</p> <p>The directory name is case sensitive.</p>

Example

```
switch# rmdir test
switch# rmdir bootflash:test
```

Moving Files



Caution If a file with the same name already exists in the destination directory, that file is overwritten by the moved file.

The move will not complete if there is not enough space in the destination directory.

Before you begin

Log in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	<pre>switch# move {source path and filename} {destination path and filename}</pre> <ul style="list-style-type: none"> switch# move <i>filename path/filename</i> <p>Moves the file from one directory to another in the current file system.</p>	Moves the file from one directory to another in the same file system (bootflash:).

Example

```
switch# move bootflash:samplefile bootflash:mystorage/samplefile
switch# move samplefile mystorage/samplefile
```

Deleting Files or Directories

You can delete files or directories on a Flash Memory device.

**Caution**

When deleting, if you specify a directory name instead of a file name, the entire directory and its contents are deleted.

Before you begin

You must understand the following information:

- When you delete a file, the software erases the file.
- If you attempt to delete the configuration file or image specified by the CONFIG_FILE or BOOTLDR environment variable, the system prompts you to confirm the deletion.
- If you attempt to delete the last valid system image specified in the BOOT environment variable, the system prompts you to confirm the deletion.

Procedure

	Command or Action	Purpose
Step 1	<pre>switch# delete [bootflash: debug: log: volatile:] filename or directory name</pre> <ul style="list-style-type: none"> switch# delete <i>filename</i> <p>Deletes the named file from the current working directory.</p> <ul style="list-style-type: none"> switch# delete <i>bootflash:directory name</i> 	Deletes a specified file or directory.

	Command or Action	Purpose
	Deletes the named directory and its contents.	

Example

```
switch# delete bootflash:dns_config.cfg
switch# delete dns_config.cfg
```

Compressing Files

Before you begin

Log in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# <i>show command</i> > [path]filename	Directs the show command output to a file.
Step 2	switch# dir	Displays the contents of the current directory, including the new file created in the first step.
Step 3	switch# gzip [path]filename	Compresses the specified file
Step 4	switch# dir	Displays the contents of the specified directory, including the newly-compressed file. Shows the difference in the file size of the newly-compressed file.

Example

```
switch# show system internal l3vm event-history errors > errorsfile
switch# dir bootflash:
  77824   Feb 27 05:15:09 2013  accounting.log
  5035    Feb 27 05:01:57 2013  config
  4096    Feb 21 21:10:26 2013  core/
1953295  Feb 21 21:17:17 2013  dplug
  47      Feb 27 05:17:40 2013  errorsfile
219671   Feb 26 20:06:43 2013  event_archive_1
  4096    Feb 21 21:10:12 2013  log/
  4096    Feb 11 02:16:46 2013  lost+found/
 102383  Feb 27 02:12:37 2013  mts.log
30989824 Feb 26 02:01:22 2013  n1000vh-dk9-kickstart.5.2.1.SM1.5.1.bin
90210666 Feb 26 02:09:18 2013  n1000vh-dk9.5.2.1.SM1.5.1.bin
  1296    Feb 11 02:16:54 2013  span.log
  4096    Feb 06 09:11:20 2013  vdc_1/
  4096    Feb 05 12:46:37 2013  vdc_2/
  4096    Feb 05 12:46:37 2013  vdc_3/
```

```
4096 Feb 05 12:46:37 2013 vdc_4/
```

```
Usage for bootflash://sup-local
749498368 bytes used
2448441344 bytes free
3197939712 bytes total
```

```
switch# gzip bootflash:errorsfile
switch# dir
 77824 Feb 27 05:17:44 2013 accounting.log
 5035 Feb 27 05:01:57 2013 config
 4096 Feb 21 21:10:26 2013 core/
1953295 Feb 21 21:17:17 2013 dplug
 76 Feb 27 05:17:40 2013 errorsfile.gz
219671 Feb 26 20:06:43 2013 event_archive_1
 4096 Feb 21 21:10:12 2013 log/
 4096 Feb 11 02:16:46 2013 lost+found/
102383 Feb 27 02:12:37 2013 mts.log
30989824 Feb 26 02:01:22 2013 n1000vh-dk9-kickstart.5.2.1.SM1.5.1.bin
90210666 Feb 26 02:09:18 2013 n1000vh-dk9.5.2.1.SM1.5.1.bin
 1296 Feb 11 02:16:54 2013 span.log
 4096 Feb 06 09:11:20 2013 vdc_1/
 4096 Feb 05 12:46:37 2013 vdc_2/
 4096 Feb 05 12:46:37 2013 vdc_3/
 4096 Feb 05 12:46:37 2013 vdc_4/
```

```
Usage for bootflash://
749498368 bytes used
2448441344 bytes free
3197939712 bytes total
switch#
```

Uncompressing Files

You can uncompress (unzip) a specified file that is compressed using LZ77 coding.

Before you begin

Log in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# gunzip <i>[path]filename</i>	Uncompresses the specified file. The filename is case sensitive .
Step 2	switch# dir	Displays the contents of a directory, including the newly uncompressed file.

