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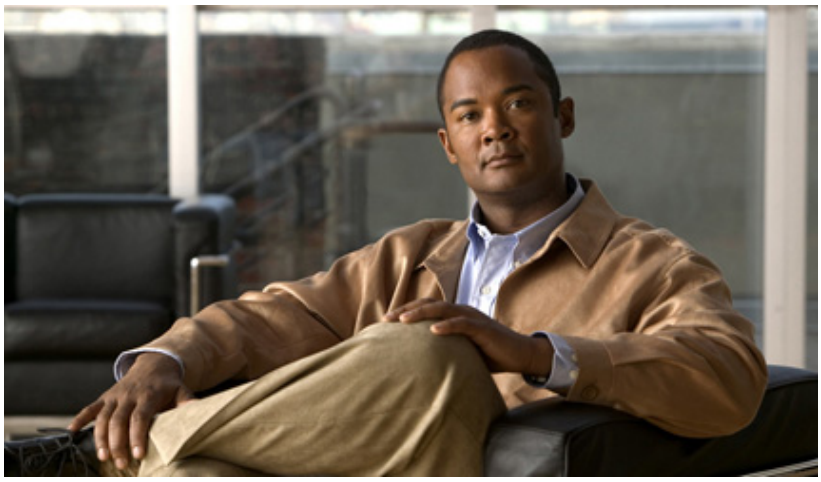

Cisco Nexus 7000 Series NX-OS SAN Switching Command Reference

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Cisco Nexus 7000 Series NX-OS SAN Switching Command Reference

Preface

This preface describes the audience, organization, and conventions of the *Cisco Nexus 7000 Series NX-OS SAN Switching Command Reference*. It also provides information on how to obtain related documentation.

This chapter includes the following sections:

Audience

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

Organization

This reference is organized as follows:

Chapter and Title	Description
Fibre Channel Commands	Describes the Cisco NX-OS Fibre Channel commands.

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]	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.

Tip Means *the following information will help you solve a problem.*

Related Documentation

Cisco NX-OS includes the following documents:

Release Notes

Cisco Nexus 7000 Series NX-OS Release Notes, Release 5.x

NX-OS Configuration Guides

Cisco Nexus 7000 Series NX-OS Configuration Examples, Release 5.x

Configuring the Cisco Nexus 2000 Series Fabric Extender

Cisco Nexus 7000 Series NX-OS FabricPath Configuration Guide, Release 5.x

Configuring Feature Set for FabricPath

Cisco NX-OS FCoE Configuration Guide for Cisco Nexus 7000 and Cisco MDS 9500

Cisco Nexus 7000 Series NX-OS Fundamentals Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS High Availability and Redundancy Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS Interfaces Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS Layer 2 Switching Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS LISP Configuration Guide
Cisco Nexus 7000 Series NX-OS MPLS Configuration Guide
Cisco Nexus 7000 Series NX-OS Multicast Routing Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS OTV Configuration Guide, Release 5.x
Cisco Nexus 7000 Series OTV Quick Start Guide
Cisco Nexus 7000 Series NX-OS Quality of Service Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS SAN Switching Configuration Guide
Cisco Nexus 7000 Series NX-OS Security Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS System Management Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS Virtual Device Context Configuration Guide, Release 5.x
Cisco Nexus 7000 Series NX-OS Getting Started with Virtual Device Contexts, Release 5.x

NX-OS Command References

Cisco Nexus 7000 Series NX-OS Command Reference Master Index
Cisco Nexus 7000 Series NX-OS FabricPath Command Reference, Release
Cisco NX-OS FCoE Command Reference for Cisco Nexus 7000 and Cisco MDS 9500
Cisco Nexus 7000 Series NX-OS Fundamentals Command Reference
Cisco NX-OS High Availability and Redundancy Command Reference
Cisco Nexus 7000 Series NX-OS Interfaces Command Reference
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Cisco Nexus 7000 Series NX-OS MPLS Command Reference
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Cisco Nexus 7000 Series NX-OS Unicast Routing Command Reference
Cisco Nexus 7000 Series NX-OS Virtual Device Context Command Reference

Other Software Documents

Cisco NX-OS Licensing Guide

Cisco Nexus 7000 Series NX-OS MIB Quick Reference

Cisco Nexus 7000 Series NX-OS Software Upgrade and Downgrade Guide, Release 5.x

Cisco NX-OS System Messages Reference

Cisco Nexus 7000 Series NX-OS Troubleshooting Guide

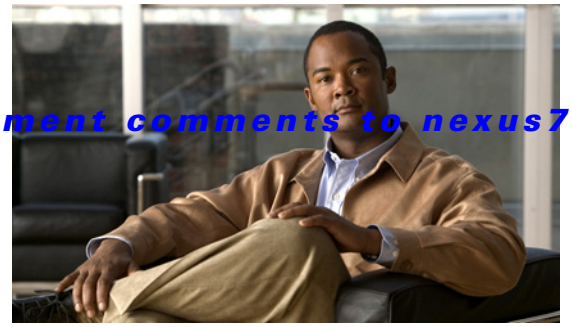
Cisco NX-OS XML Management Interface User Guide, Release 5.x

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see the monthly *What's New in Cisco Product Documentation*, which also lists all new and revised Cisco technical documentation, at:

http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html

Subscribe to the *What's New in Cisco Product Documentation* as a Really Simple Syndication (RSS) feed and set content to be delivered directly to your desktop using a reader application. The RSS feeds are a free service and Cisco currently supports RSS Version 2.0.



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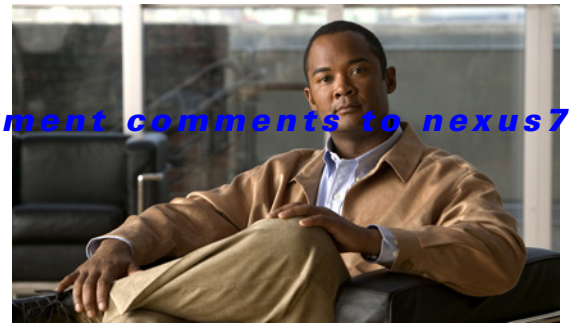

CHAPTER 1

Fibre Channel Commands

This chapter describes the Cisco NX-OS Fibre Channel and virtual Fibre Channel commands available on DC3 switches.

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 the session information.
statistics	Clears the device alias statistics.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to clear the device alias session:

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

Related Commands

Command	Description
show cfs lock	Displays the state of the application's logical or physical locks.

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 the session information.
vsan	Clears the Fibre Channel domains for a specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

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

This command requires the FCoE license.

Examples

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

```
switch# clear fcdomain session vsan 10
switch#
```

Related Commands

Command	Description
show cfs lock	Displays state of application's logical or physical locks.
show cfs application name fcdomain	Displays local application information by the domain manager.

clear fcns statistics

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

clear fcns statistics vsan *vsan-id*

Syntax Description

vsan	Clears the FCS statistics for a specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to clear the name server statistics:

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

Related Commands

Command	Description
show fcns statistics	Displays the name server statistics.

clear fscm log

To clear the Fabric Startup Configuration Manager (FSCM) log, use the **clear fscm log** command.

clear fscm log

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to clear the FSCM log:

```
switch# clear fscm log
switch#
```

Related Commands

Command	Description
show cfs lock	Displays state of application's logical or physical locks.
show cfs application name fscm	Displays local application information by the Fabric Startup Configuration Manager.

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	Clears the FCS statistics for a specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

```
switch# clear fcs statistics vsan 1
switch#
```

Related Commands

Command	Description
show fcs statistics	Displays 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
5.2(1)	This command was introduced.

Usage Guidelines

You must enable the fctimer for CFS distribution before this command is valid.

This command requires the FCoE license.

Examples

This example shows how to clear an fctimer session:

```
switch# clear fctimer session
switch#
```

Related Commands

Command	Description
show cfs lock	Displays state of application's logical or physical locks.
show cfs application name fctimer	Displays local application information by the Fibre Channel timer.

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	Specifies that the counters are to be cleared for a VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
interface	(Optional) Specifies that the counters are to be cleared for an interface.
type	Interface type. 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
5.2(1)	This command was introduced.

Usage Guidelines

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

The only type of valid interface is virtual Fibre Channel (VFC) interface.

This command requires the FCoE license.

Examples

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

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

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

```
switch# clear fspf counters vsan 100 interface vfc fc 301
switch#
```

Related Commands

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

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 the RLIR incident link history.
recent	Clears the recent link incidents.
interface fc	Clears the entries for the specified interface.
slot/port	Slot or port number. The range is from 1 to 18.
portnumber	Displays the port number for the link incidents.
port	Port number. The range is from 1 to 224.
statistics	Clears the RLIR statistics.
vsan	Clears the RLIR statistics for a VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
show rlir	Displays RLIR information.

clear rscn session

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

clear rscn session vsan *vsan-id*

Syntax Description

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

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

The RSCN application must be enabled for CFS distribution before this command is valid.

