Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

Cisco NX-OS Releases 7.x

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CONTENTS

Preface

This preface describes the audience, organization, and conventions of the *Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference*. It also provides information on how to obtain related documentation.

This preface includes the following sections:

- Audience, page v
- Organization, page v
- Document Conventions, page vi
- Related Documentation, page vii
- Obtaining Documentation and Submitting a Service Request, page viii

Audience

This publication is for experienced users who configure and maintain Cisco NX-OS devices.

Organization

This document is organized as follows:

Chapter Title	Description
New and Changed Information	Describes the new and changed information for the new Cisco NX-OS software releases.
B Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with B.
C Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with C.
D Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with D.
F Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with F.
I Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with I.
L Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with L.
M Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with M.
N Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with N.

Chapter Title	Description
P Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with P.
R Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with R.
S Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with S.
Show Commands	Describes the Cisco NX-OS Fibre Channel **show** commands.
T Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with T.
V Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with V.
W Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with W.
Z Commands	Describes the Cisco NX-OS Fibre Channel commands that begin with Z.

Document Conventions

Command descriptions use these conventions:

Convention	Description
boldface font	Commands and keywords are in boldface.
italic font	Arguments for which you supply values are in italics.
[ ]	Elements in square brackets are optional.
{x	y	z}	Alternative keywords are grouped in braces and separated by vertical bars.
[x	y	z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

screen font	Terminal sessions and information that the switch displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font.
italic screen font	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[ ]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:

Note Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.

⚠

Caution Means reader *be careful.* In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

Documentation for Cisco Nexus 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extender is available at the following URL:

http://www.cisco.com/en/US/products/ps9670/tsd_products_support_series_home.html

The following are related Cisco Nexus 6000 Series and Cisco Nexus 2000 Series Fabric Extender documents:

Release Notes

Cisco Nexus 6000 Series Switch Release Notes

Configuration Guides

Cisco Nexus 6000 Series Configuration Limits for Cisco NX-OS Release 7.0(0)N1(1)

Cisco Nexus 6000 Series Configuration Limits for Cisco NX-OS Release 7.0(0)N1(1)

Cisco Nexus 6000 Series NX-OS Fibre Channel over Ethernet Configuration Guide

Cisco Nexus 6000 Series NX-OS Layer 2 Switching Configuration Guide

Cisco Nexus 6000 Series NX-OS Multicast Routing Configuration Guide

Cisco Nexus 6000 Series NX-OS Quality of Service Configuration Guide

Cisco Nexus 6000 Series NX-OS SAN Switching Configuration Guide

Cisco Nexus 6000 Series NX-OS Security Configuration Guide

Cisco Nexus 6000 Series NX-OS System Management Configuration Guide

Cisco Nexus 6000 Series NX-OS Unicast Routing Configuration Guide

Cisco Nexus 6000 Series Fabric Manager Configuration Guide

Cisco Nexus 6000 Series NX-OS Fundamentals Configuration Guide

Cisco Nexus 2000 Series Fabric Extender Software Configuration Guide

Maintain and Operate Guides

Cisco Nexus 6000 Series NX-OS Operations Guide

Installation and Upgrade Guides

Cisco Nexus 6000 Series Hardware Installation Guide

Cisco Nexus 2000 Series Hardware Installation Guide

Regulatory Compliance and Safety Information for the Cisco Nexus 6000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders

Licensing Guide

Cisco NX-OS Licensing Guide

Command References

Cisco Nexus 6000 Series NX-OS FabricPath Command Reference

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

Cisco Nexus 6000 Series NX-OS Fundamentals Command Reference

Cisco Nexus 6000 Series NX-OS Layer 2 Interfaces Command Reference

Cisco Nexus 6000 Series NX-OS Multicast Routing Command Reference

Cisco Nexus 6000 Series NX-OS QoS Command Reference

Cisco Nexus 6000 Series NX-OS Security Command Reference

Cisco Nexus 6000 Series NX-OS System Management Command Reference

Cisco Nexus 6000 Series NX-OS Unicast Routing Command Reference

Technical References

Cisco Nexus 6000 Series and Cisco Nexus 2000 Series Fabric Extender MIBs Reference

Error and System Messages

Cisco NX-OS System Messages Reference

Troubleshooting Guide

Cisco Nexus 6000 Troubleshooting Guide

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at:
http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.

B Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with B.

bind

To bind an interface to a virtual Fibre Channel interface, use the **bind** command. To remove the binding of an interface, use the **no** form of this command.

> **bind interface** {**ethernet** *chassis-id*/*slot/port* | **port-channel** *channel-no* | **vethernet** *veth-num*}

> **no bind interface** {**ethernet** *chassis-id*/*slot/port* | **port-channel** *channel-no* | **vethernet** *veth-num*}

Syntax Description

interface	Specifies the interface to bind the virtual Fibre Channel interface.
ethernet	Specifies that the virtual Fibre Channel interface be bound to a specified Ethernet interface.
chassis-id	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.
slot/port	Ethernet interface slot number and port number. The slot number is from 1 to 255 and the port number is from 1 to 128. **Note** When you bind an interface to a virtual Fibre Channel interface to enable Fibre Channel over Ethernet (FCoE) traffic on a Cisco Nexus 2232P Fabric Extender, the slot number is 1 and the port number is from 1 to 32.
port-channel *channel-no*	Specifies that the virtual Fibre Channel interface be bound to a specified EtherChannel interface. The EtherChannel number is from 1 to 4096.
vethernet *veth-num*	Specifies that the virtual Fibre Channel interface be bound to a specified virtual Ethernet interface. The virtual Ethernet interface number is from 1 to 1048575.

Command Default   Disabled

Command Modes   Virtual Fibre Channel interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The Ethernet or EtherChannel interface that you bind to the virtual Fibre Channel interface must be a trunk port.

Before you bind a virtual Fibre Channel interface to a virtual Ethernet interface, you must enable the Cisco Adapter Fabric Extender (Adapter-FEX) on the switch by using the **feature-set virtualization** command.

Examples   This example shows how to bind a virtual Fibre Channel interface 3 to an Ethernet interface:

```
switch# configure terminal
switch(config)# interface ethernet 1/1
```

```
switch(config-if)# switchport mode trunk
switch(config-if)# exit
switch(config)# interface vfc 3
switch(config-if)# bind interface ethernet 1/1
switch(config-if)#
```

This example shows how to bind a virtual Fibre Channel interface 2 to a virtual Ethernet interface:

```
switch# configure terminal
switch(config)# interface vfc 2
switch(config-if)# bind interface vethernet 100
switch(config-if)# exit
switch(config)# interface vethernet 100
switch(config-if)# bind interface ethernet 101/1/1 channel 5
switch(config-if)#
```

Related Commands	Command	Description
	bind (virtual Ethernet interface)	Binds an interface to a virtual Ethernet.
	fcoe	Enables FCoE traffic on a Fabric Extender.
	feature-set virtualization	Enables the Cisco Virtual Machine features on the switch.
	interface vfc	Configures a virtual Fibre Channel interface.
	show interface vfc	Displays the specified VFC interface, attributes, and status.

bind mac-address

To bind a virtual Fibre Channel interface to a MAC address, use the **bind mac-address** command. To remove the binding of an interface, use the **no** form of this command.

> **bind mac-address** *mac-address*

> **no bind mac-address** *mac-address*

Syntax Description

mac-address	MAC address. Use the format EEEE.EEEE.EEEE.

Command Default   Disabled

Command Modes   Virtual Fibre Channel interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, make sure you enable Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV) on the switch by using the **feature fcoe-npv** command.

This command requires the FCoE NPV license.

Examples   This example shows how to bind a virtual Fibre Channel interface 3 to a MAC address:

```
switch# configire terminal
switch(config)# interface vfc 3
switch(config-if)# bind mac-address 0050.3e8d.6400
switch(config-if)#
```

Related Commands

Command	Description
interface vfc	Configures a virtual Fibre Channel interface.
show interface vfc	Displays the specified VFC interface, attributes, and status.

C Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with C.

cfs distribute

To enable or disable Cisco Fabric Services (CFS) distribution on the switch, use the **cfs distribute** command. To disable this feature, use the **no** form of this command.

cfs distribute

no cfs distribute

Syntax Description   This command has no arguments or keywords.

Command Default   CFS distribution is enabled.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   By default, CFS is in the distribute mode. In the distribute mode, fabric-wide distribution is enabled. Applications can distribute configuration data to all CFS-capable switches in the fabric where the application exists. This is the normal mode of operation.

If you disable CFS distribution by entering the **no cfs distribute** command, the following events occur:

- The CFS commands continue to operate. However, CFS and the applications using CFS on the switch are isolated from the rest of the fabric even though there is physical connectivity.
- All CFS operations are restricted to the isolated switch.
- CFS operations (for example, lock, commit, and abort) initiated at other switches do not have any effect at the isolated switch.
- CFS distribution is disabled over both Fibre Channel and IP.

Examples   This example shows how to disable CFS distribution:

```
switch(config)# no cfs distribute
```

This example shows how to reenable CFS distribution:

```
switch(config)# cfs distribute
```

Related Commands

Command	Description
show cfs status	Displays whether CFS distribution is enabled or disabled.

cfs ipv4 distribute

To enable Cisco Fabric Services (CFS) distribution over IPv4 for applications that want to use this feature, use the **cfs ipv4** command. To disable this feature, use the **no** form of this command.

cfs ipv4 distribute

no cfs ipv4 distribute

Syntax Description   This command has no arguments or keywords.

Command Default   CFS distribution is enabled. CFS over IP is disabled.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   All CFS over IP enabled switches with similar multicast addresses form one CFS over IP fabric. CFS protocol-specific distributions, such as the keepalive mechanism for detecting network topology changes, use the IP multicast address to send and receive information.

Observe the following guidelines when using this command:

- If a switch is reachable over both IP and Fibre Channel, application data will be distributed over Fibre Channel.
- You can select either an IPv4 or IPv6 distribution when CFS is enabled over IP.
- Both IPv4 and IPv6 distribution cannot be enabled on the same switch.
- A switch that has IPv4 distribution enabled cannot detect a switch that IPv6 distribution enabled. The switches operate as if they are in two different fabrics even though they are connected to each other.

Examples   This example shows how to disable CFS IPv4 distribution:

```
switch(config)# no cfs ipv4 distribute
This will prevent CFS from distributing over IPv4 network.
Are you sure? (y/n)  [n]
```

This example shows how to reenable CFS IPv4 distribution:

```
switch(config)# cfs ipv4 distribute
```

Related Commands	Command	Description
	cfs ipv4 mcast-address	Configures an IPv4 multicast address for Cisco Fabric Services (CFS) distribution over IPv4.
	show cfs status	Displays whether CFS distribution is enabled or disabled.

cfs ipv4 mcast-address

To configure an IPv4 multicast address for Cisco Fabric Services (CFS) distribution over IPv4, use the **cfs ipv4 mcast-address** command. To disable this feature, use the **no** form of this command.

> **cfs ipv4 mcast-address** *ipv4-address*

> **no cfs ipv4 mcast-address** *ipv4-address*

Syntax Description

ipv4-address	IPv4 multicast address for CFS distribution over IPv4. The range of valid IPv4 addresses is 239.255.0.0 through 239.255.255.255 and 239.192.0.0 through 239.251.251.251.

Command Default

Multicast address: 239.255.70.83.

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Before using this command, enable CFS distribution over IPv4 by using the **cfs ipv4 distribute** command.

All CFS over IP-enabled switches with similar multicast addresses form one CFS over IP fabric. CFS protocol-specific distributions, such as the keepalive mechanism for detecting network topology changes, use the IP multicast address to send and receive information.

CFS distributions for application data use directed unicast.

You can configure a value for a CFS over IP multicast address. The default IPv4 multicast address is 239.255.70.83.

Examples

This example shows how to configure an IP multicast address for CFS over IPv4:

```
switch(config)# cfs ipv4 mcast-address 239.255.1.1
Distribution over this IP type will be affected
Change multicast address for CFS-IP ?
Are you sure? (y/n) [n] y
```

This example shows how to revert to the default IPv4 multicast address for CFS distribution over IPv4:

```
switch(config)# no cfs ipv4 mcast-address 10.1.10.100
Distribution over this IP type will be affected
Change multicast address for CFS-IP ?
Are you sure? (y/n) [n] y
```

Related Commands	Command	Description
	cfs ipv4 distribute	Enables or disables Cisco Fabric Services (CFS) distribution over IPv4.
	show cfs status	Displays whether CFS distribution is enabled or disabled.

cfs ipv6 distribute

To enable Cisco Fabric Services (CFS) distribution over IPv6 for applications using CFS, use the **cfs ipv6 distribute** command. To disable this feature, use the **no** form of this command.

> **cfs ipv6 distribute**

> **no cfs ipv6 distribute**

Syntax Description   This command has no arguments or keywords.

Command Default   CFS distribution is enabled. CFS over IPv4 is disabled.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   All CFS over IP-enabled switches with similar multicast addresses form one CFS over IP fabric. CFS protocol-specific distributions, such as the keepalive mechanism for detecting network topology changes, use the IP multicast address to send and receive information.

Observe the following guidelines when using this command:

- If a switch is reachable over both IP and Fibre Channel, application data will be distributed over Fibre Channel.

- You can select either an IPv4 or IPv6 distribution when CFS is enabled over IP.

- Both IPv4 and IPv6 distribution cannot be enabled on the same switch.

- A switch that has IPv4 distribution enabled cannot detect a switch that IPv6 distribution enabled. The switches operate as if they are in two different fabrics even though they are connected to each other.

Examples   This example shows how to disable CFS IPv6 distribution:

```
switch(config)# no cfs ipv6 distribute
This will prevent CFS from distributing over IPv6 network.
Are you sure? (y/n)  [n]
```

This example shows how to reenable CFS IPv6 distribution:

```
switch(config)# cfs ipv6 distribute
```

Related Commands	Command	Description
	cfs ipv6 mcast-address	Configures an IPv6 multicast address for Cisco Fabric Services (CFS) distribution over IPv6.
	show cfs status	Displays whether CFS distribution is enabled or disabled.

cfs ipv6 mcast-address

To configure an IPv6 multicast address for Cisco Fabric Services (CFS) distribution over IPv6, use the **cfs ipv6 mcast-address** command. To disable this feature, use the **no** form of this command.

cfs ipv6 mcast-address *ipv6-address*

no cfs ipv6 mcast-address *ipv6-address*

Syntax Description

ipv6-address	IPv6 multicast address or CFS distribution over IPv6. The IPv6 Admin scope range is [ff15::/16, ff18::/16].

Command Default

Multicast address: ff15::efff:4653

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Before using this command, enable CFS distribution over IPv6 by using the **cfs ipv6 distribute** command.

All CFS over IP-enabled switches with similar multicast addresses form one CFS over IP fabric. CFS protocol-specific distributions, such as the keepalive mechanism for detecting network topology changes, use the IP multicast address to send and receive information. CFS distributions for application data use directed unicast.

You can configure a CFS over IP multicast address value for IPv6. The default IPv6 multicast address is ff15::efff:4653. Examples of the IPv6 Admin scope range are ff15::0000:0000 to ff15::ffff:ffff and ff18::0000:0000 to ff18::ffff:ffff.

Examples

This example shows how to configure an IP multicast address for CFS over IPv6:

```
switch(config)# cfs ipv6 mcast-address ff13::e244:4754
Distribution over this IP type will be affected
Change multicast address for CFS-IP ?
Are you sure? (y/n) [n] y
```

This example shows how to revert to the default IPv6 multicast address for CFS distribution over IPv6:

```
switch(config)# no cfs ipv6 mcast-address ff13::e244:4754
Distribution over this IP type will be affected
Change multicast address for CFS-IP ?
Are you sure? (y/n) [n] y
```

Related Commands

Command	Description
cfs ipv6 distribute	Enables or disables Cisco Fabric Services (CFS) distribution over IPv6.
show cfs status	Displays whether CFS distribution is enabled or disabled.

cfs region

To create a region that restricts the scope of application distribution to the selected switches, use the **cfs region** command. To disable this feature, use the **no** form of this command.

> **cfs region** *region-id*

> **no cfs region** *region-id*

Syntax Description	*region-id*	Region identifier. The range is from 1 to 255. A total of 200 regions are supported.

Command Default   The default region identifier is 0.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   An application can only be a part of one region on a given switch. By creating the region ID and assigning it to an application, the application distribution is restricted to switches with a similar region ID.

Cisco Fabric Services (CFS) regions provide the ability to create distribution islands within the application scope. Currently, the regions are supported only for physical scope applications. In the absence of any region configuration, the application will be a part of the default region. The default region is region ID 0.

Examples   This example shows how to create a region ID:

```
switch(config)# cfs region 1
```

This example shows how to assign an application to a region:

```
switch(config)# cfs region 1
switch(config-cfs-region)# ntp
```

This example shows how to remove an application assigned to a region:

```
switch(config)# cfs region 1
switch(config-cfs-region)# no ntp
```

Related Commands

Command	Description
show cfs regions	Displays all configured applications with peers.

cfs staggered-merge

To enable Cisco Fabric Series (CFS) to merge the data from multiple Virtual SANs (VSANs), use the **cfs staggered-merge** command. To disable this feature, use the **no** form of this command.

cfs staggered-merge enable

no cfs staggered-merge enable

Syntax Description	enable	Enables the CFS staggered-merge option.

Command Default   Staggered merge is disabled.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to enable CFS staggered merge:

```
switch(config)# cfs staggered-merge enable
```

Related Commands

Command	Description
show cfs status	Displays whether staggered merge is enabled.

channel mode active (SAN PortChannel)

To configure a SAN port channel interface as an active channel port, use the **channel mode active** command. To revert to the default settings, use the **no** form of this command.

> **channel mode active**

> **no channel mode** [**active**]

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   SAN port channel configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command does not require a license.

Examples   This example shows how to configure a SAN port channel interface 3 as an active channel:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# channel mode active
switch(config-if)#
```

This example shows how to revert a SAN port channel interface to the default setting:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# no channel mode
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays an interface configuration for a specified interface.
shutdown	Disables and enables an interface.
switchport (SAN PortChannel)	Configures switchport parameters for a SAN port channel interface.
interface san-port-channel	Configures a SAN port channel interface.

clear device-alias

To clear device alias information, use the **clear device-alias** command.

clear device-alias {**database** | **session** | **statistics**}

Syntax Description

database	Clears the device alias database.
session	Clears session information.
statistics	Clears device alias statistics.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the device alias session:

```
switch# clear device-alias session
```

Related Commands

Command	Description
show device-alias	Displays device alias database information.

clear fcdomain

To clear the entire list of configured hosts, use the **clear fcdomain** command.

> **clear fcdomain session vsan** *vsan-id*

Syntax Description

session	Clears session information.
vsan *vsan-id*	Clears Fibre Channel domains for a specified VSAN ranging from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command clears only the list of configured hosts. Existing connections are not terminated.

Examples   This example shows how to clear the entire list of configured hosts for remote capture:

```
switch# clear fcdomain
```

Related Commands

Command	Description
show fcdomain	Displays the list of hosts configured for a remote capture.

clear fcflow stats

To clear Fibre Channel flow statistics, use the **clear fcflow stats** command.

clear fcflow stats [**aggregated**] **index** *flow-index*

Syntax Description

aggregated	(Optional) Clears the Fibre Channel flow aggregated statistics.
index	Clears the Fibre Channel flow counters for a specified flow index.
flow-index	Flow index number.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear aggregated Fibre Channel flow statistics for flow index 1:

```
switch(config)# clear fcflow stats aggregated index 1
```

Related Commands

Command	Description
show fcflow	Displays the fcflow statistics.

clear fcns statistics

To clear the name server statistics, use the **clear fcns statistics** command.

clear fcns statistics vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Clears the FCS statistics for a specified VSAN ranging from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the name server statistics:

```
switch# clear fcns statistics vsan 1
```

Related Commands

Command	Description
show fcns statistics	Displays the name server statistics.

clear fcsm log

To clear the Fibre Channel Signal Modeling (FCSM) log, use the **clear fcsm log** command.

clear fcsm log

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the FSCM log:

```
switch# clear fcsm log
```

Related Commands

Command	Description
show fcs	Displays the fabric configuration server information.

clear fcs statistics

To clear the fabric configuration server statistics, use the **clear fcs statistics** command.

clear fcs statistics vsan *vsan-id*

Syntax Description		
	vsan *vsan-id*	Clears the FCS statistics for a specified VSAN ranging from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the fabric configuration server statistics for VSAN 10:

```
switch# clear fcs statistics vsan 10
```

Related Commands	Command	Description
	show fcs statistics	Displays the fabric configuration server statistics information.

clear fctimer session

To clear fctimer Cisco Fabric Services (CFS) session configuration and locks, use the **clear fctimer session** command.

clear fctimer session

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear an fctimer session:

```
switch# clear fctimer session
```

Related Commands

Command	Description
show fctimer	Displays fctimer information.

clear fspf counters

To clear the Fabric Shortest Path First (FSPF) statistics, use the **clear fspf counters** command.

clear fspf counters vsan *vsan-id* [**interface** *type*]

Syntax Description

vsan	Indicates that the counters are to be cleared for a VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
interface *type*	(Optional) Specifies that the counters are to be cleared for an interface. The interface types are fc (Fibre Channel) and san-port-channel (SAN port channel).

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

Examples   This example shows how to clear the FSPF statistics on VSAN 1:

```
switch# clear fspf counters vsan 1
```

This example shows how to clear the FSPF statistics in VSAN 1 for the specified Fibre Channel interface:

```
switch# clear fspf counters vsan 1 interface fc 3/2
```

Related Commands

Command	Description
show fspf	Displays global FSPF information for a specific VSAN.

clear fc-port-security

To clear the port security information on the switch, use the **clear fc-port-security** command.

clear fc-port-security {**database auto-learn** {**interface fc** *slot*/*port* | **san-port-channel** *port*} | **session** | **statistics**} **vsan** *vsan-id*

Syntax Description		
	database	Clears the port security active configuration database.
	auto-learn	Clears the automatically learned entries for a specified interface or VSAN.
	interface fc *slot*/*port*	Clears entries for the specified Fibre Channel interface.
	san-port-channel *port*	Clears entries for a specified SAN port channel. The range is from 1 to 128.
	session	Clears the port security CFS configuration session and locks.
	statistics	Clears the port security counters.
	vsan *vsan-id*	Clears entries for a specified VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The active database is read-only and the **clear fc-port-security database** command can be used when resolving conflicts.

Examples   This example shows how to clear all existing statistics from the port security database for a specified VSAN:

```
switch# clear fc-port-security statistics vsan 1
```

This example shows how to clear the learned entries in the active database for a specified interface within a VSAN:

```
switch# clear fc-port-security database auto-learn interface fc2/1 vsan 1
```

This example shows how to clear the learned entries in the active database up to for the entire VSAN:

```
switch# clear fc-port-security database auto-learn vsan 1
```

Related Commands	Command	Description
	show fc-port-security	Displays the configured port security information.

clear rlir

To clear Registered Link Incident Report (RLIR) information, use the **clear rlir** command.

clear rlir {**history** | **recent** {**interface fc** *slot*/*port* | **portnumber** *port*} | **statistics vsan** *vsan-id*}

Syntax Description

history	Clears RLIR incident link history.
recent	Clears recent link incidents.
interface fc *slot*/*port*	Clears entries for the specified interface.
portnumber *port*	Displays the port number for the link incidents.
statistics	Clears the RLIR statistics.
vsan *vsan-id*	Clears the RLIR statistics for a Virtual SAN (VSAN). The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the RLIR statistics for VSAN 1:

```
switch# clear rlir statistics vsan 1
```

Related Commands

Command	Description
show rlir	Displays RLIR information.

clear rscn session

To clear a Registered State Change Notification (RSCN) session for a specified Virtual SAN (VSAN), use the **clear rscn session** command.

clear rscn session vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies a VSAN where the RSCN session should be cleared. The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear an RSCN session on VSAN 1:

```
switch# clear rscn session vsan 1
```

Related Commands

Command	Description
rscn	Configures an RSCN.
show rscn	Displays RSCN information.

clear rscn statistics

To clear the registered state change notification statistics for a specified Virtual SAN (VSAN), use the **clear rscn statistics** command.

clear rscn statistics vsan *vsan-id*

Syntax Description	vsan	Clears the RSCN statistics for a VSAN.
	vsan-id	ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to clear the RSCN statistics for VSAN 1:

```
switch# clear rscn statistics vsan 1
```

Related Commands	Command	Description
	show rscn	Displays RSCN information.

clear zone

To clear all configured information in the zone server for a specified Virtual SAN (VSAN), use the **clear zone** command.

clear zone {**database** | **lock** | **statistics**} **vsan** *vsan-id*

Syntax Description

database	Clears zone server database information.
lock	Clears a zone server database lock.
statistics	Clears zone server statistics.
vsan	Clears zone information for a VSAN.
vsan-id	ID of the VSAN. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

When you enter the **clear zone lock** command from a remote switch, only the lock on that remote switch is cleared. When you enter the **clear zone lock** command from the switch where the lock originated, all locks in the VSAN are cleared. The recommended method to clear a session lock on a switch where the lock originated is by entering the **no zone commit vsan** command.

Examples   This example shows how to clear all configured information in the zone server for VSAN 1:

```
switch# clear zone database vsan 1
```

Related Commands

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

■ **clear zone**

D Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with D.

description (virtual Fibre Channel interface)

To enter a summary purpose of a virtual Fibre Channel interface, use the **description** command. To remove the description, use the **no** form of this command.

description *line*

no description

Syntax Description

line	Text to describe the interface. The description can be a maximum of 80 characters and can contain spaces.

Command Default   None

Command Modes   Virtual Fibre Channel interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to enter a description for the virtual Fibre Channel interface 3:

```
switch(config)# interface vfc 3
switch(config-if)# description vFC for attaching to Eth1/1 interface
switch(config-if)#
```

Related Commands

Command	Description
bind	Binds an interface to a virtual Fibre Channel interface.
interface vfc	Configures a virtual Fibre Channel interface.
show interface vfc	Displays the specified VFC interface, attributes, and status.

device-alias abort

To discard a Distributed Device Alias Services (device alias) Cisco Fabric Services (CFS) distribution session in progress, use the **device-alias abort** command.

device-alias abort

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to discard a device alias CFS distribution session in progress:

```
switch(config)# device-alias abort
```

Related Commands

Command	Description
device-alias database	Configures and activates the device alias database.
device-alias distribute	Enables CFS distribution for device aliases.
show device-alias	Displays device alias information.

device-alias commit

To apply the pending configuration pertaining to the Distributed Device Alias Services (device alias) Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **device-alias commit** command.

device-alias commit

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to commit pending changes to the active Dynamic Port VSAN Membership (DPVM) database:

```
switch(config)# device-alias commit
```

Related Commands

Command	Description
device-alias database	Configures and activates the device alias database.
device-alias distribute	Enables CFS distribution for device aliases.
show device-alias	Displays device alias information.

device-alias database

To initiate a Distributed Device Alias Services (device alias) session and configure the device alias database, use the **device-alias database** command. To deactivate the device alias database, use the **no** form of this command.

> **device-alias database**

> **no device-alias database**

Syntax Description   This command has no arguments or keywords.

Command Default   Deactivated

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **device-alias database** command starts a device alias session that locks all the databases on all the switches in this fabrics. When you exit device alias database configuration mode, the device alias session ends and the locks are released.

You can only perform all modifications in the temporary device alias database. To make the changes permanent, use the **device-alias commit** command.

Examples   This example shows how to activate a device alias session and enter device alias database configuration mode:

```
switch(config)# device-alias database
switch(config-device-alias-db)#
```

Related Commands

Command	Description
device-alias commit	Commits changes from the temporary device alias database to the active device alias database.
show device-alias	Displays device alias database information.

device-alias distribute

To enable Cisco Fabric Services (CFS) distribution for Distributed Device Alias Services (device alias), use the **device-alias distribute** command. To disable this feature, use the **no** form of this command.

device-alias distribute

no device-alias distribute

Syntax Description   This command has no arguments or keywords.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **device-alias commit** command to apply pending changes to the CFS distribution session.

Examples   This example shows how to enable distribution for device alias information:

```
switch(config)# device-alias distribute
```

Related Commands

Command	Description
device-alias commit	Commits changes to the active device alias database.
device-alias database	Configures and activates the device alias database.
show device-alias	Displays device alias information.

device-alias import fcalias

To import device alias database information from another Virtual SAN (VSAN), use the **device-alias import fcalias** command. To revert to the default configuration or factory defaults, use the **no** form of this command.

> **device-alias import fcalias vsan** *vsan-id*

> **no device-alias import fcalias vsan** *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You can import legacy device name configurations using this feature without losing data, if they satisfy the following restrictions:

- Each fcalias has only one member.
- The member type is supported by the device name implementation.

If any name conflict exists, the fcaliases are not imported. The device name database is completely independent from the VSAN dependent fcalias database.

When the import operation is complete, the modified global fcalias table can distribute to all other switches in the physical fabric using the **device-alias distribute** command so that new definitions are available everywhere.

Examples   This example shows how to import device alias information:

```
switch(config)# device-alias import fcalias vsan 10
```

Related Commands

Command	Description
device-alias database	Configures and activates the device alias database.
device-alias distribute	Distributes fcalias database changes to the fabric.
show device-alias	Displays device alias database information.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

device-alias mode

To configure device alias enhanced mode, use the **device-alias mode** command. To remove device alias enhanced mode, use the **no** form of this command.

device-alias mode enhanced

no device-alias mode enhanced

Syntax Description	enhanced	Specifies enhanced mode.

Command Default None

Command Modes Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples This example shows how to configure the device alias enhanced mode:

```
switch(config)# device-alias mode enhanced
```

Related Commands

Command	Description
device-alias database	Enters device alias database configuration mode.
show device-alias	Displays device alias database information.

device-alias name

To configure device names in the device alias database, use the **device-alias name** command. To remove device names from the device alias database, use the **no** form of this command.

device-alias name *device-name* **pwwn** *pwwn-id*

no device-alias name *device-name*

Syntax Description

device-name	Device name. The name can be a maximum of 64 characters.
pwwn *pwwn-id*	Specifies the pWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh*, where *h* is a hexadecimal number.

Command Default   None

Command Modes   Device alias database configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to configure a device name alias entry in the device name database:

```
switch(config)# device-alias database
switch(config-device-alias-db)# device-alias name Device1 pwwn 21:00:00:20:37:6f:db:bb
```

Related Commands

Command	Description
device-alias database	Enters device alias database configuration mode.
show device-alias	Displays device alias database information.

device-alias rename

To configure device names in the device alias database, use the **device-alias rename** command. To remove device names from the device alias database, use the **no** form of this command.

device-alias rename *device-name1 device-name2*

no device-alias rename *device-name*

Syntax Description

device-name1	Current device name.
device-name2	New device name. The maximum length is 64 characters.

Command Default   None

Command Modes   Device alias database configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to configure a device name alias entry in the device name database:

```
switch(config)# device-alias database
switch(config-device-alias-db)# device-alias rename Device1 Device2
```

Related Commands

Command	Description
device-alias database	Enters device alias database configuration mode.
show device-alias	Displays device alias database information.

disable-fka

To disable the verification of Fibre Channel over Ethernet (FCoE) Initialization Protocol (FIP) keepalive (FKA) messages, use the **diable-fka** command. To enable FKA messages, use the **no** form of this command.

> **disable-fka**

> **no disable-fka**

Syntax Description	This command has no arguments or keywords.

Command Default	Enabled

Command Modes	Virtual Fibre Channel interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines
Before you use this command, you must enable Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV) on the switch by using the **feature fcoe-npv** command.

You cannot disable FKA messages if the switch is in N-Port Virtualizer (NPV) mode.

> **Note**   Make sure the switch is not in NPV mode. Use the **switchport** command to remove the NPV configuration on the switch.

This command requires the FCoE NPV license.

Examples
This example shows how to disable the verification of FKA messages:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# disable-fka
switch(config-if)#
```

This example shows how to enable the verification of FKA messages:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# no disable-fka
switch(config-if)#
```

Related Commands

Command	Description
fcoe fka-adv-period	Configures the time interval in which FIP keepalive (FKA) messages are transmitted to the MAC address of the ENode.
feature fcoe-npv	Enables FCoE NPV on the switch.
show fcoe-npv issu-impact	Displays FCoE NPV configuration information.
switchport (virtual Fibre Channel interface)	Configures a switch port parameter on a virtual Fibre Channel interface.

discover custom-list

To selectively initiate discovery for specified domain IDs in a Virtual SAN (VSAN), use the **discover custom-list** command.

discover custom-list {**add** | **delete**} **vsan** *vsan-id* **domain** *domain-id*

Syntax Description

add	Adds a targets to the customized list.
delete	Deletes a target from the customized list.
vsan *vsan-id*	Discovers SCSI targets for the specified VSAN ID. The range is from 1 to 4093.
domain *domain-id*	Discovers SCSI targets for the specified domain ID. The range is from 1 to 239.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to selectively initiate the discovery for the specified VSAN and domain ID:

```
switch# discover custom-list add vsan 1 domain 2
```

This example shows how to delete the specified VSAN and domain ID from the customized list:

```
switch# discover custom-list delete vsan 1 domain 2
```

Related Commands

Command	Description
show scsi-target	Displays information about existing SCSI target configurations.
show vsan	Displays information about configured Virtual SAN (VSAN).

discover scsi-target

To discover SCSI targets on local storage to the switch or remote storage across the fabric, use the **discover scsi-target** command.

discover scsi-target {**custom-list** | **local** | **remote** | **vsan** *vsan-id* **fcid** *fc-id*} **os** {**aix** | **all** | **hpux** | **linux** | **solaris** | **windows**} [**lun** | **target**]

Syntax Description

custom-list	Discovers SCSI targets from the customized list.
local	Discovers local SCSI targets.
remote	Discovers remote SCSI targets.
vsan *vsan-id*	Discovers SCSI targets for the specified Virtual SAN (VSAN) ID. The range is from 1 to 4093.
fcid *fc-id*	Discovers SCSI targets for the specified FCID. The format is *0xhhhhhhh*, where *h* is a hexadecimal digit.
os	Discovers the specified operating system.
aix	Discovers the AIX operating system.
all	Discovers all operating systems.
hpux	Discovers the HPUX operating system.
linux	Discovers the Linux operating system.
solaris	Discovers the Solaris operating system.
windows	Discovers the Windows operating system.
lun	(Optional) Discovers SCSI targets and Logical Unit Numbers (LUNs).
target	(Optional) Discovers SCSI targets.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to discover local targets assigned to all operating systems:

```
switch# discover scsi-target local os all
discovery started
```

This example shows how to discover remote targets assigned to the Windows operating system:

```
switch# discover scsi-target remote os windows
discovery started
```

This example shows how to discover SCSI targets for the specified VSAN (1) and FCID (0x9c03d6):

```
switch# discover scsi-target vsan 1 fcid 0x9c03d6 os aix
discover scsi-target vsan 1 fcid 0x9c03d6
VSAN:    1 FCID: 0x9c03d6 PWWN: 00:00:00:00:00:00:00:00
  PRLI RSP: 0x01 SPARM: 0x0012...
```

This example begins discovering targets from a customized list assigned to the Linux operating system:

```
switch# discover scsi-target custom-list os linux
discovery started
```

Related Commands	Command	Description
	show scsi-target	Displays information about existing SCSI target configurations.

F Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with F.

fabric profile

To utilize a preset quality of service (QoS) setting, use the **fabric profile** command. To restore the default, use the **no** form of this command.

fabric profile {**reliable-multicast** | **unicast-optimized**}

no fabric profile

Syntax Description	**reliable-multicast**	Optimizes the QoS parameters in the fabric to ensure reliable delivery of multicast traffic.
	unicast-optimized	Optimizes the QoS parameters in the fabric for unicast traffic.

Command Default   Unicast-optimized

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to set the fabric to ensure reliable delivery of multicast traffic:

```
switch(config)# fabric profile reliable-multicast
```

This example shows how to set the fabric profile to the default value:

```
switch(config)# no fabric profile
```

Related Commands	Command	Description
	show fabric profile	Displays the current setting of the fabric.

fabric-binding activate

To activate fabric binding in a Virtual SAN (VSAN), use the **fabric-binding activate** command. To disable this feature, use the **no** form of this command.

> **fabric-binding activate vsan** *vsan-id* [**force**]
>
> **no fabric-binding activate vsan** *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN. The ID of the VSAN is from 1 to 4093.
force	(Optional) Forces fabric binding activation.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to activate the fabric binding database for the specified VSAN:

```
switch(config)# fabric-binding activate vsan 1
```

This example shows how to deactivate the fabric binding database for the specified VSAN:

```
switch(config)# no fabric-binding activate vsan 10
```

This example shows how to forcefully activate the fabric binding database for the specified VSAN:

```
switch(config)# fabric-binding activate vsan 3 force
```

This example shows how to revert to the previously configured state or to the factory default (if no state is configured):

```
switch(config)# no fabric-binding activate vsan 1 force
```

Related Commands

Command	Description
fabric-binding database	Configures a fabric-binding database.
fabric-binding enable	Enables fabric-binding.

fabric-binding database copy

To copy from the active fabric binding database to the configuration fabric binding database, use the **fabric-binding database copy** command.

> **fabric-binding database copy vsan** *vsan-id*

Syntax Description	**vsan** *vsan-id*	Specifies the Virtual SAN (VSAN). The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fabric binding is configured on a per-VSAN basis and can be implemented in both FICON VSANs and Fibre Channel VSANs.

If the configured database is empty, this command is not accepted.

Examples   This example shows how to copy from the active database to the configuration database in VSAN 1:

```
switch# fabric-binding database copy vsan 1
```

Related Commands	Command	Description
	fabric-binding diff	Provides the differences between the fabric-binding databases.

fabric-binding database diff

To view the differences between the active database and the configuration database in a Virtual SAN (VSAN), use the **fabric-binding database diff** command.

fabric-binding database diff {**active** | **config**} **vsan** *vsan-id*

Syntax Description

active	Provides information about the differences in the active database relating to the configuration database.
config	Provides information about information on the differences in the configuration database relating to the active database.
vsan *vsan-id*	Specifies the VSAN. The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fabric binding is configured on a per-VSAN basis and can be implemented in both FICON VSANs and Fibre Channel VSANs.

Examples   This example shows how to display the differences between the active database and the configuration database in VSAN 1:

```
switch# fabric-binding database diff active vsan 1
```

This example shows how to display information about the differences between the configuration database and the active database:

```
switch# fabric-binding database diff config vsan 1
```

Related Commands

Command	Description
fabric-binding copy	Copies from the active to the configuration fabric binding database.

fabric-binding database vsan

To configure a user-specified fabric binding list in a Virtual SAN (VSAN), use the **fabric-binding database vsan** command. To disable the fabric binding, use the **no** form of this command.

> **fabric-binding database vsan** *vsan-id*
>   **swwn** *switch-wwn* **domain** *domain-id*

> **fabric-binding database vsan** *vsan-id*
>   **no swwn** *switch-wwn* **domain** *domain-id*

> **no fabric-binding database vsan** *vsan-id*

Syntax Description		
vsan *vsan-id*	Specifies the VSAN. The ID of the VSAN is from 1 to 4093.
swwn *switch-wwn*	Configures the switch WWN in dotted hexadecimal format.
domain *domain-id*	Specifies the specified domain ID. The domain ID is a number from 1 to 239.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fabric binding is configured on a per-VSAN basis. In a Fibre Channel VSAN, only the switch world wide name (sWWN) is required; the domain ID is optional.

A user-specified fabric binding list contains a list of switch WWNs (sWWNs) within a fabric. If an sWWN attempts to join the fabric and that sWWN is not on the list, or the sWWN is using a domain ID that differs from the one specified in the allowed list, the ISL between the switch and the fabric is automatically isolated in that VSAN and the switch is denied entry into the fabric.

Examples   This example shows how to enter the fabric binding database mode and adds the sWWN and domain ID of a switch to the configured database list:

```
switch(config)# fabric-binding database vsan 5
switch(config-fabric-binding)# swwn 21:00:05:30:23:11:11:11 domain 102
```

This example shows how to delete a fabric binding database for the specified VSAN:

```
switch(config)# no fabric-binding database vsan 10
```

This example shows how to delete the sWWN and domain ID of a switch from the configured database list:

```
switch(config)# fabric-binding database vsan 5
```

```
switch(config-fabric-binding)# no swwn 21:00:15:30:23:1a:11:03 domain 101
```

	Command	Description
Related Commands	**fabric-binding activate**	Activates fabric binding.
	fabric-binding enable	Enables fabric binding.

fabric-binding enable

To enable fabric binding in a Virtual SAN (VSAN), use the **fabric-binding enable** command. To disable fabric binding, use the **no** form of this command.

fabric-binding enable

no fabric-binding enable

Syntax Description	This command has no arguments or keywords.

Command Default	Disabled

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fabric binding is configured on a per-VSAN basis.

The fabric binding feature must be enabled in each switch in the fabric that participates in the fabric binding.

Examples   This example shows how to enable fabric binding on the switch:

```
switch(config)# fabric-binding enable
```

This example shows how to disable fabric binding on the switch:

```
switch(config)# no fabric-binding enable
```

Related Commands

Command	Description
fabric-binding activate	Activates fabric binding.
fabric-binding database	Configures a fabric-binding database.

fc-port-security

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

fc-port-security {**activate vsan** *vsan-id* [**force** | **no-auto-learn**] | **auto-learn vsan** *vsan-id* | **database vsan** *vsan-id*}

no fc-port-security {**activate vsan** *vsan-id* [**force** | **no-auto-learn**] | **auto-learn vsan** *vsan-id* | **database vsan** *vsan-id*}

Syntax Description

activate	Activates a port security database for the specified VSAN and automatically enables auto-learning.
vsan *vsan-id*	Specifies the Virtual SAN (VSAN) ID. The range is from 1 to 4093.
force	(Optional) Forces the database activation.
no-auto-learn	(Optional) Disables the auto-learning feature for the port security database.
auto-learn	Enables auto-learning for the specified VSAN.
database	Enters the port security database configuration mode for the specified VSAN.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When you activate the port security feature, the **auto-learn** option is also automatically enabled. You can choose to activate the fc-port-security feature and disable auto-learning by using the **fc-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   This example shows how to activate the port security database for the specified VSAN and automatically enable auto-learning:

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

This example shows how to deactivate the port security database for the specified VSAN and automatically disable auto-learning:

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

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

This example shows how to disable the auto-learning feature for the port security database in VSAN 1:

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

This example shows how to enable 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)# fc-port-security auto-learn vsan 1
```

This example shows how to disable auto-learning and stops the switch from learning about new devices accessing the switch:

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

This example shows how to enter the port security database mode for the specified VSAN:

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

This example shows how to force the VSAN 1 port security database to activate even if there are conflicts:

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

Related Commands	Command	Description
	show fc-port-security database	Displays configured port security information.

fc-port-security abort

To discard the port security Cisco Fabric Services (CFS) distribution session in progress, use the **fc-port-security abort** command.

> **fc-port-security abort vsan** *vsan-id*

Syntax Description	**vsan** *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to discard a port security CFS distribution session in progress:

```
switch(config)# fc-port-security abort vsan 33
```

Related Commands	Command	Description
	fc-port-security distribute	Enables CFS distribution for port security.
	show fc-port-security	Displays port security information.

fc-port-security commit

To apply the pending configuration pertaining to the port security Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **fc-port-security commit** command.

fc-port-security commit vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to commit changes to the active port security configuration:

```
switch(config)# fc-port-security commit vsan 13
```

Related Commands

Command	Description
fc-port-security distribute	Enables CFS distribution for port security.
show fc-port-security	Displays port security information.

fc-port-security database

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

fc-port-security database {**copy** | **diff** {**active** | **config**}} **vsan** *vsan-id*

Syntax Description		
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. The ranges is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If the active database is empty, the fc-port-security database is empty. Use the **fc-port-security database diff active** command to resolve conflicts.

Examples   This example shows how to copy the active database to the configured database:

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

This example shows how to provide the differences between the active database and the configuration database:

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

This example shows how to provide information on the differences between the configuration database and the active database:

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

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

fc-port-security distribute

To enable Cisco Fabric Services (CFS) distribution for port security, use the **fc-port-security distribute** command. To disable this feature, use the **no** form of this command.

fc-port-security distribute

no fc-port-security distribute

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before distributing the Fibre Channel timer changes to the fabric, the temporary changes to the configuration must be committed to the active configuration by using the **fc-port-security commit** command.

Examples   This example shows how to distribute the port security configuration to the fabric:

```
switch(config)# fc-port-security distribute
```

Related Commands

Command	Description
fc-port-security commit	Commits the port security configuration changes to the active configuration.
show fc-port-security	Displays port security information.

fcalias clone

To clone a Fibre Channel alias, use the **fcalias clone** command.

fcalias clone *origFcalias-Name cloneFcalias-Name* **vsan** *vsan-id*

Syntax Description

origFcalias-Name cloneFcalias-Name	Fibre Channel alias. The name can be a maximum of 64 characters.
vsan	Specifies the clone Fibre Channel alias for a Virtual SAN (VSAN).
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To disable a Fibre Channel alias, use the **no** form of the **fcalias name** command.

Examples   This example shows how to clone a fcalias called origAlias to cloneAlias on VSAN 45:

```
switch(config)# fcalias clone origAlias cloneAlias vsan 45
```

Related Commands

Command	Description
show fcalias	Displays the member name information in a Fibre Channel alias (fcalias).

fcalias name

To configure a Fibre Channel alias, use the **fcalias name** command. To disable a Fibre Channel alias, use the **no** form of this command.

> **fcalias name** *alias-name* **vsan** *vsan-id*

> **no fcalias name** *alias-name* **vsan** *vsan-id*

Syntax Description

alias-name	Name of the fcalias. The name can a maximum of 64 characters.
vsan	Specifies the fcalias for a Virtual SAN (VSAN).
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To include multiple members in any alias, use the FCID, fWWN, or pWWN values.

Examples   This example shows how to configure an fcalias called AliasSample on VSAN 3:

```
switch(config)# fcalias name AliasSample vsan 3
switch(config-fcalias)#
```

Related Commands

Command	Description
member (fcalias configuration mode)	Configures alias members for a specified zone.

fcalias rename

To rename a Fibre Channel alias (fcalias), use the **fcalias rename** command. To revert to the defaults, use the **no** form of this command.

fcalias rename *current-name new-name* **vsan** *vsan-id*

no fcalias rename *current-name new-name* **vsan** *vsan-id*

Syntax Description

current-name	Current fcalias name. The name can be a maximum of 64 characters.
new-name	New fcalias name. The name can be a maximum of 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to rename an fcalias:

```
switch(config)# fcalias rename oldalias newalias vsan 10
```

Related Commands

Command	Description
fcalias name	Configures fcalias names.
show fcalias	Displays fcalias information.

fcdomain

To configure the Fibre Channel domain feature, use the **fcdomain** command. To disable the Fibre Channel domain, use the **no** form of this command.

> **fcdomain** {**allowed** *domain* **vsan** *vsan-id* | **auto-reconfigure vsan** *vsan-id* | **contiguous-allocation vsan** *vsan-id* | **domain** *id* {**preferred** | **static**} **vsan** *vsan-id* | **fabric-name** *name* **vsan** *vsan-id* | **fcid** {**database** | **persistent vsan** *vsan-id*} | **optimize fast-restart vsan** *vsan-id* | **priority** *value* **vsan** *vsan-id* | **restart** [**disruptive**] **vsan** *vsan-id* | **vsan** *vsan-id*}

> **no fcdomain** {**allowed** *domain* **vsan** *vsan-id* | **auto-reconfigure vsan** *vsan-id* | **contiguous-allocation vsan** *vsan-id* | **domain** *id* {**preferred** | **static**} **vsan** *vsan-id* | **fabric-name** *name* **vsan** *vsan-id* | **fcid** {**database** | **persistent vsan** *vsan-id*} | **optimize fast-restart vsan** *vsan-id* | **priority** *value* **vsan** *vsan-id* | **restart** [**disruptive**] **vsan** *vsan-id* | **vsan** *vsan-id*}

Syntax Description

allowed *domain*	Configures the allowed domain ID list ranging from 1 to 239.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.
auto-reconfigure	Configures autoreconfigure.
contiguous-allocation	Configures contiguous allocation.
domain *id*	Configures the domain ID and its type. The range is from 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.
fabric-name *name*	Specifies the fabric name. The name format is *hh:hh:hh:hh:hh:hh:hh:hh*.
fcid	Configures Fibre Channel domain persistent FC IDs.
database	Enters persistent FC IDs mode.
persistent	Enables or disables Fibre Channel domain persistent FC IDs.
optimize fast-restart	Enables a domain manager fast restart on a specified VSAN.
priority *value*	Specifies the Fibre Channel domain priority. The range is from 1 to 254.
restart	Starts a disruptive or nondisruptive reconfiguration.
disruptive	(Optional) Forces the disruptive fabric reconfiguration.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

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

We recommend using the **optimize fast-restart** option on most fabrics, especially those with a large number of logical ports (3200 or more), where a logical port is an instance of a physical port in a VSAN.

Examples   This example shows how to configure a preferred domain ID for VSAN 87:

```
switch(config)# fcdomain domain 3 preferred vsan 87
```

This example shows how to specify the disruptive fabric reconfiguration for VSAN 1:

```
switch(config)# fcdomain restart disruptive vsan 1
```

This example shows how to enable the domain manager fast restart for VSANs 7 through 10:

```
switch(config)# fcdomain optimize fast-restart vsan 7 - 10
```

This example shows how to configure the fabric world wide name (fWWN) for VSAN 3:

```
switch(config)# fcdomain fabric-name 20:1:ac:16:5e:0:21:01 vsan 3
```

Related Commands

Command	Description
show fcdomain	Displays global information about the Fibre Channel domain configurations.

fcdomain abort vsan

To flush cached data without committing the cached data and release the lock, use the **fcdomain abort vsan** command. To disable the flushing of cached data, use the **no** form of this command.

fcdomain abort vsan *vsan-id*

no fcdomain abort vsan *vsan-id*

Syntax Description

vsan-id	Virtual SAN (VSAN) ID. The range is from 1 to 4093.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to flush cached data:

```
switch(config)# fcdomain abort vsan 10
```

Related Commands

Command	Description
fcdomain	Configures Fibre Channel domain features.
fcdomain commit vsan	Commits cached data and releases the lock.
show fcdomain	Displays global information about the Fibre Channel domain configurations.

fcdomain commit vsan

To commit cached data and release the lock, use the **fcdomain commit vsan** command. To release the lock without committing the cached data, use the **no** form of this command.

fcdomain commit vsan *vsan-id*

no fcdomain commit vsan *vsan-id*

Syntax Description	vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to commit cached data:

```
switch(config)# fcdomain commit vsan 10
```

Related Commands

Command	Description
fcdomain	Configures Fibre Channel domain features.
fcdomain abort vsan	Flushes cached data without committing and releases the lock.
show fcdomain	Displays global information about the Fibre Channel domain configurations.

fcdomain distribute

To enable fabric distribution using Cisco Fabric Services (CFS), use the **fcdomain distribute** command. To disable fabric distribution using CFS, use the **no** form of this command.

fcdomain distribute

no fcdomain distribute

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to enable the fabric distribution using CFS:

```
switch(config)# fcdomain distribute
```

This example shows how to disable the fabric distribution using CFS:

```
switch(config)# no fcdomain distribute
```

Related Commands

Command	Description
fcdomain	Configures Fibre Channel domain features.
show fcdomain	Displays global information about the Fibre Channel domain configurations.

fcdomain rcf-reject

To enable the reconfigure fabric (RCF) rejection flag for a Fibre Channel interface, use the **fcdomain rcf-reject** command. To disable this feature, use the **no** form of this command.

fcdomain rcf-reject vsan *vsan-id*

no fcdomain rcf-reject vsan *vsan-id*

Syntax Description	**vsan** *vsan-id*	Specifies a Virtual SAN (VSAN) ID. The range is from 1 to 4093.

Command Default   Enabled

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use this command to configure the RCF reject option for the selected Fibre Channel or virtual Fibre Channel interface.

Examples   This example shows how to configure the FCIP RCF reject fcdomain feature on a virtual Fibre Channel interface:

```
switch(config)# interface vfc 3
switch(config-if)# fcdomain rcf-reject vsan 1
```

Related Commands

Command	Description
show fcdomain	Displays global information about the Fibre Channel domain configurations.
show interface fc	Displays an interface configuration for a specified Fibre Channel interface.

fcdroplatency

To configure the network and switch Fibre Channel drop latency time, use the **fcdroplatency** command. To disable the Fibre Channel latency time, use the **no** form of this command.

fcdroplatency {**network** *milliseconds* [**vsan** *vsan-id*] | **switch** *milliseconds*}

no fcdroplatency {**network** *milliseconds* [**vsan** *vsan-id*] | **switch** *milliseconds*}

Syntax Description

network *milliseconds*	Specifies network latency. The range is from 500 to 60000.
vsan *vsan-id*	(Optional) Specifies a Virtual SAN (VSAN) ID. The range is from 1 to 4093.
switch *milliseconds*	Specifies switch latency. The range is from 0 to 60000 milliseconds.

Command Default

2000 millisecond network latency
500 millisecond switch latency

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to configure the network latency to 5000 milliseconds:

```
switch(config)# fcdroplatency network 5000
```

This example shows how to revert to the default switch latency:

```
switch(config)# no fcdroplatency switch 4000
```

Related Commands

Command	Description
show fcdroplatenc	Displays the configured Fibre Channel drop latency parameters.

fcflow stats

To configure fcflow statistics, use the **fcflow stats** command. To disable the counter, use the **no** form of this command.

> **fcflow stats** {**aggregated index** *flow-number* **vsan** *vsan-id* | **index** *flow-number destination-fcid source-fcid netmask* **vsan** *vsan-id*}

> **no fcflow stats** {**aggregated index** *flow-number* | **index** *flow-number*}

Syntax Description

aggregated	Configures aggregated fcflow statistics.
index *flow-number*	Specifies a flow index. The range is from 1 to 2147483647.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.
destination-fcid	Destination FCID in hexadecimal format.
source-fcid	Source FCID in hexadecimal format.
netmask	Mask for the source and destination FCID (restricted to 6 hexadecimal characters ranging from 0xff0000 to 0xffffff).

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If you enable flow counters, you can enable a maximum of 1024 entries for aggregate flow and flow statistics. Be sure to assign an unused flow index for each new flow. The number space for the flow index is shared between the aggregate flow statistics and the flow statistics.

Examples   This example shows how to enable the aggregated flow counter:

```
switch(config)# fcflow stats aggregated index 1005 vsan 1
```

This example shows how to disable the aggregated flow counter:

```
switch(config)# no fcflow stats aggregated index 1005
```

This example shows how to enable the flow counter for a specific flow:

```
switch(config)# fcflow stats index 1 0x145601 0x5601 0xffffff vsan 1
```

This example shows how to disable the flow counter for index 1001:

```
switch(config)# no fcflow stats index 1001
```

Related Commands	Command	Description
	show fcflow stats	Displays the configured Fibre Channel drop latency parameters.

fcid-allocation

To manually add a FCID to the default area company ID list, use the **fcid-allocation** command. To remove a FCID from the default area company ID list, use the **no** form of this command.

fcid-allocation area company-id *company-id*

no fcid-allocation area company-id *company-id*

Syntax Description	**area**	Modifies the auto area list of company IDs.
	company-id *company-id*	Configures the company IDs.

Command Default   None

Command Modes   Global configuration mode

Command History	**Release**	**Modification**
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fibre Channel standards require a unique FCID to be allocated to an N port attached to a Fx port in any switch. To conserve the number of FCIDs used, Cisco Nexus 5000 Series switches use a special allocation scheme.

Some Host Bust Adaptors (HBAs) do not discover targets that have FC IDs with the same domain and area. The switch software maintains a list of tested company IDs that do not exhibit this behavior. These HBAs were allocated with single FC IDs, and for others a full area was allocated.

To allow further scalability for switches with numerous ports, the switch software maintains a list of HBAs that exhibit this behavior. Each HBA is identified by its company ID (also known as an Organizational Unique Identifier, or OUI) used in the pWWN during a fabric login. A full area is allocated to the N ports with company IDs that are listed and for the others, a single FC ID is allocated. Regardless of the type (whole area or single) of FC ID allocated, the FC ID entries remain persistent.

Examples   This example shows how to add a new company ID to the default area company ID list:

```
switch(config)# fcid allocation area company-id 0x003223
```

Related Commands	**Command**	**Description**
	show fcid-allocation	Displays the Fibre Channel area list of company IDs.

fcinterop fcid-allocation

To allocate FCIDs on the switch, use the **fcinterop fcid-allocation** command. To disable FCIDs on the switch, use the **no** form of this command.

fcinterop fcid-allocation {**auto** | **flat** | **none**}

no fcinterop fcid-allocation {**auto** | **flat** | **none**}

Syntax Description		
	auto	Assigns a single FCID to compatible HBAs.
	flat	Assign a single FCID.
	none	Assigns an FCID range.

Command Default   The default is automatic allocation of FCIDs.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command defines how the switch assigns FCIDs.

Examples   This example shows how to set the FCID allocation to flat:

```
switch(config)# fcinterop fcid-allocation flat
```

Related Commands	Command	Description
	show flogi database	Displays the fabric login (FLOGI) table.

fcns no-auto-poll

To enable or disable automatic polling in the name server database, use the **fcns no-auto-poll** command.

fcns no-auto-poll [**vsan** *vsan-id*] | [**wwn** *wwn-id*]

no fcns no-auto-poll [**vsan** *vsan-id*] | [**wwn** *wwn-id*]

Syntax Description

vsan *vsan-id*	(Optional) Specifies a Virtual SAN (VSAN) ID. The range is from 1 to 4093.
wwn *wwn-id*	(Optional) Specifies the port WWN, with the format *hh:hh:hh:hh:hh:hh:hh:hh*.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to disable automatic polling for VSAN 2:

```
switch(config)# fcns no-auto-poll vsan 2
```

Related Commands

Command	Description
show fcns	Displays the name server database and statistical information for a specified VSAN or for all VSANs.

fcns proxy-port

To register a name server proxy, use the **fcns proxy-port** command.

> **fcns proxy-port** *wwn-id* **vsan** *vsan-id*

> **no fcns proxy-port** *wwn-id* **vsan** *vsan-id*

Syntax Description

wwn-id	Port WWN, with the format *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   One name server can be configured to proxy another name server, and the name server information can be displayed using the CLI. The name server can be viewed using the CLI or the Cisco Fabric Manager.

All name server registration requests come from the same port whose parameter is registered or changed. If it does not, then the request is rejected.

Examples   This example shows how to configure a proxy port for VSAN 2:

```
switch(config)# fcns proxy-port 21:00:00:e0:8b:00:26:d vsan 2
```

Related Commands

Command	Description
show fcns	Displays the name server database and statistical information for a specified VSAN or for all VSANs.

fcns reject-duplicate-pwwn vsan

To reject duplicate Fibre Channel name server (FCNS) proxies on a Virtual SAN (VSAN), use the **fcns reject-duplicate-pwwn vsan** command.

fcns reject-duplicate-pwwn vsan *vsan-id*

no fcns reject-duplicate-pwwn vsan *vsan-id*

Syntax Description	**vsan** *vsan-id* Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to reject duplicate FCNS pWWNs for VSAN 2:

```
switch(config)# fcns reject-duplicate-pwwn vsan 2
```

Related Commands

Command	Description
show fcns	Displays the name server database and statistical information for a specified VSAN or for all VSANs.

fcoe

To associate a Cisco Nexus 2000 Series Fabric Extender (FEX) to a switch for pinning Fibre Channel over Ethernet (FCoE) Initialization Protocol (FIP) and FCoE traffic, use the **fcoe** command. To remove the association, use the **no** form of this command.

fcoe [**vsan** *vsan-id*]

no fcoe [**vsan**]

Syntax Description		
vsan *vsan-id*	Specifies the VSAN status. The VSAN ID range is from 1 to 4094.

Command Default   None

Command Modes   FEX configuration mode
VLAN configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, make sure that you enable the Fabric Extender (FEX) features on the switch by using the **feature fex** command.

You can use this command only on a Cisco Nexus 2232P Fabric Extender. When you bind an interface to a virtual Fibre Channel interface to enable FCoE traffic, you must use slot number 1. The port number can be from 1 to 32.

Examples   This example shows how to configure a FEX as FCoE enabled:

```
switch# configure terminal
switch(config)# feature fex
switch(config)# fex 100
switch(config-fex)# fcoe
switch(config-fex)#
```

This example shows how to configure a pair of FEXs to carry FCoE traffic in a fabric virtual port channel (vPC) topology, with the host uplink ports in the FEXs configured to the same port channel:

```
switch# configure terminal
switch(config)# feature lacp
switch(config)# feature fex
switch(config)# feature fcoe
switch(config)# fex 100
switch(config-fex)# fcoe
switch(config-fex)# exit
switch(config)# interface vfc 1
switch(config-if)# bind interface eth101/1/1
```

```
switch(config)# interface eth101/1/1
switch(config-if)# channel-group 1
switch(config)# fex 102
switch(config-fex)# fcoe
switch(config)# interface vfc 1
switch(config-if)# bind interface eth102/1/2
switch(config)# interface eth102/1/2
switch(config-if)# channel-group 1
switch(config-if)#
```

This example shows how to configure FCoE traffic on a VLAN:

```
switch# configure terminal
switch(config)# vlan 5
switch(config-vlan)# fcoe vsan 1
switch(config-vlan)#
```

This example shows how to disable FCoE on a FEX:

```
switch# configure terminal
switch(config)# fex 100
switch(config-fex)# no fcoe
switch(config-fex)#
```

Related Commands	Command	Description
	feature fcoe	Enables the FCoE feature on the switch.
	feature fex	Enables the FEX feature on the switch.
	feature lacp	Enables the Link Aggregation Control Protocol (LACP).
	show fex	Displays information about a specific FEX.

fcoe fcf-priority

To configure the FCoE Initialization Protocol (FIP) priority value advertised by the Fibre Channel Forwarder (FCF) to FCoE nodes (ENodes), use the **fcoe fcf-priority** command. To revert to the default FCF priority value, use the **no** form of this command.

