CHAPTER 8

I 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*.

in-order-guarantee

To enable in-order delivery in the Cisco MDS 9000 Family of switches, use the **in-order-guarantee** command in configuration mode. To disable in-order delivery, use the **no** form of the command.

in-order-guarantee

no in-order-guarantee

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

In-order delivery of data frames guarantees frame delivery to a destination in the same order that they were sent by the originator.

Examples

The following example shows how to enable in-order delivery.

```
switch## config t
switch(config)##
switch(config)# in-order-guarantee
switch(config)#
switch(config)# no in-order-guarantee
switch(config)#
```

install all

To upgrade all modules in any Cisco MDS 9000 family switch, use the **install all** command. This upgrade can happen nondisruptively or disruptively depending on the current configuration of your switch.

install all system *URL* **kickstart** *URL*

Syntax Description

install all	Upgrades the system.
system	Upgrades the system image.
kickstart	Upgrades the kickstart image.
URL	The location URL of the source file to be installed.

The following table lists the aliases for *URL*.

bootflash:	Source location for internal bootflash memory.
slot0:	Source location for the CompactFlash memory or PCMCIA card.
volatile:	Source location for the volatile file system.
tftp:	Source location for a Trivial File Transfer Protocol (TFTP) network server. The syntax for this URL is **tftp:[[//location]/directory]/filename**.
ftp:	Source location for a File Transfer Protocol (FTP) network server. The syntax for this URL is **ftp:[[//location]/directory]/filename**.
sftp:	Source location for a Secure Trivial File Transfer Protocol (SFTP) network server. The syntax for this URL is **sftp:[[//<username@>location]/directory]/filename**.
scp:	Source location for a Secure Copy Protocol (SCP) network server. The syntax for this URL is **scp:[[//location]/directory]/filename**.
image-filename	The name of the source image file.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(3).

Usage Guidelines

The **install all** command upgrades all modules in any Cisco MDS 9000 Family switch.

To copy a remote file, specify the entire remote path exactly as it is.

See the *Cisco MDS 9000 Family Configuration Guide* for detailed procedures.

Examples

The following example displays the result of the **install all** command if the system and kickstart files are specified locally.

```
switch# install all system bootflash:system_image kickstart bootflash:kickstart_image

Image verification is in progress, please wait.
This command is going to install system image system_image
and kickstart image kickstart_image on this system
The command will:
 - Install the Loader, if required
 - Install the BIOS, if required
 - Update boot variables
 - Save configuration
 - Reload the standby supervisor
 - Perform a HA Switchover
 - Perform a hitless upgrade of module 1, 2, 3, 4, 7, 8, 9

Do you want to continue y/n ? [n] : y


Image synchronization is in progress, please wait.

Installing Loader, please wait.
Installing Loader on module 5 ...  successful
Installing Loader on module 6 ...  successful

Installing BIOS, please wait.
Installing BIOS on module 1 ... not required (same version)
Installing BIOS on module 2 ... not required (same version)
Installing BIOS on module 3 ... not required (same version)
Installing BIOS on module 4 ... not required (same version)
Installing BIOS on module 5 ... not required (same version)
Installing BIOS on module 6 ... not required (same version)
Installing BIOS on module 7 ... not required (same version)
Installing BIOS on module 8 ... not required (same version)
Installing BIOS on module 9 ... not required (same version)

Updating boot variables .. successful
Saving configuration, please wait.
Reload of the standby supervisor is in progress, please wait
Success, the standby supervisor is online and ready to takeover
```