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
show cfs lock	Displays state of application's logical or physical locks.
show cfs application name rscn	Displays local application information for the RSCN module.

clear rscn statistics

To clear the Registered State Change Notification statistics for a specified 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	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
show rscn statistics	Displays RSCN statistics information.

clear zone

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

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

Syntax Description

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

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

After entering **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.

This command requires the FCoE license.

Examples

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

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

Related Commands

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

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

```
switch(config)# device-alias abort
There are no changes to abort
switch(config)#
```

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to commit pending changes to the device-alias database:

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

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
5.2(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 fabric. 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.

This command requires the FCoE license.

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.
device-alias abort	Discards changes and releases the CFS lock.
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
5.2(1)	This command was introduced.

Usage Guidelines

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

This command requires the FCoE license.

Examples

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

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

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 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
5.2(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, enter the device-alias distribute command to enable the modified global fcalias table to distribute device name configuration to all other switches in the physical fabric command so that new definitions are available everywhere.

This command requires the FCoE license.

Examples

This example shows how to import device alias information:

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

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.

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

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 alphanumeric 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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

Related Commands

Command	Description
device-alias database	Enters device alias database configuration mode.
show device-alias	Displays device alias database information.
device-alias commit	Commits changes to the active device alias database.
device-alias abort	Discard changes and release the CFS lock.

device-alias rename

To rename 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 alphanumeric characters.

Command Default

None

Command Modes

Device alias database configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to rename 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
switch(config-device-alias-db)#
```

Related Commands

Command	Description
device-alias database	Enters device alias database configuration mode.
device-alias commit	Commits changes to the active device alias database.
device-alias abort	Discard changes and release the CFS lock.
show device-alias	Displays device alias database information.

fabric-binding activate

To activate fabric binding in a 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	Specifies the VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
force	(Optional) Specifies the forces fabric binding activation.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You must enable the fabric-binding feature before you enter the **fabric-binding activate** command to work, Also this is licensed feature on ame on N7K.

This command requires the FCoE license.

Examples

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

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

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

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

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

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

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
switch(config)#
```

Related Commands

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

fabric-binding database copy vsan

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

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

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

If the configured database is empty, you cannot use this command.

This command requires the FCoE license.

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
switch#
```

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 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 that relate to the configuration database.
config	Provides information about information on the differences in the configuration database relate to the active database.
vsan	Specifies the Virtual SAN (VSAN).
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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.

You must enable fabric-binding feature before you can use the **fabric-binding database diff** command.

This command requires the FCoE license.

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
switch#
```

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
switch#
```

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 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*

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

Syntax Description

vsan	Specifies the VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
swwn	Configures the switch WWN.
switch-wwn	WWN switch in the dotted hexadecimal format.
domain	Specifies the specified domain ID.
domain-id	Domain ID. The range is from 1 to 239.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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 Inter Switch Link between the switch and the fabric is automatically isolated in that VSAN and the switch is denied entry into the fabric.

This command requires the FCoE license.

Examples

This example shows how to enter the fabric binding database mode and add 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
switch(config-fabric-binding)#
```

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

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

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

Related Commands

Command	Description
fabric-binding activate	Activates fabric binding.
fabric-binding enable	Enables fabric binding.

feature fabric-binding

To enable fabric binding in a VSAN, use the **fabric-binding enable** 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
5.2(1)	This command was introduced.

Usage Guidelines

Fabric binding is configured on a per-VSAN basis.

you must enable fabric binding in each switch in the fabric that participates in the fabric binding.

This command requires the FCoE license.

Examples

This example shows how to enable fabric binding on that switch:

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

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

```
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.

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 alphanumeric characters.
vsan	Specifies the clone Fibre Channel alias for a VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

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

This command requires the FCoE license.

Examples

This example shows how to clone a fcalias called origAlias to cloneAlias on VSAN 1:

```
switch(config)# fcalias clone origAlias cloneAlias vsan 1
Rename requested for a non existing alias
switch(config)#
```

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 alphanumeric characters.
vsan	Specifies the fcalias for a VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

To include multiple members in any alias, use the FC ID, fWWN, or pWWN values.

This command requires the FCoE license.

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to rename an fcalias:

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

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	Configures the allowed domain ID.
domain	Domain ID. The range is from 1 to 239.
vsan	Specifies the VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
auto-reconfigure	Configures autoreconfigure.
contiguous-allocation	Configures contiguous allocation.
domain	Configures the domain ID and its type.
id	Domain ID. 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	Specifies the fabric name.
name	Fabric name value. 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	Specifies the Fibre Channel domain priority.
value	Priority value. 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
5.2(1)	This command was introduced.

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.

This command requires the FCoE license.

Examples

This example shows how to configure a preferred domain ID for VSAN 1:

```
switch(config)# fcdomain domain 3 preferred vsan 1
switch(config)#
```

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

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

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 1:

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

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 releasing 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	VSAN ID. The range is from 1 to 4093.

Command Default

Enabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to flush cached data:

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

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

Command Default

Enabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to commit cached data:

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

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to enable fabric distribution using CFS:

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

This example shows how to disable fabric distribution using CFS:

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

Related Commands

Command	Description
fcdomain	Configures Fibre Channel domain features.
show fcdomain	Displays global information about the Fibre Channel domain configurations.
show cfs lock	Displays state of application's logical or physical locks.
show cfs application name fcdomain	

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

Command Default

Enabled

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

Examples

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

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

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	Specifies the network latency.
milliseconds	Network latency. The range is from 500 to 60000 milliseconds.
vsan	(Optional) Specifies the VSAN.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.
switch	Specifies the switch latency.
milliseconds	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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

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

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

Related Commands

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

fcid-allocation

To manually add a Fibre Channel ID (FC ID) to the default area company ID list, use the **fcid-allocation** command. To remove an FC ID 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 ID.
company-id	Configures the company ID.
company-id	Company ID.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

Fibre Channel standards require a unique FC ID to be allocated to an N port attached to a Fx port in any switch. To conserve the number of FCIDs used, DC3 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 ID for other HBAs, 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 FCID is allocated. Regardless of the type (whole area or single) of FCID allocated, the FCID entries remain persistent.

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
show fcid-allocation area	Displays the configured Fibre Channel drop latency parameters.

fcinterop fcid-allocation

To allocate Fibre Channel IDs (FC IDs) on the switch, use the **fcinterop fcid-allocation** command. To disable FC IDs 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 FC ID to compatible HBAs.
flat	Assign a single FC ID.
none	Assigns an FC ID range.

Command Default

The default is automatic allocation of FC IDs.

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to set the FC ID allocation to flat:

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

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

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. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
vsan	Specifies the virtual SAN (VSAN) ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You can configure name server to proxy another name server. You can display the name server information using the CLI, but you can view the name server by using either the CLI or the Cisco DCNM for SAN.

All name server registration requests come from the same port whose parameter is registered or changed. If a port request comes from a different port, then the request is rejected.

This command requires the FCoE license.

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
switch(config)#
```

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 the Fibre Channel name server (FCNS) proxies on a 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	(Optional) Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

Related Commands

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

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

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

Examples

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

```
switch# fcping fcid 0x980000 vsan 200
28 bytes from  0x980000  time = 1102 usec
```

```
28 bytes from  0x980000  time = 388 usec
28 bytes from  0x980000  time = 370 usec
28 bytes from  0x980000  time = 843 usec
28 bytes from  0x980000  time = 392 usec

5 frames sent, 5 frames received, 0 timeouts
Round-trip min/avg/max = 370/619/1102 usec
switch#
```

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

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* | **port-channel** *port* | **vfc** *vfc-id*} **domain** *domain-id* {**metric** *number* | **remote** | **vsan** *vsan-id*}}

no fcroute {*fcid network-mask* **interface** {**fc** *slot*/*port* | **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	Specifies the Fibre Channel interface.
slot/*port*	Slot number and port number. The range for the slot number is from 1 to 12 and the range for the port number is from 1 to 48.
port-channel	Specifies the SAN port channel interface.
port	Port channel number. The range is from 1 to 256.
vfc	Specifies the virtual Fibre Channel interface.
vfc-id	Virtual Fibre Channel ID.
domain	Specifies the route for the domain of the next hop switch.
domain-id	Domain ID. The range is from 1 to 239.
metric	Specifies the cost of the route.
number	The range is from 1 to 65535.
remote	Configures the static route for a destination switch that is remotely connected.
vsan	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

The default cost is 10.

