P Commands

The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. 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. For more information, refer to the *Cisco MDS 9000 Family Configuration Guide*.

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passive-mode

To configure the required mode to initiate an IP connection, use the **passive-mode** option. To enable passive mode for the FCIP interface, use the **no** form of the option.

passive-mode

no passive-mode

Syntax Description

passive-mode	Configures a passive connection.

Defaults

Disabled

Command Modes

Configuration mode

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

Usage Guidelines

Access this command from the `switch(config-if)#` submode.

By default, the active mode is enabled to actively attempt an IP connection.

If you enable the passive mode, the switch does not initiate a TCP connection and merely waits for the peer to connect to it.

Examples

```
switch# config t
switch(config)# interface fcip 1
switch(config-if)# passive-mode
```

Related Commands

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

peer-info

To configure the peer information for the FCIP interface, use the **passive-mode** option. To disable the passive mode for the FCIP interface, use the **no** form of the option.

peer-info ipaddress *address* | **port** *number*

no peer-info ipaddress *address* | **port** *number*

Syntax Description

peer-info	Configures the peer information.
ipaddress	Configures the peer IP address.
address	Enters the IP address.
port	Configures a peer port.
number	Enters the peer port number from 1 to 65535.

Defaults

None.

Command Modes

Configuration mode

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

Usage Guidelines

Access this command from the `switch(config-if)#` submode.

The basic FCIP configuration uses the peer's IP address to configure the peer information. You can also use the peer's port number, port profile ID, or port WWN to configure the peer information. If you do not specify a port, the default 3225 port number is used to establish connection.

Examples

The following command assigns an IP address to configure the peer information. Since no port is specified, the default port number, 3225, is used.

```
switch(config-if)# peer-info ipaddr 10.1.1.1
```

The following command deletes the assigned peer port information.

```
switch(config-if)# no peer-info ipaddr 10.10.1.1
```

The following command assigns the IP address and sets the peer TCP port to 3000. The valid port number range is from 0 to 65535.

```
switch(config-if)# peer-info ipaddr 10.1.1.1 port 3000
```

The following command deletes the assigned peer port information.

```
switch(config-if)# no peer-info ipaddr 10.1.1.1 port 2000
```

The following command assigns the peer profile ID to connect to 20. The valid range is from 1 to 255

```
switch(config-if)# peer-info profile_id 20
```

The following command deletes the assigned peer profile ID information.

```
switch(config-if)# no peer-info profile_id 500
```

Related Commands

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

ping

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

ping {*host-name* | *system-address***}**

Syntax Description

host-name	Host name of system to ping. Maximum length is 64 characters.
system-address	Address of system to ping.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(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): 56 data bytes
64 bytes from 192.168.7.27: icmp_seq=0 ttl=255 time=0.4 ms
64 bytes from 192.168.7.27: icmp_seq=1 ttl=255 time=0.2 ms
64 bytes from 192.168.7.27: icmp_seq=2 ttl=255 time=0.2 ms
64 bytes from 192.168.7.27: icmp_seq=3 ttl=255 time=0.2 ms

--- 192.168.7.27 ping statistics ---
13 packets transmitted, 13 packets received, 0% packet loss
round-trip min/avg/max = 0.2/0.2/0.4 ms
```

port

To assign the port number of a Gigabit Ethernet interface to the FCIP profile, use the **port** command. Use the **no** form of the command to negate the command or revert to factory defaults.

port *number*

no port *number*

Syntax Description

port	Configures a peer port.
number	Enters the peer port number from 1 to 65535.

Defaults

Disabled

Command Modes

Configuration mode—fcip profile submode

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

Usage Guidelines

Associates the profile with the assigned local port number. If a port number is not assigned for a FCIP profile, the default TCP port 3225 is used.

Examples

