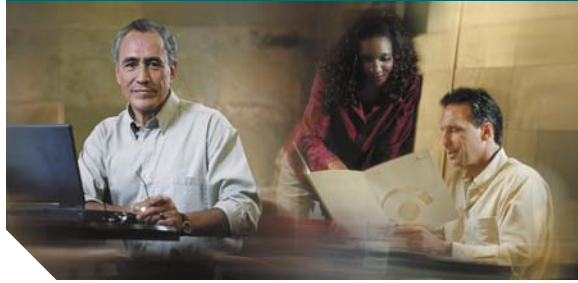


Quick Reference



Cisco MDS 9000 Family Command Quick Reference

This quick reference card lists a selection of commands that are commonly used to configure, manage, and troubleshoot a Cisco MDS 9000 Family switch. Boldface type represents user input. Italic type represents user-defined input.



Note Commands are *not* presented in step-by-step order.

For additional information about all Cisco SAN-OS commands, refer to the *Cisco MDS 9000 Family Command Reference*. For detailed information about configuring a Cisco MDS 9000 Family switch from the command-line interface (CLI), refer to the *Cisco MDS 9000 Family Configuration Guide*.

You can access the most current Cisco documentation at this URL:
<http://www.cisco.com/techsupport>

Shortcuts

Command or Key	Action
?	Displays available commands or arguments for a command.
Tab character	Completes a partially typed command.
Ctrl-z	Returns to EXEC mode.
do	Executes a command it precedes as if from EXEC mode.
exit	Backs up to the previous prompt level.
no	Negates the command it precedes.
(pipe character)	Filters output when used with the include and exclude modifiers.
>	Redirects output to a file.

Prompts and Modes

In EXEC mode:
 switch#

In configuration mode:
 switch(config)#

In a configuration submode:
 switch(config-xxx)#

Basic Configuration and Configuration Management

switch# **setup**
 Enters switch setup mode.

switch# **show running-config**
 Shows the running configuration.

switch# **copy running-config startup-config**
 Saves the current configuration to the startup configuration.

switch# **install all system bootflash:image kickstart bootflash:image**
 Upgrades all modules on any Cisco MDS 9000 Family switch. Images are typically in bootflash:.

switch# **clock set HH:MM:SS**
 Sets the switch clock.

switch# **config term**
 Enters configuration mode.

switch(config)# **clock timezone**
 switch(config)# **summer-time timezone 1 starting weekday 5 ending weekday**
 Configures the timezone and daylight savings time, where 1 = starting week and 5 = ending week.

switch(config)# **ssh key range**
 Generates an SSH key: *dsa*, *rsa*, or *rsa1*. Range is in bits.

switch(config)# **ssh server enable**
 Enables the SSH server. (Telnet is enabled by default.)

Interface Configuration Commands

switch(config)# **interface fc slot/port**
 Selects a specific interface by slot and port.

switch(config-if)# **no shutdown**
 Enables the interface.

switch(config)# **interface mgmt0**
 switch(config-if)# **no shutdown**
 switch(config-if)# **ip address address netmask**
 Defines the IP address and the network mask.

switch(config-if)# **switchport description description**
 Defines an interface description. Enter a description of 80 characters or less.

switch(config)# **ip default-gateway destination-ip-address**
 switch(config)# **ip route destination-ip-address destination-prefix-mask nexthop-destination-ip-address**
 Defines default gateway and static routes.

User Commands

switch(config)# **username name**
 Defines a user name of 32 characters or less.

switch(config)# **username name password password expire YYYY-MM-DD**
 Creates or updates a user account and password that are set to expire on a specific date.

switch(config)# **role name name**
 Assigns users to a new role or modifies the profile of an existing role. Enter a name of 16 characters or less.

switch(config-role)# **description description**
 Assigns a description to the new role just created. Enter a description of 64 characters or less.

switch# **show role**
 Displays all roles configured on the switch.

Licensing Commands

Licenses are available in all switches in the Cisco MDS 9000 Family. Licensing allows access to specified premium features on the switch following installation of the license for that feature.

switch# **show license host-id**
 Obtains the switch serial number, which is needed to get the license key file.

switch# **install license bootflash:license_file.lic**
 Installs the license.

switch# **show license**
 Displays all licenses installed on the switch.

switch# **copy licenses**
 Backs up license files to a .tar file.

switch# **show license usage license-name**
 Displays the active features for a particular license.

FCIP Commands

switch# **fcip enable**
 Enables FCIP.

switch(config)# **interface gigabitethernet slot/port**
 Enters the interface configuration mode on the Gigabit Ethernet interface.

switch(config-if)# **ip address address netmask**

Enters the IP address and network mask for the Gigabit Ethernet interface.

switch(config)# **fcip profile profile-id**
 Creates a profile for the FCIP connection on both switches in the connection. Profile ID is 1-255.