The following example displays the result of the **install all** command if the system and kickstart files are specified remotely.

```
switch# install all
system scp://user@171.71.00.000:/home/user/golden-sanity/system_image
kickstart scp://user@171.71.00.000:/home/user/golden-sanity/kickstart_image
Copying
scp://user@171.71.00.000/home/user/golden-sanity/system_image to
bootflash:/system_image
..
Copying
scp://user@171.71.00.000/home/user/golden-sanity/kickstart_image to
bootflash:/kickstart_image
aharihar@171.71.00.000's password:

system_image-3u           100% |*****************************| 19941 KB
00:24

Image verification is in progress, please wait.
This command is going to install system image system_image
and kickstart image kickstart_image on this system
```

```
The command will:
 - Install the Loader, if required
 - Install the BIOS, if required
 - Update boot variables
 - Save configuration
 - Reload the standby supervisor
 - Perform a HA Switchover
 - Perform a hitless upgrade of module 1, 2, 3, 4, 7, 8, 9

Do you want to continue y/n ? [n] : y

Image synchronization is in progress, please wait.

Installing Loader, please wait.
Installing Loader on module 5 ...  successful
Installing Loader on module 6 ...  successful

Installing BIOS, please wait.
Installing BIOS on module 1 ... not required (same version)
Installing BIOS on module 2 ... not required (same version)
Installing BIOS on module 3 ... not required (same version)
Installing BIOS on module 4 ... not required (same version)
Installing BIOS on module 5 ... not required (same version)
Installing BIOS on module 6 ... not required (same version)
Installing BIOS on module 7 ... not required (same version)
Installing BIOS on module 8 ... not required (same version)
Installing BIOS on module 9 ... not required (same version)

Updating boot variables .. successful
Saving configuration, please wait.
Reload of the standby supervisor is in progress, please wait
Success, the standby supervisor is online and ready to takeover
```

This example displays the file output on the console of the standby supervisor module:

```
Installation procedure in progress, please wait.
The login will be disabled until the installation is completed.
Switchover to this supervisor is successful
Install of module 1 is in progress, please wait.
Install of module 2 is in progress, please wait.
Install of module 3 is in progress, please wait.
Install of module 4 is in progress, please wait.
Install of module 7 is in progress, please wait.
Install of module 8 is in progress, please wait.
Install of module 9 is in progress, please wait.

The installation procedure has completed successfully.

MDS Switch
switch login:
```

Related Commands

Command	Description
install module bios	Upgrades the supervisor or switching module BIOS.
install module image	Upgrades the supervisor or switching module image.
install module loader	Upgrades the bootloader on the active or standby supervisor or modules.

install module bios

To program the supervisor or switching module BIOS, use the **install module bios system** command.

install module *module-number* **bios {system [bootflash: | slot0: | volatile: |** *system-image*]}

Syntax Description

install module	Upgrades the BIOS for a supervisor or switching module.
module-number	From slot 1 to 9 in a Cisco MDS 9500 Series switch. From slot 1 to 2 in a Cisco MDS 9200 Series switch.
bios	Configures the BIOS in the specified module.
system	Specifies the system image to use (optional). If system is not specified, the current running image is used.
bootflash:	Source location for internal bootflash memory
slot0:	Source location for the CompactFlash memory or PCMCIA card.
volatile:	Source location for the volatile file system.
system-image	The name of the system or kickstart image.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(3).

Usage Guidelines

If the BIOS is upgraded, you need to reboot to make the new BIOS effective. You can schedule the reboot at a convenient time so traffic will not be impacted.

The console baud rate automatically reverts to the default rate (9600) after any BIOS upgrade.

The URL is always the system image URL in the supervisor module, and points to the bootflash: or slot0: directories.

Examples

The following example shows how to perform a non disruptive upgrade for the system.

```
switch# install module 1 bios
Started bios programming .... please wait
###
BIOS upgrade succeeded for module 1
```

In this example, the switching module in slot 1 was updated.

install module image

To program the supervisor or switching module image, use the **install module image** command.

install module *module-number* **image kickstart [bootflash: | slot0: | volatile: |** *system-image***]**

Syntax Description

install module	Upgrades the BIOS for a supervisor or switching module.
module-number	Switching modules: From slot 1 to 4 and 7 to 9 in a Cisco MDS 9500 Series switch. For slot 2 in a Cisco MDS 9200 Series switch. Supervisor modules: Slot 5 or 6—only on the active supervisor module in a Cisco MDS 9500 Series switch. Slot 1—upgrades both the supervisor and switching parts of the module in a Cisco MDS 9200 Series switch.
image	Configures the running image if **system** is not specified.
kickstart	Specifies the kickstart image to use (optional). If the image is not specified, the current running image is used.
bootflash:	Source location for internal bootflash memory
slot0:	Source location for the CompactFlash memory or PCMCIA card.
volatile:	Source location for the volatile file system.
system-image	The name of the system image.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(3).

Usage Guidelines

The **install module** command only upgrades the system image on any module (other than the standby supervisor module). If error occur for any switching module, the module is reset and the new image is downloaded for that module.

If you are issuing this command on the supervisor module, follow these requirements:

- Update the environment variables before issuing this command.
- If any errors occur during this process, the switch is reset to guarantee that the system does not continue with a half installed image. In this case, the switch uses the image that was saved in the SYSTEM environment variable prior to this installation procedure.
- Specify the slot number of the active supervisor module. The following example assumes the active supervisor module is in slot 5.

