



Working with Files

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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

Before beginning this procedure, you must be logged in to the CLI in any command mode.

Procedure

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

```
switch# pwd
bootflash:
```

Changing Your Directory

You can change your location in the CLI, from one directory or file system to another.

Cisco Nexus 1000V CLI defaults to the bootflash: file system.


Note

Any file saved in the volatile: file system is erased when the switch reboots.

Before You Begin

Before beginning this procedure, you must be logged in to the CLI in any command mode.

Procedure

	Command or Action	Purpose
Step 1	switch# pwd	Displays the directory name of your current CLI location.
Step 2	switch# cd directory name <ul style="list-style-type: none"> • switch# cd bootflash: Changes your CLI location to the root directory on the bootflash: file system. • switch# cd bootflash:mydir Changes your CLI location to the mydir directory that resides in the bootflash: file system. • switch# cd mystorage Changes your CLI location to the mystorage directory that resides within the current directory. If the current directory is bootflash: mydir, this command changes the current directory to bootflash: mydir/mystorage. 	Changes your CLI location to the root directory on the bootflash: file system.

```

switch# pwd
volatile:
switch# cd bootflash:

switch# pwd
volatile:
switch# cd bootflash:mydir
switch# pwd
volatile:
switch# cd mystorage

```

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.

```
switch(config)# dir
  77824 Jul 26 01:48:13 2013 accounting.log
   4096 Jun 24 21:08:18 2013 core/
   4096 Jun 24 21:08:18 2013 log/
  16384 Jun 24 21:07:59 2013 lost+found/
    875 Jun 28 04:19:00 2013 mts.log
 1955033 Jun 24 21:08:11 2013 n1000v-dk9-dplug.5.2.1.SK1.1.0.345.gbin
 31329792 Jun 24 21:08:11 2013 n1000v-dk9-kickstart.5.2.1.SK1.1.0.345.gbin
 98044335 Jun 24 21:08:15 2013 n1000v-dk9.5.2.1.SK1.1.0.345.gbin
   4096 Jun 24 21:08:43 2013 vdc_2/
   4096 Jun 24 21:08:43 2013 vdc_3/
   4096 Jun 24 21:08:43 2013 vdc_4/
 8401501 Jun 24 21:08:17 2013 vsmcpa.3.0.0.112.bin

Usage for bootflash://
 498884608 bytes used
 5905084416 bytes free
 6403969024 bytes total
switch(config)#
```

Identifying Available File Systems for Copying Files

Before You Begin

Before beginning this procedure, you must be logged 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 filename ?	Displays the destination file systems available to the copy command for a specific file.

```
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
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:</i> <i>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:nexus-1000v- <Tab>	Completes the file name for you

```
switch# show file bootflash:nexus-1000v-
bootflash:nexus-n1000v-dk9-dplug.5.2.1.SK1.1.0.345.gbin
bootflash:nexus-1000v-mzg.5.2.1.SK1.1.0.345.gbin
bootflash:nexus-1000v-kickstart-mzg.5.2.1.SK1.1.0.345.gbin
n1000v# show file bootflash:c<Tab>
-----BEGIN RSA PRIVATE KEY-----
MIICXgIBAAKBgQDSq93Br1Hcg3bX1jXDMY5c9+yZSST3VhuQBqogvCPDGeLecA+j
...
...
switch#
```

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

Before beginning this procedure, you must be of the following:

- You are logged in to the CLI through a Telnet, or SSH connection.

- 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.
- Your device has connectivity to the destination. Use the **ping** command to be sure.
- The source configuration file is in the correct directory on the remote server.
- 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 [destination filesystem:] filename</i></p> <ul style="list-style-type: none"> • switch# copy system:running-config system run.cfg Saves a copy of the running configuration to a remote switch. • switch# copy bootflash: system_image 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] system:/filename Copies the source file to the running configuration on the switch, and configures the switch as the file is parsed line by line. 	Copies a file from the specified source location to the specified destination location.

```

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:} Specifies the directory name you choose: <ul style="list-style-type: none"> ◦ bootflash: ◦ debug: ◦ volatile: • switch# mkdir bootflash:directory name Creates a directory that you name in the bootflash: directory. 	Creates a directory at the current directory level.

```

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	switch# rmdir [filesystem :[/ module /]] <i>directory</i> <ul style="list-style-type: none"> switch# rmdir <i>directory</i> Removes the specified directory at the current directory level. switch# rmdir {bootflash: debug: volatile:} <i>directory</i> Removes a directory from the file system. 	Removes a directory. The directory name is case sensitive.

```
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

Before beginning this procedure, you must be logged in to the CLI.

Procedure

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

```
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	switch# delete [bootflash: debug: log: volatile:] <i>filename</i> or <i>directory name</i> <ul style="list-style-type: none"> • switch# delete <i>filename</i> Deletes the named file from the current working directory. • switch# delete bootflash:<i>directory name</i> Deletes the named directory and its contents. 	Deletes a specified file or directory.

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

Compressing Files

Before You Begin

Before beginning this procedure, you must be logged in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# gzip [<i>path</i>] <i>filename</i>	Compresses the specified file.
Step 2	switch# dir	Displays the contents of the specified directory, including the newly-compressed file. The compressed filename suffix becomes .gz indicating that it is a compressed gzip file. Shows the file size of the newly-compressed file.

