



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. Please see the Command Mode section to determine the appropriate mode for each command. For more information, see the *Cisco MDS 9000 Family Configuration Guide*.

- in-order-guarantee
- init bootloader
- install sup
- interface
- interface fc
- interface fc switchport
- interface mgmt
- interface port-channel
- interface sup-fc
- interface vsan
- ip default-gateway
- ip default-network
- ip domain-list
- ip domain-lookup
- ip domain-name
- ip name-server
- ip route
- ip routing

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in-order-guarantee

To enable in-order delivery on the in the Cisco MDS 9000 Family of switches, use the **in-order-guarantee** command.

in-order-guarantee

no in-order-guarantee

Syntax Description None

Defaults Disabled

Command Modes Configuration mode

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

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

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init bootloader

To install the bootloader contained in an image, use the **init bootloader** command.

```
init bootloader [bootflash: | slot0:]
```

Syntax Description

bootflash:	Installs the bootloader contained in the bootflash to the internal disk.
slot0:	Installs the bootloader contained in slot0 to the internal disk.

Defaults

Installs the bootloader contained in the current running kickstart image to the internal disk.

Command Modes

Exec.

Usage Guidelines

None.

Examples

```
switch# init bootloader bootflash:  
switch#
```

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install sup

To perform a non-disruptive upgrade for the system, use the **install sup** command.

```
install sup {bootflash: | slot0: }
```

Syntax Description	bootflash:	The alias of the bootflash device.
	slot0:	The alias of the main card.

Defaults None

Command Modes EXEC

Usage Guidelines The **install** command only upgrades the image. 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 install procedure.

Examples

```
switch# install sup bootflash:system
Beginning the install check...
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.
```

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interface

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

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

no interface

Syntax Description

interface	Selects an interface to configure.
fc	Fiber Channel interface. Slot number range is 1-9.
mgmt	Management interface. Management interface number range is 0-0.
port-channel	Port Channel interface.
sup-fc	Inband Interface
vsan	IPFC VSAN interface. VSAN number range is 1-4093.

Defaults

Disabled

Command Modes

Configuration mode

Usage Guidelines

Specify a range of interfaces by issuing a command with the following example format:

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

Examples

```
switch## config t
switch(config)# interface ?
  fc           Fiber Channel interface
  mgmt         Management interface
  port-channel Port Channel interface
  sup-fc       Inband Interface
  vsan         IPFC VSAN interface

switch(config)# interface fc1/1
switch(config-if)#
switch(config-if)#exit
switch(config)##
switch## config t
switch(config-if)#exit
switch(config)##
switch## config t
switch(config)# interface mgmt 0
switch(config-if)#
switch(config-if)#exit
switch(config)##
switch## config t
switch(config)# interface port-channel 32
switch(config-if)#
switch(config-if)#exit
switch(config)##
switch## config t
```

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```
switch(config)# interface vsan 1
switch(config-if)#
switch(config-if)#exit
switch(config)##
switch## config t
switch(config)# interface sup-fc 0
switch(config-if)#
switch(config-if)#exit
switch(config)##
switch## config t

switch(config)# no interface vsan 1
```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

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interface fc

To configure a Fibre Channel interface on the Cisco MDS 9000 Family of switches, use the **interface fc** command.

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

Syntax	Description
interface	Selects an interface to configure.
fc	Fiber Channel interface. Slot number range is 1-9.
<i>slot_number</i>	Slot number
channel-group	Add to/remove from a port-channel
<i>number</i>	Specify a port-channel number 1-128
force	Forcefully add a port
exit	Exit from submode
fcdomain	Enter the interface submode
rcf-reject	Configure the rcf-reject flag
vsan	Specify the vsan range
<i>number</i>	VSAN id range 1-4093
fspf	Configure FSPF parameters
cost	Configure FSPF link cost
<i>link_cost</i>	Enter FSPF link cost 1-65535
dead-interval	Configure FSPF dead interval
<i>seconds</i>	Enter dead interval (in sec) 2-65535
hello-interval	Configure FSPF hello-interval
<i>seconds</i>	Enter hello interval (in sec) 1-65535
passive	Enable/disable FSPF on the interface
retransmit-interval	Configure FSPF retransmit interface
<i>seconds</i>	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

Usage Guidelines Specify a range of interfaces by issuing a command with the following example format:
 interface space fc1/1space-space5space,spacefc2/5space-space7

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Examples