> **fcoe fcf-priority** *value*

> **no fcoe fcf-priority** *value*

Syntax Description	*value*	FCF priority value. The range is from 0 to 255, and the default is 128.

Command Default   128

Command Modes   Global configuration mode
Interface vFC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, you must enable FCoE on the switch by using the **feature fcoe** command.

The Cisco Nexus 5000 Series switch advertises its priority. The priority is used by the converged network adapters (CNAs) in the fabric to determine the best switch to connect to.

Examples   This example shows how to configure the FCF priority on the switch:

```
switch(config)# fcoe fcf-priority 50
switch(config)#
```

Related Commands

Command	Description
fcoe fcmap	Configures the FCoE MAC address prefix (FC-Map) value.
fcoe fka-adv-period	Configures the time interval at which FIP keep alive (FKA) messages are transmitted to the MAC address of the ENode.
feature fcoe	Enables FCoE on the switch.
show fcoe	Displays the FCoE parameters, such as FC-Map, default FCF priority value, and FKA advertisement period.

fcoe fcmap

To configure the FCoE MAC address prefix (FC-Map) used to associate the FCoE node (ENode), use the **fcoe fcmap** command. To restore the default global FC-Map value of 0xefc00, use the **no** form of this command.

fcoe fcmap *value*

no fcoe fcmap *value*

Syntax Description	*value*	FC-Map value. The range is from 0xefc00 to 0xefcff, and the default is 0xefc00.

Command Default   0xefc00

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, you must enable FCoE on the switch by using the **feature fcoe** command.

You can prevent data corruption due to cross-fabric talk by configuring an FC-Map, which identifies the Fibre Channel fabric for this Cisco Nexus 5000 Series switch. When the FC-Map is configured, the switch discards the MAC addresses that are not part of the current fabric.

This command requires a license.

Examples   This example shows how to configure the FC-Map value on the switch:

```
switch(config)# fcoe fcmap 0xefc10
switch(config)#
```

Related Commands

Command	Description
fcoe fcf-priority	Configures the FCoE Initialization Protocol (FIP) priority value.
fcoe fka-adv-period	Configures the time interval at which FIP keep alive (FKA) messages are transmitted to the MAC address of the ENode.
feature fcoe	Enables FCoE on the switch.
show fcoe	Displays the FCoE parameters, such as an FC-Map, default FCF priority value, and FKA advertisement period.

fcoe fka-adv-period

To configure the time interval at which FIP keep alive (FKA) messages are transmitted to the MAC address of the FCoE node (ENode), use the **fcoe fka-adv-period** command. To revert to the default value of 128 seconds, use the **no** form of this command.

fcoe fka-adv-period *value*

no fcoe fka-adv-period *value*

Syntax Description	*value*	FKA advertisement period (in seconds). The range is from 4 to 60 seconds, and the default is 8.

Command Default   8 seconds

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, FCoE must be enabled on the switch, using the **feature fcoe** command.

Examples   This example shows how to configure the FKA advertisement period for the switch to 5 seconds:

```
switch(config)# fcoe fka-adv-period 5
switch(config)#
```

Related Commands

Command	Description
fcoe fcf-priority	Configures the FCoE Initialization Protocol (FIP) priority value.
fcoe fcmap	Configures the FCoE MAC address prefix (FC-Map) used to associate the FCoE node (ENode).
feature fcoe	Enables FCoE on the switch.
show fcoe	Displays the FCoE parameters, such as an FC-Map, default FCF priority value, and FKA advertisement period.
show fcoe database	Displays the FCoE database information.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

fcoe veloopback

To enable a virtual fabric ID (VFID) check for virtual E (VE) ports, use the **fcoe veloopback** command. To disable checking of VE ports, use the **no** form of this command.

fcoe veloopback

no fcoe veloopback

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, make sure that you enable Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV) on the switch by using the **feature fcoe-npv** command.

This command requires the FCoE NPV license.

Examples   This example shows how to enable VFID checks for VE ports:

```
switch# configure terminal
switch(config)# fcoe veloopback
switch(config)#
```

This example shows how to disable VFID checks for VE ports:

```
switch# configure terminal
switch(config)# no fcoe veloopback
switch(config)#
```

Related Commands

Command	Description
feature fcoe-npv	Enables the FCoE NPV feature.
show fcoe-npv issu-impact	Displays FCoE NPV configuration information.

fcoe vsan

To map a Virtual SAN (VSAN) to a VLAN that carries Fibre Channel over Ethernet (FCoE) traffic, use the **fcoe vsan** command. To remove the mapping, use the **no** form of this command.

> **fcoe vsan** [*vsan_ID*]

> **no fcoe vsan** [*vsan_ID*]

Syntax Description	*vsan_ID*	(Optional) VSAN ID. The range is from 1 to 4094.

Command Default   None

Command Modes   Vlan configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you map the FCoE VLAN to the VSAN, make sure that you create a VSAN using the **vsan** command in the Vsan database configuration mode.

You should use an FCoE VLAN only for FCoE. Do not use the default VLAN, VLAN1, as an FCoE VLAN. FCoE is not supported on private VLANs.

When you map a FCoE VLAN to a VSAN, ensure that the VSAN is not mapped to any other FCoE VLAN. If you map a FCoE VLAN to a VSAN that is already mapped to another FCoE VLAN, the following error appears:

```
vlan 30:another FCOE VLAN mapping exists using the requested VSAN
```

If you do not specify a VSAN number, a mapping is created from the FCoE VLAN in use to the VSAN with the same number.

Examples   This example shows how to map a FCoE VLAN to a VSAN:

```
switch(config)# vlan 30
switch(config-vlan)# fcoe vsan 337
switch(config-vlan)#
```

Related Commands

Command	Description
show vsan	Displays the configuration information of VSANs.
show vlan fcoe	Displays the FCoE VLAN to VSAN mappings.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

Command	Description
show vsan membership	Displays VSAN membership information.
vsan	Configures the VSAN information or membership.
vsan database	Enters the VSAN database mode.

fcping

To ping an N port, use the **fcping** command.

> **fcping** {**device-alias** *aliasname* | **fcid** {*fc-port* | *domain-controller-id*} | **pwwn** *pwwn-id*} **vsan**
> *vsan-id* [**count** *number* [**timeout** *value* [**usr-priority** *priority*]]]

Syntax Description

device-alias *aliasname*	Specifies the device alias name. The name can be a maximum of 64 characters.
fcid	Specifies the FCID of the destination N port.
fc-port	FCID port, with the format *0xhhhhhh*.
domain-controller-id	Controller ID to connect to the destination switch.
pwwn *pwwn-id*	Specifies the port WWN of the destination N port, with the format *hh:hh:hh:hh:hh:hh:hh:hh*.
vsan *vsan-id*	Specifies the VSAN ID of the destination N port. The range is from 1 to 4093.
count *number*	(Optional) Specifies the number of frames to send. A value of 0 sends forever. The range is from 0 to 2147483647.
timeout *value*	(Optional) Specifies the timeout value in seconds. The range is from 1 to 10, and the default period to wait is 5 seconds.
usr-priority *priority*	(Optional) Specifies the priority the frame receives in the switch fabric. The range is from 0 to 1.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To obtain the domain controller ID, concatenate the domain ID with FFFC. For example, if the domain ID is 0xda(218), the concatenated ID is 0xfffcda.

Examples   This example shows how to configure an fcping operation for the FCID of the destination. By default, five frames are sent.

```
switch# fcping fcid 0xd70000 vsan 1
```

This example shows how to configure the number of frames to be sent using the count option. The range is from 0 through 2147483647. A value of 0 will ping forever.

```
switch# fcping fcid 0xd70000 vsan 1 count 10
```

This example shows how to configure the timeout value:

```
switch# fcping fcid 0xd500b4 vsan 1 timeout 10
```

This example shows how to display the fcping operation using the device alias of the specified destination:

```
switch# fcping device-alias x vsan 1
```

Related Commands	**Command**	**Description**
	show fcdomain	Displays the Fibre Channel domain (fcdomain) information.

fcroute

To configure Fibre Channel routes and to activate policy routing, use the **fcroute** command. To remove a configuration or revert to factory defaults, use the **no** form of this command.

> **fcroute** {*fcid* [*network-mask*] **interface** {**fc** *slot*/*port* | **san-port-channel** *port* | **vfc** *vfc-id*} **domain** *domain-id* {**metric** *number* | **remote** | **vsan** *vsan-id*}}

> **no fcroute** {*fcid* [*network-mask*] **interface** {**fc** *slot*/*port* | **san-port-channel** *port* | **vfc** *vfc-id*} **domain** *domain-id* {**metric** *number* | **remote** | **vsan** *vsan-id*}}

Syntax Description

fcid	FC ID. The format is 0xhhhhhh.
network-mask	(Optional) Network mask of the FC ID. The format is 0x0 to 0xffffff.
interface	Specifies an interface.
fc *slot*/*port*	Specifies a Fibre Channel interface and its slot number and port number.
san-port-channel *port*	Specifies a SAN port channel interface.
vfc *vfc-id*	Specifies a virtual Fibre Channel interface.
domain *domain-id*	Specifies the route for the domain of the next hop switch. The range is from 1 to 239.
metric *number*	Specifies the cost of the route. The range is from 1 to 65535. Default cost is 10.
remote	Configures the static route for a destination switch remotely connected.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use this command to assign forwarding information to the switch and to activate a preferred path route map.

Examples   This example shows how to specify the Fibre Channel interface and the route for the domain of the next hop switch for VSAN 2:

```
switch(config)# fcroute 0x111211 interface fc3/1 domain 3 vsan 2
```

This example shows how to specify the SAN port channel interface and the route for the domain of the next hop switch for VSAN 4:

```
switch(config)# fcroute 0x111211 interface san-port-channel 1 domain 3 vsan 4
```

This example shows how to specify the Fibre Channel interface, the route for the domain of the next hop switch, and the cost of the route for VSAN 1:

```
switch(config)# fcroute 0x031211 interface fc1/1 domain 3 metric 1 vsan 1
```

This example shows how to specify the Fibre Channel interface, the route for the domain of the next hop switch, the cost of the route, and configures the static route for a destination switch remotely connected for VSAN 3:

```
switch(config)# fcroute 0x111112 interface fc3/1 domain 3 metric 3 remote vsan 3
```

Related Commands	Command	Description
	show fcroute	Displays Fibre Channel routes.
	fcroute-map	Specifies a preferred path Fibre Channel route map.
	show fcroute-map	Displays the preferred path route map configuration and status.
	fcroute policy fcroute-map	Activates the preferred path Fibre Channel route map.

fcs plat-check-global

To enable Fabric Configuration Server (FCS) platform and node-name checking fabric wide, use the **fcs plat-check-global** command. To disable this feature, use the **no** form of this command.

> **fcs plat-check-global vsan** *vsan-id*

> **no fcs plat-check-global vsan** *vsan-id*

Syntax Description	**vsan** *vsan-id*	Specifies the VSAN ID for platform checking, which is from 1 to 4096.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to enable FCS platform and node-name checking fabric wide:

```
switch(config)# fcs plat-check-global vsan 2
```

Related Commands

Command	Description
show fcs	Displays fabric configuration server information.

fcs register

To register Fabric Configuration Server (FCS) attributes, use the **fcs register** command. To disable this feature, use the **no** form of this command.

> **fcs register**

> **no fcs register**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to register FCS attributes:

```
switch(config)# fcs register
```

Related Commands

Command	Description
show fcs	Displays fabric configuration server information.

fcs virtual-device-add

To include a virtual device in a query about zone information from an FCS, use the **fcs virtual-device-add** command. To remove a virtual device, use the **no** form of this command.

> **fcs virtual-device-add** [**vsan-ranges** *vsan-ids*]

> **no fcs virtual-device-add** [**vsan-ranges** *vsan-ids*]

Syntax Description

vsan-ranges *vsan-ids*	(Optional) Specifies one or multiple ranges of VSANs. The range is from 1 to 4093.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   VSAN ranges are entered as *vsan-ids***-***vsan-ids*. When you specify more than one range, separate each range with a comma. If no range is specified, the command applies to all VSANs.

Examples   This example shows how to add to one range of VSANs:

```
switch(config)# fcs virtual-device-add vsan-ranges 2-4
```

This example shows how to add to more than one range of VSANs:

```
switch(config)# fcs virtual-device-add vsan-ranges 2-4,5-8
```

Related Commands

Command	Description
show fcs	Displays fabric configuration server information.

fcsp

To configure a Fibre Channel Security Protocol (FC-SP) authentication mode for a specific interface in a FC-SP-enabled switch, use the **fcsp** command. To disable an FC-SP on the interface, use the **no** form of this command.

fcsp {**auto-active** | **auto-passive** | **on** | **off**} [*timeout-period*]

no fcsp

Syntax Description		
auto-active	Configures the auto-active mode to authenticate the specified interface.
auto-passive	Configures the auto-passive mode to authenticate the specified interface.
on	Configures the on mode to authenticate the specified interface.
off	Configures the off mode to authenticate the specified interface.
timeout-period	(Optional) Time out period to reauthenticate the interface. The time ranges from 0 (default—no authentication is performed) to 100,000 minutes.

Command Default   Auto-passive mode

Command Modes   Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To use this command, FC-SP must be enabled using the **feature fcsp** command.

Examples   This example shows how to turn on the authentication mode for Fibre Channel interface in port 1 of slot 2:

```
switch(config)# interface fc 2/1
switch(config-if)# fcsp on
switch(config-if)#
```

This example shows how to revert to the factory default of auto-passive for the selected interface:

```
switch(config-if)# no fcsp
```

This example shows how to change the selected interface to initiate FC-SP authentication but does not permit reaunthentication:

```
switch(config-if)# fcsp auto-active 0
```

Related Commands	**Command**	**Description**
	feature fcsp	Enables FC-SP.
	show interface	Displays an interface configuration for a specified interface.

fcsp dhchap

To configure DHCHAP options in a switch, use the **fcsp dhchap** command. To revert to the factory defaults, use the **no** form of this command.

> **fcsp dhchap** {**devicename** *switch-wwn* **password** [**0** | **7**] *password* |
>   **dhgroup** [**0**] [**1**][**2**][**3**][**4**] | **hash** [**md5** | **sha1**] | **password** [**0** | **7**] *password* [*wwn-id*]}

> **no fcsp dhchap** {**devicename** *switch-wwn* **password** [**0** | **7**] *password* |
>   **dhgroup** [**0**] [**1**][**2**][**3**][**4**] | **hash** [**md5** | **sha1**] | **password** [**0** | **7**] *password* [*wwn-id*]}

Syntax Description

devicename	Configures a password of another device in the fabric.
switch-wwn	WWN of the device being configured.
password	Configures a DHCHAP password for the local switch.
0	(Optional) Specifies a clear text password.
7	(Optional) Specifies a password in encrypted text.
dhgroup	Configures a DHCHAP Diffie-Hellman group priority list.
0	(Optional) Specifies Null DH—no exchange is performed (default).
1 | **2** | **3** | **4**	(Optional) Specifies one or more of the groups specified by the standards.
hash	Configures a DHCHAP hash algorithm priority list in order of preference.
md5	(Optional) Specifies the MD5 hash algorithm.
sha1	(Optional) Specifies the SHA-1 hash algorithm.
wwn-id	(Optional) Specifies the WWN ID with the format hh:hh:hh:hh:hh:hh:hh:hh.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You can only see the **fcsp dhchap** command if you enter the **feature fcsp** command.

Using SHA-1 as the hash algorithm may prevent RADIUS or TACACS+ usage.

If you change the DH group configuration, make sure that you change it globally for all switches in the fabric.

Examples   This example shows how to enable FC-SP:

```
switch(config)# # feature fcsp
```

This example shows how to configure the use of only the SHA-1 hash algorithm:

```
switch(config)# fcsp dhchap hash sha1
```

This example shows how to configure the use of only the MD-5 hash algorithm:

```
switch(config)# fcsp dhchap hash md5
```

This example shows how to define the use of the default hash algorithm priority list of MD-5 followed by SHA-1 for DHCHAP authentication:

```
switch(config)# fcsp dhchap hash md5 sha1
```

This example shows how to revert to the factory default priority list of the MD-5 hash algorithm followed by the SHA-1 hash algorithm:

```
switch(config)# no fcsp dhchap hash sha1
```

This example shows how to prioritize the use of DH group 2, 3, and 4 in the configured order:

```
switch(config)# fcsp dhchap dhgroup 2 3 4
```

This example shows how to configure a clear text password for the local switch:

```
switch(config)# fcsp dhchap password 0 mypassword
```

This example shows how to configure a clear text password for the local switch to be used for the device with the specified WWN:

```
switch(config)# fcsp dhchap password 0 mypassword 30:11:bb:cc:dd:33:11:22
```

This example shows how to configure a password entered in an encrypted format for the local switch:

```
switch(config)# fcsp dhchap password 7 sfsfdf
```

Related Commands	Command	Description
	feature fcsp	Enables FC-SP.
	show fcsp	Displays configured FC-SP information.

fcsp reauthenticate

To reauthenticate a Fibre Channel or virtual Fibre Channel interface, use the **fcsp reauthenticate** command. To revert to the factory defaults, use the **no** form of this command.

fcsp reauthenticate interface {**fc** *slot*/*port* | **vfc** *vfc-id*}

no fcsp reauthenticate interface {**fc** *slot*/*port* | **vfc** *vfc-id*}

Syntax Description

interface	Specifies the interface on which to perform the reauthentication.
fc *slot*/*port*	Specifies the Fibre Channel interface slot number and port number.
vfc *vfc-id*	Specifies the virtual Fibre Channel interface by the virtual interface group number and virtual interface ID.

Command Default   30 seconds

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to configure the Fibre Channel Security Protocol (FC-SP) reauthentication on a virtual Fibre Channel interface:

```
switch# fcsp reauthenticate vfc 1
```

Related Commands

Command	Description
feature fcsp	Enables FC-SP.
show fcsp	Displays configured FC-SP information.

fcsp timeout

To configure the timeout value for a Fibre Channel Security Protocol (FC-SP) message, use the **fcsp timeout** command. To revert to the factory defaults, use the **no** form of this command.

fcsp timeout *timeout-period*

no fcsp timeout *timeout-period*

Syntax Description		
	timeout-period	Timeout period. The time range is from 20 to 100 seconds.

Command Default 30 seconds

Command Modes Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines You can only see the **fcsp timeout** command if you enable FC-SP by using the **feature fcsp** command.

Examples This example shows how to configure the FCSP timeout value:

```
switch(config)# feature fcsp
switch(config)# fcsp timeout 60
```

Related Commands	Command	Description
	feature fcsp	Enables FC-SP.
	show fcsp	Displays configured FC-SP information.

fctimer

To change the default Fibre Channel timers, use the **fctimer** command. To revert to the default values, use the **no** form of this command.

> **fctimer** {**d_s_tov** *milliseconds* | **e_d_tov** *milliseconds* | **r_a_tov** *milliseconds*} [**vsan** *vsan-id*]

> **no fctimer** {**d_s_tov** *milliseconds* | **e_d_tov** *milliseconds* | **r_a_tov** *milliseconds*} [**vsan** *vsan-id*]

Syntax Description

d_s_tov *milliseconds*	Specifies the distributed services timeout value (DS_TOV). The range is from 5000 to 100000 milliseconds.
e_d_tov *milliseconds*	Specifies the error detect timeout value (ED_TOV). The range is from 1000 to 100000 milliseconds, with a default of 2000.
r_a_tov *milliseconds*	Specifies the resolution allocation timeout value (RA_TOV). The range is from 5000 to 100000 milliseconds with a default of 10000.
vsan *vsan-id*	(Optional) Specifies the VSAN ID. The range is from 1 to 4096.

Command Default

The Fibre Channel timers have the following default values:

- 30 seconds for DS_TOV.
- 2 seconds for ED_TOV.
- 10 seconds for RA_TOV.

Command Modes

Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

The Cisco, Brocade, and McData FC Error Detect (ED_TOV) and Resource Allocation (RA_TOV) timers default to the same values. They can be changed if needed. In accordance with the FC-SW2 standard, these values must be the same on each switch in the fabric.

Use the **vsan** option to configure different TOV values for specific VSANs.

Examples

This example shows how to change the default Fibre Channel timers:

```
switch(config)# fctimer e_d_tov 5000
switch(config)# fctimer r_a_tov 7000
```

Related Commands

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

fctimer abort

To discard a Fibre Channel timer (fctimer) Cisco Fabric Services (CFS) distribution session in progress, use the **fctimer abort** command.

fctimer abort

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to discard a CFS distribution session in progress:

```
switch(config)# fctimer abort
```

Related Commands

Command	Description
fctimer distribute	Enables CFS distribution for the fctimer.
show fctimer	Displays fctimer information.

fctimer commit

To apply the pending configuration pertaining to the Fibre Channel timer (fctimer) Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **fctimer commit** command.

> **fctimer commit**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to commit changes to the active Fibre Channel timer configuration:

```
switch(config)# fctimer commit
```

Related Commands

Command	Description
fctimer distribute	Enables CFS distribution for the fctimer.
show fctimer	Displays fctimer information.

fctimer distribute

To enable Cisco Fabric Services (CFS) distribution for the Fibre Channel timer (fctimer), use the **fctimer distribute** command. To disable this feature, use the **no** form of this command.

fctimer distribute

no fctimer distribute

Syntax Description	This command has no arguments or keywords.

Command Default	Disabled

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before distributing the Fibre Channel timer changes to the fabric, the temporary changes to the configuration must be committed to the active configuration using the **fctimer commit** command.

Examples   This example shows how to change the default Fibre Channel timer:

```
switch(config)# fctimer distribute
```

Related Commands

Command	Description
fctimer commit	Commits the Fibre Channel timer configuration changes to the active configuration.
show fctimer	Displays fctimer information.

fctrace

To trace the route to an N port, use the **fctrace** command.

> **fctrace** {**device-alias** *aliasname* | **fcid** *fcid* | **pwwn** *pwwn-id*} **vsan** *vsan-id* [**timeout** *seconds*]

Syntax Description

device-alias *aliasname*	Specifies the device alias name. The name can be a maximum of 64 characters.
fcid *fcid*	Specifies the FCID of the destination N port, with the format **0x***hhhhhh*.
pwwn *pwwn-id*	Specifies the PWWN of the destination N port, with the format *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.
timeout *seconds*	(Optional) Specifies the timeout value. The range is from 1 to 10.

Command Default   By default, the period to wait before timing out is 5 seconds.

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to trace a route to the specified FCID in VSAN 1:

```
switch# fctrace fcid 0x660000 vsan 1
```

This example shows how to trace a route to the specified device alias in VSAN 1:

```
switch# fctrace device-alias x vsan 1
```

Related Commands

Command	Description
fcping	Pings an N port.

fdmi suppress-updates

To suppress Fabric-Device Management Interface (FDMI) updates, use the **fdmi suppress-updates** command.

fdmi suppress-updates vsan *vsan-id*

Syntax Description	**vsan** *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   By default, FDMI updates are not suppressed.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to suppress the FDMI updates in VSAN 1:

```
switch# fdmi suppress-updates vsan 1
```

Related Commands	Command	Description
	show fdmi	Displays the FDMI database information.

feature fabric-binding

To enable fabric binding in a Virtual SAN (VSAN), use the **feature fabric-binding** command. To disable fabric binding, use the **no** form of this command.

feature fabric-binding

no feature fabric-binding

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Fabric binding is configured on a per-VSAN basis.

The fabric binding feature must be enabled in each switch in the fabric that participates in the fabric binding.

Examples   This example shows how to enable fabric binding on the switch:

```
switch# configure terminal
switch(config)# feature fabric-binding
switch(config)#
```

This example shows how to disable fabric binding on the switch:

```
switch# configure terminal
switch(config)# no feature fabric-binding
switch(config)#
```

Related Commands

Command	Description
fabric-binding activate	Activates fabric binding.
fabric-binding database	Configures a fabric-binding database.

feature fc-port-security

To enable port security, use the **feature fc-port-security** command. To disable port security, use the **no** form of this command.

feature fc-port-security

no feature fc-port-security

Syntax Description	This command has no arguments or keywords.

Command Default	Disabled

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Entering the **feature fc-port-security** command enables the other commands that are used to configure FC port security.

Examples   This example shows how to enable port security:

```
switch(config)# feature fc-port-security
```

This example shows how to disable port security:

```
switch(config)# no feature fc-port-security
```

Related Commands

Command	Description
show fc-port-security	Displays port security information.

feature fcoe

To enable virtual and native Fibre Channel interfaces after installing the FC_FEATURES_PKG license, use the **feature fcoe** command. To disable Fibre Channel interfaces and return the FC_FEATURES_PKG license to the license manager software, use the **no** form of this command.

feature fcoe

no feature fcoe

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You must save the configuration, and then reboot the switch to enable or disable the FCoE feature.

Examples   This example shows how to enable FCoE on the switch:

```
switch(config)# feature fcoe
```

Related Commands

Command	Description
fcoe	Configures FCoE parameters.
show feature	Displays whether or not FCoE is enabled on the switch.

feature fcoe-npv

To enable Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV), use the **feature fcoe-npv** command. To disable FCoE NPV, use the **no** form of this command.

> **feature fcoe-npv**

> **no feature fcoe-npv**

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You cannot enable the FCoE NPV feature if you have previously enabled FCoE (using the **feature fcoe** command) on the switch. To enable FCoE NPV, you must disable the FCoE feature, reload the system, and then enable FCoE NPV on the switch.

This command requires the FCoE NPV license.

Examples   This example shows how to enable FCoE NPV on the switch:

```
switch(config)# feature fcoe-npv
FCoE NPV license checked out successfully
fc_plugin extracted successfully
FC plugin loaded successfully
FCoE manager enabled successfully
FCoE NPV enabled on all modules successfully
Warning: Ensure class-fcoe is included in qos policy-maps of all types
switch(config)#
```

This example shows how to disable FCoE NPV on the switch:

```
switch(config)# no feature fcoe-npv
switch(config)#
```

Related Commands

Command	Description
bind mac-address	Binds a MAC address to a virtual Fibre Channel interface.
show feature	Displays whether or not FCoE is enabled on the switch.

feature fcsp

To enable the Fibre Channel Security Protocol (FC-SP) in a switch, use the **feature fcsp** command. To disable FC-SP, use the **no** form of this command.

feature fcsp

no feature fcsp

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Additional FC-SP commands are available when the FC-SP feature is enabled.

