



Command Reference

The commands in this appendix apply to the Cisco MDS 9020 Fabric Switch. All commands are shown here in alphabetical order regardless of command mode. See the “Command Modes” section to determine the appropriate mode for each command.

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cd

To change the default file system, use the **cd** command in EXEC mode.

cd [bootflash: | volatile:]

Syntax Description	
bootflash:	Flash image on the non-volatile file system.
volatile:	Flash image on the volatile file system.

Defaults	
bootflash:	

Command Modes	
EXEC	

Command History	
	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example changes the file system to the bootflash: file system and displays the contents.

```
switch# cd bootflash:
```

```
switch# dir
656      Apr 25 22:04:33 2005  running-config
```

```
Usage for bootflash://
14336      bytes used
2668544    bytes free
2682880    bytes total
```

Related Commands	Command	Description
	dir	Displays a list of files on a file system.

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clear counters interface

To clear the interface counters, use the **clear counters interface** command in EXEC mode.

```
clear counters interface {all | fc 1/port}
```

Syntax Description	all	Clears all interface counters.
	fc	Fibre Channel interface for which to clear counters.
	1/port	Specifies slot 1 and the port number. The port number is in the range 1 to 20.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The following table lists the keywords and number ranges for the **clear counters** interface types:

Keyword	Interface Type	Number
1/port	Fibre Channel	1/1 to 1/20

This command clears counters displayed in the **show interface** command output.

Examples The following is an example of how to clear counters for a Fibre Channel interface 1/3:

```
switch# clear counters interface fc 1/3
```

Related Commands	Command	Description
	show interface	Displays interface information.

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clear fspf counters

To clear the Fabric Shortest Path First statistics, use the **clear fspf counters** command in EXEC mode.

```
clear fspf counters [interface fc 1/port]
```

Syntax Description	interface fc	(Optional) Fibre Channel interface.
	1/port	FC interface number where the slot number is 1 and the interface number is the port number in the range 1 to 20.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines If the interface is not specified, then all of the FC interface counters are cleared. If the interface is specified, then the counters of the specific interface are cleared.

Examples The following example clears FSPF statistics specific to Fibre Channel interface 1/3.

```
switch# clear fspf counters interface fc 1/3
```

Related Commands	Command	Description
	show fspf	Displays global FSPF information.

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clear ip access-list counters

To clear IP access list counters, use the **clear ip access-list counters** command in EXEC mode.

clear ip access-list counters *list-name*

Syntax Description	<i>list-name</i> Specifies the IP access list name (maximum 64 characters).
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Defaults	No default behavior or values.
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Command Modes	EXEC.
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Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Examples	The following example clears the counters for an IP access list. <pre>switch# clear ip access-list counters adminlist</pre>
-----------------	--

Related Commands	Command	Description
	show ip access-list	Displays IP access list information.

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clear zone database

To clear all configured information in the zone server, use the **clear zone database** command in EXEC mode.

clear zone database

Syntax **Description** This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines After entering a **clear zone database** command, you need to explicitly enter the **copy running-config startup-config** command to ensure that the running configuration is used when you next start the switch.

Examples The following example shows how to clear all configured information in the zone server.

```
switch# clear zone database
```

Related Commands	Command	Description
	show zone	Displays zone information for any configured interface.

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clock

To configure the time zone and summer-time-of-day (daylight savings), use the **clock** command in configuration mode.

clock

```
{summer-time daylight-timezone-name start-week start-day start-month start-time end-week
end-day end-month end-time daylight-offset-to-be-added-in-minutes |
time-zone timezone-name hours-offset minutes-offset}
```

To disable the daylight savings time adjustment or to set the time zone to the default, use the no form of this command.

```
no clock {summer-time | time-zone}
```

Syntax Description

summer-time	Configures daylight savings time.
<i>daylight-timezone-name</i>	Time zone name. The time zone name has a maximum of 8 characters.
<i>start-week</i> <i>end-week</i>	The week-of-the-month ranging from 1 through 4; 5 specifies the last week of the month.
<i>start-day</i> <i>end-day</i>	The day ranging from Sunday through Saturday.
<i>start-month</i> <i>end-month</i>	The month ranging from January through December.
<i>start-time</i> <i>end-time</i>	The time in HH:MM:SS format.
<i>daylight-offset-to-be-added-in-minutes</i>	The daylight offset ranges from 1 through 1440 minutes that will be added to the start time and deleted from the end time.
time-zone	Sets the time zone.
<i>timezone-name</i>	Time zone name. The time zone name has a maximum of 8 characters.
<i>hours-offset</i>	Hours offset from Coordinated Universal Time (UTC) ranging from -23 to 23.
<i>minutes-offset</i>	Minutes offset from the hour ranging from -59 to 59.

Defaults

The default time zone is Coordinated Universal Time (UTC), which is the same as Greenwich Mean Time (GMT).

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

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Examples

The following example adjusts the daylight savings time for the Pacific time zone by 60 minutes starting on the first Sunday in April at 2 a.m. and ending on the last Sunday in October at 2 a.m.

```
switch# config
switch(config)# clock summer-time Pacific 1 Sun Apr 02:00 5 Sun Oct 02:00 60
switch(config)# no clock summer-time
switch(config)# exit
switch#
```

Related Commands

Command	Description
clock set	Changes the time on the switch.
show clock	Displays the current date and time.
show running-config	Displays changes made to the time zone configuration along with other configuration information.

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clock set

To change the system time, use the **clock set** command in EXEC mode.

clock set *HH:MM:SS DD Month YYYY*

Syntax Description		
<i>HH</i>	The two-digit time in hours in military format (15 for 3 p.m.).	
<i>MM</i>	The two-digit time in minutes (58).	
<i>SS</i>	The two-digit time in seconds (15).	
<i>DD</i>	The two-digit date (12).	
<i>Month</i>	The month in words (August).	
<i>YYYY</i>	The four-digit year (2002).	

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines If the system is synchronized with an NTP clock server, you do not need to set the system clock. Use this command if no other time sources are available. The time specified in this command is relative to the configured time zone.

The **clock set** command changes are saved across system resets.

Examples The following example displays the **clock set** command:

```
switch# clock set 15:58:15 15 August 2005
Mon Aug 15 15:58:00 PDT 2005
```

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config terminal

To enter the configuration mode, use the **config** command in EXEC mode.

config terminal

Syntax Description This command had no arguments or keywords.

Defaults None.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example enters the configuration mode:

```
switch# config terminal  
Enter configuration commands, one per line.  
switch(config)#
```

The following example enters the configuration mode using an abbreviated format of the command:

```
switch# config  
Enter configuration commands, one per line.  
switch(config)#
```

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copy

To save a backup of the system software, use the **copy** command in EXEC mode.

copy *source destination*

Syntax Description	
<i>source</i>	Location URL or name of the source file to be copied. Source file systems can be bootflash: , running-config , startup-config , and volatile: .
<i>destination</i>	Location URL or name of the copied file. Destination file systems can be bootflash: , ftp: , running-config , startup-config , tftp: , and volatile: .

The following table lists the aliases for source and destination URLs.

bootflash:	Specifies the switch non-volatile file system. The syntax for this alias is bootflash:filename
<i>filename</i>	The name of the file.
ftp:	Specifies the location for a File Transfer Protocol (FTP) network server. The syntax for this alias is ftp:[[/location]/directory]/filename .
running-config	Specifies the configuration currently running on the switch. The system:running-config keyword represents the current running configuration file.
startup-config	Specifies the configuration used during initialization (startup). You can copy the startup configuration from bootflash. The bootflash:startup-config keyword represents the configuration file used during initialization.
tftp:	Specifies the location for a Trivial File Transfer Protocol (TFTP) network server. The syntax for this alias is tftp:[[/location]/directory]/filename .
volatile:	Specifies the location for the volatile file system. The syntax for this alias is volatile:filename

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines This command be used to make the running and the backup copy of the configuration identical.

The copy function will not be completed if the required space is not available in the file system. First change to the required file system (for example, **cd bootflash:**) and verify the available space (for example, **dir bootflash:**).

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Examples

The following example saves your configuration to the startup configuration.

```
switch# copy running-config startup-config
```

The following example creates a snapshot of the current running configuration.

```
switch# copy running-config bootflash:running-snapshot
```

The following example saves a backup copy of the startup configuration.

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

The following example saves a copy of the startup configuration on a remote host.

```
switch# copy startup-config ftp://10.20.102.98/configs/q100-startup
```

Related Commands

Command	Description
cd	Changes the default file system.
dir	Displays a list of files on a file system.
reload	Resets the switch.
show version	Displays the version of the running configuration file.
move	Moves a file to another filename.

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delete

To delete a file, use the **delete** command in EXEC mode.

```
delete { bootflash:filename | volatile:filename }
```

Syntax Description	Parameter	Description
	bootflash:	Flash image that resides on the non-volatile file system.
	volatile:	Flash image that resides on the volatile file system.
	<i>filename</i>	The name of the file to be deleted.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines When you delete a file, the software erases the file.



Caution

If you move to a specific file system with the **cd** command and enter the **delete** command, all files in the file system will be deleted.

Examples The following example deletes a file from the volatile file system.

```
switch# delete volatile:my_file
```

Related Commands	Command	Description
	cd	Changes the default file system.
	dir	Displays a list of files on a file system.
	move	Moves a file to another filename.

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dir

To display the contents of the current file system or the specified file system, use the **dir** command in EXEC mode.

dir [**bootflash:***filename* | **volatile:***filename*]

Syntax Description

bootflash:	The non-volatile file system.
<i>filename</i>	(Optional) Name of the file to display on a specified file system. The files can be of any type. You can use wildcards in the filename. A wildcard character (*) matches all patterns. Strings after a wildcard are ignored.
volatile:	The volatile file system.

Defaults

The default file system is specified by the **cd** command.

Command Modes

EXEC

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following example shows how to list the files on the volatile file system.

```
switch# dir volatile:
1446 Apr 04 20:08:06 2005 image_0
1446 Apr 04 20:09:34 2005 image_1
1446 Apr 04 20:09:32 2005 image_2
1446 Apr 04 20:09:30 2005 image_3
1446 Apr 04 20:09:28 2005 ilc1.bin
1446 Apr 04 20:09:27 2005 startup-con_1
1446 Apr 04 20:09:24 2005 startuup-con_2
1446 Apr 04 20:09:22 2005 startuup-con_3
1446 Apr 04 20:09:20 2005 startuup-con_4
1446 Apr 04 20:10:43 2005 zzzffp
```

```
Usage for volatile://
 40960 bytes used
20930560 bytes free
20971520 bytes total
```

Related Commands

Command	Description
cd	Changes the default file system.

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do

Use the **do** command to execute an EXEC mode command from any configuration mode or submode.

do *command*

Syntax Description	<i>command</i>	Specifies the EXEC command to be executed.
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Defaults	No default behavior or values.	
-----------------	--------------------------------	--

Command Modes	All	
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Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).	
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Usage Guidelines	Use this command to execute EXEC commands while configuring your switch. After the EXEC command is executed, the system returns to the mode from which you entered the do command.	
-------------------------	---	--

Examples	The following example displays the logging levels using the do command in configuration mode.	
-----------------	--	--

```
switch(config)# do show logging level
```

Facility	Default Severity	Current Session Severity
-----	-----	-----
fcns	6	2
fcs	6	2
zone	6	2
auth	6	2
ipconf	6	2
module	6	2
ntp	6	2
sysmgr	6	2
user	6	2
port	6	2
fcdomain	6	2
fspf	6	2

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end

To exit any of the configuration modes and return to EXEC mode, use the **end** command in configuration mode.

end

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines None.

Examples The following example sets the time zone to GMT. Entering the **end** command causes the system to exit configuration mode and return to EXEC mode.

```
switch(config)# clock timezone
george(config)# end
switch#
```

Related Commands	Command	Description
	exit	Exits configuration mode, or any of the configuration modes.

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exit

To exit any configuration mode or close an active terminal session and terminate the EXEC, use the **exit** command at the system prompt.

exit

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes All.

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines Use the **exit** command at the EXEC levels to exit the EXEC mode. Use the **exit** command at the configuration level to return to privileged EXEC mode. Use the **exit** command in interface configuration submode to return to configuration mode. You also use the **end** command, from any configuration mode to return to EXEC mode.

Examples The following example displays an exit from the interface configuration submode to return to the configuration mode.

```
switch(config-if)# exit
switch(config)#
```

The following example shows how to log out of an active session.

```
switch# exit
```

Related Commands	Command	Description
	end	Returns you to EXEC mode.

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fcalias name

To configure an FC alias, use the **fcalias name** command in configuration mode.

fcalias name *alias-name*

Entering the **fcalias name** command opens the config-fcalias submode which provides access to the **member** subcommand:

member pwwn *pwwn-id*

To disable an FC alias, use the **no** form of this command.

no fcalias name *alias-name*

Syntax Description		
	<i>alias-name</i>	The name of the fcalias. Maximum length is 64 characters. This opens the config-fcalias submode.
	member	Adds a member to the fcalias. This command is available only in the config-fcalias submode.
	pwwn <i>pwwn-id</i>	Adds a member using the port WWN in the format <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines To include multiple members in any alias, use the pWWN value.

Examples The following examples show how to configure an FC alias called AliasSample.

```
switch# config
switch(config)# fcalias name AliasSample
switch(config-fcalias)#
```

Related Commands	Command	Description
	fcalias rename	Renames an FC alias.

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fcalias rename

To rename an FC alias, use the **fcalias rename** command in configuration mode.

fcalias rename *current-name new-name*

Syntax Description		
	<i>current-name</i>	The current name of the fcalias.
	<i>new-name</i>	The new name of the fcalias. Maximum length is 64 characters.