```
switch# config t  
Enter configuration commands, one per line. End with CNTL/Z.  
switch(config)# interface fc1/1  
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

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interface fc switchport

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

interface fc *slot_number* **switchport beacon**

interface fc *slot_number* **description** *text*

interface fc *slot_number* **encap eisl**

interface fc *slot_number* [**fcrxbbcredit** *credit* **mode** **E** | **Fx**] **fcrxbbcredit default**

interface fc *slot_number* **switchport fcrxbuFSIZE** *size*

interface fc *slot_number* **switchport mode** **auto** | **E** | **F** | **FL** | **Fx** | **SD** | **TL**

interface fc *slot_number* **switchport speed** **1000** | **2000** | **auto**

interface fc *slot_number* **switchport trunk allowed vsan** *number* | **add vsan** *number* | **all**

interface fc *slot_number* **mode** **auto** | **off** | **on**

Syntax	Description
interface	Selects an interface to configure.
fc	Fiber Channel interface. Slot number range is 1-9.
<i>slot_number</i>	Slot number
switchport	Configure switchport parameters
beacon	Disable/enable the beacon for an interface
description	Enter description of maximum 80 characters
<i>text</i>	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
<i>credit</i>	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
<i>size</i>	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

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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

Usage Guidelines

Specify a range of interfaces by issuing a command with the following example format:
 interface space fc1/1space-space5space,spacefc2/5space-space7

Examples

```
switch## config t
switch(config)# interface fc1/1
switch(config-if)# ?
Interface configuration comands:
  channel-group  Add to/remove from a port-channel
  exit           Exit from this submode
  fcdomain       Enter the interface submode
  fspf           Configure FSPF parameters
  no             Negate a command or set its defaults
  shutdown       Enable/disable an interface
  switchport     Configure switchport parameters

switch(config-if)# switchport ?
  beacon         Disable/enable the beacon for an interface
  description     Enter description of maximum 80 characters
  encap          Configure encapsulation for the port
  fcrxbbcredit   Configure receive BB_credit for the port
  fcrxbuFSIZE    Configure receive data field size for the port
  mode           Enter the port mode
  speed          Enter the port speed
  trunk          Configure trunking parameters on an interface

switch(config-if)# switchport fcrxbbcredit ?
<1-255> Enter receive BB_credit
default Default receive BB_credit

switch(config-if)# switchport fcrxbbcredit 2 ?
  mode          Configure receive BB_credit for specific mode
  <cr>          Carriage Return

switch(config-if)# switchport fcrxbbcredit 2 mode ?
```

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```

E   Configure receive BB_credit for E or TE mode
Fx  Configure receive BB_credit for F or FL mode

switch(config-if)# switchport fcrxbbcredit 2 mode E ?
  <cr> Carriage Return
<cr> Carriage Return

switch(config-if)# switchport fcrxbbcredit default ?
  <cr> Carriage Return

```

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

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interface mgmt

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

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

Syntax

Syntax	Description
interface	Selects an interface to configure.
mgmt	Management interface. Management interface number range is 0-0.
ip	IP address
shutdown	Enable/disable an interface
switchport	Configure switchport parameters
description	Enter description of maximum 80 characters
<i>text</i>	Description text of maximum 80 characters (Max Size - 80)
vrrp	Configure vrrp on this interface
<i>vr_id</i>	Enter VRRP id.

Defaults

Disabled

Command Modes

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

Usage Guidelines

None.

Examples

```
switch## config t
switch(config)##
switch(config)# interface mgmt 0
switch(config-if)# ?
Interface configuration comands:
  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.