```

switch# gzip csafile
switch# dir
    77824    Aug 21 13:37:25 2013    accounting.log
    4096     Jun 24 21:08:18 2013    core/
   14278    Aug 21 13:36:54 2013    csafile.gz
    4096     Jul 26 02:47:21 2013    log/
   16384    Jun 24 21:07:59 2013    lost+found/
     875     Jun 28 04:19:00 2013    mts.log
   1955033   Jun 24 21:08:11 2013    n1000v-dk9-dplug.5.2.1.SK1.1.0.345.gbin
   31329792  Jun 24 21:08:11 2013    n1000v-dk9-kickstart.5.2.1.SK1.1.0.345.gbi
n
   98044335  Jun 24 21:08:15 2013    n1000v-dk9.5.2.1.SK1.1.0.345.gbin
    4096     Jun 24 21:08:43 2013    vdc_2/
    4096     Jun 24 21:08:43 2013    vdc_3/
    4096     Jun 24 21:08:43 2013    vdc_4/
   8401501   Jun 24 21:08:17 2013    vsmcpa.3.0.0.112.bin

Usage for bootflash://
 499183616 bytes used
5904785408 bytes free
6403969024 bytes total

```

Uncompressing Files

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

Before You Begin

Before beginning this procedure, you must be logged 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 uncompresssed file.

```

switch# gunzip bootflash:errorsfile.gz
switch# dir bootflash:
    2687     Jul 01 18:17:20 2013    errorsfile
   16384    Jun 30 05:17:51 2013    lost+found/
    4096     Jun 30 05:18:29 2013    routing-sw/
     49      Jul 01 17:09:18 2013    sample_test.txt
   1322843   Jun 30 05:17:56 2013    nexus-1000v-dplug-mzg.5.2.1.SK1.1.0.345.gbin
   21629952  Jun 30 05:18:02 2013    nexus-1000v-kickstart-mzg.5.2.1.SK1.1.0.345.gbin
   39289400  Jun 30 05:18:14 2013    nexus-1000v-mzg.5.2.1.SK1.1.0.345.gbin

Usage for bootflash://sup-local
 258408448 bytes used
2939531264 bytes free
3197939712 bytes total
DCOS-112-R5#

```

Directing Command Output to a File

Procedure

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

```
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 Bootable Image

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	<p>switch# show version image [<i>bootflash:</i> <i>modflash:</i> <i>volatile:</i>]</p>	<p>Validates the specified image.</p> <p>bootflash:—specifies bootflash as the directory name.</p> <p>volatile:—Specifies volatile as the directory name.</p> <p>modflash:—Specifies modflash as the directory name.</p>

```
switch# show version image bootflash:n1000v-dk9-dplug.5.2.1.SK1.1.0.345.gbin
MD5 Verification Passed
image name: n1000v-dk9-dplug.5.2.1.SK1.1.0.345.gbin
plugin:      version 5.2(1)SK1(1.1) [build 5.2(1)SK1(1.0.345)] [gdb]
compiled:    6/17/2013 0:00:00 [06/17/2013 12:16:57]
switch#
```

Loading a File into the Running Configuration

You can load an image into the running configuration

Procedure

	Command or Action	Purpose
Step 1	switch# copy source path and file 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# copy running-config startup-config	(Optional) Saves the change persistently through reboots and restarts by copying the running configuration to the startup configuration.

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

Rolling Back to a Previous Configuration

You can recover your configuration from a previously saved version.



Note

Each time you use a **copy running-config startup-config** command, a binary file is created and the ASCII file is updated. A valid binary configuration file reduces the overall boot time significantly. A binary file cannot be uploaded, but its contents can be used to overwrite the existing startup configuration. The **write erase** command clears the binary file.

Procedure

	Command or Action	Purpose
Step 1	switch# copy bootflash: {filename} startup-config	Copies the configuration file (ASCII file) that was previously saved in the bootflash: file system to the startup configuration file.

```
switch# copy bootflash:June13 startup-config
```

Displaying Files

Displaying File Contents

Before You Begin

Before beginning this procedure, you must be logged in to the CLI.

Procedure

	Command or Action	Purpose
Step 1	switch# show file [bootflash: debug: volatile:] <i>filename</i>	Displays the contents of the specified file.

```
switch# show file bootflash:sample_test.txt
config t
Int veth1/1
no shut
end
show int veth1/1

switch#
```

Displaying Directory Contents

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

Before You Begin

Before beginning this procedure, you must be logged 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.

```
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.

```

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

Before beginning this procedure, you must be logged 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.

```

switch# tail mts.log 5
AT 60000 usecs after 6/24/2013 21:8:37: MTS node 4: state changed from 'offline' to
'supervisor'
AT 820000 usecs after 6/24/2013 21:8:41: MTS node 4: state changed from 'supervisor' to
'active alone'

AT 310000 usecs after 6/24/2013 21:29:57: MTS state 'offline': last_sync_msg opc=0,
seq_no=0x0, next_seqno=0x0
AT 310000 usecs after 6/24/2013 21:29:57: MTS node 4: state changed from 'offline' to
'supervisor'
AT 740000 usecs after 6/24/2013 21:30:7: MTS node 4: state changed from 'supervisor' to
'active alone'

```

Feature History for File Management

Feature Name	Releases	Feature Information
File Management	Release 5.2(1)SK1(2.1)	This feature was introduced.