Examples   This example shows how to enable FC-SP:

```
switch(config)# feature fcsp
```

Related Commands

Command	Description
show fcsp	Displays configured FC-SP information.

feature fex

To enable Fabric Extender (FEX) features on the switch, use the **feature fex** command. To disable FEX, use the **no** form of this command.

feature fex

no feature fex

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to enable FEX features on the switch:

```
switch# configure terminal
switch(config)# feature fex
switch(config)#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.
show feature	Displays the features enabled or disabled on the switch.

feature npiv

To enable N Port Identifier Virtualization (NPIV) for all Virtual SANs (VSANs) on a switch, use the **feature npiv** command. To disable NPIV, use the **no** form of this command.

feature npiv

no feature npiv

Syntax Description	This command has no arguments or keywords.

Command Default	Disabled

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   NPIV provides a means to assign multiple port IDs to a single N port. This feature allows multiple applications on the N port to use different identifiers and allows access control, zoning, and port security to be implemented at the application level.

You must globally enable NPIV for all VSANs on the switch to allow the NPIV-enabled applications to use multiple N port identifiers.

Examples   This example shows how to enable NPIV for all VSANs on the switch:

```
switch(config)# feature npiv
```

This example shows how to disable NPIV for all VSANs on the switch:

```
switch(config)# no feature npiv
```

Related Commands

Command	Description
show interface	Displays interface configurations.

feature npv

To enable N Port Virtualization (NPV) mode, use the **feature npv** command. To disable this feature, use the **no** form of this command.

feature npv

no feature npv

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When NPV mode is enabled, switch configuration related to interfaces is erased and the switch is rebooted. The switch restarts in NPV mode. Configuration and verification commands for NPV are available only when NPV is enabled on the switch. When you disable NPV mode, all related configurations are automatically erased and the switch is rebooted.

Examples   This example shows how to enable NPV mode:

```
switch(config)# feature npv
```

Related Commands

Command	Description
show npv status	Displays the NPV current status.

feature port-track

To enable port tracking for indirect errors, use the **feature port-track** command. To disable this feature, use the **no** form of this command.

> **feature port-track**

> **no feature port-track**

Syntax Description	This command has no arguments or keywords.

Command Default	Disabled

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines The software brings the linked port down when the tracked port goes down. When the tracked port recovers from the failure and comes back up again, the tracked port is also brought up automatically (unless otherwise configured).

Examples This example shows how to enable port tracking:

```
switch(config)# feature port-track
```

This example shows how to disable port tracking:

```
switch(config)# no feature port-track
```

Related Commands

Command	Description
show interface fc	Displays configuration and status information for a specified Fibre Channel interface.
show interface san-port-channel	Displays configuration and status information for a specified SAN port channel interface.

feature-set virtualization

To enable the Cisco virtual machine features on the switch, use the **feature-set virtualization** command. To disable the virtualization feature, use the **no** form of this command.

> **feature-set virtualization**

> **no feature-set virtualization**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use this command, make sure that you install the virtualization feature set on the switch by using the **install feature-set virtualization** command.

You cannot view or access any virtualization commands until you enable a Cisco virtual machine on the switch.

> **Note**   You must install the Cisco virtual machine feature set before you enable virtualization on the switch.

Before you disable this feature on the switch, do the following:

- Remove all virtual Ethernet interface configurations on the switch.
- Remove all virtual network tag (VNTag) configurations on the switch.
- Remove all port profiles of type vethernet.
- Change the port mode to access by using the **switchport mode access** command.

This command requires an Enhanced Layer 2 license.

Examples   This example shows how to enable the virtualization feature on the switch:

```
switch# configure terminal
switch(config)# feature-set virtualization
switch(config)#
```

This example shows how to disable the virtualization feature on the switch:

```
switch# configure terminal
switch(config)# no feature-set virtualization
```

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

```
switch(config)#
```

Related Commands	Command	Description
	interface vethernet	Configures virtual Ethernet (vEth) interfaces.
	install feature-set virtualization	Installs the virtualization feature set on the switch.
	show feature-set	Displays the status of the virtualization feature set.

fex

To create a Cisco Nexus 2000 Series Fabric Extender and enter fabric extender configuration mode, use the **fex** command. To delete the Fabric Extender configuration, use the **no** form of this command.

fex *chassis_ID*

no fex *chassis_ID*

Syntax Description	*chassis_ID*	Fabric Extender chassis ID. The chassis ID range is from 100 to 199.

Command Default   None

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You can create and configure the Fabric Extender before you connect and associate it to an interface on the parent switch. Once you associate the Fabric Extender to the switch, the configuration you created is transferred over to the Fabric Extender and applied.

Examples   This example shows how to enter Fabric Extender configuration mode:

```
switch# configure terminal
switch(config)# fex 101
switch(config-fex)#
```

This example shows how to delete the Fabric Extender configuration:

```
switch# configure terminal
switch(config)# no fex 101
switch(config)#
```

Related Commands	Command	Description
	fcoe	Attaches a Fabric Extender to a switch for Fibre Channel over Ethernet (FCoE) traffic.
	show fex	Displays all configured Fabric Extender chassis connected to the switch.

fspf config

To configure an Fabric Shortest Path First (FSPF) feature for an entire Virtual SAN (VSAN), use the **fspf config** command. To delete an FSPF configuration for the entire VSAN, use the **no** form of this command.

> **fspf config vsan** *vsan-id*
>   **min-ls-arrival** *ls-arrival-time*
>   **min-ls-interval** *ls-interval-time*
>   **region** *region-id*
>   **spf** {**hold-time** *spf-holdtime* | **static**}
>
>   **no min-ls-arrival**
>   **no min-ls-interval**
>   **no region**
>   **no spf** {**hold-time** | **static**}
>
> **no fspf config** vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.
min-ls-arrival *ls-arrival-time*	Specifies the minimum time before a new link state update for a domain will be accepted by the switch. *ls-arrival-time* is an integer that specifies time in milliseconds. The range is from 0 to 65535.
min-ls-interval *ls-interval-time*	Specifies the minimum time before a new link state update for a domain will be generated by the switch. *ls-interval-time* is an integer that specifies time in milliseconds. The range is from 0 to 65535.
region *region-id*	Specifies the autonomous region to which the switch belongs. The backbone region has region-id=0. *region-id* is an unsigned integer value ranging from 0 to 255.
spf	Specifies parameters related to the shortest path first (SPF) route computation.
hold-time *spf-holdtime*	Specifies the time between two consecutive SPF computations. If the time is small, then routing will react faster to changes but CPU usage will be more. *spf-holdtime* is an integer that specifies time in milliseconds. The range is from 0 to 65535.
static	Forces static SPF computation.

Command Default

This command is not applicable to virtual Fibre Channel interfaces.

In FSPF configuration mode, the default is dynamic SPF computation.

If configuring the *spf hold-time*, the default value for FSPF is 0.

If configuring the *min-ls-arrival*, the default value for FSPF is 1000 milliseconds.

If configuring the *min-ls-interval*, the default value for FSPF is 5000 milliseconds.

Command Modes

Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **fspf config** command enters FSPF configuration mode for the specified Virtual SAN (VSAN). In FSPF configuration mode, the commands configure FSPF for this VSAN.

Examples   This example shows how to configure a static SPF computation in VSAN 1 and delete the FSPF configuration in VSAN 3:

```
switch(config)# fspf config vsan 1
switch(fspf-config)# spf static
switch(fspf-config)# exit
switch(config)# no fspf config vsan 3
switch(config)#
```

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.
	fspf enable	Enables FSPF routing protocol in the specified VSAN.
	fspf cost	Configures the cost for the selected interface in the specified VSAN.
	fspf hello-interval	Specifies the hello message interval to verify the health of a link in the VSAN.
	fspf passive	Disables the FSPF protocol for the specified interface in the specified VSAN.
	fspf retransmit	Specifies the retransmit time interval for unacknowledged link state updates in the specified VSAN.

fspf cost

To configure the Fabric Shortest Path First (FSPF) link cost for a Fibre Channel over IP (FCIP) interface or virtual Fibre Channel interface, use the **fspf cost** command. To revert to the default value, use the **no** form of this command.

fspf cost *link-cost* **vsan** *vsan-id*

no fspf cost *link-cost* **vsan** *vsan-id*

Syntax Description	*link-cost*	FSPF link cost, in seconds.
		For an FCIP interface, the range is from 1 to 65535.
		For a virtual FC interface, the range is from 1 to 30000.
	vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   1000 seconds for 1 Gigabits per second interfaces
500 seconds for 2 Gigabits per second interfaces

Command Modes   Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   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.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples   This example shows how to configure the FSPF link cost on an FCIP interface:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf cost 5000 vsan 1
```

This example shows how to configure the FSPF link cost on a virtual Fibre Channel interface:

```
switch(config)# interface vfc 5
switch(config-if)# fspf cost 2100 vsan 1
switch(config-if)#
```

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.
	show interface fc	Displays an interface configuration for a specified Fibre Channel interface.
	switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

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

fspf dead-interval *seconds* **vsan** *vsan-id*

no fspf dead-interval *seconds* **vsan** *vsan-id*

Syntax Description		
seconds	FSPF dead interval in seconds. The range is from 2 to 65535.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default 80 seconds

Command Modes Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines 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.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples This example shows how to configure the maximum interval of 4000 seconds for a hello message before the neighbor is considered lost:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf dead-interval 4000 vsan 1
switch(config-if)#
```

This example shows how to configure the maximum interval of 300 seconds for a hello message in a virtual Fibre Channel interface before the neighbor is considered lost:

```
switch(config)# interface vfc 5
switch(config-if)# fspf dead-interval 300 vsan 1
switch(config-if)#
```

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.
	show interface fc	Displays an interface configuration for a specified Fibre Channel interface.
	switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

fspf enable

To enable Fabric Shortest Path First (FSPF) for a Virtual SAN (VSAN), use the **fspf enable** command. To disable FSPF routing protocols, use the **no** form of this command.

fspf enable vsan *vsan-id*

no fspf enable vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command is not applicable to virtual Fibre Channel interfaces.

This command configures FSPF on VSANs globally.

Examples   This example shows how to enable a FSPF in VSAN 5 and disable FSPF in VSAN 7:

```
switch(config)# fspf enable vsan 5
switch(config)# no fspf enable vsan 7
```

Related Commands

Command	Description
fspf config vsan	Configures FSPF features for a VSAN.
show fspf interface	Displays information for each selected interface.

fspf hello-interval

To verify the health of the link, use the **fspf hello-interval** command. To revert to the default value, use the **no** form of this command.

> **fspf hello-interval** *seconds* **vsan** *vsan-id*

> **no fspf hello-interval** *seconds* **vsan** *vsan-id*

Syntax Description

hello-interval *seconds*	Specifies the FSPF hello interval in seconds. The range is from 2 to 65535 for Fibre Channel over IP (FCIP) interfaces and from 1 to 65534 for virtual Fibre Channel interfaces.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   20 seconds

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command configures Fabric Shortest Path First (FSPF) for the specified Fibre Channel interface. This value must be the same in the ports at both ends of the ISL for Fibre Channel over IP (FCIP) interfaces.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples   This example shows how to configure a hello interval of 3 seconds on VSAN 1:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf hello-interval 3 vsan 1
```

This example shows how to configure a hello interval of 30 seconds for a virtual Fibre Channel interface on VSAN 1:

```
switch(config)# interface vfc 5
switch(config-if)# fspf hello-interval 30 vsan 1
```

Related Commands

Command	Description
show fspf interface	Displays information for each selected interface.
switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

■   **fspf hello-interval**

fspf passive

To disable the Fabric Shortest Path First (FSPF) protocol for selected interfaces, use the **fspf passive** command. To revert to the default state, use the **no** form of this command.

fspf passive vsan *vsan-id*

no fspf passive vsan *vsan-id*

Syntax Description		
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.	

Command Default   FSPF is enabled

Command Modes   Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   By default, FSPF is enabled on all E ports and TE ports of an Fibre Channel over IP (FCIP) interface. FSPF can be disabled by setting the interface as passive using the **fspf passive** command. FSPF must be enabled on the ports at both ends of the ISL for the protocol to operate correctly.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples   This example shows how to disable the FSPF protocol for an FCIP interface on VSAN 1:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf passive vsan 1
```

This example shows how to disable the FSPF protocol for a virtual Fibre Channel interface on VSAN 1 and verify the interface configuration:

```
switch(config)# interface vfc 5
switch(config-if)# fspf passive vsan 1
switch(config-if)# show fspf interface
FSPF interface vfc5 in VSAN 1
FSPF routing administrative state is passive
Timer intervals configured, Hello 30 s, Dead 300 s, Retransmit 5 s
FSPF State is DOWN

switch(config-if)#
```

Related Commands	Command	Description
	show fspf interface	Displays information for each selected interface.
	show interface fc	Displays an interface configuration for a specified FCIP interface.
	switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

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

fspf retransmit-interval *seconds* **vsan** *vsan-id*

no fspf retransmit-interval *seconds* **vsan** *vsan-id*

Syntax Description

seconds	Fabric Shortest Path First (FSPF) retransmit interval in seconds. The range is from 1 to 65535.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default

5 seconds

Command Modes

Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

This value must be the same in the ports at both ends of the ISL for Fibre Channel over IP (FCIP) interfaces.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

Examples

This example shows how to specify a retransmit interval of 6 seconds after which an unacknowledged link state update should be transmitted on the interface for VSAN 1:

```
switch(config)# interface fc 2/1
switch(config-if)# fspf retransmit-interval 6 vsan 1
```

This example shows how to specify a retransmit interval of 3 seconds after which an unacknowledged link state update should be transmitted on the virtual Fibre Channel interface on VSAN 1:

```
switch(config)# interface vfc 5
switch(config-if)# fspf retransmit-interval 3 vsan 1
```

Related Commands

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

Command	Description
show interface fc	Displays an interface configuration for a specified FCIP interface.
switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

I Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with I.

in-order-guarantee

To enable in-order delivery, use the **in-order-guarantee** command. To disable in-order delivery, use the **no** form of this command.

in-order-guarantee [**vsan** *vsan-id*]

no in-order-guarantee [**vsan** *vsan-id*] [**,**] [**-**]

Syntax Description

vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is from 1 to 4093.
[**,**] [**-**]	(Optional) Allows you to enter multiple VSANs separated by commas, or a range of VSANs separated by a dash.

Command Default Disabled

Command Modes Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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 This example shows how to enable in-order delivery for the entire switch:

```
switch(config) # in-order-guarantee
```

This example shows how to disable in-order delivery for the entire switch:

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

This example shows how to enable in-order delivery for a specific VSAN:

```
switch(config)# in-order-guarantee vsan 3452
```

This example shows how to disable in-order delivery for a specific VSAN:

```
switch(config)# no in-order-guarantee vsan 101
```

Related Commands

Command	Description
show in-order-guarantee	Displays the in-order-guarantee status.

install feature-set virtualization

To install the Cisco virtual machine feature set on the switch, use the **install feature-set virtualization** command. To remove the Cisco virtual machine feature set, use the **no** form of this command.

> **install feature-set virtualization**

> **no install feature-set virtualization**

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command requires an Enhanced Layer 2 license.

Examples   This example shows how to install the Cisco virtual machine feature set on the switch:

```
switch# configure terminal
switch(config)# install feature-set virtualization
switch(config)#
```

Related Commands

Command	Description
feature-set virtualization	Enables the Cisco Virtual Machine feature set on the switch.
show feature-set	Displays the status of the virtualization feature set.
show running-config	Displays the running system configuration information.

interface fc

To configure a Fibre Channel interface on a Cisco Nexus 5000 Series switch, use the **interface fc** command. To revert to defaults, use the **no** form of this command.

> **interface fc** *slot*/*port*
> **channel-group** {*group-id* [**force**] | **auto**}
> **fcdomain rcf-reject vsan** *vsan-id*
> **fcsp** {**auto-active** | **auto-passive** | **on** | **off**} [*timeout-period*]
> **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*}
> **switchport**

> **no interface fc** *slot*/*port*
> **no channel-group** {*group-id* [**force**] | **auto**}
> **no fcdomain rcf-reject vsan** *vsan-id*
> **no fcsp** {**auto-active** | **auto-passive** | **on** | **off**}
> **no 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*}
> **switchport**

Syntax Description

slot/*port*	Slot number and port number of the interface.
channel-group	Adds to or removes from a port channel.
group-id	Port channel group number from 1 to 128.
force	(Optional) Forcefully adds a port.
auto	Enables autocreation of port channels.
fcdomain	Enters the interface mode.
rcf-reject	Configures the rcf-reject flag.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.
fcsp	Configures Fibre Channel Security Protocol (FC-SP) parameters for a specific interface.
auto-active	Configures the auto-active mode to authenticate the specified interface.
auto-passive	Configures the auto-passive mode to authenticate the specified interface.
on	Configures the on mode to authenticate the specified interface.
off	Configures the off mode to authenticate the specified interface.
timeout-period	(Optional) Timeout period to reauthenticate the interface. The time ranges from 0 (default—no authentication is performed) to 100,000 minutes.
fspf	Configures the FSPF parameters.
cost *link-cost*	Configures the FSPF link cost. The range is from 1 to 65535.
dead-interval *seconds*	Configures the FSPF dead interval in seconds. The range is from 2 to 65535.
hello-interval *seconds*	Configures the FSPF hello-interval. The range is from 1 to 65535.
passive	Enables or disables FSPF on the interface.
retransmit-interval *seconds*	Configures the FSPF retransmit interface in seconds. The range is from 1 to 65535.
switchport	Configures switchport parameters.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

```
interface fc 1/1 - 5 , fc 2/5 - 7
```

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

The **interface fc** command enters interface configuration mode, which includes five commands (each with a no form). These five commands can only be used in the interface configuration mode.

The **channel-group auto** command enables autocreation of port channels. If autocreation of port channels is enabled for an interface, you must first disable this configuration before downgrading to earlier software versions or before configuring the interface in a manually configured channel group.

Examples   This example shows how to configure ports 1 to 4 in Fibre Channel interface 3:

```
switch(config)# interface fc 3/1 - 4
```

This example shows how to enable the Fibre Channel interface in port 1 of slot 3:

```
switch(config)# interface fc 3/1
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.

interface san-port-channel

To configure a SAN port channel interface on a Cisco Nexus 5000 Series switch, use the **interface san-port-channel** command. To revert to the defaults, use the **no** form of this command.

interface san-port-channel *port*

no interface san-port-channel *port*

Syntax Description

port	SAN port channel interface ID. The range is from 1 to 256.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command does not require a license.

Examples   This example shows how to configure SAN port channel interface 3:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)#
```

Related Commands

Command	Description
channel mode active (SAN PortChannel)	Configures a SAN port channel interface as an active port channel port.
show interface	Displays an interface configuration for a specified interface.
shutdown	Disables and enables an interface.
switchport (SAN PortChannel)	Configures switch port parameters on a SAN port channel interface.

interface vethernet

To enter interface configuration mode for a virtual Ethernet (vEth) interface, use the **interface vethernet** command. To remove a virtual Ethernet interface, use the **no** form of this command.

> **interface vethernet** *veth-id*[, **vethernet** *veth-id*, ...]

> **no interface vethernet** *veth-id*[, **vethernet** *veth-id*, ...]

Syntax Description

veth-id	Virtual Ethernet interface number. The range is from 1 to 1,048,575.
	You can specify more than one virtual Ethernet interface. Make sure you use the comma (,) separator.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before you use a virtual Ethernet interface, you must enable Cisco virtual machine feature on the switch by using the **feature-set virtualization** command.

You can create a maximum of 1000 virtual Ethernet interfaces on a Cisco Nexus 6000 switch. Before you disable the Cisco Adapter Fabric Extender (Adapter-FEX) on the switch, make sure that you delete these interfaces. After you delete a virtual Ethernet interface, make sure that you save the running configuration of the switch to the startup configuration file.

Examples   This example shows how to enter configuration mode for virtual Ethernet interface 10:

```
switch# configure terminal
switch(config)# interface vethernet 10
switch(config-if)#
```

This example shows how to remove a virtual Ethernet interface:

```
switch# configure terminal
switch(config)# no interface vethernet 2
switch(config)#
```

Related Commands

Command	Description
bind	Binds an interface to a virtual Ethernet interface.
feature-set virtualization	Enables Cisco virtual machine features on the switch.
show interface vethernet	Displays various parameters of a virtual Ethernet interface.
show running-config interface	Displays the running configuration of an interface.

interface vfc

To configure a virtual Fibre Channel interface on a Cisco Nexus 5000 Series switch, use the **interface vfc** command. To remove a virtual Fibre Channel interface, use the **no** form of this command.

> **interface vfc** *vfc-id*

> **no interface vfc** *vfc-id*

Syntax Description

vfc-id	Virtual interface ID. The range is from 1 to 8192.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

```
interface vfc 1 - 3, vfc 5 - 7
```

Examples   This example shows how to enter interface configuration mode for virtual Fibre Channel interface 3:

```
switch(config)# interface vfc 3
switch(config-if)#
```

Related Commands

Command	Description
bind	Binds the virtual Fibre Channel interface to an interface.
description	Enters a summary purpose of the virtual Fibre Channel interface.
show interface vfc	Displays the specified VFC interface, attributes, and status.
shutdown	Disables and enables an interface.
switchport (virtual Fibre Channel interface)	Configures a virtual Fibre Channel interface as a virtual E (VE) port.
switchport mode trunk	Configures an Ethernet interface as a trunk port.

L Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with L.

lldp

To configure the Link Layer Discovery Protocol (LLDP) global options, use the **lldp** command. To remove the LLDP settings, use the **no** form of this command.

> **lldp** {**holdtime** *seconds* | **reinit** *seconds* | **timer** *seconds*}

> **no lldp** {**holdtime** | **reinit** | **timer**}

Syntax Description

holdtime *seconds*	Specifies the hold time (in seconds) to set the length of time that a device should save LLDP information received before discarding it.
	The range is from 10 to 255, and the default is 120 seconds.
reinit *seconds*	Specifies the length of time (in seconds) to wait before performing LLDP initialization on any interface.
	The range is from 1 to 10 seconds, and the default is 2 seconds.
timer *seconds*	Specifies the rate (in seconds) at which LLDP packets are sent.
	The range is from 5 to 254 seconds, and the default is 30 seconds.

Command Default
Holdtime: 120 seconds.
Reinit: 2 seconds.
Timer: 30 seconds.

Command Modes
Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines
The LLDP settings include the length of time before discarding LLDP information received from peers, the length of time to wait before performing LLDP initialization on any interface, and the rate at which LLDP packets are sent.

Examples
This example shows how to configure the global LLDP holdtime to 200 seconds:

```
switch(config)# lldp holdtime 200
switch(config)#
```

Related Commands

Command	Description
lldp (Interface)	Configures the LLDP feature on an interface.
show lldp	Displays the LLDP configuration information.

lldp (interface)

To enable the reception, or transmission, of Link Layer Discovery Protocol (LLDP) packets on an interface, use the **lldp** command. To disable the reception or transmission of LLDP packets, use the **no** form of this command.

lldp {**receive** | **transmit**}

no lldp {**receive** | **transmit**}

Syntax Description		
	receive	Specifies that the interface receive LLDP packets.
	transmit	Specifies that the interface transmit LLDP packets.

Command Default   None

Command Modes   Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to set an interface to transmit LLDP packets:

```
switch(config)# interface ethernet 2/1
switch(config-if)# lldp transmit
switch(config-if)#
```

Related Commands	Command	Description
	show interface	Displays configuration information about interfaces.

logging abort

To discard the logging Cisco Fabric Services (CFS) distribution session in progress, use the **logging abort** command.

logging abort

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to discard the logging CFS distribution session in progress:

```
switch(config)# logging abort
```

Related Commands

Command	Description
show logging	Displays logging information.

logging commit

To apply the pending configuration pertaining to the logging Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **logging commit** command.

logging commit

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to commit changes to the active logging configuration:

```
switch(config)# logging commit
```

Related Commands

Command	Description
show logging	Displays logging information.

logging distribute

To enable Cisco Fabric Services (CFS) distribution for logging, use the **logging distribute** command. To disable this feature, use the **no** form of this command.

logging distribute

no logging distribute

Syntax Description   This command has no arguments or keywords.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before distributing the Fibre Channel timer changes to the fabric, the temporary changes to the configuration must be committed to the active configuration using the **logging commit** command.

Examples   This example shows how to change the distribute logging configuration changes:

```
switch(config)# logging distribute
```

Related Commands

Command	Description
logging commit	Commits the logging configuration changes to the active configuration.
show logging	Displays logging information.

M Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with M.

member (fcalias configuration mode)

To add a member name to a Fibre Channel alias on a Virtual SAN (VSAN), use the **member** command. To remove a member name from a Fibre Channel alias, use the **no** form of this command.

> **member** {**device-alias** *aliasname* | **domain-id** *domain-id* **port-number** *port-number* | **fcid** *fc-id* | **fwwn** *fwwn-id* | **interface fc** *slot/port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **pwwn** *pwwn-id* | **symbolic-nodename** *nodename*}

> **no member** {**device-alias** *aliasname* | **domain-id** *domain-id* **port-number** *port-number* | **fcid** *fc-id* | **fwwn** *fwwn-id* | **interface fc** *slot/port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **pwwn** *pwwn-id* | **symbolic-nodename** *nodename*}

Syntax Description

device-alias *aliasname*	Specifies the member device alias. The name can be a maximum of 64 characters.
domain-id *domain-id*	Specifies the member domain ID. The range is from 1 to 239.
port-number *port-number*	Specifies a port number in the range of 0 to 255.
fcid *fc-id*	Specifies the member FC ID. The format is *0xhhhhhh,* where *h* is a hexadecimal digit.
fwwn *fwwn-id*	Specifies the member fWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
interface fc *slot/port*	Specifies the member interface ID and its slot number and port number.
swwn *swwn-id*	(Optional) Specifies the member sWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
pwwn *pwwn-id*	Specifies the member pWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
symbolic-nodename *nodename*	Specifies the member symbolic node name. The maximum length is 255 characters.

Command Default   None

Command Modes   Fcalias configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to add a member to an alias called samplealias:

```
switch(config)# fcalias name samplealias
```

This example shows how to define a Fibre Channel interface for the member:

```
switch(config-fcalias)# member interface fc3/1
```

This example shows how to delete the specified member:

```
switch(config-fcalias)# no member interface fc3/1
```

Related Commands	Command	Description
	fcalias name	Configures an alias.
	show fcalias	Displays the member name information in an alias.

member (zone configuration mode)

To add a member name to a Fibre Channel zone, use the **member** command. To remove a member name from a zone, use the **no** form of this command.

> **member** {**device-alias** *aliasname* | **domain-id** *domain-id* **port-number** *port* | **fcalias** *alias-name* | **fcid** *fc-id* | **fwwn** *fwwn-id* | **interface fc** *slot/port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *nodename*}

> **no member** {**device-alias** *aliasname* | **domain-id** *domain-id* **port-number** *port* | **fcalias** *alias-name* | **fcid** *fc-id* | **fwwn** *fwwn-id* | **interface fc** *slot/port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *nodename*}

Syntax Description

device-alias *aliasname*	Specifies the member device alias. The name can be a maximum of 64 characters.
domain-id *domain-id*	Specifies the member domain ID. The range is from 1 to 239.
port-number *port*	Specifies the member port number. The range is from is 0 to 255.
fcalias *alias-name*	Specifies a Fibre Channel alias name. The name can be a maximum of 64 characters.
fcid *fc-id*	Specifies the member FC ID. The format is *0xhhhhhh,* where *h* is a hexadecimal digit.
fwwn *fwwn-id*	Specifies the member fWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
interface fc *slot/port*	Specifies the member interface ID and its slot number and port number.
swwn *swwn-id*	(Optional) Specifies the member sWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
pwwn *pwwn-id*	Specifies the member pWWN ID. The format is *hh:hh:hh:hh:hh:hh:hh:hh,* where *h* is a hexadecimal digit.
lun *lun-id*	(Optional) Specifies the member Logical Unit Number (LUN) ID. The format is *0xhhhh*[*:hhhh*[*:hhhh*[*:hhhh*]]], where *h* is a hexadecimal digit.
symbolic-nodename *nodename*	Specifies the member symbolic node name. The name can be a maximum of 255 characters.

Command Default   None

Command Modes   Zone set zone configuration mode and zoneset-zone configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Create a zone set zone member only if you need to add member to a zone from the zone set prompt.

Examples   This example shows how to add a member to a zone called zs1 on VSAN 1:

```
switch(config)# zone name zs1 vsan 1
switch(config-zone)# member fcid 0x111112
```

This example shows how to add a zone to a zone set called Zoneset1 on VSAN 1:

```
switch(config)# zoneset name ZoneSet1 vsan 1
switch(config-zoneset-zone)# member fcid 0x111112
```

This example shows how to assign a Fibre Channel interface member into a zone:

```
switch(config)# zoneset name ZoneSet1 vsan 1
switch(config-zoneset-zone)# member interface fc 3/1
```

This example shows how to delete the specified device from a zone:

```
switch(config-zoneset-zone)# no member interface fc 3/1
```

Related Commands

Command	Description
zoneset (configuration mode)	Specifies a name for a zone set.
zone name (zone set configuration mode)	Configures a zone in a zone set.
show zoneset	Displays zone set information.

member (zoneset configuration mode)

To configure zone set members, use the **member** command. To remove a zone set member, use the **no** form of this command.

member *member-name*

no member *member-name*

Syntax Description	*member-name*	Member name. The name can be a maximum of 64 characters.

Command Default   None

Command Modes   Zone set configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to add a member zone to a zone set:

```
switch(config)# zoneset name Zoneset1 vsan 10
switch(config-zoneset)# member ZoneA
```

Related Commands

Command	Description
show zone	Displays zone information.
zoneset name	Creates a zone set.

N Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with N.

npv auto-load-balance disruptive

To enable N Port Virtualization (NPV) disruptive load balancing, use the **npv auto-load-balance disruptive** command. To disable this feature, use the **no** form of this command.

> **npv auto-load-balance disruptive**

> **no npv auto-load-balance disruptive**

Syntax Description	This command has no arguments or keywords.

Command Default	None

Command Modes	Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Disruptive load balancing can be configured only in NPV mode.

When disruptive load balancing is enabled, NPV redistributes the server interfaces across all available NP uplinks when a new NP uplink becomes operational. To move a server interface from one NP uplink to another NP uplink, NPV forces reinitialization of the server interface so that the server performs a new login to the core switch. This action causes traffic disruption on the attached end devices.

To avoid disruption of server traffic, enable this feature only after adding a new NP uplink, and then disable it again after the server interfaces have been redistributed.

Examples

This example shows how to enable disruptive load balancing:

```
switch(config)# npv auto-load-balance disruptive
```

Related Commands

Command	Description
feature npv	Enables NPV mode.
show npv status	Displays the NPV current status.

npv traffic-map

To configure an N Port Virtualization (NPV) traffic map, use the **npv traffic-map** command. To disable this feature, use the **no** form of this command.

npv traffic-map server-interface {**fc** *slot/port* | **vfc** *vfc-id*} **external-interface fc** *slot/port*

no npv traffic-map server-interface {**fc** *slot/port* | **vfc** *vfc-id*} **external-interface fc** *slot/port*

Syntax Description		
server-interface	Specifies the server interface or a range of server interfaces.
fc *slot/port*	Specifies the slot number and port number for a native Fibre Channel interface.
vfc *vfc-id*	Specifies a virtual Fibre Channel interface.
external-interface	Specifies the NP/TNP uplink interface or a range of NP/TNP uplink interfaces that can be selected by the server interface.

Command Default   No traffic map. The switch uses automatic uplink selection to select an NP uplink for the server interface.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command is only available when the switch is operating in NPV mode.

NPV traffic maps can be configured only in NPV mode.

Examples   This example shows how to create a mapping between server interface vfc1 and NP uplink fc 3/1:

```
switch(config)# npv traffic-map server-interface vfc 1 external-interface fc 3/1
```

Related Commands	Command	Description
	feature npv	Enables NPV mode.
	show npv status	Displays the NPV current status.

P Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with P.

port-track force-shut

To force a shutdown of a tracked port, use the **port-track force-shut** command. To reenable the port tracking, use the **no** form of this command.

>**port-track force-shut**

>**no port-track force-shut**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **port-track force-shut** command to keep the linked port down, even though the tracked port comes back up. You must explicitly bring the port up when required by using the **no port-track force-shut** command.

Examples   This example shows how to force the shutdown of an interface and the interfaces that it is tracking:

```
switch(config)# interface fc 2/2
switch(config-if)# no port-track force-shut
```

Related Commands

Command	Description
feature port-track	Enables port tracking.
show interface fc	Displays configuration and status information for a specified Fibre Channel interface.
show interface san-port-channel	Displays configuration and status information for a specified SAN port channel interface.

port-track interface

To enable port tracking for specific interfaces, use the **port-track interface** command. To disable this feature, use the **no** form of this command.

port-track interface {**fc** *slot*/*port* | **san-port-channel** *port*} [**vsan** *vsan-id*]

no port-track interface {**fc** *slot*/*port* | **san-port-channel** *port*} [**vsan** *vsan-id*]

Syntax Description		
fc *slot*/*port*	Specifies a Fibre Channel interface.
san-port-channel *port*	Specifies a SAN port channel interface. The range is from 1 to 128.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Interface configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When the port that an interface is tracking goes down, the interface also goes down. When the tracked port comes back up, the linked interface also comes back up. Use the **port-track force-shut** command to keep the linked interface down.

Examples   This example shows how to enable port tracking for specific interfaces:

```
switch(config)# interface fc 2/3
switch(config-if)# port-track interface san-port-channel 2
```

Related Commands	Command	Description
	feature port-track	Enables port tracking.
	port-track force-shut	Forcefully shuts an interface for port tracking.
	show interface fc	Displays configuration and status information for a specified Fibre Channel interface.
	show interface san-port-channel	Displays configuration and status information for a specified SAN port channel interface.

purge fcdomain fcid

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

purge fcdomain fcid vsan *vsan-id*

Syntax Description	**vsan** *vsan-id*	Indicates that FCIDs are to be purged for a VSAN ID. The range is from 1 to 4093.

Command Default	None

Command Modes	EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples

This example shows how to purge all dynamic, unused FCIDs in VSAN 4:

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

This example shows how to purge all dynamic, unused FCIDs in VSANs 4, 5, and 6:

```
switch# purge fcdomain fcid vsan 4-6
```

Related Commands	Command	Description
	show fcdomain	Displays the Fibre Channel domain (fcdomain) information.

R Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with R.

rlir preferred-cond fcid

To specify a preferred host to receive Registered Link Incident Report (RLIR) frames, use the **rlir preferred-cond fcid** command. To remove a preferred host, use the **no** form of this command.

rlir preferred-cond fcid *fc-id* **vsan** *vsan-id*

no rlir preferred-cond fcid *fc-id* **vsan** *vsan-id*

Syntax Description		
fcid *fc-id*	Specifies the FC ID. The format is **0x***hhhhhh*.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.

Command Default

By default, the switch sends RLIR frames to one of the hosts in the Virtual SAN (VSAN) with the register function set to "conditionally receive" if no hosts have the register function set to "always receive."

Command Modes

Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines

The switch sends RLIR frames to the preferred host only if it meets the following conditions:

- No host in the VSAN is registered for RLIR with the registration function set to "always receive." If one or more hosts in the VSAN are registered as "always receive," then RLIR sends only to these hosts and not to the configured preferred host.

- The preferred host is registered with the registration function set to "conditionally receive." If all registered hosts have the registration function set to "conditionally receive," then the preferred host receives the RLIR frames.

You can specify only one RLIR preferred host per VSAN.

Examples

This example shows how to specify the FCID 0x654321 as the RLIR preferred host for VSAN 2:

```
switch(config)# rlir preferred-cond fcid 0x654321 vsan 2
```

This example shows how to remove the FCID 0x654321 as the RLIR preferred host for VSAN 2:

```
switch(config)# no rlir preferred-cond fcid 0x654321 vsan 2
```

Related Commands

Command	Description
show rlir	Displays information about RLIR, Link Incident Record Registration (LIRR), and Distribute Registered Link Incident Record (DRLIR) frames.
clear rlir	Clears the RLIRs.
debug rlir	Enables RLIR debugging.

rscn

To configure a registered state change notification (RSCN), which is a Fibre Channel service that informs N ports about changes in the fabric, use the **rscn** command.

rscn {**multi-pid** | **suppress domain-swrscn**} **vsan** *vsan-id*

Syntax Description		
multi-pid		Sends RSCNs in multiple port ID (multi-PID) format.
suppress domain-swrscn		Suppresses transmission of domain format SW-RCSNs.
vsan *vsan-id*		Configures VSAN information or membership. The ID of the VSAN is from 1 to 4093.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples This example shows how to configure RSCNs in multi-PID format:

```
switch(config)# rscn multi-pid vsan 1
```

Related Commands	Command	Description
	show rscn src-table	Displays the state change registration table.
	show rscn statistics	Displays RSCN statistics.

rscn abort

To cancel a Registered State Change Notification (RSCN) configuration on a Virtual SAN (VSAN), use the **rscn abort** command. To reverse the cancellation, use the **no** form of this command.

rscn abort vsan *vsan-id*

no rscn abort vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies a VSAN where the RSCN configuration should be canceled. The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to cancel an RSCN configuration on VSAN 1:

```
switch(config)# rscn abort vsan 1
```

Related Commands

Command	Description
rscn commit	Commits a pending RSCN configuration on a specified VSAN.
rscn distribute	Enables the distribution of an RSCN configuration.
rscn event-tov	Configures an RSCN event timeout.
clear rscn session vsan	Clears the RSCN session for a specified VSAN.
show rscn	Displays the RSCN configuration information.

rscn commit

To apply a pending Registered State Change Notification (RSCN) configuration, use the **rscn commit** command. To discard a pending RSCN configuration, use the **no** form of this command.

rscn commit vsan *vsan-id*

no rscn commit vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies a VSAN where the RSCN configuration should be committed. The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If you commit the changes made to the active database, the configuration is committed to all the switches in the fabric. On a successful commit, the configuration change is applied throughout the fabric and the lock is released.

Examples   This example shows how to commit an RSCN configuration on VSAN 1:

```
switch(config)# rscn commit vsan 1
```

Related Commands

Command	Description
rscn abort	Cancels a pending RSCN configuration on a specified VSAN.
rscn distribute	Enables the distribution of an RSCN configuration.
rscn event-tov	Configures an RSCN event timeout.
clear rscn session	Clears the RSCN session for a specified VSAN.
show rscn	Displays the RSCN configuration information.

rscn distribute

To enable distribution of a Registered State Change Notification (RSCN) configuration, use the **rscn distribute** command. To disable the distribution, use the **no** form of this command.

> **rscn distribute**

> **no rscn distribute**

Syntax Description   This command has no arguments or keywords.

Command Default   RSCN timer distribution is disabled.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The RSCN timer configuration must be the same on all switches in the Virtual SAN (VSAN). Cisco Fabric Service (CFS) automatically distributes the RSCN timer configuration to all switches in a fabric. Only the RSCN timer configuration is distributed.

Examples   This example shows how to enable the distribution of an RSCN configuration:

```
switch(config)# rscn distribute
```

Related Commands

Command	Description
rscn abort	Cancels a pending RSCN configuration on a specified VSAN.
rscn commit	Applies a pending RSCN configuration.
rscn event-tov	Configures an RSCN event timeout.
clear rscn session	Clears the RSCN session for a specified VSAN.
show rscn	Displays the RSCN configuration information.

rscn event-tov

To configure an event timeout value for a Registered State Change Notification (RSCN) on a specified Virtual SAN (VSAN), use the **rscn event-tov** command. To cancel the event timeout value and restore the default value, use the **no** form of this command.

rscn event-tov *timeout* **vsan** *vsan-id*

no rscn event-tov *timeout* **vsan** *vsan-id*

Syntax Description

timeout	Event timeout value in milliseconds. The range is from 0 to 2000.
vsan *vsan-id*	Specifies a VSAN where the RSCN event timer should be used. The ID of the VSAN is from 1 to 4093.

Command Default   The default timeout values are 2000 milliseconds for Fibre Channel VSANs.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before changing the timeout value, you must enable RSCN configuration distribution using the **rscn distribute** command.

The RSCN timer is registered with Cisco Fabric Services (CFS) during initialization and switchover.

Examples   This example shows how to configure an RSCN event timeout value on VSAN 1:

```
switch(config)# rscn event-tov 20 vsan 1
```

Related Commands

Command	Description
rscn abort	Cancels a pending RSCN configuration on a specified VSAN.
rscn commit	Applies a pending RSCN configuration.
rscn distribute	Enables distribution of an RSCN configuration.
clear rscn session	Clears the RSCN session for a specified VSAN.
show rscn	Displays the RSCN configuration information.

Show Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) **show** commands.

show cfs

To display Cisco Fabric Services (CFS) information, use the **show cfs** command.

> **show cfs** {**application** [**name** *app-name*] | **lock** [**name** *app-name* [**vsan** *vsan-id*]] | **merge status**
> [**name** *app-name* [**vsan** *vsan-id*]] | **peers** [**name** *app-name* [**vsan** *vsan-id*]] | **regions** | **status**}

Syntax Description

application	Displays locally registered applications.
name *app-name*	(Optional) Specifies a local application information by name. The name can be a maximum of 64 characters.
lock	Displays the state of application logical or physical locks.
vsan *vsan-id*	(Optional) Specifies the VSAN ID. The range is from 1 to 4093.
merge status	Displays CFS merge information.
peers	Displays logical or physical CFS peers.
regions	Displays the CFS regions.
status	Displays if CFS distribution is enabled or disabled. Enabled is the default configuration.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **show cfs application** command displays only those applications that are registered with CFS. Conditional services that use CFS do not appear in the output unless those services are running.

Examples   This example shows how to display the CFS physical peer information for all applications:

```
switch# show cfs peers
```

This example shows how to display the CFS information for all applications on the switch:

```
switch# show cfs application
```

This example shows how to display the status of the CFS distribution:

```
switch# show cfs status
```

Related Commands	Command	Description
	cfs	Configures Cisco Fabric Services (CFS) information.

show debug npv

To display the N Port Virtualization (NPV) debug commands configured on the switch, use the **show debug npv** command.

show debug npv

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

The **show debug npv** command is available only when the switch is in NPV mode.

Examples

This example shows how to display all the NPV debug commands available on the switch:

```
switch# show debug npv
```

Related Commands

Command	Description
debug npv	Enables the debugging of NPV configurations.

show device-alias

To display the device name information, use the **show device-alias** command.

show device-alias {**database** | **merge status** | **name** *device-name* [**pending**] | **pending** | **pending-diff** | **pwwn** *pwwn-id* [**pending**] | **session status** | **statistics** | **status**}

Syntax Description

database	Displays the entire device name database.
merge status	Displays the device merge status.
name *device-name*	Displays device name database information for a specific device name.
pending	(Optional) Displays the pending device name database information.
pending-diff	Displays pending differences in the device name database information.
pwwn *pwwn-id*	Displays device name database information for a specific pWWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal digit.
session status	Displays the device name session status.
statistics	Displays device name database statistics.
status	Displays the device name database status.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

Examples   This example shows how to display the contents of the device alias database:

```
switch# show device-alias database
```

This example shows how to display all global fcaliases and all Virtual SAN (VSAN) dependent fcaliases:

```
switch# show device-alias name efg
```

This example shows how to display all global fcaliases and all VSAN dependent fcaliases:

```
switch# show device-alias statistics
```

Related Commands	Command	Description
	device-alias name	Configures device alias names.
	device-alias database	Configures device alias information.
	device-alias distribute	Enables device alias CFS distribution.

show fabric-binding

To display configured fabric binding information, use the **show fabric-binding** command.

show fabric-binding {**database** [**active**] [**vsan** *vsan-id*] | **efmd statistics** [**vsan** *vsan-id*] | **statistics** [**vsan** *vsan-id*] | **status** [**vsan** *vsan-id*] | **violations** [**last** *number*]}

Syntax Description		
database	Displays configured database information.	
active	(Optional) Displays the active database configuration information.	
vsan *vsan-id*	(Optional) Specifies the FICON-enabled Virtual SAN (VSAN) ID. The range is from 1 to 4093.	
efmd statistics	Displays Exchange Fabric Membership Data (EFMD) statistics.	
statistics	Displays fabric binding statistics.	
status	Displays fabric binding status.	
violations	Displays violations in the fabric binding configuration.	
last *number*	(Optional) Specifies recent violations. The range is from 1 to 100.	

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configured fabric binding database information:

```
switch# show fabric-binding database
```

This example shows how to display the active fabric binding information:

```
switch# show fabric-binding database active
```

This example shows how to display the active VSAN-specific fabric binding information:

```
switch# show fabric-binding database active vsan 61
```

This example shows how to display the configured VSAN-specific fabric binding information:

```
switch# show fabric-binding database vsan 4
```

This example shows how to display the fabric binding statistics:

```
switch# show fabric-binding statistics
```

This example shows how to display the fabric binding status for each VSAN:

```
switch# show fabric-binding status
```

This example shows how to display the EFMD statistics:

```
switch# show fabric-binding efmd statistics
```

This example shows how to display the EFMD statistics for a specified VSAN:

```
switch# show fabric-binding efmd statistics vsan 4
```

This example shows how to display the fabric binding violations:

```
switch# show fabric-binding violations
```

Related Commands	Command	Description
	fabric-binding	Configures fabric binding in a VSAN.

show fc2

To display FC2 information, use the **show fc2** command.

show fc2 {**bind** | **classf** | **exchange** | **exchresp** | **flogi** | **nport** | **plogi** | **plogi_pwwn** | **port** [**brief**] | **socket** | **sockexch** | **socknotify** | **socknport** | **vsan**}

Syntax Description

bind	Displays FC2 socket bindings.
classf	Displays FC2 classf sessions.
exchange	Displays FC2 active exchanges.
exchresp	Displays FC2 active responder exchanges.
flogi	Displays FC2 FLOGI table.
nport	Displays FC2 local N ports.
plogi	Displays FC2 PLOGI sessions.
plogi_pwwn	Displays FC2 PLOGI pWWN entries.
port	Displays FC2 physical port table.
brief	(Optional) Displays FC2 physical port table in a brief format.
socket	Displays FC2 active sockets.
sockexch	Displays FC2 active exchanges for each socket.
socknotify	Displays FC2 local N port PLOGI/LOGO notifications for each socket.
socknport	Displays FC2 local nports per each socket.
vsan	Displays the FC2 VSAN table.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FC2 active socket information:

```
switch# show fc2 socket
```

This example shows how to display the FC2 socket binding information:

```
switch# show fc2 bind
```

This example shows how to display the FC2 local N port information:

```
switch# show fc2 nport
```

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

This example shows how to display the FC2 PLOGI session information:

```
switch# show fc2 plogi
```

This example shows how to display the FC2 physical port information:

```
switch# show fc2 port
```

This example shows how to display the FC2 local N port PLOGI notifications for each socket:

```
switch# show fc2 socknotify
```

This example shows how to display the FC2 local N ports for each socket:

```
switch# show fc2 socknport
```

This example shows how to display the FC2 VSAN table:

```
switch# show fc2 vsan
```

show fc-port-security

To display configured port security feature information, use the **show fc-port-security** command.

show fc-port-security {**database** [**active** [**vsan** *vsan-id*]] | **fwwn** *fwwn-id* **vsan** *vsan-id* | **interface** {**fc** *slot/port* | **san-port-channel** *port*} **vsan** *vsan-id* | **vsan** *vsan-id* | **pending** [**vsan** *vsan-id*] | **pending-diff** [**vsan** *vsan-id*] | **session status** [**vsan** *vsan-id*] | **statistics** [**vsan** *vsan-id*] | **status** [**vsan** *vsan-id*] | **violations** [**last** *count* | **vsan** *vsan-id*]}

Syntax Description

database	Displays database-related port security information.
active	(Optional) Displays the activated database information.
vsan *vsan-id*	(Optional) Displays information for the specified database.
fwwn *fwwn-id*	Displays information for the specified fabric WWN.
interface	Displays information for an interface.
fc *slot/port*	Displays information for the specified Fibre Channel interface.
san-port-channel *port*	Displays information for the specified SAN port channel interface. The range is from 1 to 128.
pending	Displays the server address pending configuration.
pending-diff	Displays the server address pending configuration differences with the active configuration.
session status	Displays the port security session status on a per VSAN basis.
statistics	Displays port security statistics.
status	Displays the port security status on a per VSAN basis.
violations	Displays violations in the port security database.
last *count*	(Optional) Displays the last number of lines in the database. The range is from 1 to 100.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The access information for each port can be individually displayed. If you specify the fabric world wide name (fWWN) or interface options, all devices that are paired in the active database (at that point) with the given fWWN or the interface are displayed.

When you enter the **show fc-port-security** command with the **last** *number* option, only the specified number of entries that appear first are displayed.

Examples   This example shows how to display the contents of the port security database:

switch# **show fc-port-security database**

This example shows how to display the output of the active port security database in VSAN 1:

switch# **show fc-port-security database vsan 1**

This example shows how to display the active database:

switch# **show fc-port-security database active**

This example shows how to display the wildcard fWWN port security in VSAN 1:

switch# **show fc-port-security database fwwn 20:85:00:44:22:00:4a:9e vsan 1**

This example shows how to display the configured fWWN port security in VSAN 1:

switch# **show fc-port-security database fwwn 20:01:00:05:30:00:95:de vsan 1**

This example shows how to display the interface port information in VSAN 2:

switch# **show fc-port-security database interface fc 2/1 vsan 2**

This example shows how to display the port security statistics:

switch# **show fc-port-security statistics**

This example shows how to display the status of the active database and the autolearn configuration:

switch# **show fc-port-security status**

This example shows how to display the previous 100 violations:

switch# **show fc-port-security violations**

Related Commands

Command	Description
fc-port-security	Configures port security parameters.

show fcalias

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

show fcalias [**name** *fcalias-name*] [**pending**] [**vsan** *vsan-id*]

Syntax Description		
name *fcalias-name*	(Optional) Displays fcalias information for a specific name. The maximum length is 64.	
pending	(Optional) Displays pending fcalias information.	
vsan *vsan-id*	(Optional) Displays fcalias information for a VSAN. The range is from 1 to 4093.	

Command Default   Displays a list of all global fcaliases and all VSAN-dependent fcaliases.

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

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

Examples   This example shows how to display the fcalias configuration information:

```
switch# show fcalias vsan 1
```

Related Commands	Command	Description
	fcalias name	Configures fcalias names.

show fcdomain

To display the Fibre Channel domain (fcdomain) information, use the **show fcdomain** command.

show fcdomain [**address-allocation** [**cache**] | **allowed** | **domain-list** | **fcid persistent** [**unused**] | **pending** [**vsan** *vsan-id*] | **pending-diff** [**vsan** *vsan-id*] | **session-status** [**vsan** *vsan-id*] | **statistics** [**interface** {**fc** *slot*/*port* [**vsan** *vsan-id*] } | **san-port-channel** *port* [**vsan** *vsan-id*]] | **status** | **vsan** *vsan-id*]

Syntax Description

address-allocation	(Optional) Displays statistics for the FC ID allocation.
cache	(Optional) Reassigns the FC IDs for a device (disk or host) that exited and reentered the fabric for the principal switch. In the cache content, Virtual SAN (VSAN) refers to the VSAN that contains the device, WWN refers to the device that owned the FC IDs, and mask refers to a single or entire area of FC IDs.
allowed	(Optional) Displays a list of allowed domain IDs.
domain-list	(Optional) Displays a list of domain IDs provided by the principal switch.
fcid persistent	(Optional) Displays persistent FC IDs (across reboot).
unused	(Optional) Displays unused persistent FCIDs (across reboot).
pending	(Optional) Displays the pending configuration.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is from 1 to 4093.
pending-diff	(Optional) Displays the difference between the running configuration and the pending configuration.
session-status	(Optional) Displays the last action performed by an FC domain.
statistics	(Optional) Displays the statistics of an FC domain.
interface	(Optional) Specifies an interface.
fc *slot*/*port*	(Optional) Specifies a Fibre Channel interface.
san-port-channel *port*	(Optional) Specifies a SAN port channel interface. The range is from 1 to 128.
status	(Optional) Displays all VSAN-independent information in an FC domain.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When you enter the **show fcdomain** with no arguments, all VSANs appear. The VSANs should be active or you will get an error.

Examples

This example shows how to display the fcdomain information for VSAN 1:

```
switch# show fcdomain vsan 1
```

This example shows how to display the fcdomain domain-list information for VSAN 76:

```
switch# show fcdomain domain-list vsan 76

Number of domains: 3
Domain ID          WWN
---------    ----------------------
0xc8(200)    20:01:00:05:30:00:47:df [Principal]
 0x63(99)    20:01:00:0d:ec:08:60:c1 [Local]
 0x61(97)    50:00:53:0f:ff:f0:10:06 [Virtual (IVR)]
```

Table 1 describes the significant fields shown in the **show fcdomain domain-list** command output.

Table 1   show fcdomain Field Descriptions

Field	Description
Domain ID	Lists the domain IDs corresponding to the WWN.
WWN	Indicates the WWN of the switch (physical or virtual) that requested the corresponding domain ID.
Principal	Indicates which row of the display lists the WWN and domain ID of the principal switch in the VSAN.
Local	Indicates which row of the display lists the WWN and domain ID of the local switch (the switch where you entered the **show fcdomain domain-list** command).
Virtual (IVR)	Indicates which row of the display lists the WWN of the virtual switch used by the Inter-VSAN Routing (IVR) manager to obtain the domain ID.

This example shows how to display the allowed domain ID lists:

```
switch# show fcdomain allowed vsan 1
```

This example shows how to display the status of the CFS distribution for allowed domain ID lists:

```
switch# show fcdomain status
```

This example shows how to display the pending configuration changes:

```
switch# show fcdomain pending vsan 10
```

This example shows how to display the differences between the pending configuration and the current configuration:

```
switch# show fcdomain pending-diff vsan 10
```

This example shows how to display the status of the distribution session:

```
switch# show fcdomain session-status vsan 1
```

Related Commands

Command	Description
fcdomain	Configures the Fibre Channel domain feature.

show fcdroplatency

To display the configured Fibre Channel latency parameters, use the **show fcdroplatency** command.

show fcdroplatency [**network** | **switch**]

Syntax Description

network	(Optional) Displays the network latency in milliseconds.
switch	(Optional) Displays the switch latency in milliseconds.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configured Fibre Channel latency parameters:

```
switch# show fcdroplatency
```

Related Commands

Command	Description
fcdroplatency	Configures the network and switch Fibre Channel drop latency time.

show fcflow stats

To display the configured Fibre Channel flow (fcflow) information, use the **show fcflow stats** command.

show fcflow stats [**aggregated** | **usage**] [**index** *flow-index*]

Syntax Description

aggregated	(Optional) Displays aggregated fcflow statistics.
usage	(Optional) Displays flow index usage.
index *flow-index*	(Optional) Specifies an fcflow index.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the aggregated fcflow details:

```
switch# show fcflow stats aggregated
```

This example shows how to display the fcflow details:

```
switch# show fcflow stats
```

This example shows how to display the fcflow index usage:

```
switch# show fcflow stats usage
```

Related Commands

Command	Description
fcflow stats	Configures fcflow statistics.

show fcid-allocation

To display the Fibre Channel area list of company IDs, use the **show fcid allocation** command.

show fcid-allocation area | company-id-from-wwn *wwn* [*company-id*]

Syntax Description

area	Displays the auto area list of company IDs.
company-id-from-wwn *wwn*	Displays the company ID from the specified world wide name (WWN).
company-id	(Optional) Company ID (also know as Organizational Unit Identifier, or OUI) to display.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the Fibre Channel area company list of company IDs:

```
switch# show fcid-allocation area
Fcid area allocation company id info:

    00:50:2E
    00:50:8B
    00:60:B0
    00:A0:B8
    00:E0:69
    00:E0:8B
    00:32:23 +


Total company ids: 7
+ - Additional user configured company ids.
* - Explicitly deleted company ids from default list.
```

Table 2 describes the significant fields shown in the display.

Table 2   show fcid-allocation area company Field Descriptions

Field	Description
+	Indicates a company ID added to the default list.
–	Indicates a company ID deleted from the default list.

Related Commands	Command	Description
	fcid-allocation	Adds a FCID to the default area company ID list.

show fcns database

To display the results of the discovery, or to display the name server database for a specified Virtual SAN (VSAN) or for all VSANs, use the **show fcns database** command.

show fcns database {**detail** [**vsan** *vsan-id*] | **domain** *domain-id* [**detail**] [**vsan** *vsan-range*] | **fcid** *fcid-id* [**detail**] **vsan** *vsan-range* | **local** [**detail**] [**vsan** *vsan-range*] | **vsan** *vsan-id*}

Syntax Description

detail	Displays all objects in each entry.
vsan *vsan-id*	(Optional) Displays entries for a specified VSAN ID. The range is from 1 to 4093.
domain *domain-id*	Displays entries in a domain.
detail	(Optional) Displays detailed entries for the domain.
fcid *fcid-id*	Displays entry for the given port.
local	Displays local entries.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

Virtual enclosure ports can be viewed using the **show fcns database** command.

Examples   This example shows how to display the contents of the FCNS database:

```
switch# show fcns database
```

This example shows how to display the detailed contents of the FCNS database:

```
switch# show fcns database detail
```

This example shows how to display the management VSAN (VSAN 2):

```
switch# show fcns database vsan 2
```

This example shows how to display the database for all configured VSANs:

```
switch# show fcns database
```

Related Commands	**Command**	**Description**
	fcns	Specifies the configuration mode command for name server configuration.

show fcns statistics

To display the statistical information for a specified Virtual SAN (VSAN) or for all VSANs, use the **show fcns statistics** command.

show fcns statistics [detail] [vsan *vsan-id*]

Syntax Description	detail	(Optional) Displays detailed statistics.
	vsan *vsan-id*	(Optional) Displays statistics for the specified VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the statistical information for a specified VSAN:

```
switch# show fcns statistics
```

Related Commands	Command	Description
	fcns	Specifies the configuration mode command for name server configuration.

show fcoe

To display the status of Fibre Channel over Ethernet (FCoE) parameters on the switch, use the **show fcoe** command.

show fcoe

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE status:

```
switch# show fcoe
Global FCF details
        FCF-MAC is 00:0d:ec:a3:9d:80
        FC-MAP is 0e:fc:00
        FCF Priority is 128
        FKA Advertisement period for FCF is 8 seconds
switch#
```

Related Commands

Command	Description
fcoe fcf-priority	Configures the FCoE Initialization Protocol (FIP) priority value.
fcoe fcmap	Configures the FCoE MAC Address Prefix (FC MAP) used to associate the FCoE node (ENode).
fcoe fka-adv-period	Configures the time interval at which FIP keep alive (FKA) messages are transmitted to the MAC address of the ENode.
show fcoe database	Displays the FCoE database information.

show fcoe-npv issu-impact

To display the configuration issues caused by the Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV) during a nondisruptive in-service software upgrade (ISSU), use the **show fcoe-npv issu-impact** command.

show fcoe-npv issu-impact

| **Syntax Description** | This command has no arguments or keywords. |

| **Command Default** | None |

| **Command Modes** | EXEC mode |

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines

Before you use this command, make sure that you enable Fibre Channel over Ethernet (FCoE) N-Port Virtualizer (NPV) on the switch by using the **feature fcoe-npv** command.

This command requires the FCoE NPV license.

Examples

This example shows how to display the configuration issues caused by the FCoE NPV feature:

```
switch# show fcoe-npv issu-impact
show fcoe-npv issu-impact
------------------------

Please make sure to enable "disable-fka" on all logged in VFCs
Please increase the FKA duration to 60 seconds on FCF


Active VNP ports with no disable-fka set
--------------------------------------


ISSU downgrade not supported as feature fcoe-npv is enabled
switch#
```

Related Commands

Command	Description
feature fcoe-npv	Enables FCoE NPV on the switch.

Command	Description
show running-config fcoe_mgr	Displays the FCoE running configuration information.
show tech-support fcoe	Displays troubleshooting information about FCoE.

show fcoe database

To display information about the Fibre Channel over Ethernet (FCoE) database, use the **show fcoe database** command.

show fcoe database

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE database:

```
switch# show fcoe database

--------------------------------------------------------------------------------
INTERFACE       FCID         PORT NAME               MAC ADDRESS
--------------------------------------------------------------------------------
vfc1            0x580016     10:00:00:00:07:f8:0e:45 00:00:00:13:05:01
vfc1            0x580017     10:00:00:00:07:f8:21:bf 00:00:00:13:05:01
vfc2            0x580020     10:00:00:00:07:f8:0e:46 00:00:00:13:05:02
vfc2            0x580033     10:00:00:00:07:f8:21:c0 00:00:00:13:05:02
vfc4            0x58001e     10:00:00:00:07:f8:0e:48 00:00:00:13:05:04
vfc4            0x580031     10:00:00:00:07:f8:21:c2 00:00:00:13:05:04
vfc5            0x58001d     10:00:00:00:07:f8:0e:49 00:00:00:13:05:05
vfc5            0x580030     10:00:00:00:07:f8:21:c3 00:00:00:13:05:05
vfc6            0x58001c     10:00:00:00:07:f8:0e:4a 00:00:00:13:05:06
vfc6            0x58002f     10:00:00:00:07:f8:21:c4 00:00:00:13:05:06
vfc7            0x58001b     10:00:00:00:07:f8:0e:4b 00:00:00:13:05:07
vfc7            0x58002e     10:00:00:00:07:f8:21:c5 00:00:00:13:05:07
vfc8            0x58001a     10:00:00:00:07:f8:0e:4c 00:00:00:13:05:08
vfc8            0x58002d     10:00:00:00:07:f8:21:c6 00:00:00:13:05:08
vfc9            0x580019     10:00:00:00:07:f8:0e:4d 00:00:00:13:05:09
vfc9            0x58002c     10:00:00:00:07:f8:21:c7 00:00:00:13:05:09
vfc10           0x580018     10:00:00:00:07:f8:0e:4e 00:00:00:13:05:0a
vfc10           0x58002a     10:00:00:00:07:f8:21:c8 00:00:00:13:05:0a
vfc11           0x580023     10:00:00:00:07:f8:0e:4f 00:00:00:13:05:0b
vfc11           0x580036     10:00:00:00:07:f8:21:c9 00:00:00:13:05:0b
vfc12           0x580022     10:00:00:00:07:f8:0e:50 00:00:00:13:05:0c
vfc12           0x580035     10:00:00:00:07:f8:21:ca 00:00:00:13:05:0c
vfc13           0x580021     10:00:00:00:07:f8:0e:51 00:00:00:13:05:0d
vfc13           0x580034     10:00:00:00:07:f8:21:cb 00:00:00:13:05:0d
vfc14           0x58002b     10:00:00:00:07:f8:0e:52 00:00:00:13:05:0e
vfc14           0x58003d     10:00:00:00:07:f8:21:cc 00:00:00:13:05:0e
vfc15           0x580029     10:00:00:00:07:f8:0e:53 00:00:00:13:05:0f
vfc15           0x58003c     10:00:00:00:07:f8:21:cd 00:00:00:13:05:0f
```

```
vfc16          0x580028          10:00:00:00:07:f8:0e:54 00:00:00:13:05:10
vfc16          0x58003b          10:00:00:00:07:f8:21:ce 00:00:00:13:05:10
vfc17          0x580027          10:00:00:00:07:f8:0e:55 00:00:00:13:05:11
vfc17          0x580039          10:00:00:00:07:f8:21:cf 00:00:00:13:05:11
vfc18          0x580026          10:00:00:00:07:f8:0e:56 00:00:00:13:05:12
vfc18          0x58003a          10:00:00:00:07:f8:21:d0 00:00:00:13:05:12
vfc19          0x580025          10:00:00:00:07:f8:0e:57 00:00:00:13:05:13
vfc19          0x580038          10:00:00:00:07:f8:21:d1 00:00:00:13:05:13
vfc20          0x580024          10:00:00:00:07:f8:0e:58 00:00:00:13:05:14
switch#
```

Related Commands	**Command**	**Description**
	fcoe fcf-priority	Configures the FCoE Initialization Protocol (FIP) priority value.
	fcoe fcmap	Configures the FCoE MAC Address Prefix (FC MAP) used to associate the FCoE node (ENode).
	fcoe fka-adv-period	Configures the time interval at which FIP keep alive (FKA) messages are transmitted to the MAC address of the ENode.
	show fcoe	Displays the status of the FCoE parameters.

show fcroute

To view specific information about existing Fibre Channel and Fabric Shortest Path First (FSPF) configurations, use the **show fcroute** command.

show fcroute {**distance** | **label** [*label*] **vsan** *vsan-id* | **multicast** [*fc-id* **vsan** *vsan-id* | **vsan** *vsan-id*] | **summary** [**vsan** *vsan-id*] | **unicast** [[*host*] *fc-id fc-mask* **vsan** *vsan-id* | **vsan** *vsan-id*]}

Syntax Description		
distance	Displays the FC route preference.
label	Displays label routes.
label	(Optional) Label routes for the specified label.
vsan *vsan-id*	(Optional) Specifies the ID of the VSAN (from 1 to 4093).
multicast	Displays FC multicast routes.
fc-id	(Optional) Fibre Channel ID.
summary	Displays the FC routes summary.
unicast	Displays FC unicast routes.
host	Unicast routes for the specified host.
fc-mask	Unicast routes for hosts that match the range of FCIDs that are specified by the mask.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When the number of routes are displayed in the command output, both visible and hidden routes are included in the total number of routes.

Examples   This example shows how to display the administrative distance:

```
switch# show fcroute distance
```

This example shows how to display the multicast routing information:

```
switch# show fcroute multicast
```

This example shows how to display the FCID information for a specified VSAN:

```
switch# show fcroute multicast vsan 3
```

This example shows how to display the FCID and interface information for a specified VSAN:

```
switch# show fcroute multicast 0xffffff vsan 2
```

This example shows how to display the unicast routing information:

```
switch# show fcroute unicast
```

This example shows how to display the unicast routing information for a specified VSAN:

```
switch# show fcroute unicast vsan 4
```

This example shows how to display the unicast routing information for a specified FCID:

```
switch# show fcroute unicast 0x040101 0xffffff vsan 4
```

This example shows how to display the route database information:

```
switch# show fcroute summary
```

This example shows how to display the route database information for a specified VSAN:

```
switch# show fcroute summary vsan 4
```

Related Commands	Command	Description
	fcroute	Configures Fibre Channel routes and activates policy routing.

show fcs

To display the status of the fabric configuration, use the **show fcs** commands.

show fcs {**database** [**vsan** *vsan-id*] | **ie** [**nwwn** *wwn* | **vsan** *vsan-id*] | **platform** {**name** *string* | **vsan** *vsan-id*} | **port** {**pwwn** *wwn* | **vsan** *vsan-id*} | **statistics vsan** *vsan-id* | **vsan**}

Syntax Description

database	Displays local database of frame check sequence (FCS).
vsan *vsan-id*	(Optional) Specifies a Virtual SAN (VSAN) ID. The range is from 1 to 4093.
ie	Displays interconnect element objects information.
nwwn *wwn*	(Optional) Specifies a node WWN ID. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
platform	Displays platform objects information.
name *string*	(Optional) Specifies a platform name. The name can be a maximum of 255 characters.
port	Displays port objects information.
pwwn *wwn*	Specifies a port WWN ID. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
statistics	Displays statistics for FCS packets.
vsan	Displays list of all the VSANs.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCS database information:

```
switch# show fcs database
```

This example shows how to display the interconnect element object information for a specific VSAN:

```
switch# show fcs ie vsan 1
```

This example shows how to display the interconnect element object information for a specific WWN:

```
switch# show fcs ie nwwn 20:01:00:05:30:00:16:df vsan 1
```

This example shows how to display the platform information:

```
switch# show fcs platform name SamplePlatform vsan 1
```

This example shows how display to the platform information within a specified VSAN:

```
switch# show fcs platform vsan 1
```

This example shows how to display the FCS port information within a specified VSAN:

```
switch# show fcs port vsan 24
```

This example shows how to display the ports within a specified WWN:

```
switch# show fcs port pwwn 20:51:00:05:30:00:16:de vsan 24
```

This example shows how to display the FCS statistics:

```
switch# show fcs statistics
```

Related Commands	Command	Description
	fcs	Configures FCS platform attributes.

show fcsp

To display the status of the Fibre Channel Security Protocol (FC-SP) configuration, use the **show fcsp** commands.

show fcsp [**asciiwwn** *ascii-wwn* | **dhchap** [**database**] | **interface** {**fc** *slot*/*port* | **vfc** *vfc-id*} [**statistics** | **wwn**]]

Syntax Description

asciiwwn *ascii-wwn*	(Optional) Displays the ASCII representation of the WWN used with authentication, authorization, and accounting (AAA) server.
dhchap	(Optional) Displays the DHCHAP hash algorithm status.
database	(Optional) Displays the contents of the local DHCHAP database.
interface	(Optional) Displays the FC-SP settings for a Fibre Channel or Fibre Channel interface.
fc *slot*/*port*	Specifies a Fibre Channel interface.
vfc *vfc-id*	(Optional) Specifies a virtual Fibre Channel interface.
statistics	(Optional) Displays the statistics for the specified interface.
wwn	(Optional) Displays the FC-SP identity of the other device.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the DHCHAP configurations in FC interfaces:

```
switch# show fcsp interface fc2/3
```

This example shows how to display the DHCHAP statistics for an FC interface:

```
switch# show fcsp interface fc2/3 statistics
```

This example shows how to display the FC-SP WWN of the device connected through a specified interface:

```
switch# show fcsp interface fc 2/1 wwn
```

This example shows how to display the hash algorithm and DHCHAP groups configured for the local switch:

```
switch# show fcsp dhchap
```

This example shows how to display the DHCHAP local password database:

```
switch# show fcsp dhchap database
```

This example shows how to display the ASCII representation of the device WWN:

```
switch# show fcsp asciiwwn 30:11:bb:cc:dd:33:11:22
```

Related Commands	Command	Description
	fcsp enable	Enables the FC-SP feature for this switch.

show fctimer

To display the Fibre Channel timers (fctimer), use the **show fctimer** command.

> **show fctimer** [**d_s_tov** [**vsan** *vsan-id*] | **e_d_tov** [**vsan** *vsan-id*] | **f_s_tov** [**vsan** *vsan-id*] | **r_a_tov** [**vsan** *vsan-id*] | **last action status** | **pending** | **pending-diff** | **session status** | **status** | **vsan** *vsan-id*]

Syntax Description

d_s_tov	(Optional) Displays the distributed services time out value (D_S_TOV) in milliseconds.
vsan *vsan-id*	(Optional) Displays information for a Virtual SAN (VSAN). The range is from 1 to 4093.
e_d_tov	(Optional) Displays the error detection timeout value (E_D_TOV) in milliseconds.
f_s_tov	(Optional) Displays the fabric stability timeout value (F_S_TOV) in milliseconds.
r_a_tov	(Optional) Displays the resource allocation time out value (R_A_TOV) in milliseconds.
last action status	(Optional) Displays the status of the last Cisco Fabric Services (CFS) commit or discard operation.
pending	(Optional) Displays the status of pending fctimer commands.
pending-diff	(Optional) Displays the difference between the pending database and running configuration.
session status	(Optional) Displays the state of the fctimer CFS session.
status	(Optional) Displays the Fibre Channel timer status.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configured global TOVs:

```
switch# show fctimer
```

This example shows how to display the configured TOVs for a specified VSAN:

```
switch# show fctimer vsan 10
```

Related Commands	Command	Description
	fctimer	Configures fctimer parameters.

show fdmi

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

show fdmi database [**detail** [**hba-id** {*hba-id* **vsan** *vsan-id*} | **vsan** *vsan-id*] | **vsan** *vsan-id*] | **suppress-updates**

Syntax Description	database	Displays the FDMI database contents.
	detail	(Optional) Specifies detailed FDMI information.
	hba-id *hba-id*	(Optional) Displays detailed information for the specified host bus adapter (HBA) entry.
	vsan *vsan-id*	(Optional) Specifies FDMI information for the specified Virtual SAN (VSAN). The range is from 1 to 4093.
	suppress-updates	Displays the VSANs that are configured to suppress updates.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display all HBA management servers:

```
switch# show fdmi database
```

This example shows how to display the VSAN1-specific FDMI information:

```
switch# show fdmi database detail vsan 1
```

This example shows how to display the details for the specified HBA entry:

```
switch# show fdmi database detail Hba-id 21:01:00:e0:8b:2a:f6:54 vsan 1
```

Related Commands	Command	Description
	fdmi suppress-updates	Suppresses FDMI updates.

show fex

To display information about a specific Fabric Extender or all attached chassis, use the **show fex** command.

show fex [*chassis_ID* [**detail**]]

Syntax Description

| *chassis_ID* | (Optional) Fabric Extender chassis ID. The chassis ID range is from 100 to 199. |
| **detail** | (Optional) Displays a detailed listing. |

Command Default None

Command Modes EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples This example shows how to display information about all attached Fabric Extender chassis:

```
switch# show fex
FEX         FEX           FEX                        FEX
Number      Description   State         Model              Serial
--------------------------------------------------------------------
100         FEX0100                 Online   N5K-C5110T-BF-1GE   JAF1237ABSE
101         FEX0101                 Online    N2K-C2248TP-1GE    JAF11223333
102         FEX0102                 Online   N5K-C5110T-BF-1GE   JAF1241BLHQ
105         FEX0105                 Online    N2K-C2232P-10GE    JAF1331AKBM
switch#
```

This example shows how to display information about a specific Fabric Extender chassis:

Need new output

```
switch# show fex 101
FEX: 101 Description: FEX0101   state: Online
  FEX version: 4.2(1)N1(1) [Switch version: 4.2(1)N1(1)]
  Extender Model: N2K-C2248TP-1GE,  Extender Serial: JAF11223333
  Part No: 73-12748-01
 pinning-mode: static    Max-links: 1
  Fabric port for control traffic: Eth3/5
  Fabric interface state:
    Po5 - Interface Up. State: Active
    Eth3/5 - Interface Up. State: Active
    Eth3/6 - Interface Up. State: Active
switch#
```

Related Commands

Command	Description
fex	Creates a Fabric Extender and enters fabric extender configuration mode.

show flogi

To list all the fabric login (FLOGI) sessions through all interfaces across all Virtual SAN (VSANs), use the **show flogi** command.

> **show flogi** {**auto-area-list**} | **database** {**fcid** *fcid-id* | **interface** {**fc** *slot*/*port* | **vfc** *vfc-id*} | **vsan** *vsan-id*}

Syntax Description

auto-area-list	Displays the list of Organizational Unit Identifiers (OUIs) that are allocated areas.
database	Displays information about FLOGI sessions.
fcid *fcid-id*	Displays FLOGI database entries based on the FCID allocated. The format is *0xhhhhhh*.
interface	Displays FLOGI database entries based on the logged in interface.
fc *slot*/*port*	Specifies the Fibre Channel or virtual Fibre Channel interface by slot and port number.
vfc *vfc-id*	Specifies a virtual Fibre Channel interface.
vsan *vsan-id*	Displays FLOGI database entries based on the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The output of this command is sorted by interface numbers and then by VSAN IDs.

In a Fibre Channel fabric, each host or disk requires an FCID. 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   This example shows how to display the details on the FLOGI database:

```
switch# show flogi database
```

This example shows how to display the FLOGI interface:

```
switch# show flogi database interface fc 2/3
```

This example shows how to display the FLOGI VSAN:

```
switch# show flogi database vsan 1
```

This example shows how to display the FLOGI for a specific FCID:

```
switch# show flogi database fcid 0xef02e2
```

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

show fspf

To display global Fibre Shortest Path First (FSPF) routing information, use the **show fspf** command.

show fspf [**database** [**vsan** *vsan-id*] [**detail** | **domain** *domain-id* **detail**] | **interface** | **vsan** *vsan-id*
interface {**fc** *slot/port* | **san-port-channel** *port-channel*}]

Syntax Description		
database	(Optional) Displays the FSPF link state database.	
vsan *vsan-id*	(Optional) Specifies the Virtual SAN (VSAN) ID. The range is from 1 to 4093.	
detail	(Optional) Displays detailed FSPF information.	
domain *domain-id*	(Optional) Specifies the domain of the database. The range is from 0 to 255.	
interface	(Optional) Specifies the FSPF interface.	
fc *slot/port*	Specifies the Fibre Channel interface to configure.	
san-port-channel *port-channel*	Specifies the port channel interface. The range is from 1 to 256.	

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If you enter the command without parameters, all the entries in the database are displayed.

Examples   This example shows how to display the FSPF interface information:

```
switch# show fspf vsan 1 fc2/1
```

This example shows how to display the FSPF database information:

```
switch# show fspf database vsan 1

FSPF Link State Database for VSAN 1 Domain 0xc6(198)
LSR Type              = 1
Advertising domain ID = 0xc6(198)
LSR Age               = 1050
LSR Incarnation number = 0x800007c5
LSR Checksum          = 0x35d2
Number of links       = 0
 NbrDomainId     IfIndex    NbrIfIndex    Link Type       Cost
------------------------------------------------------------------------
switch#
```

This command shows how to display the FSPF information for a specified VSAN:

```
switch# show fspf vsan 1
FSPF routing for VSAN 1
FSPF routing administration status is enabled
FSPF routing operational status is UP
It is an intra-domain router
Autonomous region is 0
SPF hold time is 0 msec
MinLsArrival = 1000 msec , MinLsInterval = 2000 msec
Local Domain is 0xc6(198)
Number of LSRs = 1, Total Checksum = 0x000035d2

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

switch#
```

This command shows how to display the FSPF information for all interfaces:

```
switch# show fspf interface
FSPF interface vfc5 in VSAN 1
FSPF routing administrative state is active
Interface cost is 2100
Timer intervals configured, Hello 20 s, Dead 80 s, Retransmit 5 s
FSPF State is DOWN

switch#
```

Related Commands	Command	Description
	fspf	Configures FSPF.

show in-order-guarantee

To display the present configured state of the in-order delivery feature, use the **show in-order-guarantee** command.

show in-order-guarantee

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the present configuration status of the in-order delivery feature:

```
switch# show in-order-guarantee
```

Related Commands

Command	Description
in-order-guarantee	Enables in-order delivery.

show interface fcoe

To display information about the Fibre Channel over Ethernet (FCoE) for an interface, use the **show interface fcoe** command.

show interface [*interface number*] **fcoe**

Syntax Description

interface	(Optional) Interface, either Ethernet or EtherChannel.
number	Interface number. The number can be one of the following: • The Ethernet interface slot and the port number within the slot. The slot number range is from 1 to 255, and the port number range is from 1/255. • The EtherChannel number. The range is from 1 to 4096.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE information for Ethernet interfaces:

```
switch# show interface fcoe
Ethernet1/1 is FCoE UP
Ethernet1/2 is FCoE UP
Ethernet1/3 is FCoE UP
Ethernet1/4 is FCoE UP
Ethernet1/5 is FCoE UP
Ethernet1/6 is FCoE UP
Ethernet1/7 is FCoE UP
Ethernet1/8 is FCoE UP
Ethernet1/9 is FCoE UP
Ethernet1/10 is FCoE UP
Ethernet1/11 is FCoE down
Ethernet1/12 is FCoE down
Ethernet1/13 is FCoE UP
Ethernet1/14 is FCoE UP
Ethernet1/15 is FCoE down
Ethernet1/16 is FCoE down
Ethernet1/17 is FCoE UP
Ethernet1/18 is FCoE down
Ethernet1/19 is FCoE UP
Ethernet1/20 is FCoE UP
Ethernet1/21 is FCoE UP
Ethernet1/22 is FCoE UP
Ethernet1/23 is FCoE UP
Ethernet1/24 is FCoE UP
```

```
                 Ethernet1/25 is FCoE UP
                 Ethernet1/26 is FCoE UP
                 Ethernet1/27 is FCoE UP
                 Ethernet1/28 is FCoE UP
                 Ethernet1/29 is FCoE UP
                 Ethernet1/30 is FCoE UP
                 Ethernet1/31 is FCoE UP
                 Ethernet1/32 is FCoE UP
                 Ethernet1/33 is FCoE UP
                     vfc1 is Up
                         FCID is 0x580016
                         PWWN is 10:00:00:00:07:f8:0e:45
                         MAC addr is 00:00:00:13:05:01
                         FCID is 0x580017
                         PWWN is 10:00:00:00:07:f8:21:bf
                         MAC addr is 00:00:00:13:05:01
                     vfc2 is Up
                         FCID is 0x580020
                         PWWN is 10:00:00:00:07:f8:0e:46
                         MAC addr is 00:00:00:13:05:02
                         FCID is 0x580033
                         PWWN is 10:00:00:00:07:f8:21:c0
                         MAC addr is 00:00:00:13:05:02
                     vfc4 is Up
                         FCID is 0x58001e
                         PWWN is 10:00:00:00:07:f8:0e:48
                         MAC addr is 00:00:00:13:05:04
                         FCID is 0x580031
                         PWWN is 10:00:00:00:07:f8:21:c2
                         MAC addr is 00:00:00:13:05:04
                     vfc5 is Up
                         FCID is 0x58001d
                         PWWN is 10:00:00:00:07:f8:0e:49
                         MAC addr is 00:00:00:13:05:05
                         FCID is 0x580030
                         PWWN is 10:00:00:00:07:f8:21:c3
                         MAC addr is 00:00:00:13:05:05
                     vfc6 is Up
                         FCID is 0x58001c
                         PWWN is 10:00:00:00:07:f8:0e:4a
                         MAC addr is 00:00:00:13:05:06
                         FCID is 0x58002f
                         PWWN is 10:00:00:00:07:f8:21:c4
                         MAC addr is 00:00:00:13:05:06
                 Ethernet1/34 is FCoE down
                 Ethernet1/35 is FCoE UP
                 <--Output truncated-->
                 switch#
```

This example shows how to display the FCoE information for a specific Ethernet interface:

```
switch# show interface ethernet 1/21 fcoe
Ethernet1/21 is FCoE UP
switch#
```

This example shows how to display the FCoE information for a specific EtherChannel interface:

```
switch# show interface port-channel 3 fcoe
port-channel3 is FCoE UP
switch#
```

Related Commands

Command	Description
show fcoe	Displays the status of the FCoE parameters.

show interface san-port-channel

To display the configuration information of SAN port channel interfaces, use the **show interface san-port-channel** command.

show interface san-port-channel *port-num* [**brief** | **counters** [**brief**] | **trunk vsan** [*vsan-range*]]

Syntax Description

port-num	SAN port channel interface ID. The range is from 1 to 256.
brief	(Optional) Displays brief information about the SAN port channel interfaces.
counters	(Optional) Displays the SAN port channel interface counters.
trunk	(Optional) Displays the SAN port channel interface trunk information.
vsan	(Optional) Displays the per VSAN information for the SAN port channel interface trunk.
vsan-range	(Optional) VSAN range. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configuration information for a specified SAN port channel interface:

```
switch# show interface san-port-channel 101
san-port-channel 101 is down (No operational members)
    Hardware is Fibre Channel
    Port WWN is 24:65:00:05:9b:74:a6:c0
    Admin port mode is NP, trunk mode is off
    snmp link state traps are enabled
    Port vsan is 1
    1 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    1 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
      0 frames input, 0 bytes
        0 discards, 0 errors
        0 CRC,  0 unknown class
        0 too long, 0 too short
      0 frames output, 0 bytes
        0 discards, 0 errors
      0 input OLS, 0 LRR, 0 NOS, 0 loop inits
      0 output OLS, 0 LRR, 0 NOS, 0 loop inits
    last clearing of "show interface" counters never
    No members

switch#
```

This example shows how to display the summary information of the counters of a specified SAN port channel interface:

```
switch# show interface san-port-channel 101 counters  brief

-------------------------------------------------------------------------------
Interface          Input (rate is 1 min avg)  Output (rate is 1 min avg)
                   -------------------------- ----------------------------
                   Rate     Total             Rate     Total
                   MB/s     Frames            MB/s     Frames
-------------------------------------------------------------------------------
san-port-channel 101   0        0                 0        0

switch#
```

	Command	Description
Related Commands	**interface san-port-channel**	Configures a SAN port channel interface.
	show interface	Displays an interface configuration for a specified interface.
	show running-config interface san-port-channel	Displays the running configuration information for SAN port channels.

show interface vfc

To display the configuration information of virtual Fibre Channel interfaces, use the **show interface vfc** command.

show interface vfc *vfc-id* [**brief**] [**counters**]

Syntax Description

vfc-id	Virtual Fibre Channel interface ID. The range is from 1 to 8192.
brief	(Optional) Displays brief information about the virtual Fibre Channel interfaces.
counters	(Optional) Displays the virtual Fibre Channel interface counters.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configuration information for a specified virtual Fibre Channel interface:

```
switch# show interface vfc 1
vfc1 is down (Administratively down)
    Bound MAC is 00:50:3e:8d:64:00
    Hardware is Virtual Fibre Channel
    Port WWN is 20:00:00:05:9b:23:40:7f
    Admin port mode is F, trunk mode is on
    snmp link state traps are enabled
    Port vsan is 1
    1 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    1 minute output rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
      0 frames input, 0 bytes
        0 discards, 0 errors
      0 frames output, 0 bytes
        0 discards, 0 errors
    last clearing of "show interface" counters never

switch#
```

This example shows how to display a brief information for a specified virtual Fibre Channel interface:

```
switch# show interface vfc 5 brief

-------------------------------------------------------------------------------
Interface  Vsan    Admin  Admin  Status        SFP    Oper  Oper   Port
                   Mode   Trunk                       Mode  Speed  Channel
                          Mode                              (Gbps)
-------------------------------------------------------------------------------
```

```
vfc5       1      E      on      down            --      --            --
switch#
```

This example shows how to display the counters for a specified virtual Fibre Channel interface:

```
switch# show interface vfc 5 counters
vfc5
    5 minute input rate 0 bits/sec, 0 bytes/sec, 0 frames/sec
    5 minute 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 discards, 0 errors
    0 input OLS, 0 LRR, 0 NOS, 0 loop inits
    0 output OLS, 0 LRR, 0 NOS, 0 loop inits
    0 link failures, 0 sync losses, 0 signal losses
     0 BB credit transitions from zero

switch#
```

Related Commands

Command	Description
interface vfc	Configures a virtual Fibre Channel interface.

show lldp

To display information about the Link Layer Discovery Protocol (LLDP) configuration on the switch, use the **show lldp** command.

show lldp {**interface** {**ethernet** *slot*/*port* | **mgmt** *intf-no*} | **neighbors** [**detail** | **interface** | **system-detail**] | **timers** | **traffic** [**interface** {**ethernet** *slot*/*port* | **mgmt** *intf-no*}]}

Syntax Description

interface	Displays LLDP interface information, or LLDP neighbor information on an interface.
ethernet *slot*/*port*	Displays the configuration information of the Ethernet IEEE 802.3z interface. The slot number is from 1 to 255, and the port number is from 1 to 128.
mgmt *intf-no*	Displays the configuration information of the management interface. The management interface number is 0.
neighbors	Displays information about LLDP neighbors.
detail	(Optional) Displays the detailed information about LLDP neighbors.
timers	Displays information about LLDP timers.
traffic	Displays the LLDP counters configured on the switch.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display LLDP interface information:

```
switch# show lldp traffic interface ethernet 1/1
LLDP interface traffic statistics:

    Total frames transmitted: 7490
    Total entries aged: 0
    Total frames received: 7458
    Total frames received in error: 0
    Total frames discarded: 0
    Total unrecognized TLVs: 0
switch#
```

This example shows how to display LLDP management interface information:

```
switch# show lldp traffic interface mgmt 0
LLDP interface traffic statistics:

    Total frames transmitted: 0
    Total entries aged: 0
```

```
      Total frames received: 0
      Total frames received in error: 0
      Total frames discarded: 0
      Total unrecognized TLVs: 0
switch#
```

This example shows how to display LLDP timers configured on the switch:

```
switch# show lldp timers
LLDP Timers:

    Holdtime in seconds: 120
    Reinit-time in seconds: 2
    Transmit interval in seconds: 30
switch#
```

This example shows how to display LLDP neighbor information:

```
switch# show lldp neighbors
Capability codes:
  (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
  (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Local Intf   Chassis ID       Port ID      Hold-time   Capability
Eth1/1       000d.eca3.6080   Eth1/1          120        B
Eth1/2       000d.eca3.6080   Eth1/2          120        B
Eth1/3       000d.eca3.6080   Eth1/3          120        B
Eth1/4       000d.eca3.6080   Eth1/4          120        B
Eth1/7       000d.ecf2.0880   Eth1/7          120        B
Eth1/8       000d.ecf2.0880   Eth1/8          120        B
Eth1/9       000d.ecf2.0b40   Eth1/9          120        B
Eth1/10      000d.ecf2.0b40   Eth1/10         120        B
switch#
```

This example shows how to display LLDP neighbor information with system detail:

```
switch# sh lldp neighbors system-detail
Capability codes:
    (R) Router, (B) Bridge, (T) Telephone, (C) DOCSIS Cable Device
    (W) WLAN Access Point, (P) Repeater, (S) Station, (O) Other
Device ID   Local Intf     Chassis ID     Port ID      Hold-time   Capability

switch-2    Eth1/1         0005.73b7.37ce Eth1/1          120        B
switch-3    Eth1/2         0005.73b7.37d0 Eth1/2          120        B
switch-4    Eth1/3         0005.73b7.37d1 Eth1/3          120        B
Total entries displayed: 3
```

This example shows how to display LLDP information for a specified interface:

```
switch# show lldp interface ethernet 1/1
Interface Information:
  Enable (tx/rx/dcbx): Y/Y/Y    Port Mac address: 00:0d:ec:b2:30:c8

Peer's LLDP TLVs:
Type Length Value
---- ------ -----
001  007    04000dec a36080
002  007    05457468 312f31
003  002    0078
004  009    4e354b2d 506f7274 00
005  013    45756765 6e652d4e 354b2d32 00
006  010    4e354b2d 53776974 6368
007  004    00040004
008  012    05010ac1 8303021a 00000000
128  055    001b2102 020a0000 00000001 00000001 06060000 80000808 080a0000
            80008906 001b2108 04110000 80000001 00003232 00000000 000002
```

```
128   005    00014201 01
128   006    0080c201 0001
000   000
switch#
```

This example shows how to display LLDP traffic information:

```
switch# show lldp traffic
LLDP traffic statistics:

    Total frames transmitted: 89743
    Total entries aged: 0
    Total frames received: 59300
    Total frames received in error: 0
    Total frames discarded: 0
    Total unrecognized TLVs: 0
switch#
```

Related Commands	Command	Description
	lldp	Configures the global LLDP options on the switch.
	lldp (Interface)	Configures the LLDP feature on an interface.

show loadbalancing

To display load balancing status for specific unicast flows, use the **show loadbalancing** command.

show loadbalancing vsan *vsan-id source-fcid dest-fcid* [*exchange-id*]

Syntax Description

vsan *vsan-id*	Displays Fabric login (FLOGI) database entries based on the FCID allocated. The format is 0xhhhhhh.
source-fcid	Displays the load balancing status for the specified source FCID. The format is 0xhhhhhh.
dest-fcid	Displays the load balancing status for the specified destination FCID. The format is 0xhhhhhh.
exchange-id	(Optional) Displays the load balancing status for the specified exchange. The format is 0xhhhhhh.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the load-balancing information for the specified source and destination in VSAN 3:

```
switch# show loadbalancing vsan 3 0x3345 0x2546
```

Related Commands

Command	Description
vsan	Configures VSAN information or membership.

show npv flogi-table

To display the information about N port virtualization (NPV) Fabric login (FLOGI) session, use the **show npv flogi-table** command.

show npv flogi-table

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **show npv flogi-table** command is available only when the switch is in NPV mode.

Examples   This example shows how to display the information on NPV FLOGI session:

```
switch# show npv flogi-table
```

Related Commands

Command	Description
show npv status	Displays the NPV current status.

show npv status

To display the N port virtualization (NPV) current status, use the **show npv status** command.

show npv status

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **show npv status** command is available only when the switch is in NPV mode.

Examples   This example shows how to display the current status of NPV:

```
switch# show npv status
```

Related Commands

Command	Description
show npv flogi-table	Displays the information about NPV FLOGI session.

show npv traffic-map

To display N port virtualization (NPV) traffic maps, use the **show npv traffic-map** command.

show npv traffic-map

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The **show npv traffic-map** command is available only when the switch is in NPV mode.

Examples   This example shows how to display the current status of NPV:

```
switch# show npv traffic-map
```

Related Commands

Command	Description
show npv flogi-table	Displays the information about an NPV FLOGI session.

show port index-allocation

To display port index allocation information, use the **show port index-allocation** command.

show port index-allocation [**startup**]

Syntax Description	startup	(Optional) Displays port index allocation information at startup.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   On a switch where the maximum number of port indexes is 256, any module that exceeds that limit does not power up. There is no startup module index distribution for the Cisco Nexus 5000 Series switch.

Examples   This example shows how to display port index allocation information:

```
switch# show port index-allocation
```

show rlir

To display Registered Link Incident Report (RLIR) information, use the **show rlir** command.

> **show rlir** {**erl** [**vsan** *vsan-id*] | **history** | **recent** {**interface fc** *slot*/*port* | **portnumber** *port*} | **statistics** [**vsan** *vsan-id*]}

Syntax Description		
erl	Displays the Established Registration List.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is from 1 to 4093.
history	Displays the link incident history.
recent	Displays recent link incidents.
interface fc *slot*/*port*	Specifies a Fibre Channel interface.
portnumber *port*	Displays RLIR information for the specified port number.
statistics	Displays RLIR statistics for all VSANs or the specified VSAN.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the RLIR information for VSAN 1:

```
switch# show rlir erl vsan 1
```

This example shows how to display the RLIR statistics:

```
switch# show rlir statistics vsan 1
```

Related Commands	Command	Description
	rlir preferred-cond fcid	Specifies a preferred host to receive RLIR frames.

show rscn

To display Registered State Change Notification (RSCN) information, use the **show rscn** command.

show rscn {**event-tov vsan** *vsan-id* | **pending vsan** *vsan-id* | **pending-diff vsan** *vsan-id* | **scr-table** [**vsan** *vsan-id*] | **session status vsan** *vsan-id* | **statistics** [**vsan** *vsan-id*]}

Syntax Description

event-tov	Displays the event timeout value.
vsan *vsan-id*	Specifies a VSAN ID. The range is from 1 to 4093.
pending	Displays the pending configuration.
pending-diff	Displays the difference between the active and the pending configuration.
scr-table	Displays the State Change Registration (SCR) table.
session status	Displays the RSCN session status.
statistics	Displays RSCN statistics.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The SCR table cannot be configured. It is only populated if one or more N ports send SCR frames to register for RSCN information. If the **show rscn scr-table** command does not return any entries, no N port is interested in receiving RSCN information.

Examples   This example shows how to display the RSCN information:

```
switch# show rscn scr-table vsan 1
```

This example shows how to display the RSCN statistics:

```
switch# show rscn statistics vsan 1
```

This example shows how to display the RSCN event timeout value configured on VSAN 1:

```
switch# show rscn event-tov vsan 1
```

This example shows how to display the difference between the active RSCN configuration and the pending RSCN configuration on VSAN 1:

```
switch# show rscn pending-diff vsan 1
```

Related Commands	**Command**	**Description**
	rscn	Configures a registered state change notification (RSCN).

show running-config fcoe_mgr

To display the running configuration information about Fibre Channel over Ethernet (FCoE), use the **show running-config fcoe_mgr** command.

show running-config fcoe_mgr [**all**]

Syntax Description	all	(Optional) Displays the full operating information including default settings.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE running configuration information:

Need new output[1]

```
switch# show running-config fcoe_mgr

!Command: show running-config fcoe_mgr
!Time: Fri Jan  2 06:33:11 2009

version 5.0(3)N2(1)

interface vfc1
  bind mac-address 00:50:3e:8d:64:00
fcoe fka-adv-period 60
fcoe veloopback


switch#
```

This example shows how to display detailed information on the running configuration:

```
switch# show running-config fcoe_mgr all

!Command: show running-config fcoe_mgr all
!Time: Fri Jan  2 05:36:52 2009

version 5.0(3)N2(1)
logging level fcoe_mgr 3

interface vfc1
  bind mac-address 00:50:3e:8d:64:00
fcoe fka-adv-period 60
```

1.