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

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 fc9/1 domain 3 vsan 2
switch(config)#
```

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 port-channel 1 domain 3 vsan 4
switch(config)#
```

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 fc9/1 domain 3 metric 1 vsan 1
switch(config)#
```

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 the static route for a destination switch that is remotely connected for VSAN 3:

```
switch(config)# fcroute 0x111112 interface fc9/1 domain 3 metric 3 remote vsan 3
switch(config)#
```

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	Specifies the VSAN ID for platform checking.
vsan-id	VSAN ID. The range is from 1 to 4096.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to register FCS attributes:

```
switch(config)# fcs register
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 a Fabric Configuration Server (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	(Optional) Specifies one or multiple ranges of VSANs.
vsan-ids	VSAN IDs. The range is from 1 to 4093.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

Enter VSAN ranges 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.

This command requires the FCoE license.

Examples

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

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

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
switch(config)#
```

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

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) Timeout period to reauthenticate the interface. The range is 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
5.2(1)	This command was introduced.

Usage Guidelines

You must enable FC-SP by using the **feature fcsp** command before you can use the fcsp command.

This command requires the FCoE license.

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 do not permit reaunthentication:

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

Related Commands

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

fcsp dhchap

To configure Dixie-Hellman Challenge Handshake Protocol (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** *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	(Optional) Specifies the WWN ID.
wwn-id	(Optional) WWN ID. The format is hh:hh:hh:hh:hh:hh:hh:hh.

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You can see only the **fcsp dhchap** command if you enable FS-CP by using the **feature fcsp** command.

Using SHA-1 as the hash algorithm might 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.

This command requires the FCoE license.

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
switch(config)#
```

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

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

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
switch(config)#
```

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
switch(config)#
```

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
switch(config)#
```

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
switch(config)#
```

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

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

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.
interface fc	Specifies the Fibre Channel interface by the slot number and port number.
slot/*port*	Slot number and port number. The range for slot numbers is from 1 to 18 and the range for the port numbers is from 1 to 256.
vfc	Specifies the virtual Fibre Channel interface.
vfc-id	Virtual interface ID. The range is from 1 to 8192.

Command Default

30 seconds

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

```
switch# fcsp reauthenticate interface vfc 1
FC-SP does not know about this port (probably it is not up)
switch#
```

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 range is from 20 to 1000 seconds.

Command Default

30 seconds

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

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

This command requires the FCoE license.

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	Specifies the distributed services timeout value (DS_TOV).
milliseconds	DS_TOV. The range is from 5000 to 100000 milliseconds.
e_d_tov	Specifies the error detect timeout value (ED_TOV).
milliseconds	ED_TOV. The range is from 1000 to 4000 milliseconds with a default of 2000.
r_a_tov	Specifies the resolution allocation timeout value (RA_TOV).
milliseconds	RA_TOV. The range is from 5000 to 100000 milliseconds with a default of 10000.
vsan	(Optional) Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4096.

Command Default

The Fibre Channel timers have the following default values:

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

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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** keyword to configure different TOV values for specific VSANs. The VSAN must be suspended before you can alter the timers.

This command requires the FCoE license.

Examples

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

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

```
This configuration would impact whole fabric.
Do you want to continue? (y/n) [n] y
suspend all vsans first
could not update the value
switch(config)#

switch(config)# fctimer r_a_tov 7000
This configuration would impact whole fabric.
Do you want to continue? (y/n) [n] y
suspend all vsans first
could not update the value
switch(config)#
```

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 that is 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
fctimer distribute	Enables CFS distribution for the Fibre Channel timer.
show fctimer	Displays Fibre Channel timer information.
show cfs lock name fctimer	Displays the state of the CFS state for Fibre Channel timer.

fctimer commit

To commit pending configuration changes for the Fibre Channel timer (fctimer) Cisco Fabric Services (CFS) distribution session that is in progress, 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

Related Commands

Command	Description
fctimer distribute	Enables CFS distribution for the Fibre Channel timer.
show fctimer	Displays Fibre Channel timer 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
5.2(1)	This command was introduced.

Usage Guidelines

Before distributing the Fibre Channel timer changes to the fabric, you must commit the temporary changes to the active configuration by using the **fctimer commit** command.

This command requires the FCoE license.

Examples

This example shows how to enable CFS distribution for the fctimer:

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

Related Commands

Command	Description
fctimer commit	Commits the Fibre Channel timer configuration changes to the active configuration.
show fctimer	Displays Fibre Channel timer 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	Specifies the device alias name.
aliasname	Device alias name. The name can be a maximum of 64 alphanumeric characters.
fcid	Specifies the FC ID of the destination N port.
fcid	FCID. The format is 0x*hhhhhh*..
pwwn	Specifies the PWWN of the destination N port.
pwwn-id	PWWN ID. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
vsan	Specifies the VSAN ID.
vsan-id	VSAN ID of the destination port. The range is from 1 to 4093.
timeout	(Optional) Specifies the timeout value.
seconds	(Optional) Timeout in seconds. 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to trace a route to the specified FC ID in VSAN 1:

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

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

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

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	Specifies the VSAN ID.
vsan-id	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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

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

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

install feature-set fcoe

To install the Fibre Channel over Ethernet (FCoE) feature set in the default virtual device context (VDC), use the **install feature-set fcoe** command.

install feature-set fcoe

no install feature-set fcoe

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced on the Cisco Nexus 7000 and 9000 Series Switches.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to install the FCoE feature set in the default VDC:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# install feature-set fcoe
switch(config)#
```

Related Commands

Command	Description
feature-set fcoe	Enables the FCoE feature and all related features.
allow feature-set fcoe	Allows you to enable FCoE in this VDC.

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
5.2(1)	This command was introduced.

Usage Guidelines

Additional FC-SP commands are available when you enable the FC-SP feature.

This command requires the FCoE license.

Examples

This example shows how to enable FC-SP:

```
switch(config)# feature fcsp
ENTERPRISE_PKG license not installed. FCSP feature will be shut down after grace
 period of approximately 99 day(s).
switch(config)#
```

Related Commands

Command	Description
show fcsp	Displays configured FC-SP information.

feature npiv

To enable N port identifier virtualization (NPIV) for all 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
5.2(1)	This command was introduced.

Usage Guidelines

NPIV allows you 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.

This command requires the FCoE license.

Examples

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

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

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

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

Related Commands

Command	Description
show interface	Displays interface configurations.

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
5.2(1)	This command was introduced.

Usage Guidelines

The Cisco NX-OS 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).

This command requires the FCoE license.

Examples

This example shows how to enable port tracking:

```
switch(config)# feature port-track
switch(config)#
```

This example shows how to disable port tracking:

```
switch(config)# no feature port-track
switch(config)#
```

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.

fspf config

To configure a Fabric Shortest Path First (FSPF) feature for an entire 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 fspf config vsan *vsan-id* {**no min-ls-arrival** *ls-arrival-time* | **no min-ls-interval** *ls-interval-time* | **no region** *region-id* | **no spf** {**hold-time** *spf-holdtime* | **static**}

Syntax Description

vsan	Specifies a VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.
min-ls-arrival	Specifies the minimum time before a new link state update for a domain is accepted by the switch.
ls-arrival-time	Integer that specifies the time in milliseconds. The range is from 0 to 65535.
min-ls-interval	Specifies the minimum time before a new link state update for a domain is generated by the switch.
ls-interval-time	Integer that specifies the 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	Unsigned integer value. The range is from 0 to 255.
spf	Specifies parameters related to the Shortest Path First (SPF) route computation.
hold-time	Specifies the time between two consecutive SPF computations. If the time is small, then routing reacts faster to changes but CPU usage is increased. be more.
spf-holdtime	Integer that specifies time in milliseconds. The range is from 0 to 65535.
static	Forces a 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
5.2(1)	This command was introduced.

Usage Guidelines

Use the **fspf config** command to enter FSPF configuration mode for the specified VSAN. In FSPF configuration mode, the **fscp config** commands configure FSPF for this VSAN.

This command requires the FCoE license.

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

Command Default

1000 seconds for 1 6bps interfaces

500 seconds for 2 6bps interfaces

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(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 chooses the path with a minimal cost. You can change the cost associated with an interface can be changed by 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.

This command requires the FCoE license.

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
switch(config-if)#
```

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

Command Default

80 seconds

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This value must be the same in the ports at both ends of the Inter-Switch-Link (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 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	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

Enabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command is not applicable to virtual Fibre Channel interfaces.

This command configures FSPF on VSANs globally.

This command requires the FCoE license.