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following examples show how to rename an fcalias called AliasSample.

```
switch# config
switch(config)# fcalias rename AliasSample AliasNew
switch(config-fcalias)#
```

Related Commands	Command	Description
	fcalias name	Configures an FC alias.

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fcdomain

To configure the Fibre Channel domain feature, use the **fcdomain** command in configuration mode.

```
fcdomain {domain id {preferred | static} priority value | restart [disruptive]}
```

To disable the FC domain, use the **no** form of this command.

```
no fcdomain {domain id {preferred | static} priority value | restart [disruptive]}
```

Syntax Description		
domain id		Configures the domain ID and its type. The range is 0 to 239.
preferred		Configures the domain ID as preferred. By default, the local switch accepts the domain ID assigned by the principal switch and the assigned domain ID becomes the runtime domain ID.
static		Configures the domain ID as static. The assigned domain ID is discarded, all local interfaces are isolated, and the local switch assigns itself the configured domain ID, which becomes the runtime domain ID.
priority value		Specifies the FC domain priority. The range is 1 to 254.
restart		Restarts a disruptive or nondisruptive reconfiguration.
disruptive		Forces the disruptive fabric reconfiguration.

Defaults Enabled.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines You can use this command to select the principle switch, domain ID distribution, reconfigure fabric, and allocate FC IDs.

Examples The following examples show how to configure the Fibre Channel domain feature.

```
switch# config

switch(config)# fcdomain domain 3 preferred

switch(config)# no fcdomain domain 3 preferred

switch(config)# fcdomain domain 2 static

switch(config)# no fcdomain domain 2 static

switch(config)# fcdomain restart

switch(config)# fcdomain restart disruptive
```

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```
switch(config)# fcdomain priority 25
```

```
switch(config)# no fcdomain priority 25
```

Related Commands	Command	Description
	show fcdomain	Displays global information about the FC domain configurations.

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fctimer

To change the default Fibre Channel timers, use the **fctimer** command in configuration mode.

```
fctimer {d_s_tov milliseconds | e_d_tov milliseconds | r_a_tov milliseconds}
```

To revert to the default values, use the **no** form of this command.

```
no fctimer {d_s_tov milliseconds | e_d_tov milliseconds | r_a_tov milliseconds}
```

Syntax Description		
d_s_tov <i>milliseconds</i>	Specifies the distributed services time out value. The range is 5000 to 100,000 milliseconds, with a default of 5000.	
e_d_tov <i>milliseconds</i>	Specifies the error detect time out value. The range is 1000 to 100,000 milliseconds, with a default of 2000.	
r_a_tov <i>milliseconds</i>	Specifies the resolution allocation time out value. The range is 5000 to 100,000 milliseconds, with a default of 10,000.	

Command Modes	Configuration

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines	In accordance with the FC-SW2 standard, the timeout values must be the same on each switch in the fabric.

Examples	The following example shows how to change the default Fibre Channel timers.
	<pre>switch# config switch(config)# fctimer e_d_tov 5000 switch(config)# fctimer r_a_tov 7000</pre>

Related Commands	Command	Description
	show fctimer	Displays the configured Fibre Channel timer values.

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fspf cost

To configure FSPF link cost for an interface, use the **fspf cost** command in interface configuration submode.

fspf cost *link-cost*

To revert to the default value, use the **no** form of this command.

no fspf cost *link-cost*

Syntax Description	<i>link-cost</i>	Enters FSPF link cost. The range is 1 to 65,535.
---------------------------	------------------	--

Defaults	1000 for 1 Gbps 500 for 2 Gbps 250 for 4 Gbps
-----------------	---

Command Modes	Interface configuration
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Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
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Usage Guidelines	<p>Access this command from the <code>switch(config-if)#</code> submode.</p> <p>FSPF tracks the state of links on all switches in the fabric, associates a cost with each link in its database, and then chooses the path with a minimal cost. The cost associated with an interface can be changed using the fspf cost command to implement the FSPF route selection.</p>
-------------------------	---

Examples	<p>The following example shows how to set the FSPF link cost to 5000.</p> <pre>switch# config switch(config)# interface fc1/1 switch(config-if)# fspf cost 5000</pre>
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Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show fspf interface</td> <td>Displays information for each selected interface.</td> </tr> </tbody> </table>	Command	Description	show fspf interface	Displays information for each selected interface.
Command	Description				
show fspf interface	Displays information for each selected interface.				

[Send documentation comments to mdsfeedback-doc@cisco.com.](mailto:mdsfeedback-doc@cisco.com)

fspf dead-interval

To set the maximum interval for which a hello message must be received before the neighbor is considered lost, use the **fspf dead-interval** command in interface configuration submode.

fspf dead-interval *seconds*

To revert to the default value, use the **no** form of this command.

no fspf dead-interval *seconds*

Syntax Description	<i>seconds</i>	Specifies the FSPF dead interval in seconds. The range is 2 to 65,535.
---------------------------	----------------	--

Defaults	80 seconds
-----------------	------------

Command Modes	Interface configuration
----------------------	-------------------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	Access this command from the <code>switch(config-if)#</code> submode.
-------------------------	---



Note

This value must be the same in the ports at both ends of the ISL.



Caution

An error is reported at the command prompt if the configured dead time interval is less than the hello time interval.

Examples

```
switch# config
switch(config)# interface fc1/1
switch(config-if)# fspf dead-interval 4000
```

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.

Send documentation comments to mdsfeedback-doc@cisco.com.


fspf hello-interval

To verify the health of the link, use the **fspf hello-interval** command in interface configuration submode.

fspf hello-interval *seconds*

To revert to the default value, use the **no** form of this command.

no fspf hello-interval *seconds*

Syntax Description	<i>seconds</i> Specifies the FSPF hello-interval in seconds. The range is 1 to 65,535.				
Defaults	20 seconds				
Command Modes	Interface configuration				
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).				
Usage Guidelines	Access this command from the <code>switch(config-if)#</code> submode. This command configures FSPF for the specified FC interface.				
 Note	This value must be the same in the ports at both ends of the ISL.				
Examples	<pre>switch# config switch(config)# interface fc1/1 switch(config-if)# fspf hello-interval 3</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show fspf interface</td> <td>Displays information for each selected interface.</td> </tr> </tbody> </table>	Command	Description	show fspf interface	Displays information for each selected interface.
Command	Description				
show fspf interface	Displays information for each selected interface.				

Send documentation comments to mdsfeedback-doc@cisco.com.

fspf retransmit-interval

To specify the time after which an unacknowledged link state update should be transmitted on the interface, use the **fspf retransmit-interval** command in interface configuration submode.

fspf retransmit-interval *seconds*

To revert to the default value, use the **no** form of this command.

no fspf retransmit-interval *seconds*

Syntax Description	<i>seconds</i>	Specifies FSPF retransmit interval in seconds. The range is 1 to 4093.
---------------------------	----------------	--

Defaults	5 seconds
-----------------	-----------

Command Modes	Interface configuration
----------------------	-------------------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	Access this command from the <code>switch(config-if)#</code> submode.
-------------------------	---



Note

This value must be the same in the ports at both ends of the ISL.

Examples	<pre>switch# config switch(config)# interface fc 1/1 switch(config-if)# fspf retransmit-interval 6</pre>
-----------------	---

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.

Send documentation comments to mdsfeedback-doc@cisco.com.

help

To display a list of available commands and arguments in the current command mode, use the ? command in any mode. No carriage return is needed with this command.

?

command ?

command argument ?

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes All

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The ? command alone displays available commands based on the command mode.
To display the arguments for a command, enter the command name, then a space, then the ? command.
To display the keywords for an argument, enter the command, the argument, a space, then the ? command.

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Examples

The following example displays the list of commands for EXEC mode.

```
switch# ?
  cd                Change current directory
  clear             Reset functions
  clock            Manage the system clock
  config          Enter configuration mode
  copy            Copy from one file to another
  delete         Delete a file
  dir            List files in a directory
  exit          Exit from the EXEC
  help         Press '?' key to display available commands
  install      Upgrade software
  move        Move files
  ping       Send echo messages
  reload     Reboot the entire box
  run-script Run shell scripts
  setup      Run the basic SETUP command facility
  show      Show running system information
  sleep     Sleep for the specified number of seconds
  system    System management commands
  terminal  Set terminal line parameters
  write     Write current configuration
  zone     Execute zone server commands
  zoneset  Execute zoneset commands
```

The following example displays the arguments for the **copy** command.

```
switch# copy ?
  bootflash:      Select source filesystem
  ftp:            Select source filesystem
  running-config  Copy running configuration to destination
  startup-config  Copy startup configuration to destination
  tftp:           Select source filesystem
  volatile:      Select source filesystem
```

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install all

To upgrade firmware on the switch, use the **install all** command in EXEC mode. The **install all** command will attempt a nondisruptive upgrade; if a nondisruptive upgrade is not possible, a disruptive upgrade will occur.

install all system volatile:*filename*

Syntax	Description
system	Upgrades the system image.
volatile:	The volatile file system.
<i>filename</i>	The source file to be installed.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The firmware image must be downloaded to the volatile file system before it can be installed. Use the **copy ftp:** or **copy tftp:** command to download the firmware image file.

Examples The following example downloads the firmware image to the volatile file system, installs the firmware, and resets the switch.

```
switch# copy ftp://10.20.102.98/firmware/latest_mpc volatile:latest_mpc
switch# install all system volatile:latest_mpc
Performing configuration copy.
[#####] 100%

Unpacking image - this may take several seconds...
```

Related Commands	Command	Description
	copy	Copies a file from one location to another.
	show version	Displays software image version information.

Send documentation comments to mdsfeedback-doc@cisco.com.

interface fc

To configure a Fibre Channel interface, use the **interface fc** command in configuration mode. This will place the switch in the interface configuration submode.

```
interface fc 1/port[ - portn]
```

Syntax Description		
<i>port</i>		Specifies a port number or the first port number in a range from 1 to 20.
<i>portn</i>		Specifies the second port in the range from 1 to 20.

Defaults	Disabled.
----------	-----------

Command Modes	Configuration
---------------	---------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
-----------------	--

Usage Guidelines	You can specify a range of interfaces by entering a command with the following example format:
------------------	--

```
interface spacefc space1/1 space-space5
```

Use the **no shutdown** command to enable the interface.

Examples	The following example configures ports 1 to 4.
----------	--

```
switch# config
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# int fc 1/1 - 4
```

The following example enables the Fibre Channel interface.

```
switch# config
switch(config)# interface fc 1/1
switch(config-if)# no shutdown
```

Related Commands	Command	Description
	show interface	Displays an interface configuration for a specified interface.
	shutdown	Disables and enables an interface.

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interface mgmt

To configure management interface 0 on a switch, use the **interface mgmt** command in configuration mode.

interface mgmt 0

Syntax Description	0 Management interface 0.
---------------------------	----------------------------------

Defaults	Disabled.
-----------------	-----------

Command Modes	Configuration
----------------------	---------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	When you try to shutdown a management interface (mgmt0), a follow-up message confirms your action before performing the operation. Use the shutdown force command to bypass this confirmation, if required.
-------------------------	--

Examples	The following example configures the management interface, displays the options available for the configured interface, and exits to configuration mode.
-----------------	--

```
switch# config
switch(config)#
switch(config)# interface mgmt 0
switch(config-if)# exit
switch(config)#
```

The following example shuts down the interface without using the **force** option:

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# shutdown
Shutting down this interface will drop all telnet sessions.
Do you wish to continue (y/n)? y
```

The following example shuts down the interface using the **force** option:

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# shutdown force
switch(config-if)#
```

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Related Commands	Command	Description
	shutdown	Disables and enables an interface.
	show interface mgmt	Displays interface configuration for specified interface.

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ip access-group

To create an access group to use an access list, use the **ip access-group** command in interface configuration submode.

ip access-group *group-name* [**in** | **out**]

To negate a previously entered command or revert to factory defaults, use the **no** form of this command.

no ip access-group *group-name* [**in** | **out**]

Syntax Description

<i>group-name</i>	Specifies the IP access-group name. Maximum length is 64 alphanumeric characters and the text is case insensitive.
in	Specifies that the group is for ingress traffic.
out	Specifies that the group is for egress traffic.

Defaults

Groups are created for both ingress and egress traffic.

Command Modes

Interface configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

The **access-group** command controls access to an interface. Each interface can only be associated with one access list. The access group becomes active on creation.

We recommend creating all rules in an access list, before creating the access group that uses this access list.

If you create an access group before the access-list, all packets in that interface are dropped, because the access list is empty.

The access group configuration for the ingress traffic applies to both local and remote traffic. The access-group configuration for the egress traffic applies only to local traffic. You can create a different access-group for each type of traffic.

Examples

The following example creates an access group called SampleName for both the ingress and egress traffic (default).

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# ip access-group SampleName
```

The following example deletes the access group called NotRequired.

```
switch(config-if)# no ip access-group NotRequired
```

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The following example creates an access group called SampleName (if it does not already exist) for ingress traffic.

```
switch(config-if)# ip access-group SampleName1 in
```

The following example deletes the access group called SampleName for ingress traffic.

```
switch(config-if)# no ip access-group SampleName1 in
```

The following example creates an access group called SampleName (if it does not already exist) for local egress traffic.

```
switch(config-if)# ip access-group SampleName2 out
```

The following example deletes the access group called SampleName for local egress traffic.

```
switch(config-if)# no ip access-group SampleName2 out
```

Related Commands

Command	Description
interface mgmt	Configures the management interface and opens the config-if submode.
ip access-list	Creates IP access control lists.
show ip access-list	Displays the IP-ACL configuration information.