```
fcoe veloopback


switch#
```

Related Commands	Command	Description
	copy running-config startup-config	Copies the running configuration information to the startup configuration file.
	show tech-support fcoe	Displays troubleshooting information about FCoE.

show running-config interface san-port-channel

To display the runninf system configuration information of SAN port channel interfaces, use the **show running-config interface san-port-channel** command.

show running-config interface san-port-channel *port-num* [**all** | **expand-port-profile**]

Syntax Description	all	(Optional) Displays configured and default information.
	expand-port-profile	(Optional) Displays the configuration information of port profiles.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the running configuration information for a specified SAN port channel interface:

Need new output

```
switch# show running-config interface san-port-channel 101

!Command: show running-config interface san-port-channel 101
!Time: Mon Apr 11 09:14:20 2005

version 5.1(3)N1(1)

interface san-port-channel 101
  channel mode active
  switchport mode NP

switch#
```

Related Commands

Command	Description
interface san-port-channel	Configures a SAN port channel interface.
copy running-config startup-config	Copies the running configuration information to the startup configuration file.

show san-port-channel

To view information about existing SAN port channel configurations, use the **show san-port-channel** command.

> **show san-port-channel** {**compatibility-parameters** | **consistency** [**detail**] | **database** [**interface san-port-channel** *port*] | **summary** | **usage**}

Syntax Description

compatibility-parameters	Displays compatibility parameters.
consistency	Displays the database consistency information of all modules.
detail	(Optional) Displays detailed database consistency information.
database	Displays SAN port channel database information.
interface san-port-channel *port*	(Optional) Specifies the SAN port channel number. The range is from 1 to 256.
summary	Displays the SAN port channel summary.
usage	Displays the SAN port channel number usage.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the SAN port channel summary:

```
switch# show san-port-channel summary
```

This example shows how to display the SAN port channel compatibility parameters:

```
switch# show san-port-channel compatibility-parameters
```

This example shows how to display the SAN port channel database:

```
switch# show san-port-channel database
```

This example shows how to display the consistency status of the SAN port channel database:

```
switch# show san-port-channel consistency
```

This example shows how to display detailed information about the consistency status of the SAN port channel database:

```
switch# show san-port-channel consistency detail
```

This example shows how to display details of the used and unused SAN port channel numbers:

```
switch# show san-port-channel usage
```

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference

Related Commands	Command	Description
	san-port-channel persistent	Converts an autocreated SAN port channel to a persistent SAN port channel.

show scsi-target

To display information about existing SCSI target configurations, use the **show scsi-target** command.

show scsi-target {**auto-poll** | **custom-list** | **devices** [**vsan** *vsan-id*] [**fcid** *fcid-id*] | **disk** [**vsan** *vsan-id*] [**fcid** *fcid-id*] | **lun** [**vsan** *vsan-id*] [**fcid** *fcid-id*] [**os** [**aix** | **all** | **hpux** | **linux** | **solaris** | **windows**] | **pwwn** | **status** | **tape** [**vsan** *vsan-id*] [**fcid** *fcid-id*] | **vsan** *vsan-id*}

Syntax Description

auto-poll	Displays SCSI target auto polling information.
custom-list	Displays customized discovered targets.
devices	Displays discovered SCSI target devices information.
vsan *vsan-id*	(Optional) Specifies the Virtual SAN (VSAN) ID. The range is from 1 to 4093.
fcid *fcid-id*	(Optional) Specifies the FCID of the SCSI target to display.
disk	Displays discovered disk information.
lun	Displays discovered SCSI target logical unit number (LUN) information.
os	(Optional) Discovers the specified operating system.
aix	(Optional) Specifies the AIX operating system.
all	(Optional) Specifies all operating systems.
hpux	(Optional) Specifies the HPUX operating system.
linux	(Optional) Specifies the Linux operating system.
solaris	(Optional) Specifies the Solaris operating system.
windows	(Optional) Specifies the Windows operating system.
pwwn	Displays discovered pWWN information for each operating system.
status	Displays the SCSI target discovery status.
tape	Displays discovered tape information.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **show scsi-target auto-poll** command to verify automatic discovery of online SCSI targets.

Examples   This example shows how to display the status of a SCSI discovery:

```
switch# show scsi-target status
```

This example shows how to display the customized discovered targets:

```
switch# show scsi-target custom-list
```

This example shows how to display the discovered disk information:

```
switch# show scsi-target disk
```

This example shows how to display the discovered LUNs for all operating systems:

```
switch# show scsi-target lun os all
```

This example shows how to display the discovered LUNs for the Solaris operating system:

```
switch# show scsi-target lun os solaris
```

This example shows how to display the auto-polling information:

```
switch# show scsi-target auto-poll
```

This example shows how to display the port WWN that is assigned to each operating system (Windows, AIX, Solaris, Linux, or HPUX):

```
switch# show scsi-target pwwn
```

Related Commands	Command	Description
	scsi-target	Configures SCSI target discovery.

show startup-config fcoe_mgr

To display the startup configuration information about Fibre Channel over Ethernet (FCoE), use the **show startup-config fcoe_mgr** command.

> **show startup-config fcoe_mgr**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE startup configuration information:

Need new output

```
switch# show startup-config fcoe_mgr

!Command: show startup-config fcoe_mgr
!Time: Fri Jan  2 05:41:38 2009
!Startup config saved at: Thu Jan  1 00:04:46 2009

version 5.0(3)N2(1)
logging level fcoe_mgr 3

interface vfc1
  bind mac-address 00:50:3e:8d:64:00
fcoe fka-adv-period 60
fcoe veloopback


switch#
```

Related Commands

Command	Description
copy running-config startup-config	Copies the running configuration information to the startup configuration file.
show tech-support fcoe	Displays troubleshooting information about FCoE.

show tech-support fcoe

To display troubleshooting information about Fibre Channel over Ethernet (FCoE), use the **show tech-support fcoe** command.

show tech-support fcoe

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display Cisco technical support information for FCoE interfaces:

```
switch# show tech-support fcoe
******************** FCOE MGR tech-support start *****************
`show platform software fcoe_mgr event-history errors`
1) Event:E_DEBUG, length:71, at 269945 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_demux(535): (Warning) unexpected mts msg (opcode - 7972)


2) Event:E_DEBUG, length:64, at 269136 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5428): fka-adv-period: 60


3) Event:E_DEBUG, length:64, at 269107 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5427): fcf-priority  : 128

4) Event:E_DEBUG, length:68, at 269076 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5426): fcmap         : 0xefc00

5) Event:E_DEBUG, length:100, at 269036 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5425): fcoe_mgr_pss_add_global_cfg_da
ta: Exiting, ret_val = 0


6) Event:E_DEBUG, length:88, at 268788 usecs after Fri Jan  2 06:35:17 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5400): fcoe_mgr_pss_add_global_cfg_data:
Entering


7) Event:E_DEBUG, length:63, at 567997 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5428): fka-adv-period: 8


8) Event:E_DEBUG, length:64, at 567965 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5427): fcf-priority  : 128
```

```
 9) Event:E_DEBUG, length:68, at 567932 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5426): fcmap        : 0xefc00

10) Event:E_DEBUG, length:100, at 567891 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5425): fcoe_mgr_pss_add_global_cfg_da
ta: Exiting, ret_val = 0

11) Event:E_DEBUG, length:88, at 567732 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_pss_add_global_cfg_data(5400): fcoe_mgr_pss_add_global_cfg_da
ta: Entering

12) Event:E_DEBUG, length:88, at 567667 usecs after Fri Jan  2 06:30:27 2009
    [102] fcoe_mgr_cli_set_ve_loopback(1562): Enabling VE loopback (will disable
 VFID check)

13) Event:E_DEBUG, length:129, at 177534 usecs after Fri Jan  2 06:25:17 2009
    [102] fcoe_mgr_mts_vfc_bind_check_resp_handler(2488): Bind Check Resp: if_in
dex: 0x0, status: (null): success (err_id 0x00000000)

14) Event:E_DEBUG, length:71, at 176687 usecs after Fri Jan  2 06:25:17 2009
    [102] fcoe_mgr_demux(535): (Warning) unexpected mts msg (opcode - 7972)

15) Event:E_DEBUG, length:71, at 392038 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_mac_pool_bmp_to_tlv(143): mac_pool->mac_usage_bmp = NULL

16) Event:E_DEBUG, length:63, at 89603 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/31

17) Event:E_DEBUG, length:63, at 89509 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/29

18) Event:E_DEBUG, length:63, at 89405 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/18

19) Event:E_DEBUG, length:63, at 89310 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/17

20) Event:E_DEBUG, length:63, at 89212 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/15

21) Event:E_DEBUG, length:62, at 89101 usecs after Fri Jan  2 06:16:00 2009
    [102] fcoe_mgr_get_eth_fcoe_info(58): sending lls down Eth1/8

<--Output truncated-->
switch#
```

Related Commands

Command	Description
show running-config fcoe_mgr	Displays the running configuration information about FCoE.

show topology

To display topology information for connected SAN switches, use the **show topology** command.

> **show topology** [**vsan** *vsan-id*]

Syntax Description

vsan *vsan-id*	(Optional) Displays information for a VSAN. The range is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display topology information:

```
switch# show topology
```

Related Commands

Command	Description
cfs ipv4 mcast-address	Configures an IPv4 multicast address for Cisco Fabric Services (CFS) distribution over IPv4.
cfs ipv6 distribute	Enables CFS distribution over IPv6 for applications using CFS.
cfs ipv6 mcast-address	Configures an IPv6 multicast address for CFS distribution over IPv6.

show trunk protocol

To display the trunk protocol status, use the **show trunk protocol** command.

show trunk protocol

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the trunk protocol status:

```
switch# show trunk protocol
switch#
```

Related Commands

Command	Description
trunk protocol enable	Configures the trunking protocol for Fibre Channel interfaces.

show vlan fcoe

To display information about the Fibre Channel over Ethernet (FCOE) VLAN to Virtual SAN (VSAN) mappings, use the **show vlan fcoe** command.

show vlan fcoe

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the FCoE VLAN to VSAN mappings on the switch:

```
switch# show vlan fcoe
VLAN      VSAN      Status
--------  --------  --------
331       331       Operational
332       332       Operational
333       333       Operational
334       334       Operational
335       335       Non-operational
336       336       Operational
337       337       Operational
switch#
```

Related Commands

Command	Description
fcoe vsan	Maps a FCoE VLAN to a VSAN.

show vsan

To display information about a configured Virtual SAN (VSAN), use the **show vsan** command.

show vsan [*vsan-id* [**membership**] | **membership** [**interface** {**fc** *slot*/*port* | **san-port-channel** *port* | **vfc** *vfc-id*}] | **usage**]

Syntax Description

vsan-id	(Optional) Information for the specified VSAN ID. The range is from 1 to 4094.
membership	(Optional) Displays membership information.
interface	(Optional) Specifies the interface type.
fc *slot*/*port*	Specifies a Fibre Channel interface.
san-port-channel *port*	Specifies a SAN port channel interface specified by the port channel number.
vfc *vfc-id*	Specifies a virtual Fibre Channel interface.
usage	(Optional) Displays VSAN usage in the system.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   When you enter the **show vsan membership interface** command, interface information appears for interfaces that are configured in this VSAN.

The interface range must be in ascending order and nonoverlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for a Fibre Channel interface range is

  fcslot/port - port, fcslot/port, fcslot/port:

  For example, `show int fc2/1 - 3 , fc2/4 , fc3/2`

Examples   This example shows how to display the configured VSAN information:

```
switch# show vsan 1
vsan 1 information
         name:VSAN0001  state:active
         interoperability mode:default
         loadbalancing:src-id/dst-id/oxid
         operational state:up

switch#
```

This example shows how to display the membership information for all VSANs:

```
switch # show vsan membership
vsan 1 interfaces:

vsan 331 interfaces:
    fc2/3            fc2/4            san-port-channel 14 vfc1
    vfc2             vfc3             vfc4             vfc5
    vfc6             vfc7             vfc8             vfc9
    vfc10            vfc11            vfc12            vfc13
    vfc14            vfc15            vfc16            vfc17
    vfc18            vfc19            vfc20

vsan 332 interfaces:
    fc2/5            fc2/6            fc2/7            fc2/8
    san-port-channel 8 san-port-channel 9 vfc21          vfc22
    vfc23            vfc24            vfc25            vfc26
    vfc27            vfc28            vfc29            vfc30
    vfc31            vfc32            vfc33            vfc34
    vfc35            vfc36            vfc37            vfc38
    vfc39            vfc40

vsan 333 interfaces:
fc2/1            fc2/2            san-port-channel 13

vsan 334 interfaces:

vsan 336 interfaces:

vsan 337 interfaces:

vsan 4079(evfp_isolated_vsan) interfaces:

vsan 4094(isolated_vsan) interfaces:

switch#
```

This example shows how to display the membership information for a specified interface:

```
switch# show vsan membership interface fc2/1
fc2/1
        vsan:333
        allowed list:1-4078,4080-4093
switch#
```

Related Commands

Command	Description
vsan	Configures a VSAN.

show wwn

To display the status of the WWN configuration, use the **show wwn** command.

show wwn {**status** [**block-id** *number*] | **switch** | **vsan-wwn**}

Syntax Description

status	Displays a summary of the WWN usage and alarm status.
block-id *number*	(Optional) Displays the WWN usage and alarm status for a block ID. The range is from 34 to 1793.
switch	Displays the switch WWN.
vsan-wwn	Displays all user-configured VSAN WWNs.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the WWN of the switch:

```
switch# show wwn switch
```

This example shows how to display a user-configured VSAN WWN:

```
switch# show wwn vsan-wwn
```

Related Commands

Command	Description
wwn vsan	Configures a WWN for a suspended VSAN that has interop mode 4 enabled.

show zone

To display zone information, use the **show zone** command.

> **show zone** [**active** [**vsan** *vsan-id*] | **analysis** {**active vsan** *vsan-id* | **vsan** *vsan-id* | **zoneset**
> *zoneset-name*} | **ess** [**vsan** *vsan-id*] | **member** {**fcalias** *alias-name* | **fcid** *fc-id* [**active** | **lun** *lun-id*
> | **vsan** *vsan-id*] | **pwwn** *wwn* [**active** | **lun** *lun-id* | **vsan** *vsan-id*]} | **name** *string* [**active**]
> [**pending**] [**vsan** *vsan-id*] | **pending** [**active**] [**vsan** *vsan-id*] | **pending-diff** [**vsan** *vsan-id*] |
> **policy** [**pending**] [**vsan** *vsan-id*] | **statistics** [**vsan** *vsan-id*] | **status** [**vsan** *vsan-id*]]

Syntax Description

active	(Optional) Displays zones that are part of active zone set.
vsan *vsan-id*	(Optional) Displays zones belonging to the specified VSAN ID. The range is from 1 to 4093.
analysis	(Optional) Displays the analysis of the zone database.
active	Displays the analysis of the active zone database.
vsan	Displays the analysis of the zone database for the specified VSAN.
zoneset *zoneset-name*	Displays the analysis of the specified zone set.
ess	(Optional) Displays the exchange switch support (ESS) information.
member	(Optional) Displays all zones in which the given member is part of.
fcalias *alias-name*	Displays member information for a specific fcalias.
fc-id *fc-id*	Displays member information for a specific Fibre Channel ID.
lun *lun-id*	Displays the logical unit ID.
pwwn *wwwn*	Displays device name information for a specific pWWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal number.
name *string*	Displays members of a specified zone.
pending	Displays members of a specified zone in the current session.
pending-diff	Displays pending changes to the zone database.
statistics	Displays zone server statistics.
status	Displays the zone server current status.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configured zone information:

```
switch# show zone
```

This example shows how to display the zone information for a specific VSAN:

```
switch# show zone vsan 1
```

This example shows how to display the members of a specific zone:

```
switch# show zone name Zone1
```

This example shows how to display all zones to which a member belongs using the FCID:

```
switch# show zone member pwwn 21:00:00:20:37:9c:48:e5
```

This example shows how to display the number of control frames exchanged with other switches:

```
switch# show zone statistics
```

This example shows how to display the status of the configured zones:

```
switch# show zone status
```

This example checks the status of the **zoneset distribute vsan** command and displays the default zone attributes of a specific VSAN or all active VSANs:

```
switch# show zone status vsan 1
VSAN:1 default-zone:deny distribute:active only Interop:default
    mode:basic merge-control:allow session:none
    hard-zoning:enabled
Default zone:
    qos:low broadcast:disabled ronly:disabled
Full Zoning Database :
    Zonesets:0  Zones:0 Aliases:0
Active Zoning Database :
    Database Not Available
Status:
```

Table 3 describes the significant fields shown in the **show zone status vsan** display.

Table 3   show zone status Field Descriptions

Field	Description
VSAN:	VSAN number displayed.
default-zone:	Default-zone policy, either permit or deny.
Default zone:	Field that displays the attributes for the specified VSAN. The attributes include Qos level, broadcast zoning enabled/disabled, and read-only zoning enabled/disabled.
distribute:	Distribute full-zone set (full) or active-zone set (active only).
Interop:	Interop mode. 100 = default, 1 = standard, 2 and 3 = Non-Cisco vendors.
mode:	Zoning mode, either basic or enhanced.
merge control:	Merge policy, either allow or restrict.
Hard zoning is enabled	If hardware resources (TCAM) becomes full, hard zoning is automatically disabled.
Full Zoning Database:	Values of zone database.
Active Zoning Database:	Values of active zone database.
Status:	Status of last zone distribution.

Related Commands	Command	Description
	zone	Configures zone information.

show zone analysis

To display detailed analysis and statistical information about the zoning database, use the **show zone analysis** command.

show zone analysis {**active vsan** *vsan-id* | **vsan** *vsan-id* | **zoneset** *name* **vsan** *vsan-id*}

Syntax Description

active	Displays analysis information for the active zone set.
vsan *vsan-id*	Displays analysis information for the specified VSAN ID. The range is from 1 to 4093.
zoneset *name*	Displays zone set analysis information for the specified zone set.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the detailed statistics and analysis of the active zoning database:

```
switch# show zone analysis active vsan 1
```

This example shows how to display the detailed statistics and analysis of the full zoning database:

```
switch# sh zone analysis vsan 1
Zoning database analysis vsan 1
    Full zoning database
        Last updated at: 14:36:56 UTC Oct 04 2005
        Last updated by: Local [CLI / SNMP / GS / CIM / INTERNAL] or
                         Merge [interface] or
                         Remote [Domain, IP-Address]
                                 [Switch name]
        Num zonesets: 1
        Num zones: 1
        Num aliases: 0
        Num attribute groups: 0
        Formatted database size: < 1 Kb / 2000 kb ( < 1% usage)

    Unassigned zones:
      zone name z1 vsan 1
```

Table 4 describes the fields displayed in the output of a **show zone analysis** command for the full zoning database.

Table 4   show zone analysis Field Descriptions for the Full Zoning Database

Field	Description
Last updated at	Time stamp that shows when the full zoning database was last updated.
Last Updated by	Agent that most recently modified the full zoning database. The agent can be one of the following three types:
	• Local—Indicates that the full database was last modified locally through a configuration change from one of the following applications:
	– CLI—The full zoning database was modified by the user from the command line interface.
	– SNMP—The full zoning database was modified by the user through the Simple Network Management Protocol (SNMP).
	– GS—The full zoning database was modified from the Generic Services (GS) client.
	– CIM—The full zoning database was modified by the applications using the Common Information Model (CIM).
	– INTERNAL—The full zoning database was modified as a result of an internal activation either from Inter-VSAN Routing (IVR) or from the IP storage services manager.
	• Merge—Indicates that the full database was last modified by the Merge protocol. In this case, the interface on which the merge occurred is also displayed.
	• Remote—Indicates that the full database was last modified by the Change protocol, initiated by a remote switch, when the full zone set distribution was enabled. The domain, IP address, and switch name of the switch initiating the change are also displayed.
	Note The switch name is displayed on the next line, aligned with the domain, only if the switch name is set. The default switch name *switch* and the *ip-address* are not displayed.
Num zonesets	Total number of zone sets in the database.
Num zones	Total number of zones in the database, including unassigned zones.
Num aliases	Total number of aliases in the database, including unassigned FC aliases.
Num attribute groups	Total number of attribute groups in the database. This field applies only when enhanced zoning is used.

Table 4   *show zone analysis Field Descriptions for the Full Zoning Database (continued)*

Field	Description
Formatted database size	Total size of the full database when formatted to be sent over the wire.
	The formatted database size is displayed in kilobytes in this format: < *X* KB / *Y* KB, as in the following example:
	Formatted database size: < 1 KB/2000 KB
	In this example, the formatted database size is less than 1 KB out of the maximum size of 2000 KB.
Unassigned zones	All the unassigned zones in the VSAN. Only the names of the zones are displayed. The details about the members of the zone are not displayed in this section.

This example shows how to display the zone set analysis information:

```
switch# show zone analysis zoneset zs1 vsan 1
```

Related Commands

Command	Description
zone compact database	Compacts a zone database in a VSAN.

show zoneset

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

> **show zoneset** [**active** [**vsan** *vsan-id*] | **brief** [**active** [**vsan** *vsan-id*] | **vsan** *vsan-id*] | **name**
> *zoneset-name* [**active** [**vsan** *vsan-id*] | **brief** [**active** [**vsan** *vsan-id*] | **vsan** *vsan-id*] | **vsan**
> *vsan-id*] | **pending** [**active** [**vsan** *vsan-id*] | brief [active [vsan *vsan-id*] | **vsan** *vsan-id*] | **vsan**
> *vsan-id*] | **vsan** *vsan-id*

Syntax Description		
active	(Optional) Displays only active zone sets.	
vsan *vsan-id*	(Optional) Displays the VSAN. The range is from 1 to 4093.	
brief	(Optional) Displays zone set members in a brief list.	
name *zoneset-name*	(Optional) Displays members of a specified zone set.	
pending	(Optional) Displays zone sets members that are in session.	

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to display the configured zone set information:

```
switch# show zoneset vsan 1
```

This example shows how to display the configured zone set information for a specific VSAN:

```
switch# show zoneset vsan 2-3
```

Related Commands	Command	Description
	zoneset (Global configuration mode)	Groups zones under one zone set.
	zoneset (EXEC mode)	Merges zone set databases.

S Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with S.

san-port-channel persistent

To convert an autocreated SAN port channel to a persistent SAN port channel, use the **san-port-channel persistent** command.

san-port-channel *port-channel-id* **persistent**

Syntax Description

port-channel-id	Port channel ID. The range is from 1 to 128.
persistent	Converts the autocreated SAN port channel to a persistent SAN port channel

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command is not reversible. A user-created channel group cannot be converted to an autocreated channel group. When the **san-port-channel persistent** command is applied to an autocreated channel group, the channel group number does not change and the properties of the member ports change to those of a user-created channel group. The channel mode remains active.

Examples   This example shows how to change the properties of an autocreated channel group to a persistent channel group:

```
switch# san-port-channel 10 persistent
```

Related Commands

Command	Description
san-port-channel protocol	Enables the SAN port channel protocol.
show interface port-channel	Displays SAN port channel interface information.
show port-channel	Displays SAN port channel information.

scsi-target

To configure SCSI target discovery, use the **scsi-target** command. To remove SCSI target discovery, use the **no** form of this command.

> **scsi-target** {**auto-poll** [**vsan** *vsan-id*] | **discovery** | **ns-poll** [**vsan** *vsan-id*] | **on-demand** [**vsan** *vsan-id*]}

> **no scsi-target** {**auto-poll** [**vsan** *vsan-id*] | **discovery** | **ns-poll** [**vsan** *vsan-id*] | **on-demand** [**vsan** *vsan-id*]}

Syntax Description		
auto-poll	Configures SCSI target auto-polling globally or per VSAN.
vsan *vsan-id*	(Optional) Specifies a VSAN ID. The range is from 1 to 4093.
discovery	Configures SCSI target discovery.
ns-poll	Configures SCSI target name-server polling globally or per VSAN.
on-demand	Configures SCSI targets on-demand globally or per VSAN.

Command Default   SCSI target discovery for each option is enabled.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Automatic global SCSI target discovery is on by default. Discovery can also be triggered for specific VSANs using on-demand, name server polling, or auto-polling options. All options are on by default. Use the **no scsi-target discovery** command to turn off all discovery options. You can also turn off specific options by using the **no** form of this command.

Examples   This example shows how to configure a SCSI target auto-polling discovery for VSAN 1:

```
switch(config)# scsi-target auto-poll vsan 1
```

This example shows how to remove the SCSI target auto-polling discovery for VSAN 1:

```
switch(config)# no scsi-target auto-poll vsan 1
```

This example shows how to configure a SCSI target discovery:

```
switch(config)# scsi-target discovery
```

This example shows how to configure a SCSI target ns-polling discovery for VSAN 1:

```
switch(config)# scsi-target ns-poll vsan 1
```

This example shows how to remove a SCSI target ns-polling discovery for VSAN 1:

```
switch(config)# no scsi-target ns-poll vsan 1
```

This example shows how to configure a SCSI target on-demand discovery for VSAN 1:

```
switch(config)# scsi-target on-demand vsan 1
```

This example shows how to remove a SCSI target on-demand discovery for VSAN 1:

```
switch(config)# no scsi-target on-demand vsan 1
```

Related Commands	Command	Description
	discover scsi-target	Discovers SCSI targets on local storage to the switch or remote storage across the fabric.
	show scsi-target	Displays information about existing SCSI target configurations.

shutdown

To change the virtual Fibre Channel interface or SAN port channel interface state to administrative down, use the **shutdown** command. To enable an interface, use the **no** form of this command.

shutdown [**force**]

no shutdown

Syntax Description	force	(Optional) Specifies that the interface state be forcefully changed to administrative down.

Command Default   Enabled

Command Modes   Virtual Fibre Channel interface configuration mode
SAN port channel configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

Examples   This example shows how to disable virtual Fibre Channel interface 3:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# shutdown
switch(config-if)#
```

This example shows how to enable virtual Fibre Channel interface 3:

```
switch# configure terminal
switch(config)# interface vfc 3
switch(config-if)# no shutdown
switch(config-if)#
```

This example shows how to forcefully bring a SAN port channel interface to the administratively down state:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# shutdown force
switch(config-if)#
```

Related Commands	Command	Description
	interface san-port-channel	Configures a SAN port channel interface.
	interface vfc	Configures a virtual Fibre Channel interface.
	show interface vfc	Displays the specified VFC interface, attributes, and status.
	show interface vfc	Displays the specified VFC interface, attributes, and status.

shutdown lan (FCoE)

To shut down the Ethernet traffic on a Fibre Channel over Ethernet (FCoE) link, use the **shutdown lan** command. To restore Ethernet traffic, use the **no** form of this command.

shutdown lan

no shutdown lan

Syntax Description   This command has no arguments or keywords.

Command Default   Not shut down.

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use this command to shut down Ethernet traffic on the interface. If the interface is part of an FCoE VLAN, the shutdown has no impact on the FCoE traffic.

Examples   This example shows how to shut down an Ethernet interface on an FCoE link:

```
switch(config)# interface ethernet 2/1
switch(config-if)# shutdown lan
switch(config-if)#
```

This example shows how to restore traffic on an interface after you have shut down, or disabled, the interface:

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

Related Commands

Command	Description
fcoe	Configures FCoE parameters.

switchport (Fibre Channel)

To configure a switch port parameter on a Fibre Channel, use the **switchport** command. To discard the configuration, use the **no** form of this command.

switchport
    {**fcrxbbcredit** {*number* [**mode E** | **F**] | **default**} |
    mode {**F** | **NP** | **SD**} |
    speed {**1000** | **2000** | **4000** | **8000** | **auto** [**max 2000**]} |
    trunk {**allowed vsan** {[**add**] *vsan-id* | **all**} | **mode** {**auto** | **off** | **on**}}}

no switchport {**fcrxbbcredit**| **mode** | **speed** | **trunk** {**allowed vsan** [[**add**] *vsan-id* | **all**] | **mode**}}

Syntax Description	fcrxbbcredit	Configures receive BB_credit for the port.
	number	Receive BB_credit. The range is from 1 to 240.
	mode	Configures receive BB_credit for the specific port mode.
	E	Configures receive BB_credit for E or TE port mode.
	F	Configures receive BB_credit for F port mode.
	default	Configures default receive BB_credits depending on the port mode and capabilities.
	mode	Configures the port mode.
	F	Configures F port mode.
	NP	Configures N port proxy mode. NP mode is valid only when the switch is operating in N-Port Virtualizer (NPV) mode.
	SD	Configures SD port mode.
	speed	Configures the port speed.
	1000	Configures the 1000-Mbps speed.
	2000	Configures the 2000-Mbps speed.
	4000	Configures the 4000-Mbps speed.
	8000	Configures the 8000-Mbps speed.
	auto	Configures autosense speed.
	max 2000	(Optional) Configures 2 Gbps as the maximum bandwidth reserved in auto mode for 24-port and 48-port 4-Gbps switching module interfaces.
	trunk	Configures trunking parameters on the interface.
	allowed	Specifies the allowed list for interface(s).
	vsan	Configures the VSAN range.
	add	(Optional) Adds the VSAN ID to the allowed VSAN list.
	vsan-id	VSAN ID. The range is from 1 to 4093.
	all	Adds all the VSANs to the allowed VSAN list.
	mode	Configures the trunking mode.
	auto	Configures automatic trunking mode.
	off	Disables the trunking mode.
	on	Enables the trunking mode.

Command Default The EISL encapsulation is disabled.
The default receive data buffer size is 2112 bytes.
The port mode is auto.
The speed is auto.
The maximum auto speed is 2000.
The trunk mode is on.

Command Modes Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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

```
interface fc 1/1 - 5, fc 2/5 - 7
```

The port speed on an interface determines the amount of shared resources available to the ports in the port group. Port group resources are reserved even though the bandwidth is not used. For example, if an interface is configured for autosensing (**auto**), then 4 Gbps of bandwidth is reserved even though the maximum operating speed is 2 Gbps. For the same interface, if autosensing with a maximum speed of 2 Gbps (**auto max 2000**) is configured, then only 2 Gbps of bandwidth is reserved and the unused 2 Gbps is shared with the other interface in the port group.

When configuring port modes, observe the following guidelines:

- Auto port mode and E port mode cannot be configured in shared rate mode.

- Shared to dedicated ports should be configured in this order: speed, port mode, credit.

- Dedicated to shared ports should be configured in this order: credit, port mode, speed.

Examples This example shows how to configure the switch port parameters for a Fibre Channel interface:

```
switch(config)# interface fc 2/3
switch(config-if)# switchport description techdocsSample
switch(config-if)# switchport mode E
switch(config-if)# switchport trunk mode auto
switch(config-if)# switchport trunk allowed vsan all
switch(config-if)# switchport trunk allowed vsan 3
switch(config-if)# switchport trunk allowed vsan add 2
switch(config-if)# switchport fcrxbbcredit 20
```

This example shows how to configure the mode of a virtual Fibre Channel interface:

```
switch(config)# interface vfc 2
switch(config-if)# switchport mode F
```

Related Commands	Command	Description
	fcrxbbcredit extended enable	Enables extended BB_credits on the switch.
	show interface	Displays an interface configuration for a specified interface.

switchport (SAN PortChannel)

To configure switch port parameters on a SAN port channel interface, use the **switchport** command. To discard the configuration, use the **no** form of this command.

> **switchport** {**description** *line* | **mode** {**NP** | **auto**} | **speed** {**1000** | **2000** | **4000** | **8000** | **auto**} | **trunk** {**allowed vsan** {*vsan-id* | **add** *vsan-id* | **all**} | **mode** {**auto** | **on** | **off**}}}

> **no switchport** {**description** | **mode** | **speed** | **trunk** {**allowed vsan** [*vsan-id* | **add** *vsan-id* | **all**] | **mode**}}

Syntax Description

description *line*	Specifies a description for the interface. The description can be a maximum of 80 alphanumeric characters.
mode	Configures receive BB_credit for the specific port mode.
NP	Configures the SAN port channel interface as an N-Port Virtualizer (NPV) port.
auto	Configures autosense mode.
speed	Configures the port speed.
1000	Configures the 1000-Mbps speed.
2000	Configures the 2000-Mbps speed.
4000	Configures the 4000-Mbps speed.
8000	Configures the 8000-Mbps speed.
auto	Configures the autonegotiation speed.
trunk	Configures trunking parameters on the interface.
allowed	Specifies the allowed list for interface(s).
vsan	Configures the VSAN range.
vsan-id	VSAN ID. The range is from 1 to 4093.
add	Adds the VSAN ID to the allowed VSAN list.
all	Adds all the VSANs to the allowed VSAN list.
mode	Configures the trunking mode.
on	Enables the trunking mode.
off	Disables the trunking mode.

Command Default   Disabled

Command Modes   SAN port channel configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command does not require a license.

Examples   This example shows how to configure switch port parameters for a SAN port channel interface:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# switchport description SAN Port Channel 3 Configuration
switch(config-if)# switchport speed 2000
switch(config-if)# switchport mode NP
switch(config-if)#
```

This example shows how to remove the switch port configuration for a SAN port channel interface:

```
switch# configure terminal
switch(config)# interface san-port-channel 3
switch(config-if)# no switchport description
switch(config-if)# no switchport speed
switch(config-if)#
```

Related Commands

Command	Description
show interface	Displays an interface configuration for a specified interface.
shutdown	Disables and enables an interface.
channel mode active (SAN PortChannel)	Configures a SAN port channel interface as an active port channel port.

switchport (virtual Fibre Channel interface)

To configure a switch port parameter on a virtual Fibre Channel interface, use the **switchport** command. To discard the configuration, use the **no** form of this command.

switchport mode {**E** | **F** | **NP**}

no switchport mode

Syntax Description

switchport mode	Specifies the mode of the virtual Fibre Channel interface.
E	Configures the virtual Fibre Channel interface as a virtual E (VE) port.
F	Configures the virtual Fibre Channel interface as an F port. This is the default mode.
NP	Configures the virtual Fibre Channel interface as an N-Port Virtualizer (NPV) port.