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
switch(config)#
```

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 settings, 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	Specifies the FSPF hello interval in seconds.
seconds	FSPF 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	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

20 seconds

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(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 Inter-Switch-Link (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.

This command requires the FCoE license.

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
switch(config-if)#
```

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
switch(config-if)#
```

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.

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

Command Default

FSPF is enabled

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(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. You by using the **fspf passive** command. You must enable FSPF on the ports at both ends of the Inter-Switch-Link (ISL) for the protocol to operate correctly.

For virtual Fibre Channel interfaces, this command configures the FSPF parameters for the virtual E (VE) port.

This command requires the FCoE license.

Examples

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.

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.

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 settings, use the **no** form of this command.

fspf retransmit-interval *seconds* **vsan** *vsan-id*

no spf 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	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

5 seconds

Command Modes

Interface configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

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.
show interface fc	Displays an interface configuration for a specified Fibre Channel over IP (FCIP) interface.
switchport mode E	Configures a virtual Fibre Channel interface as a VE port.

er

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	Specifies the VSAN ID.
vsan-id	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
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to enable in-order delivery for the entire switch:

```
switch(config) # in-order-guarantee
switch(config) #
```

This example shows how to disable in-order delivery for the entire switch:

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

This example shows how to enable in-order delivery for a specific VSAN:

```
switch(config)# in-order-guarantee vsan 3452
switch(config)#
```

This example shows how to disable in-order delivery for a specific VSAN:

```
switch(config)# no in-order-guarantee vsan 101
switch(config)#
```

Related Commands

Command	Description
show in-order-guarantee	Displays the in-order-guarantee status.

member (fcalias configuration mode)

To add a member name to a Fibre Channel alias on a 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* **| fcid** *fc-id* | **fwwn** *fwwn-id* | **interface fc** *slot*/*port* **| ip-address** *ip-address* | **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* | **ip-address** *ip-address* | **pwwn** *pwwn-id* | **symbolic-nodename** *nodename*}

Syntax Description

device-alias *aliasname*	Specifies the member device alias. The name can be a maximum of 64 alphanumeric characters.
domain-id *domain-id*	Specifies the member domain ID. The range is from 1 to 239.
fcid *fc-id*	Specifies the member FC ID. The format is *0***x***hhhhhh,* 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.
ip-address *ip-address*	Specifies the IP address.
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 name can be a maximum length of 255 alphanumeric characters.

Command Default

None

Command Modes

Fcalias configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to add a member to an alias called samplealias:

```
switch(config)# fcalias name samplealias vsan 1
switch(config)#
```

This example shows how to define a Fibre Channel interface for the member:

```
switch(config-fcalias)# member interface fc9/1
switch(config-fcalias)#
```

This example shows how to delete the specified member:

```
switch(config-fcalias)# no member interface fc9/1
switch(config-fcalias)#
```

This example shows how to add the IP address member to fcalias:

```
switch(config-fcalias)# member ip-address 10.1.1.1
switch(config-fcalias)#
```

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* | **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 alphanumeric 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 alphanumeric characters.
fcid *fc-id*	Specifies the member FC ID. The format is *0***x***hhhhhh,* 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.
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 *0***x***hhhh*[**:***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
5.2(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.

This command requires the FCoE license.

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 alphanumeric characters.

Command Default

None

Command Modes

Zone set configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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
switch(config-zoneset)#
```

Related Commands

Command	Description
show zone	Displays zone information.
zoneset name	Creates a zone set.

purge fcdomain fcid

To purge persistent Fibre Channel IDs (FCIDs), use the **purge fcdomain fcid** command.

purge fcdomain fcid vsan *vsan-id*

Syntax Description

vsan	Specifies that FC IDs are to be purged for a VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to purge all dynamic, unused FCIDs in VSAN 4:

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

This example shows how to purge all dynamic, unused FCIDs in VSANs 4, 5, and 6:

```
switch# purge fcdomain fcid vsan 4-6
switch#
```

Related Commands

Command	Description
show zone	Displays zone information.
zoneset name	Creates a zone set.

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	Specifies the Fibre Channel ID (FC ID).
fcid	FC ID. The format is 0x*hhhhhh*.
vsan	Specifies the VSAN ID.
vsan-id	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 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
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to specify the FC ID 0x654321 as the Registered Link IncidentRF Report (RLIR) preferred host for VSAN 2:

```
switch(config)# rlir preferred-cond fcid 0x654321 vsan 2
Stub Library could not be opened
 *** libficoncmi.so: cannot open shared object file: No such file or directory *
**
switch(config)#
```

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
switch(config)#
```

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. To revert to the default settings, use the **no** form of this command.

rscn {**abort vsan** *vsan-id* | **commit vsan** *vsan-id* | **distribute** | **event-tov** *event-timeout* **vsan** *vsan-id* **multi-pid vsan** *vsan-id* | **restrict swrscn-event vsan** *vsan-id* | **suppress domain-swrscn vsan** *vsan-id* }

no rscn {**abort vsan** *vsan-id* | **commit vsan** *vsan-id* | **distribute** | **event-tov** *event-timeout* **vsan** *vsan-id* **multi-pid vsan** *vsan-id* | **restrict swrscn-event vsan** *vsan-id* | **suppress domain-swrscn vsan** *vsan-id* }

Syntax Description

abort	Aborts the configuration.
commit	Commits the configuration.
distribute	Enables or disables Cisco Fabric Services (CFS) based distribution for an RSCN.
event-tov	Specifies event timeout value in milliseconds.
event-timeout	Event timeout in milliseconds. The range is from 0 to 2000 milliseconds.
multi-pid	Sends RSCNs in multiple port ID (multi-PID) format.
suppress domain-swrscn	Suppresses transmission of the domain format the SW-Registered State Change Notification (RCSNs).
vsan	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to configure RSCNs in multi-PID format:

```
switch(config)# rscn multi-pid vsan 1
switch(config)#
```

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 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	Specifies the VSAN where the RSCN configuration should be canceled.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to cancel an RSCN configuration on VSAN 1:

```
switch(config)# rscn abort vsan 1
switch(config)#
```

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	Specifies the VSAN where the RSCN configuration should be committed.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to commit an RSCN configuration on VSAN 1:

```
switch(config)# rscn commit vsan 1
switch(config)#
```

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
5.2(1)	This command was introduced.

Usage Guidelines

The RSCN timer configuration must be the same on all switches in the VSAN. Cisco Fabric Services (CFS) automatically distributes the RSCN timer configuration to all switches in a fabric. Only the RSCN timer configuration is distributed.

This command requires the FCoE license.

Examples

This example shows how to enable the distribution of an RSCN configuration:

```
switch(config)# rscn distribute
switch(config)#
```

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 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	Specifies the VSAN where the RSCN event timer should be used.
vsan-id	VSAN ID. The range 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
5.2(1)	This command was introduced.

Usage Guidelines

Before changing the timeout value, you must enable RSCN configuration distribution by using the **rscn distribute** command.

The RSCN timer is registered with Cisco Fabric Services (CFS) during initialization and switchover.

This command requires the FCoE license.

Examples

This example shows how to configure an RSCN event timeout value on VSAN 1:

```
switch(config)# rscn event-tov 1 vsan 1
Successful. Commit should follow for command to take effect.
switch(config)#
```

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 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	Displays device name database information for a specific device name.
device-name	Device alias name. The maximum length is 64 alphanumeric characters.
pending	(Optional) Displays the pending device name database information.
pending-diff	Displays pending differences in the device name database information.
pwwn	Displays device name database information for a specific PWWN.
pwwn-id	PWWN ID. 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
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to display the contents of the device alias database:

```
switch# show device-alias database
There are no entries in the database
switch#
```

This example shows how to display all global fcaliases and all VSAN dependent fcaliases:

```
switch# show device-alias name efg
switch#
```

This example shows how to display all global fcaliases and all VSAN-dependent fcaliases:

```
switch# show device-alias statistics
switch#
```

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	(Optional) Specifies the Fibre Connection (FICON) enabled VSAN ID.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.
efmd statistics	Displays Exchange Fabric Membership Data (EFMD) statistics.
statistics	Displays the fabric binding statistics.
status	Displays the fabric binding status.
violations	Displays violations in the fabric binding configuration.
last	(Optional) Specifies the latest n violations.
number	(Optional) Violation number. The range is from 1 to 100.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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 for 61:

```
switch# show fabric-binding database active vsan 61
```

This example shows how to display the configured VSAN-specific fabric binding information for VSAN 4:

```
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 last 1
------------------------------------------------------------------------------
VSAN Switch WWN [domain]            Last-Time [Repeat count]  Reason
------------------------------------------------------------------------------
switch#
```

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 the FC2 FLOGI table.
nport	Displays FC2 local N ports.
plogi	Displays FC2 PLOGI sessions.
plogi_pwwn	Displays FC2 PLOGI pWWN entries.
port	Displays the FC2 physical port table.
brief	Displays the FC2 physical port table in 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the FC2 active socket information:

```
switch# show fc2 socket
SOCKET   REFCNT PROTOCOL FLAGS      PID   RCVBUF  RMEM_USED     QLEN    NOTSK
e6809920        2        0     0    26397  1075200          0        0        0
e68090c0        3        0     0    26397  1075200          0        0 e6809920
e680a9e0        2        0     0    26397  1075200          0        0        0
e680baa0        3        0     0    26397  1075200          0        0 e680a9e0
e7c84860        2        0 20000     7477   107520          0        0        0
```