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ip access-list

To configure IP access control lists (ACL), use the **ip access-list** command in configuration mode. The first **ip access-list** command entry creates the ACL. Subsequent **ip access-list** command entries add filters to the ACL definition.

```
ip access-list list-name {deny | permit} ip-protocol
  {src-addr src-wildcard}
  {dest-addr dest-wildcard | operator port-value}
  [operator port port-value]
  [established | icmp-type icmp-value]
  [tos tos-value]
```

To negate a previously entered command or revert to factory defaults, use the **no** form of this command.

```
no ip access-list list-name {deny | permit} ip-protocol
  {src-addr src-wildcard}
  {dest-addr dest-wildcard | operator port-value}
  [operator port port-value]
  [established | icmp-type icmp-value]
  [tos tos-value]
```

Syntax Description	
<i>list-name</i>	Identifies the access control list. <i>list-name</i> is case sensitive and the maximum length is 64 alphanumeric characters.
deny	Denies access if the conditions match.
permit	Provides access if the conditions match.
<i>ip-protocol</i>	Specifies the name or number (integer range from 0 to 255) of an IP protocol. The IP protocol name can be icmp , ip , tcp , or udp .
<i>src-addr</i>	Specifies the network from which the packet is sent. There are two ways to specify the source: <ul style="list-style-type: none"> • A 32-bit quantity in four-part, dotted-decimal format • A keyword any as an abbreviation for a destination and destination-wildcard of 0.0.0.0 255.255.255.255
<i>src-wildcard</i>	Applies the wildcard bits to the source. Each wildcard bit set to zero indicates that the corresponding bit position in the packet IP address must exactly match the bit value in the corresponding position of the packet IP address. There are two ways to specify the destination wildcard: <ul style="list-style-type: none"> • A 32-bit quantity in four-part, dotted-decimal format • A keyword any as an abbreviation for a destination and destination-wildcard of 0.0.0.0 255.255.255.255
<i>dest-addr</i>	Specifies the network from which the packet is sent. There are two ways to specify the destination: <ul style="list-style-type: none"> • A 32-bit quantity in four-part, dotted-decimal format • A keyword any as an abbreviation for a destination and destination-wildcard of 0.0.0.0 255.255.255.255

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<i>dest-wildcard</i>	Applies the wildcard bits to the destination. There are two ways to specify the destination wildcard: <ul style="list-style-type: none"> • A 32-bit quantity in four-part, dotted-decimal format • A keyword any as an abbreviation for a destination and destination-wildcard of 0.0.0.0 255.255.255.255
<i>operator</i>	Compares source or destination ports and has the following options: <p>any = Any destination IP</p> <p>eq = Equal source port</p> <p>gt = Greater than and including source port</p> <p>lt = Less than and including source port</p> <p>range port = Source port range <i>port-value</i></p>
port <i>port-value</i>	Specifies the decimal number (range from 0 to 65,535) or one of the following names to indicate a TCP or UDP port. <p>The TCP port names are: dns, ftp, ftp-data, http, ntp, radius, sftp, smtp, snmp, snmp-trap, ssh, syslog, tacacs-ds, telnet, wbem-http, wbem-https, and www.</p> <p>The UDP port names are: dns, ftp, ftp-data, http, ntp, radius, sftp, smtp, snmp, snmp-trap, ssh, syslog, tacacs-ds, telnet, tftp, wbem-http, wbem-https, and www.</p>
icmp-type <i>icmp-value</i>	Filters ICMP packets by ICMP message type. The range is 0 to 255. The types include: echo, echo-reply, redirect, time-exceeded, traceroute, and unreachable.
established	Indicates an established connection for the TCP protocol. A match occurs if the TCP datagram has the ACK, FIN, PSH, RST, SYN or URG control bits set. The non matching case is that of the initial TCP datagram to form a connection.
tos <i>tos-value</i>	Filters packets by the following type of service level: normal-service (0), monetary-cost (1), reliability (2), throughput (4), and delay (8)

Defaults

Denied.

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following example configures an IP-ACL called List1 and permits IP traffic from any source address to any destination address.

```
switch# config
switch(config)# ip access-list List1 permit ip any any
```

The following example removes the IP-ACL called List1.

```
switch# config
switch(config)# no ip access-list List1 permit ip any any
```

Send documentation comments to mdsfeedback-doc@cisco.com.

The following example updates List1 to deny TCP traffic from any source address to any destination address.

```
switch# config
switch(config)# ip access-list List1 deny tcp any any
```

The following example defines an IP-ACL that permits this network. Subtracting 255.255.248.0 (normal mask) from 255.255.255.255 yields 0.0.7.255.

```
switch# config
switch(config)# ip access-list List1 permit udp 192.168.32.0 0.0.7.255
```

The following example permits all IP traffic from and to the specified networks.

```
switch# config
switch(config)# ip access-list List1 permit ip 10.1.1.0 0.0.0.255 172.16.1.0 0.0.0.255
```

The following example denies TCP traffic from 10.2.3.0 through source port 5 to any destination.

```
switch# config
switch(config)# ip access-list List2 deny tcp 10.2.3.0 0.0.0.255 eq port 5 any
```

The following example removes this entry from the IP-ACL.

```
switch# config
switch(config)# no ip access-list List2 deny tcp 10.2.3.0 0.0.0.255 eq port 5 any
```

The following example creates an access group called List1 for both the ingress and egress traffic (default).

```
switch# config
switch(config)# interface mgmt0
switch(config-if)# ip access-group List1
```

The following example deletes the access group called NotRequired.

```
switch# config
switch(config)# interface mgmt0
switch(config-if)# no ip access-group NotRequired
```

Related Commands	Command	Description
	ip access-group	Creates an IP access group.
	show ip access-list	Displays the IP-ACL configuration information.

Send documentation comments to mdsfeedback-doc@cisco.com.

ip address

To assign an IP address to the Ethernet management port, use the **ip address** command in interface configuration submode. Enter the **interface mgmt** command to open the config-if submode.

ip address *address netmask*

To remove the IP address, use the **no** form of this command.

no ip address *address netmask*

Syntax Description

<i>address</i>	Specifies the IP address.
<i>netmask</i>	Specifies the network mask.

Defaults

The IP address default is 10.0.0.1. The network mask default is 255.0.0.0.

Command Modes

Interface configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# ip address 10.5.1.1 255.255.0.0
```

Related Commands

Command	Description
interface mgmt	Configures the management interface and opens the config-if submode.
show interface	Displays information about an interface.

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ip default-gateway

To configure the IP address of the default gateway, use the **ip default-gateway** command in configuration mode.

ip default-gateway *destination-ip-address*

To disable the IP address of the default gateway, use the **no** form of this command.

no ip default-gateway *destination-ip-address*

Syntax Description	<i>destination-ip-address</i> Specifies the IP address of the default gateway.				
Defaults	10.0.0.254				
Command Modes	Configuration				
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).				
Examples	<p>The following examples configures the IP default gateway to 10.1.1.4.</p> <pre>switch# config switch(config)# ip default-gateway 10.1.1.4</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ip route</td> <td>Displays the IP address of the default gateway.</td> </tr> </tbody> </table>	Command	Description	show ip route	Displays the IP address of the default gateway.
Command	Description				
show ip route	Displays the IP address of the default gateway.				

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logging level

To modify message logging facilities, use the **logging level** command in configuration mode.

logging level all *severity-level*

To negate the previously entered command or to revert to factory defaults, use the **no** form of this command.

no logging level all *severity-level*

Syntax Description	all	Specifies all message facilities: authorization system, fcdomain syslog, name server, FCS, FSPF syslog, IP configuration, module manager syslog, NTP syslog, port syslog, System Manager syslog, User Process, and zone server.
	<i>severity-level</i>	Specifies the maximum severity of messages logged. The range is 0 to 7, where <ul style="list-style-type: none"> • 0 is emergency • 1 is alert • 2 is critical • 3 is error • 4 is warning • 5 is notify • 6 is informational • 7 is debugging

Defaults The default severity level is critical (2).

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The switch logs messages at or above the configured severity level.

Examples Configures the logging level at level 4 (warning). As a result, logging messages with a severity level of 4 or above will be displayed.

```
switch# config
switch(config)# logging level all 4
```

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logging monitor

To set monitor message logging, use the **logging monitor** command in configuration mode.

logging monitor *severity level*

To negate the previously entered command or to revert to factory defaults, use the **no** form of the command.

no logging monitor *severity level*

Syntax Description	<i>severity level</i>	Severity level. The range is 0 to 7, where <ul style="list-style-type: none"> • 0 is emergency • 1 is alert • 2 is critical • 3 is error • 4 is warning • 5 is notify • 6 is informational • 7 is debugging
---------------------------	-----------------------	---

Defaults	Severity level: 0 - emergency; 1 - alert
-----------------	--

Command Modes	Configuration
----------------------	---------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Examples	The following example sets terminal line (monitor) message logging at level 2.
-----------------	--

```
switch# config
switch(config)# logging monitor 2
```

Related Commands	Command	Description
	show logging	Displays logging configuration information.

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logging server

To set the IP address of the remote message logging server, use the **logging server** command in configuration mode.

logging server *ip address*

To negate the previously entered command or to revert to factory defaults, use the **no** form of this command.

no logging server *ip address*

Syntax Description	<i>ip address</i>	Enters the IP address for the remote server.
Defaults	10.0.0.254	
Command Modes	Configuration	
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).	
Examples	Change the IP address of the remote message logging server to 10.20.30.40. <pre>switch# config switch(config)# logging sever 10.20.30.40</pre>	
Related Commands	Command	Description
	show logging	Displays logging configuration information.

Send documentation comments to mdsfeedback-doc@cisco.com.

move

To move a file to another filename, use the **move** command in EXEC mode.

move *source destination*

Syntax Description		
<i>source</i>	The source file to be moved. Sources can be bootflash:filename or volatile:filename .	
<i>destination</i>	The destination filename. Destinations can be bootflash:filename or volatile:filename	
<i>filename</i>	The name of the source or destination file.	

Defaults The default source or destination file system is the current file system, bootflash: or volatile:.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example moves latest_mpc from the bootflash file system to the volatile file system.

```
switch# move bootflash:latest_mpc volatile:latest_mpc
```

Related Commands		
cd	Changes the default file system.	
copy	Copies a file to a new location.	
dir	Displays a list of files on a file system.	

Send documentation comments to mdsfeedback-doc@cisco.com.

ntp server

To configure a Network Time Protocol (NTP) server, use the **ntp server** command in configuration mode.

ntp server *ip-address*

Syntax Description	<i>ip-address</i>	The IP address of the NTP server.
--------------------	-------------------	-----------------------------------

Defaults	0.0.0.0.
----------	----------

Command Modes	Configuration
---------------	---------------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
-----------------	--

Examples	This example forms a server association with a server.
----------	--

```
switch(config)# ntp server 10.10.10.10
switch(config)#
```

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ping

To diagnose basic network connectivity, use the **ping** (packet internet groper) command in EXEC mode.

ping *ip-address*

Syntax Description	<i>ip-address</i>	IP address of system to ping.
---------------------------	-------------------	-------------------------------

Defaults	No default behavior or values.
-----------------	--------------------------------

Command Modes	EXEC
----------------------	------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	The ping program sends an echo request packet to an address, and then awaits a reply. The ping output can help you evaluate path-to-host reliability, delays over the path, and whether the host can be reached or is functioning.
-------------------------	--

Verify connectivity to the TFTP server using the **ping** command.

To abnormally terminate a ping session, type the **Ctrl-C** escape sequence

Examples	The following example pings system 192.168.7.27.
-----------------	--

```
switch# ping 192.168.7.27
PING 192.168.7.27 (192.168.7.27): 10 data bytes
18 bytes from 192.168.7.27: icmp_seq=0 ttl=64 time=0.5 ms

--- 192.168.7.27 ping statistics ---
1 packets transmitted, 1 packets received, 0% packet loss
round-trip min/avg/max = 0.5/0.5/0.5 ms
```

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radius-server host

To configure RADIUS server, use the **radius-server host** command in configuration mode.

```
radius-server host {server-name | ip-address}
  [key shared-secret] [accounting]
  [auth-port port-number] [authentication]
  [retransmit count] [timeout seconds [retransmit count]]
```

To revert to the factory defaults, use the **no** form of this command.

```
no radius-server host {server-name | ip-address}
  [key shared-secret] [accounting]
  [auth-port port-number] [authentication]
  [retransmit count] [timeout seconds [retransmit count]]
```

Syntax	Description
<i>server-name</i>	Specifies the RADIUS server DNS name. Maximum length is 256 characters.
<i>ip-address</i>	Specifies the RADIUS server IP address.
auth-port <i>port-number</i>	Configures the RADIUS server port for authentication
authentication	Use for authentication.
accounting	Use for accounting.
key	RADIUS server shared key.
<i>shared-secret</i>	Configures a preshared key to authenticate communication between the RADIUS client and server. <i>shared-secret</i> must be exactly 16 characters
retransmit <i>count</i>	Configures the number of times the switch tries to connect to a RADIUS server(s) before reverting to local authentication. The range is 1 to five times and the default is 1 time.
timeout <i>seconds</i>	Specifies the time (in seconds) between retransmissions to the RADIUS server. The default is 1 second and the valid range is 1 to 60 seconds.

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Send documentation comments to mdsfeedback-doc@cisco.com.

Examples

The following example configures RADIUS server authentication parameters.

```
switch# config t
switch(config)# radius-server host 10.10.2.3 key HostKey
switch(config)# radius-server host 10.10.2.3 auth-port 2003
switch(config)# radius-server host 10.10.2.3 accounting
switch(config)# radius-server host radius2 key abcdefgh01234567
```

Related Commands

Command	Description
show radius-server	Displays RADIUS server information.

Send documentation comments to mdsfeedback-doc@cisco.com.

reload

To reboot the switch, use the **reload** command in EXEC mode.

reload

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example uses the **reload** command to reboot the system.