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```
switch(config-profile)# ip address
ip-address
Associates the profile with the local IP address of the
Gigabit Ethernet interface. Make this association for
both switches in the connection.
switch(config)# interface fcip
interface_number
Configures a specified FCIP interface from 1 to 255.
switch(config-if)# use-profile profile-id
Assigns the profile to the FCIP interface.
switch(config-if)# peer-info ipaddr
ip-address
Assigns the peer IP address information to the FCIP
interface. On switch1, assign the IP address information
for switch2; on switch 2, assign the IP address
information for switch1.
```

VSAN Commands

```
switch(config)# vsan database
switch(config-vsan-db)# vsan vsan-id
Creates the VSAN with the specified vsan-id range.
switch(config-vsan-db)# vsan vsan-id name
vsan-name
Adds a description to a VSAN, where vsan-id is the
VSAN and vsan-name is the VSAN description.
switch(config-vsan-db)# vsan vsan-id
interface type slot/port
Adds an interface to a VSAN, where vsan-id is the VSAN
number and type, slot/port is the interface.
switch(config-vsan-db)# vsan vsan-id
interface type slot/port - port
Adds a specified range of interfaces into a VSAN from
the same line card.
switch# show vsan
Lists all VSANs.
switch# show vsan membership
Lists ports within a VSAN.
```

Fcdomain Commands

```
switch(config)# fcdomain restart vsan
vsan-id
Forces the VSAN to reconfigure without data traffic
disruption.
switch(config)# fcdomain restart disruptive
vsan vsan-id
Forces the VSAN to reconfigure with data traffic
disruption.
```

```
switch (config)# fcdomain domain id
preferred vsan vsan-id
Configures the switch in the specified VSAN to request a
preferred domain ID.
switch(config)# fcdomain domain id static
vsan vsan-id
Configures the switch in the specified VSAN to take only
a specific ID and moves the local interfaces in the VSAN
to an isolated state if the domain ID is not granted.
```

Alias, Zone, and Zone Set Commands

```
switch# show flogi database
Displays the devices that have logged into the fabric.
Retrieve pWWNs for aliases and zoning from this
database.
switch# show fcns database
Displays device name server registration information per
VSAN.
switch(config)# fcalias name alias-name
vsan vsan-id
Configures an alias mapping for a device where
alias-name is the canonical name within the VSAN.
switch(config-fcalias)# member pwnn
hh:hh:hh...
Defines a mapping of pWWN hh:hh:hh... to the fcalias
name. pWWN can be retrieved from the FLOGI or FCNS
database.
switch(config)# zone name name vsan
vsan-id
Creates a named zone within the VSAN.
switch(config-zone)# member fcalias name
Adds the node referenced by the named fcalias to the
zone.
switch(config-zone)# member pwnn
hh:hh:hh...
Adds the device referenced by pWWN hh:hh:hh... to the
zone.
switch(config)# zoneset name name vsan
vsan-id
switch(config-zoneset)# member name
Creates a named zone set within the VSAN and adds a
named zone to the zone set.
switch(config)# zoneset distribute full
vsan vsan-id
Configures the switch to distribute all zone sets rather
than just the active zone set for the VSAN.
switch# show fcalias
Displays alias mappings.
```

```
switch# show zone
Displays zone mappings.
switch# show zoneset
Displays all zone sets.
switch# show zoneset active
Displays the active zone set for each VSAN, including
which devices have logged in and are communicating.
```

Inter-VSAN Routing Commands

```
switch(config)# ivr enable
switch(config-ivr-topology-db)#
autonomous-fabric-id fabric-id switch-wwn
hh:hh:hh... vsan-ranges 1-32 vsan-ids
Enables IVR routing and defines which VSANs are
resident on which switches within the fabric. Can include
explicit VSAN definitions or a range of them.
switch(config)# ivr zone name name
switch(config-ivr-zone)# member pwnn
hh:hh:hh... vsan vsan-id
Creates a named IVR zone. Members must be specified
by unique identifiers (alias, pWWN, etc.) and by VSAN.
switch(config)# ivr zoneset name name
switch(config-ivr-zoneset)# member name
Creates an IVR zone set and adds member zones.
switch(config)# ivr zoneset activate name
name
Activates the IVR zone set and enables the zones in the
fabric.
switch# show ivr vsan-topology
switch# show ivr zoneset active
switch# show ivr tech-support
```

CFS Commands

```
Cisco Fabric Services (CFS) provides a common
infrastructure for automatic configuration
synchronization in the fabric. Various Cisco SAN-OS
applications use CFS. The following examples show
commands that support the NTP CFS application.
switch# config term
switch(config)# ntp distribute
Enables the distribution of the NTP configuration to the
fabric. By leveraging CFS, this action needs to occur just
once over the life of the application.
switch(config)# ntp server hostname|ip-
address
Forms an association with an NTP server.
```

```
switch(config)# ntp commit
Commits changes to the active NTP configuration.
switch(config)# ntp abort
Discards the proposed changes.
switch(config)# show ntp pending-diff
Displays the difference between the active NTP
configuration and the proposed changes that go into
effect when the ntp commit command executes.
switch# show cfs application
Displays CFS information for all applications.
switch# show cfs application name name
Displays CFS information for the named application.
```

Troubleshooting Commands

```
switch# fcping fcid fcid vsan vsan-id
switch# fcping pwnn hh:hh:hh... vsan vsan-id
Sends ECHO over Fibre Channel frames to determine if
the destination device is logged in and communicating.
switch# fctrace fcid fcid vsan vsan-id
Traces the route to an N port.
switch(config)# fcanalyzer local brief
limit-captured-frames 0
Captures control frames to a console session.
switch# show tech-support details
Performs the following commands: show version, show
environment, show module, show run, show hardware,
show interface, show accounting log, show process,
show license, and show system health.
switch# tac-pac
Creates a gzip file (show_tech_out.gz) on the volatile file
system of the show tech details command. This file is
then stored in volatile memory.
switch# show version
switch# show interface brief
switch# show interface fc slot/port trunk
vsan
switch# show module
switch# show fspf internal route vsan
switch# show topology vsan vsan-id
switch# show device-alias
switch# show fcalias
switch# show fcroute
switch# show fspf internal route vsan
vsan-id
switch# show logging logfile
switch# show logging last lines
```