Examples

The following example shows how to perform a non disruptive upgrade for the system.

```
switch# install module 5 image system bootflash:system.img
Beginning the install check...
    bootflash:/system.img and kickstart image...is compatible.
    bootflash:/system.img image...can be upgraded non-disruptively from current.
Preliminary install check done.
Beginning the install process.
    Parsing of versioning database successful.
    Preparing file system plan now...Done.
    Preparing upgrade group plan now...Done.
    Executing pre-uninstall scripts...Done.
    Updating the File System for installation...Done.
    Executing post-install scripts...Done.
    System Manager will restart the services according to upgrade plan..Done.
Installation completed successfully.
```

Related Commands

Command	Description
show version compatibility	Shows the system software that is currently running on the switch

install module loader

To upgrade the bootloader on either the active or standby supervisor module, use the **install module loader** command. This command is only for supervisor modules, not switching modules.

install module *module-number* **loader kickstart [bootflash: | slot0: | volatile: |** *kickstart-image***]**

Syntax Description

install module	Upgrades the BIOS for a supervisor or switching module.
module-number	Enters the module number for the active or standby supervisor modules (only slot 5 or 6).
loader	Configures the bootloader.
kickstart	Specifies the kickstart image to use.
bootflash:	Source location for internal bootflash memory
slot0:	Source location for the CompactFlash memory or PCMCIA card.
volatile:	Source location for the volatile file system.
kickstart-image	The name of the kickstart image.

Defaults

None.

Command Modes

EXEC mode.

Command History

This command was introduced in Cisco MDS SAN-OS Release 1.0(3).

Usage Guidelines

Before issuing the **install module loader** command, be sure to read the release notes to verify compatibility issues between the boot loader and the kickstart or system images.

If you install a loader version that is the same as the currently-installed version, the loader will not be upgraded. When both the current version and the installed version are the same, use the **init system** command to force a loader upgrade.

Examples

The following example shows how to perform a non disruptive upgrade for the system.

```
switch# install module 6 loader bootflash:kickstart_image
```

This example displays the command being issued on the standby supervisor module in slot 6.

Related Commands

Command	Description
show version	Verify the output before and after the upgrade.

interface

To configure an interface on the Cisco MDS 9000 Family of switches, use the **interface** command in configuration mode. To disable an interface, use the **no** form of the command.

interface fc | mgmt | port-channel | sup-fc | vsan

no interface fc | mgmt | port-channel | sup-fc | vsan

Syntax Description

fc	Fiber Channel interface. Slot number range is from 1 to 9.
mgmt	Management interface. Management interface number range is 0-0.
port-channel	PortChannel interface.
sup-fc	Inband interface
vsan	IPFC VSAN interface. VSAN number range is from 1 to 4093.

Defaults

Disabled.

Command Modes

Configuration mode

Command History

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

Usage Guidelines

You can specify a range of interfaces by issuing a command with the following example format:

interface fc1/1 - 5 , fc2/5 - 7

The spaces are required before and after the dash (-) and before and after the comma (,).

Examples

The following example displays the options for the interface command.

```
switch## config t
switch(config)# interface ?
  cpp              Virtualization IPFC interface
  fc               Fiber Channel interface
  fc-tunnel        Fc-tunnel interface
  fcip             Fcip interface
  gigabitethernet  Ethernet interface
  iscsi            ISCSI interface
  mgmt             Management interface
  port-channel     Port Channel interface
  sup-fc           Inband Interface
  vsan             IPFC VSAN interface
```

Related Commands

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

interface fc

To configure a Fibre Channel interface on the Cisco MDS 9000 Family of switches, use the **interface fc** command. To disable a Fibre Channel interface, use the **no** form of the command.

interface fc *slot_number* **[channel-group** *number* **force] exit | fcdomain rcf-reject vsan** *vsan-id* **[fspf cost** *link_cost* **vsan** *vsan-id* **| dead-interval** *seconds* **vsan** *vsan-id* **| hello-interval** *seconds* **vsan** *vsan-id* **| passive vsan** *vsan-id* **| retransmit-interval** *seconds* **vsan** *vsan-id***] no | shutdown | switchport**

no interface fc *slot_number* **[channel-group** *number* **force] exit | fcdomain rcf-reject vsan** *vsan-id* **[fspf cost** *link_cost* **vsan** *vsan-id* **| dead-interval** *seconds* **vsan** *vsan-id* **| hello-interval** *seconds* **vsan** *vsan-id* **| passive vsan** *vsan-id* **| retransmit-interval** *seconds* **vsan** *vsan-id***] no | shutdown | switchport**