```
switch# reload
This command will reboot the system. (y/n)? y
```

Related Commands	Command	Description
	install	Installs a new software image.
	copy	Copies a file from one location to another.

Send documentation comments to mdsfeedback-doc@cisco.com.

run-script

To execute the commands specified in a file, use the **run-script** command in EXEC mode.

```
run-script [filename | running-config | startup-config | volatile:filename | bootflash:filename]
```

Syntax Description	
<i>filename</i>	Name of the file containing the commands.
running-config	Specifies the configuration currently running on the switch.
startup-config	Specifies the configuration used during initialization (startup).
volatile:	Location for volatile file system.
bootflash:	Location for the bootflash file system.

Defaults Uses the current default file system.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines You must create the script file on an external host, then use the **copy ftp** or **copy tftp** command to download the file to the volatile or bootflash file system.

Send documentation comments to mdsfeedback-doc@cisco.com.

Examples

The file, testfile, contains the following commands:

```
conf t
interface fc 1/1
no shutdown
end
sh interface fc1/1
```

The following example executes the CLI commands specified in the testfile.

```
switch# run-script testfile
'conf t'
Enter configuration commands, one per line. End with CNTL/Z.

'interface fc 1/1'

'no shutdown'

'end'

'sh interface fc1/1'
fc1/1 is Down (Administratively down)
  Hardware is Fibre Channel, SFP is long wave laser
  Port WWN is 20:00:00:0d:ec:19:cb:0e
  Admin port mode is auto
  Receive data field Size is 2112
  Beacon is turned off
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    0 frames input, 0 bytes
      0 discards, 0 errors
        0 CRC
          0 too long, 0 too short
    0 frames output, 0 bytes
      0 errors
    0 input OLS, 0 LRR, 0 loop inits
```

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setup

To enter the switch setup mode, use the **setup** command in EXEC mode.

setup

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The setup utility guides you through the basic configuration process. Type **Ctrl-c** at any prompt to skip the remaining configuration options and proceed with what is configured until that point.

If you do not wish to answer a previously-configured question, or if you wish to skip answers to any questions press **Enter**. If a default answer is not available (for example switch name), the switch uses what is previously configured and skips to the next question.

Examples The following example shows how to enter switch setup mode.

```
switch# setup
---- Basic System Configuration Dialog ----
This setup utility will guide you through the basic configuration of
the system. Setup configures only enough connectivity for management
of the system.

*Note: setup is mainly used for configuring the system initially,
when no configuration is present. So setup always assumes system
defaults and not the current system configuration values.

Press Enter if you want to skip any dialog. Use ctrl-c at anytime
to skip all remaining dialogs.

Would you like to enter the basic configuration dialog (yes/no): yes

Create another login account (yes/no) [n]: yes

Enter the user login ID: user_name

Enter the password for user_name: user-password

Enter the user role [network-operator]:network_admin

Configure read-only SNMP community string (yes/no) [n]: yes

SNMP community string: snmp_community
```

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```
Enter the switch name: switch_name

Continue with Out-of-band (mgmt0) management configuration? [yes/no]: yes

  Mgmt0 IP address: ip_address

  Mgmt0 IP netmask: subnet_mask

Configure the default-gateway: (yes/no) [y]: yes

  IP address of the default-gateway: default_gateway

Enable the telnet service? (yes/no) [y]: yes

Enabled SSH service? (yes/no) [n]: no

Configure NTP server? (yes/no) [n]: no

Configure default switchport interface state (shut/noshut) [shut]: noshut

Configure default zone policy (permit/deny) [deny]: deny

The following configuration will be applied:
username admin password admin_pass role network-admin
switchname switch
interface mgmt0
  ip address ip_address subnet_mask
ip default-gateway 10.0.0.254
telnet server enable
no ssh server enable
no system default switchport shutdown
no zone default-zone permit

Would you like to edit the configuration? (yes/no) [n]: no

Use this configuration and save it? (yes/no) [y]: yes
```

Send documentation comments to mdsfeedback-doc@cisco.com.

show accounting log

To display the accounting log contents, use the **show accounting log** command in EXEC mode.

show accounting log

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show accounting log** command.

```
switch# show accounting log
 [1][Mon Apr 25 11:01:59.888 UTC 2005][AU][0000.00FF][None][Zoning Default Zone changed
in Config default to False]
 [2][Mon Apr 25 11:02:03.228 UTC 2005][AU][0000.0001][None][IP Unknown User
admin@OB-session1 User Login]
 [3][Mon Apr 25 11:02:07.376 UTC 2005][AU][0000.0001][None][IP Unknown User
snmp@IB-session2 User Login]
 [4][Mon Apr 25 11:02:07.379 UTC 2005][AU][0000.0001][None][IP Unknown User
snmp@OB-session3 User Login]
 [5][Mon Apr 25 15:58:40.548 UTC 2005][AU][0000.0001][None][IP 10.20.33.160 User
admin@OB-session4 User Login]
 [6][Mon Apr 25 16:08:38.188 UTC 2005][AU][0000.0001][None][IP 10.20.32.70 User
admin@OB-session5 User Login]
```

Send documentation comments to mdsfeedback-doc@cisco.com.

show accounting logsize

To display maximum size of the accounting log file, use the **show accounting logsize** command in EXEC mode.

show accounting logsize

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show accounting logsize** command.

```
switch# show accounting logsize  
maximum local accounting logentries: 1200
```


Send documentation comments to mdsfeedback-doc@cisco.com.

show clock

To display the system date and time and verify the time zone configuration, use the **show clock** command in EXEC mode.

show clock

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show clock** command..

```
switch# show clock  
Fri Apr 22 00:00:49 CDT 2005
```

Send documentation comments to mdsfeedback-doc@cisco.com.

show environment

To display all environment-related switch information, use the **show environment** command in EXEC mode.

show environment [power | temperature]

Syntax Description	power	temperature
	Displays status of power supply module, power supply redundancy mode and power usage summary.	Displays switch temperature thresholds and alarm status of temperature sensors.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show environment** command.

```
switch# show environment
Temperature:
-----
Module   CurTemp   Status
         (Celsius)
-----
1        36        ok

Power Supply:
-----
PS       Status
-----
1        ok
```

Related Commands	Command	Description
	show hardware	Displays all hardware components on a system.

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show fcalias

To display the member name information in a Fibre Channel alias (fcalias), use the **show fcalias** command in EXEC mode.

```
show fcalias [name fcalias-name]
```

Syntax Description

name <i>fcalias-name</i>	Displays fcalias information for a specific name. The maximum length is 64.
---------------------------------	---

Defaults

Displays a list of all global fcalias.

Command Modes

EXEC

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

To make use of fcalias as device names instead of using the cryptic device name, add only one member per fcalias.

Examples

The following is sample output from the **show fcalias** command.

```
switch# show fcalias
fcalias name Alias2

fcalias name Alias1
  pwn 21:00:00:20:37:6f:db:dd
  pwn 21:00:00:20:37:9c:48:e5
```

Related Commands

Command	Description
fcalias name	Configures fcalias names.

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show fcdomain

To display the Fibre Channel domain (fcdomain) information for the local switch or for all switches in the fabric, use the **show fcdomain** command in EXEC mode.

show fcdomain [domain-list]

Syntax Description	domain-list	Displays list of domain ids granted by the principal switch for all switches in the fabric.
--------------------	-------------	---

Defaults Displays domain information for the local switch.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show fcdomain** command.

```
switch# show fcdomain
The local switch is the Principal Switch.
Local switch run time information:
  Local switch WWN:      10:00:00:0d:ec:19:cb:0e
  Running fabric name:  10:00:00:0d:ec:19:cb:0e
  Running priority:     128
  Current domain ID:    0x69(105)

Local switch configuration information:
  Configured fabric name:
  Configured priority:   128
  Configured domain ID:  0x0(0) (preferred)

Principal switch run time information:
  Running priority: 128
```

The following is sample output from the **show fcdomain domain-list** command.

```
switch# show fcdomain domain-list
VSAN 1
Number of domains: 1
Domain ID           WWN
-----
0x69(105)   10:00:00:0d:ec:19:cb:0e [Local] [Principal]
```

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show fcns database

To display the results of the discovery, or to display the name server database, use the **show fcns database** command in EXEC mode.

```
show fcns database [detail | domain domain-id | fcid fcid-id]
```

Syntax Description		
	detail	Displays all objects in each entry.
	domain <i>domain-id</i>	Displays entries in a domain.
	fcid <i>fcid-id</i>	Displays entry for the given port.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines The discovery can take several minutes to complete, especially if the fabric is large fabric or if several devices are slow to respond.

Send documentation comments to mdsfeedback-doc@cisco.com.

Examples

The following is sample output from the **show fcns database detail** command.

```
switch# show fcns database detail

-----
FCID:0x0101e1
-----
port-wwn (vendor) :      21:00:00:20:37:d9:4f:66 ()
node-wwn :              20:00:00:20:37:d9:4f:66
class :                 3
node-ip-addr :          0.0.0.0
fc4-types:fc4_features : FCP
symbolic-port-name :    (NULL)
symbolic-node-name :    (NULL)
port-type :             NL
port-ip-addr :          0.0.0.0
fabric-port-wwn :       20:01:00:c0:dd:06:fc:00
-----
FCID:0x0101e2
-----
port-wwn (vendor) :      21:00:00:20:37:d9:4d:61 ()
node-wwn :              20:00:00:20:37:d9:4d:61
class :                 3
node-ip-addr :          0.0.0.0
fc4-types:fc4_features : FCP
symbolic-port-name :    (NULL)
symbolic-node-name :    (NULL)
port-type :             NL
port-ip-addr :          0.0.0.0
fabric-port-wwn :       20:01:00:c0:dd:06:fc:00
-----
FCID:0x0101e4
-----
port-wwn (vendor) :      21:00:00:20:37:d9:4a:fa ()
node-wwn :              20:00:00:20:37:d9:4a:fa
class :                 3
node-ip-addr :          0.0.0.0
fc4-types:fc4_features : FCP
symbolic-port-name :    (NULL)
symbolic-node-name :    (NULL)
port-type :             NL
port-ip-addr :          0.0.0.0
fabric-port-wwn :       20:01:00:c0:dd:06:fc:00
-----
FCID:0x0101e8
-----
port-wwn (vendor) :      21:00:00:20:37:d9:4c:02 ()
node-wwn :              20:00:00:20:37:d9:4c:02
class :                 3
node-ip-addr :          0.0.0.0
fc4-types:fc4_features : FCP
symbolic-port-name :    (NULL)
symbolic-node-name :    (NULL)
port-type :             NL
port-ip-addr :          0.0.0.0
fabric-port-wwn :       20:01:00:c0:dd:06:fc:00
```

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The following is sample output from the **show fcns database domain** command

```
switch# show fcns database domain 1
-----
FCID TYPE PWWN (VENDOR) FC4-TYPE:FEATURE
-----
0x0101e1 NL 21:00:00:20:37:d9:4f:66 FCP
0x0101e2 NL 21:00:00:20:37:d9:4d:61 FCP
0x0101e4 NL 21:00:00:20:37:d9:4a:fa FCP
0x0101e8 NL 21:00:00:20:37:d9:4c:02 FCP
Total number of entries = 4
```

[Send documentation comments to mdsfeedback-doc@cisco.com.](mailto:mdsfeedback-doc@cisco.com)

show fcs database

To display the status of the fabric configuration, use the **show fcs database** command in EXEC mode.

show fcs database

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show fcs database** command.

```
switch# show fcs database
FCS Local Database
-----
Switch WWN           : 1000000dec19cb0e
Switch Domain Id     : 105
Fabric-Name          :
Switch Logical-Name  : switch
Switch Ports:
-----
Interface  fWWN                               Type      Attached-pWWNs
-----
fc1/1      20:00:00:0d:ec:19:cb:0e              Unknown   None
fc1/2      20:01:00:0d:ec:19:cb:0e              Unknown   None
fc1/3      20:02:00:0d:ec:19:cb:0e              Unknown   None
fc1/4      20:03:00:0d:ec:19:cb:0e              Unknown   None
fc1/5      20:04:00:0d:ec:19:cb:0e              Unknown   None
fc1/6      20:05:00:0d:ec:19:cb:0e              Unknown   None
fc1/7      20:06:00:0d:ec:19:cb:0e              Unknown   None
fc1/8      20:07:00:0d:ec:19:cb:0e              Unknown   None
fc1/9      20:08:00:0d:ec:19:cb:0e              Unknown   None
fc1/10     20:09:00:0d:ec:19:cb:0e              Unknown   None
fc1/11     20:0a:00:0d:ec:19:cb:0e              Unknown   None
fc1/12     20:0b:00:0d:ec:19:cb:0e              Unknown   None
fc1/13     20:0c:00:0d:ec:19:cb:0e              Unknown   None
fc1/14     20:0d:00:0d:ec:19:cb:0e              Unknown   None
fc1/15     20:0e:00:0d:ec:19:cb:0e              Unknown   None
fc1/16     20:0f:00:0d:ec:19:cb:0e              Unknown   None
fc1/17     20:10:00:0d:ec:19:cb:0e              Unknown   None
fc1/18     20:11:00:0d:ec:19:cb:0e              Unknown   None
fc1/19     20:12:00:0d:ec:19:cb:0e              Unknown   None
fc1/20     20:13:00:0d:ec:19:cb:0e              Unknown   None
```


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show fctimer

To view the Fibre Channel timers (fctimer), use the **show fctimer** command in EXEC mode.

```
show fctimer [d_s_tov | e_d_tov | f_s_tov | r_a_tov]
```

Syntax	Description
d_s_tov	Displays the distributed services time out value (D_S_TOV) in milliseconds.
e_d_tov	Displays the error detection time out value (E_D_TOV) in milliseconds.
f_s_tov	Displays the fabric stability time out value (F_S_TOV) in milliseconds.
r_a_tov	Displays the resource allocation time out value (R_A_TOV) in milliseconds.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show fctimer** command.

```
switch# show fctimer
F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
-----
5000 ms   5000 ms   2000 ms   10000 ms
```

Related Commands	Command	Description
	fctimer	Configures fctimer parameters.