```
switch## config t

switch(config)# fcip profile 5

switch(config-profile)# port 5000
```

Related Commands

Command	Description
show fcip profile	Displays information about the FCIP profile.
interface fcip *interface_number* **use-profile** *profile-id*	Configures the interface using an existing profile ID from 1 to 255.
show interface fcip	Displays an interface configuration for a specified FCIP interface.

port-security

To configure port security features and reject intrusion attempts, use the **port-security** command in configuration mode. Use the **no** form of the command to negate the command or revert to factory defaults.

port-security
activate vsan *vsan-id* **[force | no-auto-learn] |**
auto-learn vsan *vsan-id* **|**
database *vsan-id* [**swwn** *wwn* **| any-wwn | pwwn** *wwn* **| fwwn** *wwn* **| | nwwn** *wwn* **interface** *slot/port* **| port-channel** *number* **]**

no port-security
activate vsan *vsan-id* **[force | no-auto-learn] |**
auto-learn vsan *vsan-id* **|**
database *vsan-id* [**swwn** *wwn* **| any-wwn | pwwn** *wwn* **| fwwn** *wwn* **| | nwwn** *wwn* **interface** *slot/port* **| port-channel** *number* **]**

Syntax Description

activate	Activates a port security database for the specified VSAN and automatically enables auto-learn.
auto-learn	Enables auto-learning for the specified VSAN.
database	Enters the port security database configuration mode for the specified VSAN.
swwn *wwn*	Specifies the switch WWN as the xE port connection.
any-wwn	Specifies any WWN to login to the switch.
pwwn *wwn*	Specifies the port WWN as the Nx port connection.
nwwn *wwn*	Specifies the node WWN as the Nx port connection.
fwwn *wwn*	Specifies a fabric WWN login.
interface *slot/port*	Specifies the device or switch port interface through which each device is connected to the switch.
port-channel *number*	Specifies a PortChannel login.
vsan *vsan-id*	Specifies the VSAN ID (ranges from 1 to 4093).
force	Forces the database activation.
no-auto-learn	Disables the auto-learn feature for the port security database.

Defaults

None.

Command Modes

Configuration mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

Usage Guidelines

When you activate the port security feature, the **auto-learn** option is also automatically enabled. You can choose to activate the port-security feature and disable **auto-learn** using the **port-security activate vsan** *number* **no-auto-learn** command. In this case, you need to manually populate the port security database by individually securing each port.

If the **auto-learn** option is enabled on a VSAN, you cannot activate the database for that VSAN without the **force** option.

Examples

The following example activates the port security database for the specified VSAN, and automatically enables auto-learn.

```
switch# config t
switch(config)# port-security activate vsan 1
```

The following example deactivates the port security database for the specified VSAN, and automatically disables auto-learn.

```
switch# config t
switch(config)# no port-security activate vsan 1
```

The following example disables the auto-learn feature for the port security database in VSAN 1.

```
switch# config t
switch(config)# port-security activate vsan 1 no-auto-learn
```

The following example enables auto-learning so the switch can learn about any device that is allowed to access VSAN 1. These devices are logged in the port security active database.

```
switch# config t
switch(config)# port-security auto-learn vsan 1
```

The following example disables auto-learning and stops the switch from learning about new devices accessing the switch. Enforces the database contents based on the devices learnt up to this point.

```
switch# config t
switch(config)# no port-security auto-learn vsan 1
```

The following example enters the port security database mode for the specified VSAN.

```
switch# config t
switch(config)# port-security database vsan 1
switch(config-port-security)#
```

The following example configures the specified sWWN to only login through PortChannel 5.

```
switch(config-port-security)# swwn 20:01:33:11:00:2a:4a:66 interface port-channel 5
```

The following example configures any WWN to login through the specified interfaces.

```
switch(config-port-security)# any-wwn interface fc1/1 - fc1/8
```

The following example configures the specified pWWN to only log in through the specified fWWN.

```
switch(config-port-security)# pwwn 20:11:00:33:11:00:2a:4a fwwn 20:81:00:44:22:00:4a:9e
```

The following example deletes the specified pWWN configured in the previous step.

```
switch(config-port-security)# no pwwn 20:11:00:33:11:00:2a:4a fwwn 20:81:00:44:22:00:4a:9e
```

The following example configures the specified nWWN to log in through the specified fWWN.

```
switch(config-port-security)# nwwn 26:33:22:00:55:05:3d:4c fwwn 20:81:00:44:22:00:4a:9e
```

The following example configures the specified pWWN to login through any port on the local switch.

```
switch(config-port-security)# pwwn 20:11:33:11:00:2a:4a:66
```

The following example configures any WWN to log in through the specified interface.

```
switch(config-port-security)# any-wwn interface fc3/1
```

The following example deletes the wildcard configured in the previous step.

```
switch(config-port-security)# no any-wwn interface fc2/1
```

The following example deletes the port security configuration database from the specified VSAN.

```
switch# config t
switch(config)# no port-security database vsan 1
switch(config)#
```

The following example forces the VSAN 1 port security database to activate despite conflicts.

```
switch(config)# port-security activate vsan 1 force
```

Related Commands

Command	Description
port-security	Configures port security features.
show port-security database	Displays configured port security information.

port-security database

To copy the port security database or to view the difference within the port security database, use the **port-security database** command in EXEC mode.

port-security database
copy vsan *vsan-id* |
diff [active | config] vsan *vsan-id*

Syntax Description

port-security	Activates a port security database for the specified VSAN and automatically enables auto-learn.
database	Enters the port security database configuration mode for the specified VSAN.
copy	Copies the active database to the configuration database.
diff	Provides the difference between the active and configuration port security database.
active	Writes the active database to the configuration database.
config	Writes the configuration database to the active database.
vsan *vsan-id*	Specifies the VSAN ID (ranges from 1 to 4093).

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.2(1).

Usage Guidelines

If the active database is empty, the port-security database is empty.

Use the **port-security database diff active** command to resolve conflicts.

Examples

The following example copies the active to the configured database.