Syntax Description

slot-number	Specifies a slot number and port number.
channel-group	Adds to or removes from a PortChannel.
number	Specify a PortChannel number from 1 to 128.
force	Forcefully adds a port.
exit	Exits from submode.
fcdomain	Enters the interface submode.
rcf-reject	Configures the rcf-reject flag.
vsan	Configures the VSAN range.
vsan-id	The ID of the VSAN is from 1 to 4093.
fspf	Configures FSPF parameters.
cost	Configures FSPF link cost.
link-cost	Enters FSPF link cost 1-65535.
dead-interval	Configures FSPF dead interval.
seconds	Specifies interval in seconds from 1 to 65535.
hello-interval	Configures FSPF hello-interval.
passive	Enables or disables FSPF on the interface.
retransmit-interval	Configures FSPF retransmit interface.
no	Negates a command or sets its defaults.
shutdown	Enables or disables an interface.
switchport	Configures switchport parameters.

Defaults

Disabled

Command Modes

Configuration mode

Command History

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

Usage Guidelines

You can specify a range of interfaces by issuing a command with the following example format:

interface space fc1/1space-space5space,spacefc2/5space-space7

Examples

The following example configures ports 1 to 4 in Fibre Channel interface 9.

```
switch# config t
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# int fc9/1 - 4
```

Related Commands

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

interface fc switchport

To configure an interface on the Cisco MDS 9000 Family of switches, use the **interface** command in configuration mode.

interface fc *slot-number* **{switchport beacon | description** *text* **| encap eisl | [fcrxbbcredit** *credit* **mode E | Fx] fcrxbbcredit default | switchport [fcrxbufsize** *size* **| mode auto (E | F | FL | Fx | SD | TL) | speed (1000 | 2000 | auto) | trunk allowed vsan** *vsan-id*] **| add [vsan** *number* **| all] | mode [auto | off | on]}**

no interface fc *slot-number* **{switchport beacon | description** *text* **| encap eisl | [fcrxbbcredit** *credit* **mode E | Fx] fcrxbbcredit default | switchport [fcrxbufsize** *size* **| mode auto (E | F | FL | Fx | SD | TL) | speed (1000 | 2000 | auto) | trunk allowed vsan** *vsan-id*] **| add [vsan** *number* **| all] | mode [auto | off | on]}**

Syntax Description

interface	Selects an interface to configure.
fc	Fiber Channel interface. Slot number range is 1-9.
slot-number	Specifies a slot number and port number.
switchport	**Configure switchport parameters**
beacon	**Disable/enable the beacon for an interface**
description	**Enter description of maximum 80 characters**
text	Description text of maximum 80 characters (Max Size - 80)
encap	**Configure encapsulation for the port**
eisl	**EISL encapsulation**
fcrxbbcredit	**Configure receive BB_credit for the port**
credit	**Enter receive BB_credit 1-255**
mode	**Configure receive BB_credit for specific mode**
E	**Configure receive BB_credit for E or TE mode**
Fx	**Configure receive BB_credit for F or FL mode**
default	**Default receive BB_credit**
fcrxbufsize	**Configure receive data field size for the port**
size	**Enter receive data field size 256-2112**
mode	**Enter the port mode**
auto	**Autosense mode**
E	**E port mode**
F	**F port mode**
FL	**FL port mode**
Fx	**Fx port mode**
SD	**SD port mode**
TL	**TL port mode**
speed	**Enter the port speed**
1000	**1000 Mbps speed**
2000	**2000 Mbps speed**

auto	**Autosense speed**
trunk	**Configure trunking parameters on an interface**
allowed	**Configure allowed list for interface(s)**
add	**Give VSAN id range to add to allowed vsan list**
all	**Add all the VSANs to allowed VSAN list**
mode	**Configure trunking mode**
auto	**Autosense trunking for an interface**
off	**Disable trunking for an interface**
on	**Enable trunking for an interface**