Send documentation comments to mdsfeedback-doc@cisco.com.

show fdmi database

To display the Fabric-Device Management Interface (FDMI) database information, use the **show fdmi database** command in EXEC mode.

show fdmi database [detail]

Syntax Description	detail	Specifies detailed FDMI information.
--------------------	--------	--------------------------------------

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show fdmi database** command.

```
switch# show fdmi database
Registered HBA List
 10:00:00:00:c9:32:8d:77
 21:01:00:e0:8b:2a:f6:54
```

Send documentation comments to mdsfeedback-doc@cisco.com.

The following is sample output from the **show fdmi database detail** command.

```
switch# show fdmi database detail
Registered HBA List
-----
HBA-ID: 10:00:00:00:c9:32:8d:77
-----
Node Name           :20:00:00:00:c9:32:8d:77
Manufacturer        :Emulex Corporation
Serial Num          :0000c9328d77
Model               :LP9002
Model Description:Emulex LightPulse LP9002 2 Gigabit PCI Fibre Channel Adapter
Hardware Ver        :2002606D
Driver Ver          :SLI-2 SW_DATE:Feb 27 2003, v5-2.20a12
ROM Ver             :3.11A0
Firmware Ver        :3.90A7
OS Name/Ver         :Window 2000
CT Payload Len      :1300000
Port-id: 10:00:00:00:c9:32:8d:77
-----
HBA-ID: 21:01:00:e0:8b:2a:f6:54
-----
Node Name           :20:01:00:e0:8b:2a:f6:54
Manufacturer        :QLogic Corporation
Serial Num          :\74262
Model               :QLA2342
Model Description:QLogic QLA2342 PCI Fibre Channel Adapter
Hardware Ver        :FC5010409-10
Driver Ver          :8.2.3.10 Beta 2 Test 1 DBG (W2K VI)
ROM Ver             :1.24
Firmware Ver        :03.02.13.
OS Name/Ver         :500
CT Payload Len      :2040
Port-id: 21:01:00:e0:8b:2a:f6:54
```

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show flogi database

To list all the FLOGI sessions, use the **show flogi database** command in EXEC mode.

```
show flogi database
```

Syntax Description This command had no arguments or keywords.

Defaults Displays the entire FLOGI database.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines In a Fibre Channel fabric, each host or disk requires an FC ID. Use the **show flogi database** command to verify if a storage device is displayed in the Fabric login (FLOGI) table as in the examples below. If the required device is displayed in the FLOGI table, the fabric login is successful. Examine the FLOGI database on a switch that is directly connected to the host HBA and connected ports.

Examples The following is sample output from the **show flogi database** command.

```
switch# show flogi database
-----
INTERFACE FCID PORT NAME NODE NAME
-----
fc1/2 0x6101e1 21:00:00:04:cf:03:36:2f 20:00:00:04:cf:03:36:2f
fc1/2 0x6101e2 21:00:00:04:cf:03:38:6e 20:00:00:04:cf:03:38:6e
fc1/2 0x6101e4 21:00:00:04:cf:03:38:24 20:00:00:04:cf:03:38:24
fc1/2 0x6101e8 21:00:00:04:cf:03:38:4b 20:00:00:04:cf:03:38:4b
Total number of flogi = 4
```

Related Commands	Command	Description
	show fens database	Displays all the local and remote name server entries

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show fspf

To display global FSPF information, use the **show fspf** command in EXEC mode.

```
show fspf [interface]
```

Syntax Description	interface	Displays FSPF interface information for all interfaces.
---------------------------	------------------	---

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines FSPF information includes:

- the domain number of the switch
- the autonomous region for the switch
- Min_LS_arrival: the minimum time that must elapse before the switch accepts LSR updates
- LS_refresh_time: the interval lapse between refresh LSR transmissions
- Max_age: the maximum time aa LSR can stay before being deleted

Examples The following is sample output from the **show fspf** command.

```
switch# show fspf
FSPF routing administration status is enabled
FSPF routing operational status is UP
MinLsArrival = 1000 msec , MinLsInterval = 5000 msec
Local Domain is 0x69(105)
Number of LSRs = 0

Protocol constants :
  LS_REFRESH_TIME = 30 minutes (1800 sec)
  MAX_AGE          = 60 minutes (3600 sec)

Statistics counters :
  Number of LSR that reached MaxAge = 0
  Number of SPF computations         = 0
  Number of Checksum Errors          = 0
  Number of Transmitted packets :   LSU 0 LSA 0 Hello 0 Retranmsitted LSU 0
  Number of Received packets :     LSU 0 LSA 0 Hello 0 Error Packets 0
```

Send documentation comments to mdsfeedback-doc@cisco.com.

The following is sample output from the **show fspf interface** command.

```
switch# show fspf interface

FSPF interface fc1/1
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/2
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/3
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/4
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/5
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/6
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
```

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```
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/7
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/8
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/9
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/10
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/11
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/12
FSPF routing administrative state is active
Interface cost is 0
```

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```

Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/13
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/14
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/15
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/16
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/17
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fc1/18

```


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```
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fcl/19
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0

FSPF interface fcl/20
FSPF routing administrative state is active
Interface cost is 0
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN
Neighbor Domain Id is 0x0(0), Neighbor Interface index is 0x00000000

Statistics counters :
  Number of packets received : LSU 0 LSA 0 Hello 0 Error packets 0
  Number of packets transmitted : LSU 0 LSA 0 Hello 0 Retransmitted LSU 0
```

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show hardware

To display switch hardware inventory details, use the **show hardware** command in EXEC mode.

show hardware

Syntax Description	This command had no arguments or keywords.
Defaults	No default behavior or values.
Command Modes	EXEC
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following is sample output from the **show hardware** command

```
switch# show hardware
Cisco MDS 9000 FabricWare
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Software
  system:    2.1(2)
  system compile time:  Thu Apr 21 12:48:49 2005

Hardware
  switch uptime is 0 days 5 hours 44 minute(s) 42 second(s)

  Last reset at 20682 usecs after Mon Apr 25 11:01:12 2005
  Reason: PowerUp

-----
Switch hardware ID information
-----

MDS Switch is booted up
  Model number is DS-C9020-20K9
  H/W version is -----
  Part Number is 74-3811-01
  Part Revision is A0
  Serial number is 0426a07855
  CLEI code is COMMM00ARA
```

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show interface

You can check the status of an interface at any time by using the **show interface** command in EXEC mode.

```
show interface {[brief] | counters [brief] | description | fc 1/port [brief] | mgmt 0 | transceiver}
```

Syntax	Description
brief	Displays brief information.
counters	Displays the interface counter information.
description	Displays the interface description.
fc	Displays interface information for all ports.
1/port	Specifies slot 1 and the port number. The port number is in the range 1 to 20.
mgmt 0	Displays management interface 0 information.
transceiver	Displays the transceiver information for all interfaces.

Defaults Displays information for all interfaces on the switch.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show interface fc** command.

```
switch# show interface fc 1/11
fc1/11 is Down (Administratively down)
  Port WWN is 20:0a:00:0d:ec:19:cb:0e
  Admin port mode is auto
  Receive data field Size is 2112
  Beacon is turned off
  5 minutes input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
  5 minutes output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    0 frames input, 0 bytes
      0 discards, 0 errors
      0 CRC
      0 too long, 0 too short
    0 frames output, 0 bytes
      0 errors
  0 input OLS, 0 LRR, 0 loop inits
  5 output OLS, 0 LRR, 1 loop inits
```

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The following is sample output from the **show interface description** command.

```
switch# show interface description
-----
Interface Description
-----
fc1/1    fc1/1
fc1/2    fc1/2
fc1/3    fc1/3
fc1/4    fc1/4
fc1/5    fc1/5
fc1/6    fc1/6
fc1/7    fc1/7
fc1/8    fc1/8
fc1/9    fc1/9
fc1/10   fc1/10
fc1/11   fc1/11
fc1/12   fc1/12
fc1/13   fc1/13
fc1/14   fc1/14
fc1/15   fc1/15
fc1/16   fc1/16
fc1/17   fc1/17
fc1/18   fc1/18
fc1/19   fc1/19
fc1/20   fc1/20
```

The following is sample output from the **show interface brief** command.

```
switch# show interface brief
-----
Interface  Admin      Status      FCOT  Oper  Oper
          Mode                               Mode  Speed
          (Gbps)
-----
fc1/1     auto      down        lw1   --
fc1/2     auto      down        sw1   --
fc1/3     auto      down        --    --
fc1/4     auto      down        --    --
fc1/5     auto      down        --    --
fc1/6     auto      down        --    --
fc1/7     auto      down        --    --
fc1/8     auto      down        --    --
fc1/9     auto      down        sw1   --
fc1/10    auto      down        --    --
fc1/11    auto      down        --    --
fc1/12    auto      down        --    --
fc1/13    auto      down        unk   --
fc1/14    auto      down        --    --
fc1/15    auto      down        --    --
fc1/16    auto      down        sw1   --
fc1/17    auto      down        --    --
fc1/18    auto      down        --    --
fc1/19    auto      down        --    --
fc1/20    auto      down        elec  --

-----
Interface      Status      IP Address
-----
mgmt0          up          10.20.83.122
```

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The following is sample output from the **show interface counters brief** command.

```
switch# show interface counters brief
```

Interface	Input (rate is 5 min avg)		Output (rate is 5 min avg)	
	Rate MB/s	Total Frames	Rate MB/s	Total Frames
fc1/1	0	0	0	0
fc1/2	0	0	0	0
fc1/3	0	0	0	0
fc1/4	0	0	0	0
fc1/5	0	0	0	0
fc1/6	0	0	0	0
fc1/7	0	0	0	0
fc1/8	0	0	0	0
fc1/9	0	0	0	0
fc1/10	0	0	0	0
fc1/11	0	0	0	0
fc1/12	0	0	0	0
fc1/13	0	0	0	0
fc1/14	0	0	0	0
fc1/15	0	0	0	0
fc1/16	0	0	0	0
fc1/17	0	0	0	0
fc1/18	0	0	0	0
fc1/19	0	0	0	0
fc1/20	0	0	0	0

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The following is sample output from the **show interface transceiver** command.

```
switch# show interface transceiver
fc1/1 sfp is present but not supported
  name is FINISAR CORP.
  part number is FTRJ-8519-3-2.5
  revision is X1
  serial number is E113LSF
  vendor specific data (bytes 96-127)
    0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF
    0xFF 0xFF 0xFF 0xFF 0xFF 0x00 0x00 0x00
    0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
    0x00 0x00 0xFF 0xFF 0xFF 0xFF 0xA7 0xCE

fc1/2 sfp is present but not supported
  name is FINISAR CORP.
  part number is FTRJ-8519-3-2.5
  revision is X1
  serial number is H112UZ3
  vendor specific data (bytes 96-127)
    0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF
    0xFF 0xFF 0xFF 0xFF 0xFF 0x00 0x00 0x00
    0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
    0x00 0x00 0xFF 0xFF 0xFF 0xFF 0xA7 0xCE

fc1/3 sfp is not present
fc1/4 sfp is not present
fc1/5 sfp is not present
fc1/6 sfp is not present
fc1/7 sfp is not present
fc1/8 sfp is not present
fc1/9 sfp is present but not supported
  name is FINISAR CORP.
  part number is FTRJ8524P2BNL
  revision is A
  serial number is P6G2333
  vendor specific data (bytes 96-127)
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

fc1/10 sfp is not present
fc1/11 sfp is not present
fc1/12 sfp is not present
fc1/13 sfp is present but not supported
  name is
  part number is
  revision is
  serial number is
  vendor specific data (bytes 96-127)
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
    0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00

fc1/14 sfp is not present
fc1/15 sfp is not present
fc1/16 sfp is present but not supported
  name is FINISAR CORP.
  part number is FTRJ-8519-3-2.5
  revision is X1
  serial number is E113GL5
  vendor specific data (bytes 96-127)
```

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```
0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF
0xFF 0xFF 0xFF 0xFF 0xFF 0x00 0x00 0x00
0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0xFF 0x00
0x00 0x00 0xFF 0xFF 0xFF 0xFF 0xA7 0xCE
```

```
fc1/17 sfp is not present
fc1/18 sfp is not present
fc1/19 sfp is not present
fc1/20 sfp is present but not supported
      name is Molex Inc.
      part number is 74720-0502
      revision is D
      serial number is 33281334
      vendor specific data (bytes 96-127)
        0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
        0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
        0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
        0x00 0x00 0x00 0x00 0x00 0x00 0x00 0x00
```

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show ip access-list

To display the IP access control lists (IP-ACLs) currently active, use the **show ip access-list** command in EXEC mode.

```
show ip access-list [list-name | usage]
```

Syntax Description	
<i>list-name</i>	IP access list name. Maximum length is 64 characters.
usage	Access list usage.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show ip access-list usage** command.

```
switch# show ip access-list usage
Access List Name/Number      Filters IF   Status      Creation Time
-----
abc                          3          7   active     Tue Jun 24 17:51:40 2005
x1                            3          1   active     Tue Jun 24 18:32:25 2005
x3                            0          1   not-ready  Tue Jun 24 18:32:28 2005
```

The following is sample output from the **show ip access-list** command.

```
switch# show ip access-list abc
ip access-list abc permit tcp any any (0 matches)
ip access-list abc permit udp any any (0 matches)
ip access-list abc permit icmp any any (0 matches)
ip access-list abc permit ip 10.1.1.0 0.0.0.255 (2 matches)
ip access-list abc permit ip 10.3.70.0 0.0.0.255 (7 matches)
```


Send documentation comments to mdsfeedback-doc@cisco.com.

show ip route

To display the IP routing information, use the **show ip route** command in EXEC mode.

show ip route

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show ip route** command.

```
switch# show ip route
Codes: C - connected, S - static

Default gateway is 10.20.83.1

C 10.20.83.0/24 is directly connected, mgmt0
```

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show logging

To display the current message logging configuration, use the **show logging** command in EXEC mode.

show logging [**info** | **last lines** | **level** | **logfile** | **monitor** | **server**]

Syntax Description		
info		Displays logging configuration.
last lines		Displays last few lines of logfile. The range is 1 to 9999.
level		Displays logging level configuration.
logfile		Displays contents of logfile.
monitor		Displays monitor logging configuration.
server		Displays server logging configuration.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Send documentation comments to mdsfeedback-doc@cisco.com.