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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* **exit**

interface port-channel *number* **fcdomain rcf-reject vsan** *number*

interface port-channel *number* **fspf cost** *link_cost* **dead-interval** *seconds* | **hello-interval** *seconds* | **passive** | **retransmit-interval** *seconds*

interface port-channel *number* **no**

interface port-channel *number* **shutdown**

interface port-channel *number* **switchport**

Syntax	Description
interface	Selects an interface to configure.
port-channel	Configure port channel parameters
<i>number</i>	Enter port channel number 1-128
fcdomain	Enter the interface submode
rcf-reject	Configure the rcf-reject flag
vsan	Specify the vsan range
<i>number</i>	VSAN id range 1-4093
fspf	Configure FSPF parameters
cost	Configure FSPF link cost
<i>link_cost</i>	Enter FSPF link cost 1-65535
dead-interval	Configure FSPF dead interval
<i>seconds</i>	Enter dead interval (in sec) 2-65535
hello-interval	Configure FSPF hello-interval
<i>seconds</i>	Enter hello interval (in sec) 1-65535
passive	Enable/disable FSPF on the interface
retransmit-interval	Configure FSPF retransmit interface
<i>seconds</i>	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

Usage Guidelines None.

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Examples

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

Related Commands

Command	Description
show interface	Displays interface configuration for specified interface.

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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
<i>number</i>	Inband interface number.
exit	Exit from submenu
no	Negate a command or set its defaults

Defaults Disabled

Command Modes Configuration mode

Usage Guidelines None.

Examples

```
switch## config t
switch(config)##

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

Related Commands	Command	Description
	show interface	Displays interface configuration for specified interface.

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interface vsan

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

interface vsan *number* **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.
<i>number</i>	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
<i>vr_id</i>	Enter vrrp id

Defaults Disabled

Command Modes Configuration mode

Usage Guidelines None.

Examples

```
switch## config t
switch(config)##

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

Related Commands	Command	Description
	show interface	Displays interface configuration for specified interface.

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ip default-gateway

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

ip default-gateway *destination ip address*

no ip default-gateway *destination ip address*

Syntax	Description
ip	Configures IP features.
ip default-gateway	Configures the default gateway.

Defaults None unless configured during initial set up.

Command Modes Configuration mode

Usage Guidelines None.

Examples

```
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.

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ip default-network

To configure the IP address of the default network, use the **ip default-network** command.

ip default-network *ip address*

no ip default-network *ip address*

Syntax	Description
ip	Configures IP features.
ip default-network	Configures the default network.

Defaults None.

Command Modes Configuration mode

Usage Guidelines None.

Examples

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

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ip domain-list

To configure the IP domain list, use the **ip domain-list** command.

ip domain-list *domain name*

ip domain-list *domain name*

Syntax	Description
ip	Configures IP features.
ip domain-list	Configures the specified domain.

Defaults None

Command Modes Configuration mode

Usage Guidelines None.

Examples

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

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ip domain-lookup

To configure a DNS server, use the **ip domain-lookup** command.

ip domain-lookup

Syntax	Description
ip	Configures IP features.
ip domain-lookup	Configures the DNS server for that switch.

Defaults None

Command Modes Configuration mode

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

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

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ip domain-name

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

ip domain-name *domain name*

Syntax	Description
ip	Configures IP features.
ip domain-name	Configures a domain name on the switch.

Defaults None

Command Modes Configuration mode

Usage Guidelines None.

Examples

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

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ip name-server

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

ip name-server *ip address*

Syntax	Description
ip	Configures IP features.
ip name-server	Configures the ip address for the name server..

Defaults None

Command Modes Configuration mode

Usage Guidelines None.

Examples

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

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ip route

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

ip route *ip address subnet mask interface type*

Syntax	Description
ip	Configures IP features.
ip route	Configures the static route for the specified IP address, subnet mask, next hop, and distance.
interface	Configures the static route for the specified interface.
<i>type</i>	
<i>distance</i>	

Defaults None.

Command Modes Configuration mode

Usage Guidelines None.

Examples

```
switch## config t
switch(config)##
switch(config)# IP route <network IP address> <netmask> <next hop IP address> distance
<number> interface <vsan number>
```

For example:

```
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
	ip routing	???
	show ip route	Displays displays the IP address for the configured ip route.

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ip routing

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

ip routing

Syntax	Description
ip	Configures IP features.
ip routing	Enables IP routing.

Defaults Disabled

Command Modes Configuration mode

Usage Guidelines None.

Examples

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

Related Commands	Command	Description
	show ip routing	Displays the IP routing status.