Example

```

switch# gunzip bootflash:errorsfile.gz
switch# dir
 77824 Feb 27 05:22:59 2013 accounting.log
 5035 Feb 27 05:01:57 2013 config
 4096 Feb 21 21:10:26 2013 core/
1953295 Feb 21 21:17:17 2013 dplug
 47 Feb 27 05:17:40 2013 errorsfile
219671 Feb 26 20:06:43 2013 event_archive_1
 4096 Feb 21 21:10:12 2013 log/
 4096 Feb 11 02:16:46 2013 lost+found/
102383 Feb 27 02:12:37 2013 mts.log
30989824 Feb 26 02:01:22 2013 n1000vh-dk9-kickstart.5.2.1.SM1.5.0.253.bin
90210666 Feb 26 02:09:18 2013 n1000vh-dk9.5.2.1.SM1.5.0.253.bin
 1296 Feb 11 02:16:54 2013 span.log
 4096 Feb 06 09:11:20 2013 vdc_1/
 4096 Feb 05 12:46:37 2013 vdc_2/
 4096 Feb 05 12:46:37 2013 vdc_3/
 4096 Feb 05 12:46:37 2013 vdc_4/

Usage for bootflash://
 749498368 bytes used
2448441344 bytes free
3197939712 bytes total
switch#

```

Directing Command Output to a File

Procedure

	Command or Action	Purpose
Step 1	<pre>switch# show running-config > [path filename]</pre> <ul style="list-style-type: none"> switch# show running-config > volatile:filename Directs the output of the command, show running-config, to the specified filename on the volatile file system. switch# show running-config > bootflash:filename Directs the output of the command, show running-config, to the specified file in bootflash. switch# show running-config > tftp://ipaddress/filename Directs the output of the command, show running-config, to the specified file on a TFTP server. 	Directs the output of the command, show running-config , to a path and filename.

	Command or Action	Purpose
	<ul style="list-style-type: none"> switch# show interface > <i>filename</i> Directs the output of the command, show interface , to the specified file at the same directory level, for example, in bootflash.	

Example

```
switch# show running-config > volatile:switch1-run.cfg
switch# show running-config > bootflash:switch2-run.cfg
switch# show running-config > tftp://10.10.1.1/home/configs/switch3-run.cfg
switch# show interface > samplefile
```

Verifying a Configuration File before Loading

You can verify the integrity of an image before loading it. This command can be used for both the system and kickstart images.

Procedure

	Command or Action	Purpose
Step 1	switch# copy <i>source path and file</i> system:running-config	Copies the source file to the running configuration on the switch, and configures the switch as the file is parsed line by line.
Step 2	switch# show version image [bootflash: modflash: volatile:]	Validates the specified image. bootflash:—specifies bootflash as the directory name. volatile:—Specifies volatile as the directory name. modflash:—Specifies modflash as the directory name.

Example

```
switch# copy tftp://10.10.1.1/home/configs/switch3-run.cfg
system:running-config

switch# show version image bootflash:n1000vh-dk9-
kickstart.5.2.1.SM1.5.1.bin
MD5 Verification Passed
image name: n1000vh-dk9-kickstart.5.2.1.SM1.5.1.bin
kickstart: version 5.2(1)SM1(5.1) [build 5.2(1)SM1(5.1)]
compiled: 2/21/2013 2:00:00 [02/21/2013 10:44:53]
switch#
```

Displaying Files

Displaying Directory Contents

You can display the contents of a directory or file system.

Before you begin

Log in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# pwd	Displays the present working directory.
Step 2	switch# dir	Displays the contents of the directory.

Example

```
switch# pwd
bootflash:
switch# dir

Usage for volatile://
    0 bytes used
 20971520 bytes free
 20971520 bytes total
switch#
```

Displaying Directory Contents

You can display the contents of a directory or file system.

Before you begin

Log in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# pwd	Displays the present working directory.
Step 2	switch# dir	Displays the contents of the directory.

Example

```
switch# pwd
bootflash:
switch# dir

Usage for volatile://
      0 bytes used
 20971520 bytes free
 20971520 bytes total
switch#
```

Displaying File Checksums

You can display checksums for checking file integrity.

Procedure

	Command or Action	Purpose
Step 1	switch# show file <i>filename</i> [cksum md5sum] show file {bootflash: volatile: debug:} <i>filename</i> [cksum md5sum]	Provides the checksum or MD5 checksum of the file for comparison with the original file. Provides the Message-Digest Algorithm 5 (MD5) checksum of the file. MD5 is an electronic fingerprint for the file.

Example

```
switch# show file bootflash:cisco_svs_certificate.pem cksum
266988670

switch# show file bootflash:cisco_svs_certificate.pem md5sum
d3013f73aea3fda329f7ea5851ae81ff
```

Displaying the Last Lines in a File

Before you begin

Log in to the CLI in EXEC mode.

Procedure

	Command or Action	Purpose
Step 1	switch# tail { <i>path</i> } [<i>filename</i>] { <i>Number of lines</i> }	Displays the requested number of lines from the end of the specified file. The range for the number of lines is from 0 to 80.

Example

```
switch# tail bootflash:config 5
network-segment-pool NSP-320
network-segment-pool NSP-322
publish uplink-network
switch#
```

Feature History for File Management

Feature Name	Releases	Feature Information
File Management	5.2(1)SM1(5.1)	This feature was introduced.