Examples

The following is sample output from the **show logging** command.

```
switch# show logging
Logging monitor:          disabled
Logging server:          disabled
Logging logfile:         enabled (Severity: critical)

Facility      Default Severity      Current Session Severity
-----
fcns          6                      2
fcs           6                      2
zone         6                      2
auth         6                      2
ipconf       6                      2
module       6                      2
ntp          6                      2
sysmgr       6                      2
user         6                      2
port         6                      2
fcdomain     6                      2
fspf         6                      2
```

```
[1][Mon Apr 25 11:02:03.228 UTC 2005][I][8400.0022][Switch][Successful login user
(admin@OB-session1) with admin privi
lege]
[2][Mon Apr 25 11:02:03.337 UTC 2005][W][8A00.0000][CLI][Error while processing 'copy'
command: Source file does not exist]
[3][Mon Apr 25 11:02:03.358 UTC 2005][A][1005.0040][Port: if1/2][Unsupported SFP within
port.]
[4][Mon Apr 25 11:02:03.393 UTC 2005][A][1005.0040][Port: if1/9][Unsupported SFP within
port.]
[5][Mon Apr 25 11:02:03.431 UTC 2005][A][1005.0040][Port: if1/13][Unsupported SFP within
port.]
```

The following is sample output from the **show logging info** command.

```
switch# show logging info
Logging monitor:          disabled
Logging server:          disabled
Logging logfile:         enabled (Severity: critical)

Facility      Default Severity      Current Session Severity
-----
fcns          6                      2
fcs           6                      2
zone         6                      2
auth         6                      2
ipconf       6                      2
module       6                      2
ntp          6                      2
sysmgr       6                      2
user         6                      2
port         6                      2
fcdomain     6                      2
fspf         6                      2
```

The following is sample output from the **show logging last** command.

```
switch# show logging last 2
[7][Fri Jan 21 22:45:07.672 UTC 2005][I][8400.0023][Switch][Successful login user
(admin@OB-session3) with admin privilege from address 10.0.0.254]
[8][Fri Jan 21 22:49:06.768 UTC 2005][I][8400.0023][Switch][Successful login user
(maint@OB-session4) with admin privilege from address 10.0.0.254]
```

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The following is sample output from the **show logging monitor** command.

```
switch# show logging monitor
Logging monitor:          enabled
```

The following is sample output from the **show logging server** command.

```
switch# show logging server
Logging server:          disabled
```

Related Commands

Command	Description
logging level	Configures the message facility name and severity level.
logging monitor	Configures the message severity level.
logging server	Configures the IP address of the remote logging host running syslog.

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show module

To verify the status of a module, use the **show module** command in EXEC mode.

show module [uptime]

Syntax Description	uptime	Displays the length of time that the module has been functional in the switch.
--------------------	--------	--

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines Use the **uptime** option to display the time that a module goes online after a disruptive upgrade or reset.

Examples The following is sample output from the **show module** command.

```
switch# show module
Mod  Ports  Module-Type                Model                Status
---  ---
1    20     1/2/4 Gbps FC/Supervisor     DS-C9020-20K9       active *

Mod  Sw          Hw          World-Wide-Name (WWN)
---  ---
1    2.1(2)     -----  10:00:00:0d:ec:19:cb:01

Mod  MAC-Address                Serial-Num
---  ---
1    00-c0-dd-03-d4-e4         0426a07855

* this terminal session
```

The following is sample output from the **show module uptime** command.

```
switch# show module uptime
----- Module 1 -----
Module Start Time:  Mon Apr 25 11:01:12 2005
Up Time:           0 days, 9 hours, 7 minutes, 56 seconds
```

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show processes

To display general information about all the processes, use the **show processes** command in EXEC mode.

```
show processes {log [details]}
```

Syntax	Description
log	Displays information about process logs or backtrace files.
details	Displays detailed process log information.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show processes** command.

```
switch# show processes
PID  PPID  %CPU   TIME      ELAPSED  COMMAND
178  148   0.0   00:00:00   09:46:25  cns
179  148   0.0   00:00:00   09:46:25  ens
180  148   0.0   00:00:00   09:46:25  dlog
181  148   0.0   00:00:05   09:46:24  ds
182  148   0.0   00:00:02   09:46:24  mgmtApp
183  148   0.0   00:00:00   09:46:24  sys2swlog
236  148   0.0   00:00:00   09:45:38  fc2
237  148   0.0   00:00:00   09:45:38  nserver
238  148   0.0   00:00:00   09:45:38  mserver
239  148   0.0   00:00:00   09:45:38  util
240  148   0.0   00:00:01   09:45:37  snmpservicepath
241  148   0.0   00:00:00   09:45:37  eport
242  148   0.0   00:00:00   09:45:37  PortApp
243  148   0.0   00:00:00   09:45:37  port_mon
244  148   0.0   00:00:00   09:45:37  zoning
245  148   0.0   00:00:00   09:45:37  diagApp
265  148   0.0   00:00:00   09:45:31  snmpd
266  148   0.0   00:00:00   09:45:31  snmpmain
269  266   0.0   00:00:00   09:45:29  snmpmain
270  269   0.0   00:00:00   09:45:29  snmpmain
```

The following is sample output from the **show processes log** command.

```
switch# show processes log
Process                Log-create-time
-----
backtrace-clishco     Tue Apr 26 18:45:39 2005
```

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show radius-server

To display all configured RADIUS server parameters, use the **show radius-server** command in EXEC mode.

show radius-server

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines Only administrators can view the RADIUS pre-shared key.

Examples The following is sample output from the **show radius-server** command.

```
switch# show radius-server
total number of servers:2
following RADIUS servers are configured:
  10.20.11.5:
    available for authentication on port:1812
    available for accounting on port:1813
    RADIUS shared secret:
    timeout:2
    retries:0
  10.20.11.7:
    available for authentication on port:1812
    available for accounting on port:1813
    RADIUS shared secret:
    timeout:2
    retries:0
```

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show running-config

To display the running configuration file, use the **show running-config** command in EXEC mode.

show running-config [diff]

Syntax Description	diff	Displays the difference between the running and startup configurations.
--------------------	------	---

Defaults	No default behavior or values.
----------	--------------------------------

Command Modes	EXEC
---------------	------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
-----------------	--

Usage Guidelines	If the running configuration is different from the startup configuration, enter the show startup-config diff command to view the differences.
------------------	--

Examples	The following is sample output from the show running-config command.
----------	---

```
switch# show running-config
ip default-gateway 10.20.83.1
logging level fcdomain 2
logging level fspf 2
logging level fcns 2
logging level fcs 2
logging level port 2
logging level zone 2
logging level auth 2
logging level ipconf 2
logging level module 2
logging level ntp 2
logging level sysmgr 2
interface mgmt0
  ip address 10.20.83.122 255.255.255.0
interface fc1/1
interface fc1/2
interface fc1/3
interface fc1/4
interface fc1/5
interface fc1/6
interface fc1/7
interface fc1/8
interface fc1/9
interface fc1/10
interface fc1/11
interface fc1/12
interface fc1/13
interface fc1/14
interface fc1/15
```


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```
interface fc1/16
interface fc1/17
interface fc1/18
interface fc1/19
interface fc1/20
```

The following is sample output from the **show running-config diff** command.

```
switch# show running-config diff
switchname rtp-9020-top
 ip default-gateway 172.18.172.1
 ssh server enable
 logging level fcdomain 2
 logging level fspf 2
 logging level fcns 2
 logging level fcs 2
 logging level port 2
 logging level zone 2
 logging level auth 2
 logging level ipconf 2
 logging level module 2
 logging level ntp 2
 logging level sysmgr 2
 snmp-server community public ro
 snmp-server community private rw
 interface mgmt0
   ip address 172.18.172.160 255.255.255.0
   no shutdown
 interface fc1/1
+  no shutdown
 interface fc1/2
 interface fc1/3
 interface fc1/4
 interface fc1/5
 interface fc1/6
 interface fc1/7
 interface fc1/8
 interface fc1/9
 interface fc1/10
 interface fc1/11
 interface fc1/12
 interface fc1/13
 interface fc1/14
 interface fc1/15
 interface fc1/16
 interface fc1/17
 interface fc1/18
 interface fc1/19
 interface fc1/20
```

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show snmp

To display SNMP status and setting information, use the **show snmp** command in EXEC mode.

```
show snmp [community | host | user]
```

Syntax Description	community	Displays SNMP community strings.
	host	Displays SNMP host information.
	user	Displays SNMP users.

Defaults Displays the system contact, system location, and community information.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show snmp** command.

```
switch# show snmp

sys contact: <sysContact undefined>
sys location: <sysLocation undefined>

Community                               Group/Access
-----                               -
public                                   network-operator
```

The following is sample output from the **show snmp community** command.

```
switch# show snmp community

Community      Group/Access
-----      -
public        network-operator
```

The following is sample output from the **show snmp user** command.

```
switch# show snmp user

Host                               Port  Version  Type   SecName
-----                               -
10.0.0.254                         162   2c       trap   public
```

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The following is sample output from the **show snmp host** command.

```
switch# show snmp host
Host                               Port Version  Level  Type  SecName
-----
172.16.126.34                       2162 v2c      noauth trap  public
172.16.75.106                       2162 v2c      noauth trap  public
172.31.124.81                       2162 v2c      noauth trap  public
172.31.157.193                      2162 v2c      noauth trap  public
172.31.157.98                       2162 v2c      noauth trap  public
172.31.49.25                        2162 v2c      noauth trap  public
172.31.49.32                        2188 v2c      noauth trap  public
172.31.49.49                        2162 v2c      noauth trap  public
172.31.49.49                        3514 v2c      noauth trap  public
172.31.49.54                        2162 v2c      noauth trap  public
172.31.58.54                        2162 v2c      noauth trap  public
172.31.58.81                        2162 v2c      noauth trap  public
172.31.58.97                        1635 v2c      noauth trap  public
172.31.58.97                        2162 v2c      auth   trap  public
172.31.58.97                        3545 v2c      auth   trap  public
172.22.00.43                        2162 v2c      noauth trap  public
172.22.00.65                        2162 v2c      noauth trap  public
172.22.05.234                      2162 v2c      noauth trap  public
172.22.05.98                        1050 v2c      noauth trap  public
```

The following is sample output from the **show snmp user** command.

```
switch# show snmp user
User                               Group                               Auth  Priv
-----
sadmin2                            network-admin                       md5   des
sadmin                              network-admin                       md5   des
soper                               network-operator                    md5   des
```

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show sprom mgmt-module

To display the switch SPROM contents, use the **show sprom mgmt-module** command in EXEC mode.

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show sprom mgmt-module** command.

```
switch# show sprom mgmt-module
DISPLAY SAM sprom contents:
Common block:
  OEM String       : Cisco Systems, Inc.
  Product Number  : DS-C9020-20K9
  Serial Number   : 0426a07855
  Part Number     : 74-3811-01
  Part Revision   : A0
  Mfg Deviation   : 0
  H/W Version     : -----
  snmpOID        : 1.3.6.1.4.1.1663.1.1.1.1.26
  CLEI Code      : COMMM00ARA
  VID            : V01
  MAC Address    : 00-c0-dd-03-d4-e4
  WWN           : 10:00:00:0d:ec:19:cb:0e
```

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show ssh server

To display the status of the Secure Shell information (SSH) server, use the **show ssh server** command in EXEC mode.

show ssh server

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show ssh server** command.

```
switch# show ssh server  
ssh service is enabled
```

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show startup-config

To display the startup configuration file, use the **show startup-config** command in EXEC mode.

show startup-config

Syntax Description	This command had no arguments or keywords.
Defaults	No default behavior or values.
Command Modes	EXEC
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show startup-config** command.