```
ebcb14f0        2        0    20     7482   107520          0        0        0
e7c7d920        5        0   200     7482  4194304          0        0        0
e7c7f240        4        0   200     7482  4194304          0        0        0
e8073aa0        3        0   200     7482  4194304          0        0        0
e9526180        3        0     0     7475   107520          0        0        0
e7c40c90        3        0     0     7475   107520          0        0        0
e7c41d50        3        0     0     7475   107520          0        0        0
e9097aa0        3        0     0     7475   256000          0        0        0
eb57ee10        3        0     0     7475   107520          0        0        0
e99b3240        3        0     0     7478   131072          0        0        0
e99b2e10        3        0     0     7478   107520          0        0        0
e99b3aa0        4        0   200     7476   860160          0        0        0
e7c9d4f0        3        0     0     7476   860160          0        0        0
eb526180        3        0     0     7458   524288          0        0        0
eb527240        3        0     0     7458   524288          0        0        0
ec0b8860        3        0     0     7458   107520          0        0        0
e7c850c0        3        0   200     7455   107520          0        0        0
e7c854f0        4        0   200     7455  4194304          0        0        0
--More--
```

This example shows how to display the FC2 socket binding information:

```
switch# show fc2 bind
SOCKET FLAGS NLEVEL RULE   SINDEX   VSAN     D_ID     MASK TYPE  SUBTYPE M_VAL
UES
e7c7d920    60      1    7 ffffffff  65535   fffc00   ffff00   22 05:01:00 79:7a
:7b:7c:7d:00:00:00
                                                              01:01:08 01:00
:00:00:00:00:00:00
e7c429e0    20      1    7 ffffffff  65535   fffc00   ffff00   22 02:01:00 1c:1e
:00:00:00:00:00:00
                                                              01:01:04 79:00
:00:00:00:00:00:00
e68090c0     0      0    7 ffffffff  65535   fffffe   ffffff    1 01:01:00 90:00
:00:00:00:00:00:00
e680baa0     0      0    7 ffffffff  65535   fffffd   ffffff   22 01:01:00 40:00
:00:00:00:00:00:00
e8073aa0    40      0    7 ffffffff  65535   fffffa   ffffff   20 01:02:04 fa:03
:25:26:70:78:00:00
e7c7d920    40      0    7 ffffffff  65535   fffc00   ffff00   22 06:01:00 23:24
:25:26:70:78:00:00
e7c7f240    40      0    7 ffffffff  65535   fffffd   ffffff   22 03:01:00 22:70
:34:00:00:00:00:00
e9097aa0     0      0    7 ffffffff  65535   fffc00   ffff00   20 02:02:04 fa:01
:fa:00:00:00:00:00
```

This example shows how to display the FC2 local N port information:

```
switch# show fc2 nport
switch# show fc2 nport
REF   VSAN   D_ID   MASK   FL   ST  IFINDEX   CF   TC 2-SO   IC   RC   RS   CS
 EE 3-SO   IC   RC   RS   CS   EE
  1  65535 fffffe ffffff 2003    0 ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  4  65535 fffc00 ffff00  98b    0 ffffffff 8800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  1  65535 fffffd ffffff    3    0 ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  2  65535 fffffa ffffff    3    0 ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
  1  65535 fffffc ffffff    3    0 ffffffff c800 0128 8000 0000 0000 2112 0064 0
008 8000 0000 0000 2112 0064 0000
switch#
```

This example shows how to display the FC2 PLOGI session information:

```
switch# show fc2 plogi
HIX  ADDRESS   VSAN   S_ID   D_ID  IFINDEX   FL  STATE   CF   TC 2-SO   IC   RC
  RS   CS   EE 3-SO   IC   RC   RS   CS   EE EECNT TCCNT 2CNT 3CNT REFCNT
3218 ec07c000      1 fffc93 0d7000 ffffffff 0000      0 0000 0001 8000 0000 2000
 0256 0001 0001 8000 0000 2000 0256 0001 0000     0     0    0    0      1
3218 e90f6000      1 fffc93 d70000 ffffffff 0000      0 0000 0001 8000 0000 2000
 0256 0001 0001 8000 0000 2000 0256 0001 0000     0     0    0    0      1
switch#
```

This example shows how to display the FC2 physical port information:

```
switch# show fc2 port
0 fc2_very_bad_frames_rx
 IX ST MODE EMUL   TXPKTS   TXDROP    TXERR   RXPKTS   RXDROP TX-LB-PKTS  TX- LB
-DROP RX-LB-PKTS RX-LB-DROP  R_A_TOV  E_D_TOV F-SO   RC   RS   CS   EE 2-SO   RS
 3-SO   RS
  0  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  1  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  2  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  3  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  4  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  5  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  6  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
  7  D    1    0        0        0        0        0        0        0        0
       0        0    10000     2000 8000 0000 2112 0001 0001 8000 0256 8000 0256
```

This example shows how to display the FC2 local N port PLOGI notifications for each socket:

```
switch# show fc2 socknotify
switch# show fc2 socknotify
  SOCKET  ADDRESS REF   VSAN   D_ID   MASK   FL   ST  IFINDEX
eed14860 e785e100   4  65535 fffc00 ffff00  98b    0 ffffffff
ebde0430 e785e100   4  65535 fffc00 ffff00  98b    0 ffffffff
switch#
```

This example shows how to display the FC2 local N ports for each socket:

```
switch# show fc2 socknport
switch# show fc2 socknport
  SOCKET  ADDRESS REF   VSAN   D_ID   MASK   FL   ST  IFINDEX
eb57ee10 e786f100   2  65535 fffffa ffffff    3    0 ffffffff
eb527240 e785e000   1  65535 fffffd ffffff    3    0 ffffffff
e7c850c0 e786f100   2  65535 fffffa ffffff    3    0 ffffffff
e7c85920 e786f000   1  65535 ffffff ffffff    3    0 ffffffff
eed14860 e785e100   4  65535 fffc00 ffff00  98b    0 ffffffff
ebde0430 e785e200   1  65535 fffffe ffffff 2003    0 ffffffff
ebde0430 e785e100   4  65535 fffc00 ffff00  98b    0 ffffffff
switch#
```

This example shows how to display the FC2 VSAN table:

```
switch# show fc2 vsan
switch# show fc2 vsan
  VSAN     X_ID  E_D_TOV  R_A_TOV                      WWN IOP_MODE
     1        3     2000    10000  20:01:00:22:55:79:a4:81      100
     2        1     2000    10000  20:02:00:22:55:79:a4:81      100
```

3	1	2000	10000	20:03:00:22:55:79:a4:81	100
4	1	2000	10000	20:04:00:22:55:79:a4:81	100
5	1	2000	10000	20:05:00:22:55:79:a4:81	100
6	1	2000	10000	20:06:00:22:55:79:a4:81	100
7	1	2000	10000	20:07:00:22:55:79:a4:81	100
8	1	2000	10000	20:08:00:22:55:79:a4:81	100
9	1	2000	10000	20:09:00:22:55:79:a4:81	100
10	1	2000	10000	20:0a:00:22:55:79:a4:81	100
11	1	2000	10000	20:0b:00:22:55:79:a4:81	100
12	1	2000	10000	20:0c:00:22:55:79:a4:81	100
13	1	2000	10000	20:0d:00:22:55:79:a4:81	100
14	1	2000	10000	20:0e:00:22:55:79:a4:81	100
15	1	2000	10000	20:0f:00:22:55:79:a4:81	100
16	1	2000	10000	20:10:00:22:55:79:a4:81	100
17	1	2000	10000	20:11:00:22:55:79:a4:81	100
18	1	2000	10000	20:12:00:22:55:79:a4:81	100
19	1	2000	10000	20:13:00:22:55:79:a4:81	100
20	1	2000	10000	20:14:00:22:55:79:a4:81	100

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	(Optional) Displays fcalias information for a specific name.
fcalias-name	(Optional) Name. The maximum length is 64 alphanumeric characters.
pending	(Optional) Displays pending fcalias information.
vsan	(Optional) Displays fcalias information for a VSAN.
vsan-id	(Optional) VSAN ID. 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
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to display the fcalias configuration information for VSAN 1:

```
switch# show fcalias vsan 1
fcalias name aliasname vsan 1

fcalias name samplealias vsan 1
   interface fc3/1 swwn 20:00:00:22:55:79:a4:80
switch#
```

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, 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	(Optional) Specifies the VSAN ID.
vsan-id	(Optonal) 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	(Optional) Specifies a Fibre Channel interface.
slot/*port*	(Optional) Slot number and port number. The range for the slot numbers is from 1 to 18 and the range for the port numbers is from 1 to 48.
san-port-channel	(Optional) Specifies a SAN port channel interface. The range is from 1 to 128.
port	(Optional) Port channel number. The range is from 1 to 256.
status	(Optional) Displays all VSAN-independent information in an FC domain.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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 get an error.

This command requires the FCoE license.

Examples

This example shows how to display the fcdomain information for VSAN 1:

```
switch# show fcdomain vsan 1
The local switch is the Principal Switch.