Command Default   F port mode

Command Modes   Virtual Fibre Channel interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The Ethernet or EtherChannel interface that you bind to the virtual Fibre Channel interface must be a trunk port.

You can bind an F port to a member of a virtual port channel (vPC) if it is the only member of the vPC on the local switch. Because of limitations in the hardware, you cannot bind multiple virtual Fibre Channel interfaces to multiple members of the vPC. You can, however, bind an F port to non-vPC EtherChannels.

By default, a VE port is enabled for trunk mode. A VE port cannot be bound to a MAC address.

VE-capable ports allow the discovery and instantiation of virtual links between Cisco Nexus 5000 Series switches and SAN switches, which enables multi-hop FCoE on the switch.

Examples   This example shows how to configure an F port on virtual Fibre Channel interface 3:

```
switch(config)# interface ethernet 1/1
switch(config-if)# switchport mode trunk
switch(config-if)# exit
switch(config)# interface vfc 3
switch(config-if)# bind interface ethernet 1/1
switch(config-if)# switchport mode F
switch(config-if)#
```

This example shows how to configure a VE port on virtual Fibre Channel interface 3:

```
switch(config)# interface ethernet 1/1
switch(config-if)# switchport mode trunk
switch(config-if)# exit
switch(config)# interface vfc 3
switch(config-if)# bind interface ethernet 1/1
switch(config-if)# switchport mode E
switch(config-if)#
```

Related Commands	Command	Description
	interface vfc	Configures a virtual Fibre Channel interface.
	show interface vfc brief	Displays the specified VFC interface, including its attributes and status.
	shutdown	Disables and enables an interface.
	switchport mode trunk	Configures an Ethernet interface as a trunk port.

switchport mode trunk

To configure an Ethernet interface as a trunk port, use the **switchport mode trunk** command. To remove the configuration, use the **no** form of this command.

>   **switchport mode trunk**

>   **no switchport mode trunk**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The Ethernet interface must be configured as a trunk port to allow both Fibre Channel and Ethernet traffic on the same interface.

Examples   This example shows how to enable the trunk mode for interface Ethernet 2/1:

```
switch(config)# interface ethernet 2/1
switch(config-if)# switchport mode trunk
switch(config-if)#
```

Related Commands

Command	Description
show interface switchport	Displays information on all interfaces configured as switch ports.

switchport ignore bit-errors

To prevent the detection of bit error threshold events from disabling the interface on Fibre Channel interfaces, use the **switchport ignore bit-errors** command. To revert to the default, use the **no** form of this command.

switchport ignore bit-errors

no switchport ignore bit-errors

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Interface configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   The bit error rate threshold is used by the switch to detect an increased error rate before performance degradation seriously affects traffic.

Bit errors can occur for the following reasons:

- Faulty or bad cable
- Faulty or bad SFP
- SFP is specified to operate at 1 Gbps but is used at 2 Gbps
- Short haul cable is used for long haul or long haul cable is used for short haul
- Momentary sync loss
- Loose cable connection at one or both ends
- Improper SFP connection at one or both ends

A bit error rate threshold is detected when 15 error bursts occur in a 5-minute period. By default, the switch disables the interface when the threshold is reached. You can enter a **shutdown/no shutdown** command sequence to reenable the interface.

Regardless of the setting of the **switchport ignore bit-errors** command, the switch generates a syslog message when bit error threshold events are detected.

Examples   This example shows how to prevent the detection of bit error events from disabling the interface:

```
switch(config)# interface fc2/1
switch(config-if)# switchport ignore bit-errors
```

This example shows how to allow the detection of bit error events from disabling the interface:

```
switch(config)# interface fc2/1
switch(config-if)# no switchport ignore bit-errors
```

Related Commands

Command	Description
show interface	Displays interface information.

system default switchport

To configure port attributes for Fibre Channel interfaces, use the **system default switchport** command. To disable port attributes, use the **no** form of this command.

system default switchport {**shutdown** | **trunk mode** {**auto** | **off** | **on**}}

no system default switchport {**shutdown** | **trunk mode** {**auto** | **off** | **on**}}

Syntax Description

shutdown	Disables or enables switch ports by default.
trunk	Configures the trunking parameters as a default.
mode	Configures the trunking mode.
auto	Enables autosense trunking.
off	Disables trunking.
on	Enables trunking.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Attributes configured using this command are applied globally to all future switch port configurations, even if you do not individually specify them at that time.

This command changes the configuration of the following ports to administrative mode F:

- All ports that are down.
- All F ports that are up, whose operational mode is F, and whose administrative mode is not F.

This command does not affect non-F ports that are up; however, if non-F ports are down, this command changes the administrative mode of those ports.

Examples   This example shows how to configure a port shutdown:

```
switch(config)# system default switchport shutdown
```

This example shows how to configure the trunk mode:

```
switch(config)# system default switchport trunk mode auto
```

Related Commands	Command	Description
	show system default switchport	Displays default values for switch port attributes.
	show interface brief	Displays Fibre Channel port modes.

system default zone default-zone permit

To configure default values for a zone, use the **system default zone default-zone permit** command. To revert to the defaults, use the **no** form of this command.

> **system default zone default-zone permit**

> **no system default zone default-zone permit**

Syntax Description   This command has no arguments or keywords.

Command Default   No default values for zones.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command defines the default values for the default zone for all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zone default-zone permit vsan** command to define the operational values for the default zone.

The **system default zone default-zone permit** command should only be used with VSANs that have not yet been created; it has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

Examples   This example shows how to set the default zone to use the default values:

```
switch(config)# system default zone default-zone permit
```

This example shows how to restore the default setting:

```
switch(config)# no system default zone default-zone permit
```

Related Commands

Command	Description
zone default-zone permit vsan	Defines whether a default zone (nodes not assigned a created zone) permits or denies access to all in the default zone.
show system default zone	Displays default values for the default zone.

system default zone distribute full

To configure default values for distribution to a zone set, use the **system default zone distribute full** command. To revert to the defaults, use the **no** form of this command.

> **system default zone distribute full**

> **no system default zone distribute full**

Syntax Description   This command has no arguments or keywords.

Command Default   Distribution to active zone sets only.

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command distributes the default values for the default zone to all Virtual SANs (VSANs). The default values are used when you initially create a VSAN and it becomes active. If you do not want to use the default values, use the **zoneset distribute full vsan** command to distribute the operational values for the default zone.

The **system default zone distribute full** command should only be used with VSANs that have not yet been created; it has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

Examples   This example shows how to distribute the default values to the full zone set:

```
switch(config)# system default zone distribute full
```

This example shows how to distribute the default values to the active zone set only:

```
switch(config)# no system default zone distribute full
```

Related Commands

Command	Description
zoneset distribute full vsan	Distributes the operational values for the default zone to all zone sets.
show system default zone	Displays default values for the default zone.

■ **system default zone distribute full**

T Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with T.

trunk protocol enable

To configure the trunking protocol for Fibre Channel interfaces, use the **trunk protocol enable** command. To disable this feature, use the **no** form of this command.

trunk protocol enable

no trunk protocol enable

Syntax Description   This command has no arguments or keywords.

Command Default   Enabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If the trunking protocol is disabled on a switch, no port on that switch can apply new trunk configurations. Existing trunk configurations are not affected, and the TE port continues to function in trunking mode, but only supports traffic in Virtual SANs (VSANs) that it negotiated previously (when the trunking protocol was enabled). Also, other switches that are directly connected to this switch are similarly affected on the connected interfaces. In some cases, you may need to merge traffic from different port VSANs across a nontrunking ISL. Before you merge traffic, you need to disable the trunking protocol.

Examples   This example shows how to disable the trunk protocol feature:

```
switch(config)# no trunk protocol enable
```

This example shows how to enable the trunk protocol feature:

```
switch(config)# trunk protocol enable
```

Related Commands

Command	Description
show trunk protocol	Displays the trunk protocol status.

V Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with V.

vsan

To create multiple fabrics sharing the same physical infrastructure, assign ports to Virtual SANs (VSANs), turn on or off interop mode, load balance either per originator exchange or by source-destination ID, and VSAN membership, use the **vsan** command. To remove a configuration, use the **no** form of this command.

> **vsan** *vsan-id*
>   [**interface** {**fc** *slot*/*port* | **san-port-channel** *port* | **vfc** *vfc-id*} |
>   **interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] |
>   **loadbalancing** {**src-dst-id** | **src-dst-ox-id**} |
>   **name** *name* [**interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] | **loadbalancing**
>   {**src-dst-id** | **src-dst-ox-id**}] | **suspend** [**interop** [*mode*] [**loadbalancing** {**src-dst-id** |
>   **src-dst-ox-id**}] | **loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] |
>   **suspend** [**interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] | **loadbalancing**
>   {**src-dst-id** | **src-dst-ox-id**}]]

> **no vsan** *vsan-id*
>   [**interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] |
>   **loadbalancing** {**src-dst-id** | **src-dst-ox-id**} |
>   **name** *name* [**interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] | **loadbalancing**
>   {**src-dst-id** | **src-dst-ox-id**}] | **suspend** [**interop** [*mode*] [**loadbalancing** {**src-dst-id** |
>   **src-dst-ox-id**}] | **loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] |
>   **suspend** [**interop** [*mode*] [**loadbalancing** {**src-dst-id** | **src-dst-ox-id**}] | **loadbalancing**
>   {**src-dst-id** | **src-dst-ox-id**}]]

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4094.
interface fc *slot*/*port*	(Optional) Specifies the Fibre Channel interface by slot and port number on the switch.
san-port-channel *port*	Configures the SAN port channel interface specified by the SAN port channel number.
vfc *vfc-id*	Specifies the virtual Fibre Channel interface.
interop	(Optional) Turns on interoperability mode.
mode	(Optional) Interop mode. The range is from 1 to 4.
loadbalancing	(Optional) Configures the load balancing scheme.
src-dst-id	Sets src-id/dst-id for load-balancing.
src-dst-ox-id	Sets ox-id/src-id/dst-id for load balancing (default).
name *name*	Assigns a name to the VSAN. The name can be a maximum of 32 characters.
suspend	Suspends the VSAN.

Command Default   None

Command Modes   VSAN database configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To use this command, change to the VSAN database mode.

The interface range must be in ascending order and nonoverlapping. You can specify a range using a hyphen and several interfaces using commas:

- The interface range format for a Fibre Channel interface range is

  fcslot/port - port , fcslot/port , fcslot/port:

  For example, `show int fc2/1 - 3 , fc2/4 , fc3/2`

- The format for a SAN port channel is

  san-port-channel portchannel-number.subinterface-number:

  For example, `show int san-port-channel 5.1`

There are four interop modes:

- Interop mode 1 — Standards based interop mode that requires all other vendors in the fabric to be in interop mode.

- Interop mode 2 — Brocade native mode (Core PID 0).

- Interop mode 3 — Brocade native mode (Core PID 1).

- Interop mode 4 — McData native mode. Before you configure Interop mode 4 (or remove the configuration), you must suspend the VSAN. You should unsuspend the VSAN only after you configure a VSAN-dependent switch WWN with the McData OUI [08:00:88].

The **no** form of the **vsan** *vsan-id* **interface** command is not supported. To remove a VSAN membership of an interface (for example, interface fc1/8 from VSAN 7), you must assign the interface to another VSAN. The best practice is to assign the interface back to the default VSAN (VSAN 1).

Examples   This example shows how to create multiple fabrics sharing the same physical infrastructure and how to assign ports to VSANs:

```
switch(config)# vsan database
switch-config-vsan-db# vsan 2
switch(config-vsan-db)# vsan 2 name TechDoc
switch(config-vsan-db)# vsan 2 loadbalancing src-dst-id
switch(config-vsan-db)# vsan 2 loadbalancing src-dst-ox-id
switch(config-vsan-db)# vsan 2 suspend
switch(config-vsan-db)# no vsan 2 suspend
switch(config-vsan-db)# end
```

This example shows how to suspend a VSAN and enable Interop mode 4:

```
switch(config)# vsan database
switch(config-vsan-db)# vsan 100 suspend
switch(config-vsan-db)# vsan 100 interop 4
switch(config-vsan-db)# exit
```

This example shows how to configure a VSAN to create a FCOE-VLAN to VSAN mapping:

```
switch(config)# vsan database
switch(config-vsan-db)# vsan 377
switch(config-vsan-db)# exit
```

```
switch(config)# vlan 30
switch(config-vlan)# fcoe vsan 337
switch(config-vlan)#
```

This example shows how to remove interface fc2/1 from VSAN 7:

```
switch(config)# vsan database
switch(config-vsan-db)# vsan 1 interface fc2/1
switch(config-vsan-db)#
```

	Command	Description
Related Commands	show vsan	Displays the configuration information of VSANs.
	show vlan fcoe	Displays the FCoE VLAN to VSAN mappings.
	show vsan membership	Displays VSAN membership information.
	wwn vsan	Configures a WWN for a suspended VSAN that has interop mode 4 enabled.

vsan database

To enter Virtual SAN (VSAN) database mode to configure VSAN information and membership, use the **vsan database** command.

> **vsan database**

Syntax Description   This command has no arguments or keywords.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   To exit from the VSAN database configuration mode, use the **exit** command.

Examples   This example shows how to enter the VSAN database configuration mode:

```
switch(config)# vsan database
switch(config-vsan-db)# exit
switch(config)#
```

This example shows how to configure the association between a VSAN and virtual Fibre Channel interface:

```
switch# configure terminal
switch(config)# vsan database
switch(config-vsan-db)# vsan 2 interface vfc 4
switch(config-vsan-db)#
```

Related Commands

Command	Description
show vsan	Displays the configuration information of VSANs.
show vlan fcoe	Displays the FCoE VLAN to VSAN mappings.
show vsan membership	Displays VSAN membership information.
vsan	Configures VSAN information or membership.

W Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with W.

wwn secondary-mac

To allocate a secondary MAC address to a SAN node, use the **wwn secondary-mac** command.

wwn secondary-mac *wwn-id* **range** *address-range*

Syntax Description		
	wwn-id	Secondary MAC address with the format *hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
	range *address-range*	Specifies the range for the specified WWN. The only valid value is 64.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command cannot be undone.

Changes to the worldwide names are only performed as required. They should not be changed on a daily basis. These changes should be made by an administrator or individual who is completely familiar with switch operations.

Examples   This example shows how to allocate a secondary range of MAC addresses:

```
switch(config)# wwn secondary-mac 00:99:55:77:55:55 range 64
```

Related Commands	Command	Description
	show wwn	Displays the status of the WWN configuration.

wwn vsan

To configure a WWN for a suspended Virtual SAN (VSAN) that has interop mode 4 enabled, use the **wwn vsan** command. To discard the configuration, use the **no** form of this command.

> **wwn vsan** *vsan-id* **vsan-wwn** *wwn*

> **no wwn vsan** *vsan-id* **vsan-wwn** *wwn*

Syntax Description

vsan-id	VSAN ID. The range is from 1 to 4093.
vsan-wwn *wwn*	Specifies the WWN for the VSAN. The format is *hh:hh:hh:hh:hh:hh:hh:hh*.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   This command can succeed only if the following conditions are satisfied:

- The VSAN must be suspended.
- The VSAN must have interop mode 4 enabled before you can specify the switch WWN for it.
- The switch WWN must be unique throughout the entire fabric.
- The configured switch WWN must have McData OUI [08:00:88].

Examples   This example shows how to assign a WWN to a VSAN:

```
switch(config)# wwn vsan 100 vsan-wwn 20:64:08:00:88:0d:5f:81
switch(config)# vsan database
switch(config-vsan-db)# vsan 100 suspend
switch(config-vsan-db)# exit
switch(config)# wwn vsan 100 vsan-wwn 20:64:08:00:88:0d:5f:81
```

Related Commands

Command	Description
vsan database	Creates multiple fabrics sharing the same physical infrastructure, assigns ports to a VSAN, turns on or off interop mode, load balances either per originator exchange or source-destination ID, and creates VSAN membership.

Z Commands

This chapter describes the Cisco NX-OS Fibre Channel, virtual Fibre Channel, and Fibre Channel over Ethernet (FCoE) commands that begin with Z.

zone clone

To clone a zone name, use the **zone clone** command.

zone clone *current-zone-name new-zone-name* **vsan** *vsan-id*

Syntax Description

current-zone-name *new-zone-name*	Zone attribute group name. The name can be a maximum of 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **no** form of the **zone name (configuration mode)** command to delete the zone name.

Examples   This example shows how to create a clone of the original zone group called origZone into the clone zone group cloneZone on VSAN 45:

```
switch(config)# zone clone origZone cloneZone vsan 45
```

Related Commands

Command	Description
show zone	Displays zone information.

zone commit

To commit zoning changes to a Virtual SAN (VSAN), use the **zone commit** command. To negate the command, use the **no** form of this command.

> **zone commit vsan** *vsan-id* [**force**]

> **no zone commit vsan** *vsan-id* [**force**]

Syntax Description		
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.
force	(Optional) Forces the commit.

Command Default   None

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **no** form of the **zone commit** command to clear a session lock on a switch where the lock originated.

Examples   This example shows how to commit zoning changes to VSAN 200:

```
switch(config)# zone commit vsan 200
```

Related Commands	Command	Description
	show zone	Displays zone information.

zone compact

To compact a zone database in a Virtual SAN (VSAN), use the **zone compact** command.

zone compact vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   8000 zones are supported in a Cisco Nexus 5000 Series switch.

If you attempt to merge VSANs, the merge will fail if more than 2000 zones are present in a VSAN and the neighboring VSAN cannot support more than 2000 zones.

Activation will fail if more than 2000 zones are present in the VSAN and one or more switches in the fabric cannot support more than 2000 zones.

Examples   This example shows how to compact a zone database in VSAN 1:

```
switch(oongif)# zone compact vsan 1
```

Related Commands

Command	Description
show zone	Displays zone information.
show zone analysis	Displays detailed analysis and statistical information about the zoning database.

zone copy

To copy the active zone set to the full zone set, use the **zone copy** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

zone copy active-zoneset full-zoneset [**include-auto-zones**] **vsan** *vsan-id*

zone copy vsan *vsan-id* **active-zoneset** {**bootflash:** | **ftp:** | **full-zoneset** | **scp:** | **sftp:** | **tftp:** | **volatile:**}

no zone copy

Syntax Description		
active-zoneset	Copies from the active zone set.
full-zoneset	Copies the active zone set to the full zone set.
include-auto-zones	(Optional) Specifies that auto-zones be included when copying the active zone set.
vsan *vsan-id*	Configures to copy the active zone set on a VSAN to the full zone set. The ID of the VSAN is from 1 to 4093.
bootflash:	Copies the active zone set to a location in the bootflash: directory.
ftp:	Copies the active zone set to a remote location using the File Transfer Protocol (FTP) protocol.
scp:	Copies the active zone set to a remote location using the SCP protocol.
sftp:	Copies the active zone set to a remote location using the SFTP protocol.
tftp:	Copies the active zone set to a remote location using the TFTP protocol.
volatile:	Copies the active zone set to a location in the volatile: directory.

Command Default   None

Command Modes   EXEC mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to copy the active zone set to the full zone set:

```
switch# zone copy active-zoneset full-zoneset vsan 1
```

This example shows how to copy the active zone set in VSAN 3 to a remote location using SCP:

```
switch# zone copy vsan 3 active-zoneset scp://guest@myserver/tmp/active_zoneset.txt
```

Related Commands	Command	Description
	show zone	Displays zone information.

zone default-zone

To define whether a default zone (assigned to nodes not assigned to a created zone) permits or denies access to all nodes in the default zone, use the **zone default-zone** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

zone default-zone permit vsan *vsan-id*

no zone default-zone permit vsan *vsan-id*

Syntax Description	permit	Permits access to all nodes in the default zone.
	vsan *vsan-id*	Sets default zoning behavior for the specified Virtual SAN (VSAN). The ID of the VSAN is from 1 to 4093.

Command Default   All default zones are permitted access.

Command Modes   Global configuration mode

Command History	Release	Modification
	6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Use the **zone default-zone permit vsan** command to define the operational values for the default zone in a VSAN. This command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

Use the **system default zone default-zone permit** command to use the default values defined for the default zone for all VSANs. The default values are used when you initially create a VSAN and it becomes active.

Examples   This example shows how to permit the default zoning in VSAN 2:

```
switch(config)# zone default-zone permit vsan 2
```

Related Commands	Command	Description
	system default zone default-zone permit	Configures default values for a zone.
	show zone	Displays zone information.

zone merge-control restrict vsan

To restrict zone database merging, use the **zone merge-control restrict vsan** command. To disable this feature, use the **no** form of this command.

zone merge-control restrict vsan *vsan-id*

no zone merge-control restrict vsan *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   If merge control is set to restricted and the two databases are not identical, the merge fails and Inter-Switch Links (ISLs) between the switches become isolated.

Examples   This example shows how to set the zone merge control for VSAN 10 to restricted:

```
switch(config)# zone merge-control restrict vsan 10
```

Related Commands

Command	Description
show zone	Displays zone information.

zone mode enhanced

To enable enhanced zoning for a Virtual SAN (VSAN), use the **zone mode enhanced** command. To disable this feature, use the **no** form of this command.

> **zone mode enhanced vsan** *vsan-id*

> **no zone mode enhanced vsan** *vsan-id*

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   Disabled

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Before using the **zone mode enhanced** command, verify that all switches in the fabric are capable of working in enhanced zoning mode. If one or more switches are not capable of working in enhanced zoning mode, the request to enable enhanced zoning mode is rejected.

When the **zone mode enhanced vsan** command completes successfully, the software automatically starts a session, distributes the zoning database using the enhanced zoning data structures, applies the configuration changes, and sends a release change authorization (RCA) to all switches in the fabric. All switches in the fabric then enable enhanced zoning mode.

Examples   This example shows how to enable enhanced zoning mode:

```
switch(config)# zone mode enhanced vsan 10
```

Related Commands

Command	Description
show zone	Displays zone information.

zone name (configuration mode)

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

> **zone name** *zone-name* **vsan** *vsan-id*
>   **member**

> **zone name** *zone-name* **vsan** *vsan-id*
>   **no member**

> **no zone name** *zone-name* **vsan** *vsan-id*

Syntax Description

zone-name	Name of the zone. The name can be a maximum of 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

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. Configure a zone for a VSAN from the config-zone mode.

Use the **show wwn switch** command to retrieve the switch world wide name (sWWN). If you do not provide an sWWN, the software automatically uses the local sWWN.

Examples   This example shows how to configure attributes for the specified zone (Zone1) based on the member type (pWWN, fabric pWWN, FCID, or Fibre Channel alias) and value specified:

```
switch(config)# zone name Zone1 vsan 10
switch(config-zone)# member device-alias device1
```

This example shows how to configure the members for the specified zone (Zone2) based on the member type (pWWN, fabric pWWN, FCID, or Fibre Channel alias) and value specified:

```
switch(config)# zone name Zone2 vsan 10
switch(config-zone)# member fcalias Payroll
switch(config-zone)# member domain-id 2 portnumber 23
```

Related Commands	Command	Description
	show zone	Displays zone information.
	zone rename	Renames zones.
	zone-attribute-group name	Configures zone attribute groups.

zone name (zone set configuration mode)

To configure a zone in a zone set, use the **zone name** command. To delete the zone from the zone set, use the **no** form of this command.

> **zone name** *zone-name*

> **no zone name** *zone-name*

Syntax Description

zone-name	Name of the zone. The name can be a maximum of 64 characters.

Command Default   None

Command Modes   Zone set configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to configure a zone in a zone set:

```
switch(config)# zoneset name Sample vsan 1
switch(config-zoneset)# zone name MyZone
```

This example shows how to delete a zone from a zone set:

```
switch(config-zoneset)# no zone name Zone2
switch(config-zoneset)#
```

Related Commands

Command	Description
show zoneset	Displays zone set information.
zone name (configuration mode)	Configures zones.
zoneset	Configures zone set attributes.

zone rename

To rename a zone, use the **zone rename** command.

zone rename *current-name new-name* **vsan** *vsan-id*

Syntax Description

current-name	Current fcalias name. The name can be a maximum of 64 characters.
new-name	New fcalias name. The name can be a maximum of 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is from 1 to 4093.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Examples   This example shows how to rename a zone:

```
switch# zone rename ZoneA ZoneB vsan 10
```

Related Commands

Command	Description
show zone	Displays zone information.
zone name	Creates and configures zones.

Cisco Nexus 6000 Series NX-OS Fibre Channel Command Reference ■

zoneset (configuration mode)

To group zones under one zone set, use the **zoneset** command. To negate the command or revert to the factory defaults, use the **no** form of this command.

> **zoneset** {**activate** [**name** *zoneset-name*] **vsan** *vsan-id* | **clone** *zoneset-currentName zoneset-cloneName* **vsan** *vsan-id* | **distribute full vsan** *vsan-id* **name** *zoneset-name* **vsan** *vsan-id* | **rename** *current-name new-name* **vsan** *vsan-id*}

> **no zoneset** {**activate** [**name** *zoneset-name*] **vsan** *vsan-id* | **clone** *zoneset-currentName zoneset-cloneName* **vsan** *vsan-id* | **distribute full vsan** *vsan-id* **name** *zoneset-name* **vsan** *vsan-id* | **rename** *current-name new-name* **vsan** *vsan-id*}

Syntax Description

activate	Activates a zone set.
name *zoneset-name*	(Optional) Specifies a name for a zone set. The name can be a maximum of 64 characters.
vsan *vsan-id*	Activates a zone set on the specified Virtual SAN (VSAN). The range is from 1 to 4093.
clone *zoneset-currentName zoneset-cloneName*	Clones a zone set from the current name to a new name. The name can be a maximum of 64 characters.
distribute full	Enables zone set propagation.
rename	Renames a zone set.
current-name	Current fcalias name.
new-name	New fcalias name.

Command Default   None

Command Modes   Global configuration mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   Zones are activated by activating the parent zone set.

The **zoneset distribute full vsan** command distributes the operational values for the default zone to all zone sets in a VSAN. If you do not want to distribute the operation values, use the **system default zone distribute full** command to distribute the default values. The default values are used when you initially create a VSAN and it becomes active.

The **zoneset distribute full vsan** command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

Examples   This example shows how to activate a zone set called zSet1 in VSAN 333:

```
switch(config)# zoneset activate name zSet1 vsan 333
```

This example shows how to clone a zone set called zSet1 into a new zone set called zSetClone in VSAN 45:

```
switch(config)# zoneset clone existing zSet1 zSetClone vsan 45
```

This example shows how to distribute the operational values for the default zone to all zone sets in VSAN 22:

```
switch(config)# zoneset distribute full vsan 22
```

Related Commands

Command	Description
system default zone distribute full	Configures default values for distribution to a zone set.
show zoneset	Displays zone set information.

zoneset (EXEC mode)

To merge zone set databases, use the **zoneset** command.

> **zoneset** {**distribute** | **export** | **import interface** {**fc** *slot*/*port* | **san-port-channel** *port-number*}}
> **vsan** *vsan-id*

Syntax Description

distribute	Distributes the full zone set in the fabric.
export	Exports the zone set database to the adjacent switch on the specified Virtual SAN (VSAN). The active zone set in this switch becomes the activated zone set of the merged SAN.
import	Imports the zone set database to the adjacent switch on the specified interface. The active zone set in the adjacent switch becomes the activated zone set of the merged SAN.
interface	Configures the interface.
fc *slot*/*port*	Configures a Fibre Channel interface for the specified slot number and port number.
san-port-channel *port-number*	Specifies a SAN port channel interface.
vsan *vsan-id*	Merges the zone set database of a VSAN on the specified interface. The ID of the VSAN is from 1 to 4093.

Command Default   None

Command Modes   EXEC mode

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.

Usage Guidelines   You can also enter the **zoneset import** and the **zoneset export** commands for a range of VSANs.

The **zoneset distribute vsan** *vsan-id* command is supported in interop 2 and interop 3 modes, and not in interop 1 mode.

Examples   This example shows how to import the zone set database from the adjacent switch connected through the VSAN 2 interface:

```
switch# zoneset import interface fc2/3 vsan 2
```

This example shows how to export the zone set database to the adjacent switch connected through VSAN 5:

```
switch# zoneset export vsan 5
```

This example shows how to distribute the zone set in VSAN 333:

```
switch# zoneset distribute vsan 333
```

Related Commands

Command	Description
show zone status vsan	Displays the distribution status for the specified VSAN.
show zoneset	Displays zone set information.

■ **zoneset (EXEC mode)**