Defaults

Disabled

Command Modes

Configuration mode

Command History

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

Usage Guidelines

You can specify a range of interfaces by issuing a command with the following example format:

interface space fc1/1space-space5space,spacefc2/5space-space7

Examples

The following example changes to Configuration mode, configures a Fibre Channel interface, and configures switchport mode E for the specified BB credit.

```
switch## config t
switch(config)# interface fc1/1
switch(config-if)# switchport fcrxbbcredit 2 mode E
```

Related Commands

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

interface mgmt

To configure a management interface on the Cisco MDS 9000 Family of switches, use the **interface mgmt** command in configuration mode.

interface mgmt *number* | **exit [ip | no ip] no | shutdown | switchport description** *text* **[vrrp | no vrrp** *vrrp_id*]

Syntax Description

number	Specifies the management interface number which is 0.
ip	IP address
shutdown	Enable/disable an interface
switchport	Configure switchport parameters
description	Enter description of maximum 80 characters
text	Description text of maximum 80 characters (Max Size - 80)
vrrp	Configure vrrp on this interface
vrrp_id	Enters VRRP id.

Defaults

Disabled

Command Modes

Configuration mode. Issue **interface mgmt** commands from the config-interface (config-if) mode.

Command History

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

Usage Guidelines

None.

Examples

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

```
switch## config t
switch(config)##
switch(config)# interface mgmt 0
switch(config-if)# ?
Interface configuration commands:
  exit        Exit from this submode
  ip          [no] ip address
  no          Negate a command or set its defaults
  shutdown    Enable/disable an interface
  switchport  Configure switchport parameters
  vrrp        [no] vrrp vr_id: Configure vrrp on this interface

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

Related Commands

Command	Description
show interface mgmt	Displays interface configuration for specified interface.

interface port-channel

To configure a port channel interface on the Cisco MDS 9000 Family of switches, use the **interface port-channel** command.

interface port-channel *number* **[fcdomain rcf-reject vsan** *vsan-id***] | fspf [cost** *link_cost* **| dead-interval** *seconds* **| hello-interval** *seconds* **| passive | retransmit-interval** *seconds***] | shutdown | switchport**

no interface port-channel *number* **[fcdomain rcf-reject vsan** *vsan-id***] | fspf [cost** *link_cost* **| dead-interval** *seconds* **| hello-interval** *seconds* **| passive | retransmit-interval** *seconds***] | shutdown | switchport**

Syntax Description

interface	Selects an interface to configure.
port-channel	Configure port channel parameters
number	Enter PortChannel number 1-128
fcdomain	Enter the interface submode
rcf-reject	Configure the rcf-reject flag
vsan	Specify the vsan range
vsan-id	The ID of the VSAN is from 1 to 4093.
fspf	Configure FSPF parameters
cost	Configure FSPF link cost
link_cost	Enter FSPF link cost 1-65535
dead-interval	Configure FSPF dead interval
seconds	Enter dead interval (in sec) 2-65535
hello-interval	Configure FSPF hello-interval
seconds	Enter hello interval (in sec) 1-65535
passive	Enable/disable FSPF on the interface
retransmit-interval	Configure FSPF retransmit interface
seconds	Enter retransmit interval (in sec) 1-65535
no	Negate a command or set its defaults
shutdown	Enable/disable an interface
switchport	Configure switchport parameters

Defaults

Disabled

Command Modes

Configuration mode

Command History

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

Usage Guidelines

None.

Examples

The following example enters configuration mode and configures a PortChannel interface.

```
switch## config t
switch(config)##
switch(config)# interface port-channel 32
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

interface sup-fc

To configure Fibre Channel interface on the supervisor module on the Cisco MDS 9000 Family of switches, use the **interface sup-fc** command.

interface sup-fc *number* **exit** | **no**

Syntax Description

interface	Selects an interface to configure.
sup-fc	Inband Interface
number	Inband interface number.
exit	Exit from submode
no	Negate a command or set its defaults

Defaults

Disabled.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following example configures the Fibre Channel interface on the supervisor module.

```
switch(config)# interface sup-fc 0
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

interface vsan

To configure a VSAN interface on the Cisco MDS 9000 Family of switches, use the **interface vsan** command.

interface vsan *vsan-id* **exit [ip | no ip] no | shutdown | [vrrp | no vrrp** *vr_id*]

Syntax Description

interface	Selects an interface to configure.
vsan	IPFC VSAN interface. VSAN number range is 1-4093.
vsan-id	VSAN id range 1-4093
no	Negate a command or set its defaults
shutdown	Enable/disable an interface
ip	ip address
shutdown	Enable/disable an interface
vrrp	Configure vrrp on this interface
vr_id	Enter vrrp id

Defaults

Disabled.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following example configures a VSAN interface.