Local switch run time information:
        State: Stable
        Local switch WWN:    20:01:00:22:55:79:a4:81
        Running fabric name: 20:01:00:22:55:79:a4:81
        Running priority: 128
        Current domain ID: 0x93(147)

Local switch configuration information:
        State: Enabled
        FCID persistence: Enabled
        Auto-reconfiguration: Disabled
        Contiguous-allocation: Disabled
        Configured fabric name: 20:01:00:05:30:00:28:df
        Optimize Mode: Disabled
        Configured priority: 128
        Configured domain ID: 0x00(0) (preferred)

Principal switch run time information:
        Running priority: 128

No interfaces available.
switch#
```

This example shows how to display the fcdomain domain-list information for VSAN 76:

```
switch# show fcdomain domain-list vsan 1

Number of domains: 1
Domain ID              WWN
---------    -----------------------
0x93(147)    20:01:00:22:55:79:a4:81 [Local] [Principal]
switch#
```

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.

Table 1 show fcdomain Field Descriptions

Field	Description
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 for VSAN 1:

```
switch# show fcdomain allowed vsan 1
```

This example shows how to display the status of the Cisco Fabroic Services (CFS) distribution for allowed domain ID lists:

```
switch# show fcdomain status
Already assigned or reserved domain IDs: none.
[User] configured allowed domain IDs: 1-239.
switch#
```

This example shows how to display the pending configuration changes for VSAN 10:

```
switch# show fcdomain pending vsan 10
```

This example shows how to display the differences between the pending configuration and the current configuration for VSAN 10:

```
switch# show fcdomain pending-diff vsan 10
```

This example shows how to display the status of the distribution session for VSAN 1:

```
switch# show fcdomain session-status vsan 1
Session parameters for VSAN 1
---------------------------------
Session Parameters for VSAN: 1
-------------------------------
Last Action Time Stamp     : None
Last Action                : None
Last Action Result         : None
Last Action Failure Reason : none
switch#
```

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the configured Fibre Channel latency parameters:

```
switch# show fcdroplatency
switch latency value:500 milliseconds
global network latency value:2000 milliseconds

VSAN specific network latency settings
vsan 1 network latency:2000 milliseconds
switch#
```

Related Commands

Command	Description
fcdroplatency	Configures the network and switch Fibre Channel drop latency time.

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	Displays the company ID from the specified world wide name (WWN).
wwn	WWN. The format is hh:hh:hh:hh:hh:hh:hh:hh.
company-id	(Optional) Company ID (also known as Organizational Unit Identifier, or OUI) to display.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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: 2:6B
    00: 5:E6
    00: 6:2B
    00: 9:6B
    00: D:60
    00:11:25
    00:14:5E
    00:1B:32
    00:50:2E
    00:50:8B
    00:60:B0
    00:90:A5
    00:A0:B8
    00:D0:B2
    00:E0:69
    00:E0:8B
Total company ids: 16
+ - 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 an FC ID 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 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* | **npv** [**detail**] **vsan** *vsan-id* **node_wwn** *node_wwn* **vsan** *vsan-id* **proxy-host vsan** *vsan-id*}

Syntax Description

detail	Displays all objects in each entry.
vsan	(Optional) Displays entries for a specified VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.
domain	Displays entries in a domain.
domain-id	Domain ID. The range is from 1 to 239.
detail	(Optional) Displays detailed entries for the domain.
fcid	Displays an entry for the given port.
fcid-id	FC ID. The format is 0x*hhhhhh*.
local	Displays local entries.
npv	Displays N port virtualization (NPV) entries.
node_wwn	Displays end-devices logged in via an npv node.
proxy-host	Displays an entry for the proxy host.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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 by using the **show fcns database** command.

This command requires the FCoE license.

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 the name server configuration.

show fcns statistics

To display the statistical information for a specified 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	(Optional) Displays statistics for the specified VSAN ID.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the statistical information for a specified VSAN:

```
switch# show fcns statistics
Name server statistics for vsan 1
==================================
registration requests received = 0
deregistration requests received = 0
queries received = 0
queries sent = 0
reject responses sent = 0
RSCNs received = 0
RSCNs sent = 0
switch#
```

Related Commands

Command	Description
fcns	Specifies the configuration mode command for the name server configuration.

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	(Optional) Specifies the ID of the VSAN.
vsan-id	(Optional) VSAN ID. The range is 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
5.2(1)	This command was introduced.

Usage Guidelines

When the number of routes is displayed in the command output, both visible and hidden routes are included in the total number of routes.

This command requires the FCoE license.

Examples

This example shows how to display the administrative distance:

```
switch# show fcroute distance

            Route
UUID        Distance        Name
----        --------        ----
10          20              rib
22          40              fcdomain
39          80              rib-config
```

```
12          100             fspf
17          120             flogi
64          200             rib-test
switch#
```

This example shows how to display the multicast routing information:

```
switch# show fcroute multicast
switch#
```

This example shows how to display the FC ID information for a specified VSAN:

```
switch# show fcroute multicast vsan 3
```

This example shows how to display the FC ID 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
switch#
```

This example shows how to display the unicast routing information for a specified FC ID:

```
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

FC Route Database Created Tue Jul 12 09:46:39 2011

VSAN        Ucast       Mcast       Label    Last Modified Time
-----    --------    --------    --------    ------------------------
1               1           0           0    Tue Jul 12 09:46:39 2011
-----    --------    --------    --------    ------------------------
Total           1           0           0
switch#
```

Related Commands

Command	Description
fcroute	Configures Fibre Channel routes and activates policy routing.

show fctimer

To display the Fibre Channel timers (fctimers), 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 timeout value (D_S_TOV) in milliseconds.
vsan	(Optional) Displays information for a VSAN.
vsan-id	VSAN ID. 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 timeout 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the configured global TOVs:

```
switch# show fctimer
F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
----------------------------------------
5000 ms   5000 ms   2000 ms   10000 ms
```

This example shows how to display the configured TOVs for a specified VSAN:

```
switch# show fctimer vsan 10

vsan no.  F_S_TOV   D_S_TOV   E_D_TOV   R_A_TOV
-------------------------------------------------
1         5000 ms   5000 ms   2000 ms   10000 ms
switch#
```

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	(Optional) Displays detailed information for the specified host bus adapter (HBA) entry.
hba-id	HBA ID.
vsan	(Optional) Specifies FDMI information for the specified VSAN.
vsan-id	VSAN ID. 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoe license.

Examples

This example shows how to display all HBA management servers:

```
switch# show fdmi database
switch#
```

This example shows how to display the VSAN 1-specific FDMI information:

```
switch# show fdmi database detail vsan 1
switch#
```

This example shows how to display the details for the specified HBA entry in VSAN 1:

```
switch# show fdmi database detail Hba-id 21:01:00:e0:8b:2a:f6:54 vsan 1
switch#
```

Related Commands

Command	Description
fdmi suppress-updates	Suppresses FDMI updates.

show flogi

To list all the fabric login (FLOGI) sessions through all interfaces across all 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	Displays FLOGI database entries based on the FC ID allocated.
fcid-id	FC ID. The format is *0xhhhhhh*.
interface	Displays FLOGI database entries based on the logged in interface.
fc	Specifies the Fibre Channel or virtual Fibre Channel interface.
slot/*port*	Slot and port number. The range for the slot numbers is from 1 to 12 and the range for the port numbers is from 1 to 48.
vfc	Specifies a virtual Fibre Channel interface.
vfc-id	Virtual interface ID. The range is from 1 to 8192.
vsan	Displays FLOGI database entries based on the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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 FC ID. Use the **show flogi database** command to verify if a storage device is displayed in the fabric login (FLOGI) table as in the Examples section. 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.

This command requires the FCoE license.