```
switch# show startup-config
#
# Startup config
#
switchname DS-C9020-20K9

fcdomain domain 0 preferred

interface fc1/1
    no shutdown
    Auto

interface fc1/2
    no shutdown
    Auto

interface fc1/3
    no shutdown
    Fx

interface fc1/4
    no shutdown
    Auto

interface fc1/5
    no shutdown
    Auto

interface fc1/6
    no shutdown
    Auto

interface fc1/7
    no shutdown
    Auto
```

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```
interface fc1/8
  no shutdown
  Auto
```

```
interface fc1/9
  no shutdown
  Auto
```

```
interface fc1/10
  no shutdown
  Auto
```

```
interface fc1/11
  no shutdown
  Auto
```

```
interface fc1/12
  no shutdown
  Auto
```

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show switchname

To display the switch network name, use the **show switchname** command in EXEC mode.

show switchname

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show switchname** command.

```
switch# show switchname  
switch-123
```


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show system

To display the system information, use the **show system** command in EXEC mode.

```
show system [reset-reason | uptime]
```

Syntax Description	reset-reason	Displays the last reset reason code.
	uptime	Displays how long the system has been up and running.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show system reset-reason** command.

```
switch# show system reset-reason
----- reset reason for module 1 -----
1) At <USECS> usecs after Fri Jan 21 23:20:11 2005
   Reason: NormalReset
```

The following is sample output from the **show system uptime** command.

```
switch# show system uptime
System Start Time:      Mon Apr 25 11:01:12 2005
System Up Time:        0 days, 10 hours, 58 minutes, 38 seconds
Active Supervisor Up Time: 0 days, 10 hours, 58 minutes, 38 seconds
```

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show tech-support

To display information useful to technical support when reporting a problem, use the **show tech-support** command in EXEC mode.

show tech-support [**brief** | **create** | **details** | **interface** | **module 1**]

Syntax Description		
brief		Provides a summary of the current running state of the switch.
create		Creates a technical support file (dump_support.tgz) and uses FTP to send the file to a remote host.
details		Provides detailed troubleshooting information.
interface		Displays interface status and configuration information.
module 1		Displays module1 status information.

Defaults

Displays the equivalent of all the following **show** commands.

- **show version**
- **show environment**
- **show module**
- **show hardware**
- **show running-config**
- **show interface**
- **show accounting log**
- **show processes**

Command Modes

EXEC

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

The **show tech-support** command is a compilation of several **show** commands and can be quite lengthy. For a sample display of the output of the **show tech-support** command, see the individual command explanations for the commands listed under Defaults.

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Examples

The following is sample output from the **show tech-support module** command.

```
switch# show tech-support module 1
  CMD: show module 1
  ---
Mod  Ports  Module-Type                Model                Status
---  ---  ---
1    20     1/2/4 Gbps FC/Supervisor    DS-C9020-20K9       active

Mod  Sw          Hw          World-Wide-Name (WWN)
---  ---  ---  ---
1    2.1(2)     -----  10:00:00:0d:ec:19:cb:0e

Mod  MAC-Address                Serial-Num
---  ---
1    00-c0-dd-03-d4-e4          0426a07855

  CMD: show environment
  ---
Fan:
-----
Fan          Status
-----
1            Good
2            Good

Temperature:
-----
Module  CurTemp  Status
        (Celsius)
-----
1        33      ok

Power Supply:
-----
PS      Status
-----
1        ok
2        ok
```

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The following is sample output from the **show tech-support brief** command.

```
switch# show tech-support brief
  CMD: show fcs database
  ---

FCS Local Database
-----
Switch WWN           : 1000000dec19cb0e
Switch Domain Id    : 105
Fabric-Name         :
Switch Logical-Name : switch
Switch Ports:
-----
Interface  fWWN                Type      Attached-pWWNs
-----
fc1/1      20:00:00:0d:ec:19:cb:0e  Unknown  None
fc1/2      20:01:00:0d:ec:19:cb:0e  Unknown  None
fc1/3      20:02:00:0d:ec:19:cb:0e  Unknown  None
fc1/4      20:03:00:0d:ec:19:cb:0e  Unknown  None
fc1/5      20:04:00:0d:ec:19:cb:0e  Unknown  None
fc1/6      20:05:00:0d:ec:19:cb:0e  Unknown  None
fc1/7      20:06:00:0d:ec:19:cb:0e  Unknown  None
fc1/8      20:07:00:0d:ec:19:cb:0e  Unknown  None
fc1/9      20:08:00:0d:ec:19:cb:0e  Unknown  None
fc1/10     20:09:00:0d:ec:19:cb:0e  Unknown  None
fc1/11     20:0a:00:0d:ec:19:cb:0e  Unknown  None
fc1/12     20:0b:00:0d:ec:19:cb:0e  Unknown  None
fc1/13     20:0c:00:0d:ec:19:cb:0e  Unknown  None
fc1/14     20:0d:00:0d:ec:19:cb:0e  Unknown  None
fc1/15     20:0e:00:0d:ec:19:cb:0e  Unknown  None
fc1/16     20:0f:00:0d:ec:19:cb:0e  Unknown  None
fc1/17     20:10:00:0d:ec:19:cb:0e  Unknown  None
fc1/18     20:11:00:0d:ec:19:cb:0e  Unknown  None
fc1/19     20:12:00:0d:ec:19:cb:0e  Unknown  None
fc1/20     20:13:00:0d:ec:19:cb:0e  Unknown  None

  CMD: show version
  ---

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Software
  system: 2.1(2)
  system compile time: Thu Apr 21 12:48:49 2005

Hardware
  switch uptime is 0 days 11 hours 14 minute(s) 0 second(s)

  Last reset at 40440 usescs after Mon Apr 25 11:01:12 2005
  Reason: PowerUp

  CMD: show interface brief
  ---
```

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```

-----
Interface Admin      Status      FCOT Oper  Oper
          Mode                               Mode  Speed
                                        (Gbps)
-----
fc1/1      auto        down        lw1   --
fc1/2      auto        down        sw1   --
fc1/3      auto        down        --    --
fc1/4      auto        down        --    --
fc1/5      auto        down        --    --
fc1/6      auto        down        --    --
fc1/7      auto        down        --    --
fc1/8      auto        down        --    --
fc1/9      auto        down        sw1   --
fc1/10     auto        down        --    --
fc1/11     auto        down        --    --
fc1/12     auto        down        --    --
fc1/13     auto        down        unk   --
fc1/14     auto        down        --    --
fc1/15     auto        down        --    --
fc1/16     auto        down        sw1   --
fc1/17     auto        down        --    --
fc1/18     auto        down        --    --
fc1/19     auto        down        --    --
fc1/20     auto        down        elec  --
-----

```

```

-----
Interface      Status      IP Address
-----
mgmt0          up          10.20.83.122
-----

```

The following is sample output from the **show tech-support create** command.

```

switch # show tech-support create
This may take several seconds...
FTP the dump support file to another machine? (y/n) : y
Enter IP Address of remote computer: 10.20.33.130
Login name: soper1
Enter a valid remote directory path within the user's home directory.
Otherwise the file will be place in the user's home directory:
Would you like to continue downloading support file? (y/n) : y
Connected to 10.20.33.130 (10.20.33.130).
220 localhost.localdomain FTP server (Version wu-2.6.1-18) ready.
331 Password required for soper1.
Password:
230 User soper1 logged in.
cd /itasca/conf/images
Local directory now /itasca/conf/images
bin
200 Type set to I.
put dump_support.tgz
local: dump_support.tgz remote: dump_support.tgz
227 Entering Passive Mode (10,20,33,130,144,7)
150 Opening BINARY mode data connection for dump_support.tgz.
226 Transfer complete.
75614 bytes sent in 0.00731 secs (1e+04 Kbytes/sec)
Remote system type is UNIX.
Using binary mode to transfer files.
221-You have transferred 75614 bytes in 1 files.
221-Total traffic for this session was 76026 bytes in 1 transfers.
221 Thank you for using the FTP service on localhost.localdomain.

```

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show telnet server

To display the state of the Telnet access configuration, use the **show telnet server** command in EXEC mode.

show telnet server

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show telnet server** command.

```
switch# show telnet server  
telnet service is enabled
```

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show terminal

To display the terminal information, use the **show terminal** command

```
show terminal
```

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show terminal** command.

```
switch# show terminal  
  
Length: 10 lines  
Session Timeout: 0 minutes
```

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show user-account

To display configured information about user accounts, use the **show user-account** command in EXEC mode.

show user-account

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show user-account** command.

```
switch# show user-account
show user-account
user:admin
      this user account has no expiry date
roles:network-admin
```


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show users

To display all users currently accessing the switch, use the **show users** command in EXEC mode.

show users

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show users** command.

```
switch# show users
snmp@IB-session2      Mon Apr 25 11:02:07 2005 (Unknown)
snmp@OB-session3      Mon Apr 25 11:02:07 2005 (Unknown)
admin@OB-session11    Wed Apr 27 13:50:49 2005 (10.20.32.70)
```

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show version

To display the version of system software that is currently running on the switch, use the **show version** command in EXEC mode.

show version

Syntax Description	This command had no arguments or keywords.
Defaults	No default behavior or values.
Command Modes	EXEC
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following is sample output from the **show version** command.

```
switch# show version
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Software
  system: 2.1(2)
  system compile time: Thu Apr 21 12:48:49 2005

Hardware
  switch uptime is 0 days 11 hours 34 minute(s) 3 second(s)

  Last reset at 41643 usecs after Mon Apr 25 11:01:12 2005
  Reason: PowerUp
```

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show zone

To display zone information, use the **show zone** command in EXEC mode.

```
show zone [active | member {fcalias alias-name | pwwn wwn} | name string | status]
```

Syntax Description		
active		Displays zones which are part of active zone set.
member		Displays all zones to which the given member belongs.
fcalias		Displays zone members according to Fibre Channel alias.
pwwn		Displays zone members according to port worldwide name.
name		Displays members of a specified zone.
status		Displays zone server current status.
<i>alias-name</i>		Member alias name. Maximum length is 64 characters.
<i>wwn</i>		Member port worldwide name. Maximum length is 64 characters.
<i>string</i>		Zone name of up to 64 alphanumeric characters.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show zone** command.

```
switch# show zone
zone name Z1
    pwwn 10:00:00:c0:dd:07:00:f8
    fcalias name A1
        pwwn 10:00:00:c0:dd:07:00:f9
```

The following is sample output from the **show zone name** command.

```
switch# show zone name Zone1
zone name Z1
    pwwn 10:00:00:c0:dd:07:00:f8
    fcalias name A1
        pwwn 10:00:00:c0:dd:07:00:f9
    fcid 0x610005
```

The following is sample output from the **show zone member pwwn** command.

```
switch# show zone member pwwn 10:00:00:c0:dd:07:00:f9
fcalias name A1
    pwwn 10:00:00:c0:dd:07:00:f9
```

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The following is sample output from the **show zone status** command.

```
switch# show zone status
Full Zoning Database :
  Zonesets: 1 Zones: 1 Aliases: 1
Active Zoning Database:
  Name: ZS1 Zonesets: 1 Zones: 1
  Status:
```

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show zoneset

To display the configured zone sets, use the **show zoneset** command in EXEC mode.

```
show zoneset [active | name zoneset-name]
```

Syntax Description	active	Displays only active zone sets.
	name <i>zoneset-name</i>	Displays members of a specified zone set. Maximum length is 64 characters.

Defaults Displays active zone set information.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following is sample output from the **show zoneset** command.

```
switch# show zoneset

zoneset name ZS1
  zone name Z1
    pwnn 10:00:00:c0:dd:07:00:f8
    fcalias name A1
      pwnn 10:00:00:c0:dd:07:00:f9
```

The following is sample output from the **show zoneset active** command.

```
switch# show zoneset active

zoneset name ZS1
  zone name Z1
    pwnn 10:00:00:c0:dd:07:00:f8
    pwnn 10:00:00:c0:dd:07:00:f9
```

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shutdown

To disable an interface, use the **shutdown** command in interface configuration submode.

```
shutdown [force]
```

To enable an interface, use the **no** form of this command.

```
no shutdown [force]
```

Syntax Description

force	Forces the shut down of the mgmt0 interface to avoid the confirmation.
--------------	--

Defaults

No default behavior or values.

Command Modes

Interface configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

The default state for interfaces is shutdown. Use the **no shutdown** command to enable an interface to carry traffic.

When you try to shut down a management interface (mgmt0), a follow-up message confirms your action before performing the operation. Use the **force** option to bypass this confirmation, if required.

Examples

The following example shows how to enable an interface.

```
switch# config
switch(config)# interface fc 1/2
switch(config-if)# no shutdown
```

The following example shows how to disable an interface.

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# shutdown
```

The following example shows how to forcefully disable the mgmt0 interface.

```
switch# config
switch(config)# interface mgmt 0
switch(config-if)# shutdown force
```

Related Commands

Command	Description
interface	Specifies an interface and enters interface configuration submode.
show interface	Displays interface information.

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sleep

To delay an action by a specified number of seconds, use the **sleep** command in EXEC mode.

sleep *seconds*

Syntax Description	<i>seconds</i>	The number of seconds to delay an action.
---------------------------	----------------	---

Defaults	No default behavior or values.
-----------------	--------------------------------

Command Modes	EXEC
----------------------	------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	This command is useful within scripts.
-------------------------	--

Examples	The following example shows how to delay the switch prompt return.
-----------------	--

```
switch# sleep 30
```

You will see the switch prompt return after 30 seconds.

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snmp-server

To configure the SNMP server information, switch location, and switch name, use the **snmp-server** command in configuration mode.

```
snmp-server { community string [ro | rw] | contact [name] | enable traps | location [location] }
```

To remove the SNMP server information, use the **no** form of this command.

```
no snmp-server { community string [ro | rw] | contact [name] | enable traps | location [location] }
```

Syntax Description

community <i>string</i>	Specifies SNMP community string. Maximum length is 32 characters.
ro	Sets read-only access with this community string.
rw	Sets read-write access with this community string.
contact	Configures system contact.
<i>name</i>	Specifies the name of the contact. Maximum length is 80 characters.
enable traps	Enables SNMP traps.
location	Configures system location.
<i>location</i>	Specifies system location. Maximum length is 80 characters.

Defaults

The default community access is read-only (**ro**).

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following example sets the contact information, switch location, and switch name.

```
switch# config
switch(config)# snmp-server contact NewUser
switch(config)# no snmp-server contact NewUser
switch(config)# snmp-server location SanJose
switch(config)# no snmp-server location SanJose
switch(config)# snmp-server name NewName
switch(config)# no snmp-server name NewName
switch(config)# no snmp-server user usernameA
```

Related Commands

Command	Description
show snmp	Displays SNMP information.