```
switch(config)# interface vsan 1
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

ip default-gateway

To configure the IP address of the default gateway, use the **ip default-gateway** command. To disable the IP address of the default gateway, use the **no** form of the command.

ip default-gateway *destination-ip-address*

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

Syntax Description

destination-ip-address	Specifies the IP address,

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following examples configures the IP default gateway to 1.1.1.4.

```
switch## config t
switch(config)##
switch(config)# ip default-gateway 1.1.1.4
switch(config)#
```

Related Commands

Command	Description
show ip route	Displays the IP address of the default gateway.

ip default-network

To configure the IP address of the default network, use the **ip default-network** command in configuration mode. To disable the IP address of the default network, use the **no** form of the command.

ip default-network *ip-address*

no ip default-network *ip-address*

Syntax Description

ip-address	Specifies the IP address of the default network.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following examples configures the IP address of the default network to 1.1.1.4.

```
switch## config t
switch(config)##
switch(config)# ip default-network 1.1.1.4
switch(config)#
```

ip domain-list

To configure the IP domain list, use the **ip domain-list** command in configuration mode. To disable the IP domain list, use the **no** form of the command.

ip domain-list *domain-name*

no ip domain-list *domain-name*

Syntax Description

domain-name	Specifies the domain name for the IP domain list.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following example configures the IP domain list.

```
switch## config t
switch(config)#
switch(config)# ip domain domain name
switch(config)#
```

ip domain-lookup

To enable the DNS server lookup feature, use the **ip domain-lookup** command in configuration mode. Use the **no** form of this command to disable this feature.

ip domain-lookup

Syntax Description

This command has no arguments or keywords.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

Instead of IP addresses, you can configure the switch using meaningful names. The configured name automatically looks up the corresponding IP address.

Examples

The following example configures a DNS server domain name.

```
switch## config t
switch(config)##
switch(config)# ip domain-lookup
switch(config)#
```

ip domain-name

To configure a domain name, use the **ip domain-name** command in configuration mode.

ip domain-name *domain name*

Syntax Description

domain-name	Specifies the domain name.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following example configures a domain name.

```
switch## config t
switch(config)##
switch(config)# ip domain-name domain name
switch(config)#
```

ip name-server

To configure a name server, use the **ip name-server** command in configuration mode.

ip name-server *ip-address*

Syntax Description

ip-address	Specifies the IP address for the name server.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

You can configure a maximum of six servers. By default, no server is configured.

Examples

The following example configure a name server with an IP address of 1.1.1.4.

```
switch## config t
switch(config)# ip name-server 1.1.1.4
```

The following example specifies the first address (15.1.0.1) as the primary server and the second address (15.2.0.0) as the secondary sever.

```
switch(config)# ip name-server 15.1.0.1 15.2.0.0
```

The following example deletes the configured server(s) and reverts to factory default.

```
switch(config)# no ip name-server
```

ip route

To configure a static route, use the **ip route** command in configuration mode.

ip route *ip-address subnet-mask* [*nexthop_ip-address*] [**interface (mgmt 0 | vsan** *number)*] [**distance** *distance-number*]

Syntax Description

ip-address	Specifies the IP address for the route.
subnet-mask	Specifies the subnet mask for the route.
nexthop_ip-address	Specifies the IP address of the next hop switch.
interface	Configures the interface associated with the route.
mgmt 0	Specifies the managment interface (mgmt 0).
vsan	Specifies a VSAN interface.
number	Specifies the VSAN interface number.
distance	Configures the distance metric for this route.
distance-number	Specifies the distance metric for this route. It can be from 0 to 32766.

Defaults

None.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following examples shows how to configure a static route.

```
switch## config t
switch(config)##
switch(config)# IP route 10.0.0.0 255.0.0.0 20.20.20.10 distance 10 interface vsan 1
switch(config)#
```

Related Commands

Command	Description
show ip route	Displays the IP address routes configured in the system.

ip routing

To enable the IP forwarding feature, use the **ip routing** command in configuration mode.

ip routing

Syntax Description

This command has no arguments or keywords.

Defaults

Disabled.

Command Modes

Configuration mode.

Command History

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

Usage Guidelines

None.

Examples

The following example enables the IP forwarding feature.

```
switch## config t
switch(config)##
switch(config)# ip routing
switch(config)#
```