```
switch# port-security database copy vsan 1
```

The following example provides the differences between the active database and the configuration database.

```
switch# port-security database diff active vsan 1
```

The following example provides information on the differences between the configuration database and the active database.

```
switch# port-security database diff config vsan 1
```

Related Commands

Command	Description
port-security database	Copies and provides information on the differences within the port security database.
show port-security database	Displays configured port security information.

power redundancy-mode

To configure the capacity of the power supplies on the Cisco MDS 9500 Family of switches, use the **power redundancy-mode** command in configuration mode. Use the **no** form of the command to negate the command or revert to factory defaults.

power redundancy-mode {combined | redundant [force]}

no power redundancy-mode {combined | redundant [force]}

Syntax Description

combined	Configures power supply redundancy mode as combined.
force	Forces combined mode without prompting.
redundant	Configures power supply redundancy mode as redundant.

Defaults

Redundant mode.

Command Modes

Configuration mode

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

Usage Guidelines

- If power supplies with different capacities are installed in the switch, the total power available differs based on the configured mode:
- In redundant mode, the total power is the lesser of the two power supply capacities. This reserves enough power to keep the system powered on in case of a power supply failure. This is the recommended or default mode.
- In combined mode, the total power is twice the lesser of the two power supply capacities. In case of a power supply failure, the entire system could be shut down, depending on the power usage at that time.
- When a new power supply is installed, the switch automatically detects the power supply capacity. If the new power supply has a capacity that is lower than the current power usage in the switch and the power supplies are configured in redundant mode, the new power supply will be shut down.
- When you change the configuration from combined to redundant mode and the system detects a power supply that has a capacity lower than the current usage, the power supply is shut down. If both power supplies have a lower capacity than the current system usage, the configuration is not allowed.

Examples

The following examples demonstrate how the power supply redundancy mode could be set.

```
switch(config)# power redundancy-mode combined
WARNING: This mode can cause service disruptions in case of a power supply failure.
Proceed ? [y/n] y
switch(config)# power redundancy-mode redundant
```

Related Commands

Command	Description
show environment power	Displays status of power supply modules, power supply redundancy mode, and power usage summary.
copy running-config startup-config	Copies all running configuration to the startup configuration.

poweroff module

To power off individual modules in the system, use the **poweroff module** command in configuration mode. Use the **no** form of this command to power up the specified module.

poweroff module *module-number*

no poweroff module *module-number*

Syntax Description

poweroff module	Powers off the specified module in the switch
module-number	Specifies the module number from 1 to 9.

Defaults

None.

Command Modes

Configuration mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

Usage Guidelines

Use the **poweroff module** command to power off individual modules. The **poweroff module** command cannot be used to power off supervisor modules.

Examples

The following example powers off and powers up module 1.

```
switch# config t
switch(config)# poweroff module 1
switch(config)#
switch(config)# no poweroff 1
switch(config)#
```

Related Commands

Command	Description
show module	Displays information for a specified module.
copy running-config startup-config	Copies all running configuration to the startup configuration.

purge fcdomain fcid

To purge persistent FCIDs, use the **purge fcdomain fcid** command in EXEC mode.

purge fcdomain fcid vsan *vsan-id*

Syntax Description

vsan	Indicates that FCIDs are to be purged for a VSAN.
vsan-id	The ID of the VSAN is from 1 to 4093.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

Usage Guidelines

None.

Examples

The following example shows how to purge all dynamic, unused FC IDs in VSAN 4

```
switch# purge fcdomain fcid vsan 4
switch#
```

The following example shows how to purge all dynamic, unused FC IDs in VSANs 4, 5, and 6.

```
switch# purge fcdomain fcid vsan 3-5
switch#
```

purge module

To delete configurations for nonexistent modules, use the **purge module** command in EXEC mode.

purge module *slot* **running-config**

Syntax Description

module *slot*	Specifies the module slot number.
running-config	Purges the running configuration from the specified module.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.1(1).

Usage Guidelines

This command cannot be issued on a supervisor module.

Examples

The following example displays the output of the **purge module** command issued on the module in slot 8.

```
switch# purge module 8 running-config
switch#
```

pwd

To display the current directory location, use the **pwd** command in EXEC mode.

pwd

Syntax Description

This command has no keywords or arguments.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

Usage Guidelines

None.

Examples

The following example changes the directory and displays the current directory.

```
switch# cd bootflash:logs
switch# pwd
bootflash:/logs
```

Related Commands

Command	Description
cd	Changes the current directory to the specified directory.