Send documentation comments to mdsfeedback-doc@cisco.com.

snmp-server host

To specify the recipient of an Simple Network Management Protocol notification operation, use the **snmp-server host** command in configuration mode.

```
snmp-server host host-address traps version [1 | 2c] community-string [udp-port port]
```

To remove the specified host, use the **no** form of this command.

```
no snmp-server host host-address traps version [1 | 2c ] community-string [udp-port port]
```

Syntax Description		
	<i>host-address</i>	Specifies the name or IP address of the host (the targeted recipient).
	traps	Sends SNMP traps to this host.
	version	Specifies the version of the Simple Network Management Protocol (SNMP) used to send the traps.
	1	SNMPv1 (default).
	2c	SNMPv2C.
	<i>community-string</i>	Sends a password-like community string with the notification operation. Maximum length is 32 characters.
	udp-port	Specifies the port UDP port of the host to use. The default is 162.
	<i>port</i>	UDP port number. The range is 0 to 65,535.

Defaults Sends SNMP traps.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines If you use the version keyword, one of the following must be specified: **1** or **2c**.

Examples The following example specify the recipient of an SNMP notification.

```
switch# config
switch(config)# snmp-server host 10.1.1.1 traps version 2c abcddsfsf udp-port 500
```

[Send documentation comments to mdsfeedback-doc@cisco.com.](mailto:mdsfeedback-doc@cisco.com)

ssh key

To generate an SSH key, use the **ssh key** command in configuration mode.

```
ssh key rsa [bits]
```

To delete the SSH keys, use the **no** form of this command.

```
no ssh key
```

Syntax Description	rsa [bits] Generates an RSA key. The range for the number of bits is 768 to 2048.						
Defaults	No default behavior or values.						
Command Modes	Configuration						
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).						
Examples	<p>The following example shows how to generate an SSH key.</p> <pre>switch# config switch(config)# ssh key rsa 1024 generating rsa key.... generated rsa key switch(config)# switch(config)# no ssh key cleared RSA keys switch(config)#</pre>						
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>show ssh key</td> <td>Displays SSH key information.</td> </tr> <tr> <td>ssh server enable</td> <td>Enables SSH server.</td> </tr> </tbody> </table>	Command	Description	show ssh key	Displays SSH key information.	ssh server enable	Enables SSH server.
Command	Description						
show ssh key	Displays SSH key information.						
ssh server enable	Enables SSH server.						

Send documentation comments to mdsfeedback-doc@cisco.com.

ssh server enable

To enable the SSH server, use the **ssh server enable** command in configuration mode.

```
ssh server enable
```

To disable the SSH service, use the **no** form of this command.

```
no ssh server enable
```

Syntax Description This command had no arguments or keywords.

Defaults Disabled

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example enables the SSH server.

```
switch# config
switch(config)# ssh server enable
updated
switch(config)# no ssh server enable
updated
```

Related Commands	Command	Description
	show ssh server	Displays SSH server information.
	ssh key	Generates an SSH key.

Send documentation comments to mdsfeedback-doc@cisco.com.

switchname

To change the name of the switch, use the **switchname** command in configuration mode.

switchname *name*

To revert the switch name to the default name, use the **no** form of this command.

no switchname

Syntax Description	<i>name</i> Specifies a switch name. Maximum length is 32 characters.				
Defaults	switch.				
Command Modes	Configuration				
Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).				
Examples	<p>The following example changes the name of the switch to myswitch1.</p> <pre>switch# config switch(config)# switchname myswitch1 myswitch1(config)# myswitch1(config)# no switchname switch(config)#</pre>				
Related Commands	<table border="1"> <thead> <tr> <th>Command</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>snmp-server</td> <td>Sets the contact information, switch location, and switch name within the limit of 32 characters (without spaces).</td> </tr> </tbody> </table>	Command	Description	snmp-server	Sets the contact information, switch location, and switch name within the limit of 32 characters (without spaces).
Command	Description				
snmp-server	Sets the contact information, switch location, and switch name within the limit of 32 characters (without spaces).				

[Send documentation comments to mdsfeedback-doc@cisco.com.](mailto:mdsfeedback-doc@cisco.com)

switchport

To configure switchport parameter on a Fibre Channel interface, use the **switchport** command in interface configuration submode.

```
switchport { beacon |
  description text |
  mode [ auto | E | F | FL | Fx ] |
  speed [ 1000 | 2000 | 4000 | auto ] }
```

To negate this command or revert to the factory defaults, use the **no** form of this command.

```
no switchport [ beacon | description | mode | speed ]
```

Syntax Description

beacon	Enables the beacon for the interface.
description <i>text</i>	Specifies the interface description. Maximum length is 32 characters with no embedded spaces.
mode	Configures the port mode.
auto	Specifies autosense mode.
E	Specifies E port mode.
F	Specifies F port mode.
FL	Specifies FL port mode.
Fx	Specifies Fx port mode.
speed	Configures the port speed.
1000	Specifies 1000 Mbps speed.
2000	Specifies 2000 Mbps speed.
4000	Specifies 4000 Mbps speed.
auto	Specifies autosense speed.

Defaults

The beacon is disabled.
The mode is **auto**.
The speed is **auto**.

Command Modes

Interface configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

You can specify a range of interfaces by entering a command with the following example format:
interface fc1/1-5

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Examples

The following example configures switchport features for a Fibre Channel interface.

```
switch# config
switch(config)# interface fc1/1-4
switch(config-if)# switchport description ISLs
switch(config-if)# switchport mode E
switch(config-if)# switchport speed 4000
```

Related Commands

Command	Description
show interface	Displays an interface configuration for a specified interface.

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telnet server enable

To enable the Telnet server, use the **telnet server enable** command in configuration mode.

telnet server enable

To disable this Telnet server, use the **no telnet server** command.

no telnet server enable

Syntax Description This command had no arguments or keywords.

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example enables the Telnet server.

```
switch(config)# telnet server enable
```

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terminal

To configure terminal attributes, use the **terminal** command in EXEC mode.

terminal [**length** *lines* | **session-timeout** *minutes*]

To revert to the defaults, use the **no** form of this command.

no terminal [**length** | **session-timeout**]

Syntax Description	length <i>lines</i>	session-timeout
	Specifies the number of lines on the screen. The range is 0 to 511. Enter 0 to scroll continuously.	Specifies the session timeout value in minutes. The range is 0 to 525600. Enter 0 to disable.

Defaults

The default number of lines for the length is 20. The default width is 80 lines.

Command Modes

EXEC

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

Remember that all terminal parameter-setting commands are set locally and do not remain in effect after a session is ended. You must perform this task at the EXEC prompt at each session to see the debugging messages.

If the length is not 20 and the width is not 80, then you need to set a length and width.

Examples

The following example sets the terminal length to 30.

```
switch# terminal length 30
```

Related Commands

Command	Description
show terminal	Displays terminal configuration information.

Send documentation comments to mdsfeedback-doc@cisco.com.

username

To define a user, use the **username** command in configuration mode.

```
username name {password user-password | [expire days] | role rolename}
```

To undo the configuration or revert to factory defaults, use the **no** form of this command.

```
no username name {expire days | password user-password [expire date] | role rolename}
```

Syntax Description

<i>name</i>	Specifies the name of the user. Maximum length is 16 characters.
password	Configures a password for the user.
<i>user-password</i>	Enters the password. The minimum password length is 8 characters and the maximum is 20.
expire <i>days</i>	Specifies the date when this user account expires (in YYYY-MM-DD format). The date can be no more than 2000 days into the future.
role	Specifies the role name of the user.
<i>rolename</i>	Role name. Only two role names are supported: network-operator and network-administrator. Maximum length is 32 characters.

Defaults

No default behavior or values.

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

Deleting a user using either command results in the user being deleted for both SNMP and CLI. User-role mapping changes are synchronized in SNMP and CLI.

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Examples

The following example shows how to define a user.

```
switch(config)# username knuckles password testpw role network-operator
switch(config)# do show user-account
user:admin
    this user account has no expiry date
    roles:network-admin
user:knuckles
    this user account has no expiry date
    roles:network-operator
```

The following example creates or updates the user account (usam) along with a password (abcd) that is set to expire on 2003-05-31.

```
switch(config)# username usam password abcd expire 2005-05-31
```

The following example adds the specified user (usam) to the network-admin role.

```
switch(config)# username usam role network-admin
```

Related Commands

Command	Description
show username	Displays user name information.

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write erase

To clear a startup configuration, enter the **write erase** command in EXEC mode.

write erase [boot]

Syntax Description	boot	Destroys the startup file and mgmt0 IP configuration.
---------------------------	-------------	---

Defaults	No default behavior or values.
-----------------	--------------------------------

Command Modes	EXEC
----------------------	------

Command History	This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).
------------------------	--

Usage Guidelines	Once this command is entered, the switch's startup configuration reverts to factory defaults. The running configuration is not affected. The write erase command erases the entire startup configuration with the exception of the IP configuration of the mgmt0 IP configuration (IP address, netmask, and default gateway).
-------------------------	--

The **write erase boot** command erases the mgmt0 IP configuration information (IP address, netmask, and default gateway) and the startup configuration.

Examples	The following example clears only the startup configuration.
-----------------	--

```
switch# write erase
```

The following example clears the startup configuration and the mgmt0 IP configuration.

```
switch# write erase boot
```

This command will erase the boot variables and the ip configuration of interface mgmt 0

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zone default-zone

To define whether a default zone (nodes not assigned a created zone) permits or denies access to all in the default zone, use the **zone default-zone** command in configuration mode.

zone default-zone [permit]

To negate the command or revert to the factory defaults, use the **no** form of this command.

no zone default-zone [permit]

Syntax Description

permit	Permits access to all in the default zone.
---------------	--

Defaults

All default zones are permitted access.

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples

The following example permits default zoning.

```
switch# config
switch(config)# zone default-zone permit
```

Related Commands

Command	Description
show zone	Displays zone information.

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zone name

To create a zone, use the **zone name** command in configuration mode.

zone name *zone-name*

To negate the command or revert to the factory defaults, use the **no** form of this command.

no zone name *zone-name*

Entering the **zone name** command opens the config-zone submode which provides access to the following subcommand:

member [**fc**alias *alias-name* | **pwwn** *pwwn-id*]

Syntax Description		
<i>zone-name</i>		Specifies the name of the zone and opens the config-zonet submode. Maximum length is 64 characters.
member		Adds a member to a zone. This command is available only in the config-zone submode.
fc alias <i>alias-name</i>		Adds a member using the device alias name.
pwwn <i>pwwn-id</i>		Adds a member using the port WWN in the format <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .

Defaults

No default behavior or values.

Command Modes

Configuration

Command History

This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines

Zones are assigned to zone sets, zone sets are then activated from one switch and propagate across the fabric to all switches. Zones allow security by permitting and denying access between nodes (hosts and storage). **zone name** commands are entered from the configuration mode.

Broadcast frames are sent to all Nx ports.

If any NL port attached to an FL port shares a broadcast zone with the source of the broadcast frame, then the frames are broadcast to all devices in the loop.

zone name

Send documentation comments to mdsfeedback-doc@cisco.com.

Examples

The following example configures members for the specified zone (Zone2) based on the member type (pWWN or FC alias) and value specified.

```
switch# config
switch(config)# zone name Zone2
switch(config-zone)# member pwwn 10:00:00:23:45:67:89:ab
switch(config-zone)# member fcalias Payroll
```

Related Commands

Command	Description
show zone	Displays zone information.
zone rename	Renames zones.

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zone rename

To rename a zone, use the **zone rename** command in EXEC mode.

```
zone rename current-name new-name
```

Syntax Description		
	<i>current-name</i>	Specifies the current fcalias name. Maximum length is 64 characters.
	<i>new-name</i>	Specifies the new fcalias name. Maximum length is 64 characters.

Defaults No default behavior or values.

Command Modes EXEC

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Examples The following example shows how to rename a zone.

```
switch# zone rename ZoneA ZoneB
```

Related Commands	Command	Description
	show zone	Displays zone information.
	zone name	Creates and configures zones.

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zoneset

To group zones under one zone set, use the **zoneset** command in configuration mode.

```
zoneset [name zoneset-name |
         activate name zoneset-name |
         distribute full |
         rename current-name new-name]
```

To negate the command or revert to the factory defaults, use the **no** form of this command.

```
no zoneset [name zoneset-name |
            activate name zoneset-name |
            distribute full |
            rename current-name new-name]
```

Entering the **zoneset name zoneset-name** command opens the config-zoneset submode which provides access to the member subcommand:

```
member [fcalias alias-name | pwwn pwwn-id]
```

Syntax Description	
name <i>zoneset-name</i>	Creates the zone set and opens the config-zoneset submode. Maximum length is 64 characters.
activate <i>zoneset-name</i>	Activates a zone set.
distribute full	Enables full zone set propagation. Zone set propagation occurs when a zone set is activated.
member <i>zone-name</i>	Specifies an existing zone as a zone set member. This command is available only in the config-zoneset submode.
rename	Renames a zone set.
<i>current-name</i>	Specifies the current zone set name.
<i>new-name</i>	Specifies the new zone set name.

Defaults No default behavior or values.

Command Modes Configuration

Command History This command was introduced in Cisco MDS 9000 FabricWare Release 2.1(2).

Usage Guidelines Zones are activated by activating the parent zone set.

Send documentation comments to mdsfeedback-doc@cisco.com.**Examples**

The following example creates a zone set named gottons, adds a zone, and activates the zone set.

```
switch# config
switch(config)# zoneset name gottons
switch(config-zone)# member zone1
switch(config-zone)# exit
switch(config)# zoneset activate name gottons
Zoneset Activation initiated. check zone status
```

Related Commands

Command	Description
show zoneset	Displays zone set information.

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