Examples

This example shows how to display the list of Organisational Unit Identifiers that are allocated areas:

```
switch# show flogi auto-area-list
Fcid area allocation company id info:
```

```
     00: 2:6B
     00: 5:E6
     00: 6:2B
     00: 9:6B
     00: D:60
     00:11:25
     00:14:5E
     00:1B:32
     00:50:2E
     00:50:8B
     00:60:B0
     00:90:A5
     00:A0:B8
     00:D0:B2
     00:E0:69
     00:E0:8B
Total company ids: 16
 + - Additional user configured company ids.
 * - Explicitly deleted company ids from default list.
switch#
```

This example shows how to display the details about the FLOGI database:

```
switch# show flogi database
--------------------------------------------------------------------------------
 INTERFACE        VSAN    FCID           PORT NAME               NODE NAME
--------------------------------------------------------------------------------
 vfc425           100   0xd40000  21:00:00:c0:dd:14:54:85 20:00:00:c0:dd:14:54:85
 vfc426           200   0x980000  21:00:00:c0:dd:14:54:87 20:00:00:c0:dd:14:54:87

 Total number of flogi = 2.
```

This example shows how to display a specific FLOGI interface:

```
switch# show flogi database interface fc 2/3
```

This example shows how to display the FLOGI for VSAN 100:

```
switch# show flogi database vsan 100
--------------------------------------------------------------------------------
 INTERFACE        VSAN    FCID           PORT NAME               NODE NAME
--------------------------------------------------------------------------------
 vfc425           100   0xd40000  21:00:00:c0:dd:14:54:85 20:00:00:c0:dd:14:54:85

 Total number of flogi = 1.
```

This example shows how to display the FLOGI for a specific FC ID:

```
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* | **port-channel** *port-channel number* | **san-port-channel** *port-channel-number*| **vfc** *vfc-id*}]

Syntax Description

database	(Optional) Displays the FSPF link state database.
vsan	(Optional) Specifies the VSAN ID.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.
detail	(Optional) Displays detailed FSPF information.
domain	(Optional) Specifies the domain of the database.
domain-id	(Optional) Domain ID. The range is from 0 to 255.
interface	(Optional) Specifies the FSPF interface.
fc	Specifies the Fibre Channel interface to configure.
slot/*port*	Slot and port number. The range for slot numbers is from 1 to 12
port-channel	Specifies the port channel interface.
san-port-channel	Specifies the SAN port channel interface.
port-channel number	Port channel number. The range for port numbers is from 1 to 256.
vfc	Specifies the virtual FC interface.
vfc-id	Virtual interface ID. The range is from 1 to 8192.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

If you enter the command without parameters, all the entries in the database are displayed.

This command requires the FCoE license.

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 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 (ERL).
vsan	(Optional) Specifies a VSAN ID.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.
history	Displays the link incident history.
recent	Displays recent link incidents.
interface fc	Specifies a Fibre Channel interface.
slot/*port*	Slot and port number. The range for the slot numbers is from 1 to 12 and the range for the port numbers is from 1 to 48.
portnumber	Displays RLIR information for the specified port number.
port	Port number. The range is from 1 to 224.
statistics	Displays RLIR statistics for all VSANs or the specified VSAN.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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 for VSAN 1:

```
switch# show rlir statistics vsan 1
```

Related Commands

Command	Description
clear rlir	Clears the RLIR commands.
rlir preferred-cond fcid	Sets preferred host to receive an RLIR.

show rscn

To display Registered State Change Notification (RSCN) information, use the **show rscn** command.

show rscn {**brief-log** | **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

brief-log	Displays a brief log of the RSCN.
event-tov	Displays the event timeout value.
vsan	Specifies a VSAN ID.
vsan-id	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
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to display the RSCN information on VSAN 1:

```
switch# show rscn scr-table vsan 1
```

This example shows how to display the RSCN statistics on VSAN 1:

```
switch# show rscn statistics vsan 1
```

This example shows how to display he 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).
clear rscn session	Clears RSCN session configuration.
clear rscn statistics	Clears RSCN statistics.
rscn abort	Aborts the RSCN configuration.
rscn commit	Commits the RSCN configuration.

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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the trunk protocol status:

```
switch# show trunk protocol
Trunk Protocol is enabled
switch#
```

Related Commands

Command	Description
trunk protocol enable	Configures the trunking protocol for Fibre Channel interfaces.

show vsan

To display information about configured 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	Specifies a Fibre Channel interface.
slot/*port*	Slot and port number. The slot range is from 1 to 12 and the port range is from 1 to 48.
san-port-channel	Specifies a SAN port channel interface specified by the port channel number.
port	Port channel number. The range is from 1 to 256.
vfc	Specifies a virtual Fibre Channel interface.
vfc-id	Virtual interface ID. The range is from 1 to 8192.
usage	(Optional) Displays VSAN usage in the system.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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`

This command requires the FCoE license.

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	(Optional) Displays the WWN usage and alarm status for a block ID.
number	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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the WWN of the switch:

```
switch# show wwn switch
Switch WWN is 20:00:00:22:55:79:a4:80
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 the active zone set.
vsan	(Optional) Displays zones that belong to the specified VSAN ID.
vsan-id	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	Displays member information for a specific fcalias.
alias-name	Name. The maximum size is 64 characters.
fc-id	Displays member information for a specific Fibre Channel ID.
fc-id	Fibre Channel ID.
lun *lun-id*	(Optional) Displays the logical unit ID.
pwwn	Displays device name information for a specific PWWN.
wwn	WWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*, where *h* is a hexadecimal number.
name *string*	(Optional) Displays members of a specified zone.
pending	(Optional) Displays members of a specified zone in the current session.
pending-diff	(Optional) Displays pending changes to the zone database.
statistics	(Optional) Displays zone server statistics.
status	(Optional) Displays the zone server current status.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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 PWWN:

```
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
Statistics For VSAN: 1
**********************************
Number of Merge Requests Sent: 0
Number of Merge Requests Recvd: 0
Number of Merge Accepts Sent: 0
Number of Merge Accepts Recvd: 0
Number of Merge Rejects Sent: 0
Number of Merge Rejects Recvd: 0
Number of Change Requests Sent: 0
Number of Change Requests Recvd: 0
Number of Change Rejects Sent: 0
Number of Change Rejects Recvd: 0
Number of GS Requests Recvd: 0
Number of GS Requests Rejected: 0
Number of RSCN Sent: 0
switch#
```

This example shows how to display the status of the configured zones:

```
switch# show zone status
VSAN: 1 default-zone: deny distribute: active only Interop: default
    mode: basic merge-control: allow
    session: none
    hard-zoning: enabled broadcast: unsupported
Default zone:
    qos: none broadcast: unsupported ronly: unsupported
Full Zoning Database :
    DB size: 64 bytes
    Zonesets:0  Zones:0 Aliases: 2
Active Zoning Database :
    Database Not Available
Status:
switch#
```

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 100
VSAN: 100 default-zone: deny distribute: active only Interop: default
     mode: basic merge-control: allow
     session: none
     hard-zoning: enabled broadcast: unsupported
```

```
 Default zone:
     qos: none broadcast: unsupported ronly: unsupported
 Full Zoning Database :
     DB size: 148 bytes
     Zonesets:1  Zones:2 Aliases: 0
 Active Zoning Database :
     DB size: 56 bytes
     Name: zs100  Zonesets:1  Zones:1
 Status: Activation completed at 15:37:50 UTC Feb 21 2011
```

This example shows how to display the zone status:

```
switch# show zone
 zone name z425 vsan 100
   pwwn 21:00:00:c0:dd:14:54:85
   pwwn 21:00:00:04:cf:67:d0:64

 zone name inact vsan 100
   pwwn 21:00:00:c0:dd:14:54:87
   pwwn 21:00:00:04:cf:17:66:b7

 zone name z426 vsan 200
   pwwn 21:00:00:c0:dd:14:54:87
   pwwn 21:00:00:04:cf:17:66:b7

 zone name test vsan 200
   pwwn 21:00:00:04:cf:17:66:b7
```

This example shows how to display zones that are part of the active zoneset:

```
switch# show zone active
 zone name z425 vsan 100
 * fcid 0xd40000 [pwwn 21:00:00:c0:dd:14:54:85]
 * fcid 0x0500cb [pwwn 21:00:00:04:cf:67:d0:64]

 zone name z426 vsan 200
 * fcid 0x980000 [pwwn 21:00:00:c0:dd:14:54:87]
 * fcid 0x1500e4 [pwwn 21:00:00:04:cf:17:66:b7]
```

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:	•Mode 1— Standards based interop mode that requires all other vendors in the fabric to be in interop mode. •Mode 2—Brocade native mode (Core PID 0). •Mode 3—Brocade native mode (Core PID 1). •Mode 4—McData native mode.
mode:	Zoning mode, either basic or enhanced.

Table 3 show zone status Field Descriptions (continued)

Field	Description
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 the zone database.
Active Zoning Database:	Values of the active zone database.
Status:	Status of the 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* | **pending | vsan** *vsan-id* | **zoneset** *name* **vsan** *vsan-id*}

Syntax Description

active	Displays analysis information for the active zone set.
pending	Displays zone set analysis in the pending database.
vsan	Displays analysis information for the specified VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4093.
zoneset	Displays zone set analysis information for the specified zone set.
name	Zone set name. The maximum size is 64 characters.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the detailed statistics and analysis of the active zoning database for VSAN 1:

```
switch# show zone analysis active vsan 1
```

This example shows how to display the detailed statistics and analysis of the full zoning database for VSAN 1:

```
switch# show 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 the **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 for VSAN 100:

```
switch# show zone analysis zoneset zs100 vsan 100
 Zoning database analysis vsan 100
   Zoneset analysis: zs100
     Num zonesets: 1
     Num zones: 1
     Num aliases: 0
     Num attribute groups: 0
     Formatted size: 104 bytes / 2048 Kb
```

Related Commands

Command	Description
zone compact vsan	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	(Optional) Displays the VSAN.
vsan-id	(Optional) VSAN ID. The range is from 1 to 4093.
brief	(Optional) Displays zone set members in a brief list.
name	(Optional) Displays members of a specified zone set.
zoneset-name	Zone set name. The maximum size is 64 alphanumeric characters.
pending	(Optional) Displays zone sets members that are in session.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to display the configured zone set information for VSAN 1:

```
switch# show zoneset vsan 1
```

This example shows how to display the configured zone set information for a VSANs 2 and 3:

```
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.

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

- auto Trunk mode auto.
- off Trunk mode off.
- on Trunk mode on.

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You must configure the Ethernet interface as a trunk port to allow both Fibre Channel and Ethernet traffic on the same interface.

Note On Cisco NX-OS 5.0(2)N1(1), the switchport trunk mode is on by default for virtual Fibre Channel interfaces and cannot be configured.

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.

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
5.2(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.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to configure a port shutdown:

```
switch(config)# system default switchport shutdown
switch(config)#
```

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 default settings, 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
5.2(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.

Use the **system default zone default-zone permit** command only be used with VSANs that have not yet been created; this command has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

This command requires the FCoE license.

Examples

This example shows how to set the default zone to use the default values:

```
switch(config)# system default zone default-zone permit
switch(config)#
```

This example shows how to restore the default setting:

```
switch(config)# no system default zone default-zone permit
switch(config)#
```

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

To configure default values for a zone, use the **system default zone** command. To revert to the default settings, use the **no** form of this command.

system default zone {**default-zone permit | distribute full | gs read read-write | mode enhanced**}

no system default zone {**default-zone permit | distribute full | gs read read-write | mode enhanced**}

Syntax Description

default-zone	Specifies default values for the default zone.
permit	Specifies the default zone permit.
distribute full	Specifies the default values for zone set distribution.
gs	Specifies the default zone generic services permission.
read	Specifies the default zone generic services permission as read.
read-write	Specifies the default zone generic services permission as read-write.
mode	Specifies the default values for zone mode.
enhanced	Specifies the enhanced default zone mode.

Command Default

Distribution to active zone sets only.

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

Use the **system default zone distribute full** command only be used with VSANs that have not yet been created; thus command has no effect on existing VSANs.

Because VSAN 1 is the default VSAN and is always present, this command has no effect on it.

This command requires the FCoE license.

Examples

This example shows how to configure the default values for enhanced zone mode:

```
switch(config)# system default zone mode enhanced
switch(config)#
```

This example shows how to configure the default zone generic services permission as read:

```
switch(config)# system default zone gs read
switch(config)#
```

This example shows how to configure the default zone generic services permission as read-write:

```
switch(config)# system default zone gs read-write
switch(config)#
```

This example shows how to distribute the default values to the active zone set only:

```
switch(config)# no system default zone distribute full
switch(config)#
```

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.

trunk protocol enable

To configure the trunking protocol for virtual Fibre Channel and virtual port 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
5.2(1)	This command was introduced.

Usage Guidelines

You disable the trunking protocol 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 Inter-Switch Link (ISL). Before you merge traffic, you must disable the trunking protocol.

This command requires the FCoE license.

Examples

This example shows how to disable the trunk protocol feature:

```
switch(config)# no trunk protocol enable
switch(config)#
```

This example shows how to enable the trunk protocol feature:

```
switch(config)# trunk protocol enable
switch(config)#
```

Related Commands

Command	Description
show trunk protocol	Displays the trunk protocol status.

vsan

To create multiple fabrics that share 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 create 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* [**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**}]]

Syntax Description

vsan	Specifies the VSAN ID.
vsan-id	VSAN ID. The range is from 1 to 4094.
interface fc	(Optional) Specifies the Fibre Channel interface by slot and port number on the switch.
slot/*port*	Slot and port number. The slot range is from 1 to 12 and the port range is from 1 to 48.
san-port-channel	Configures the SAN port channel interface specified by the SAN port channel number.
port	Port channel number. The range is from 1 to 256.
vfc	Specifies the Virtual Fibre Channel interface.
vfc-id	Virtual Fibre Channel interface ID. The range is from 1 to 8192.
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	Assigns a name to the VSAN.
name	VSAN name. The maximum size is 32 alphanumeric characters.
suspend	Suspends the VSAN.

Command Default

None

Command Modes

VSAN database configuration mode

Command History

Release	Modification
5.2(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 Virtual 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 — Standard-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 Organisational Unit Identifier (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).

This command requires the FCoE license.

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 Fibre Channel over Ethernet (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)#
```

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.
wwn vsan	Configures a WWN for a suspended VSAN that has interop mode 4 enabled.

vsan database

To enter 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
5.2(1)	This command was introduced.

Usage Guidelines

To exit from the VSAN database configuration mode, use the **exit** command.

This command requires the FCoE license.

Examples

This example shows how to enter the VSAN database configuration mode:

```
switch(config)# vsan database
switch(config-vsan-db)# exit
switch(config)#
```

Related Commands

Command	Description
show vsan	Displays the configuration information of VSANs.
show vlan fcoe	Displays the Fibre Channel over Ethernet (FCoE) VLAN to VSAN mappings.
show vsan membership	Displays VSAN membership information.
vsan	Configures VSAN information or membership.

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. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*.
range	Specifies the range for the specified WWN.
address-range	Range integer. The only valid value is 64.

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

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
```

wwn vsan

To configure a WWN for a suspended 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	Specifies the WWN for the VSAN.
wwn	VSAN WWN. The format is *hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*:*hh*.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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].

This command requires the FCoE license.

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.

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

Use the **no** form of the **zone name (configuration mode)** command to delete the zone name.

This command requires the FCoE license.

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 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	Specifies the VSAN ID.
vsan-id	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
5.2(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.

This command requires the FCoE license.

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 VSAN, use the **zone compact** command.

zone compact vsan *vsan-id*

Syntax Description

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

8000 zones are supported in a DC3 switch.

If you attempt to merge VSANs, the merge fails if more than 2000 zones are present in a VSAN and the neighboring VSAN cannot support more than 2000 zones.

Activation fails if more than 2000 zones are present in the VSAN and one or more switches in the fabric cannot support more than 2000 zones.

This command requires the FCoE license.

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	Configures to copy the active zone set on a VSAN to the full zone set.
vsan-id	VSAN ID. The range 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).
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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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	Sets default zoning behavior for the specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

All default zones are permitted access.

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

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

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
Release 4.0	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.

This command requires the FCoE license.

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

Command Default

Disabled

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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.

This command requires the FCoE license.

Examples

This example shows how to enable enhanced zoning mode for VSAN 10:

```
switch(config)# zone mode enhanced vsan 10
WARNING: This command would distribute the zoning database of this switch throug
hout the fabric. Do you want to continue? (y/n) [n] y
Set zoning mode command initiated. Check zone status
switch(config)#
```

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(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). Enter the **zone name** commands 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.

This command requires the FCoE license.

Examples

This example shows how to configure attributes for the specified zone (Zone1) based on the member type (pWWN, fabric pWWN, FC ID, 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
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

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

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the FCoE license.

Examples

This example shows how to rename a zone:

```
switch# zone rename ZoneA ZoneB vsan 10
Rename requested for a non existing zone
switch(config)#
```

Related Commands

Command	Description
show zone	Displays zone information.
zone name	Creates and configures zones.

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* | **capability change-abort distribute full** | **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* | **capability change-abort distribute full** | **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	(Optional) Specifies a name for a zone set.
zoneset-name	(Optional) Zone set name. The name can be a maximum of 64 alphanumeric characters.
vsan	Activates a zone set on the specified VSAN.
vsan-id	VSAN ID. The range is from 1 to 4093.
capability	Specifies the zone server capability.
change-abort	Enables the change abort capability.
distribute	Enables the zoneset propagation.
full	Enables the full zoneset propagation.
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
5.2(1)	This command was introduced.

Usage Guidelines

Zones are activated by activating the parent zone set.

Use the **zoneset distribute full vsan** command to distribute 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.

This command requires the FCoE license.

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** {**vfc** *vfc-id*} **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 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.
vfc	Specifies the virtual Fibre Channel interface.
vfc-id	Virtual interface ID. The range is from 1 to 8192.
vsan	Merges the zone set database of a VSAN on the specified interface.
vsan-id	VSAN ID. The range is from 1 to 4093.

Command Default

None

Command Modes

EXEC mode

Command History

Release	Modification
5.2(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 but not in interop 1 mode.

This command requires the FCoE license.

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.