Z Commands

- zone broadcast enable vsan, on page 2
- zone clone, on page 3
- zone commit vsan, on page 4
- zone compact vsan, on page 5
- zone confirm-commit enable, on page 6
- zone convert smart-zoning, on page 8
- zone convert zone, on page 10
- zone copy, on page 12
- zone default-zone, on page 14
- zone gs, on page 15
- zone merge-control restrict vsan, on page 17
- zone mode enhanced vsan, on page 18
- zone name (configuration mode), on page 21
- zone name (zone set configuration submode), on page 25
- zone rename, on page 26
- zone rscn address-format port, on page 27
- zone smart-zoning enable, on page 28
- zone-attribute-group clone, on page 29
- zone-attribute-group name, on page 30
- zone-attribute-group rename, on page 31
- zonename (iSLB initiator configuration), on page 32
- zoneset (configuration mode), on page 34
- zoneset (EXEC mode), on page 36
- zoneset overwrite-control vsan, on page 38

zone broadcast enable vsan

To enable zone broadcast frames for a VSAN in basic zoning mode, use the **zone broadcast enable VSAN** command **in configuration mode.** To disable this feature, use the **no** form of the command.

zone broadcast enable vsan *vsan-id*
no zone broadcast enable vsan *vsan-id*

Syntax Description

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

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
5.x	This command was deprecated.
2.0(x)	This command was introduced.

Usage Guidelines

Broadcast frames are sent to all Nx ports. If any NL port attached to an FL port shares a broadcast zone with the source of the broadcast frame, then the frames are broadcast to all devices in the loop.

This command only applies to basic zoning mode.

Note This command is not supported on the Cisco MDS 9124 switch, the Cisco Fabric Switch for HP c-Class BladeSystem, and the Cisco Fabric Switch for IBM BladeCenter.

Examples

The following example shows how to enable zone configuration broadcasting over the fabric:

```
switch# config terminal
switch(config)# zone broadcast enable vsan 10
```

Related Commands

Command	Description
show zone	Displays zone information.

zone clone

To clone a zone name, use the **zone clone** command in configuration mode.

zone clone *origZone-Name cloneZone-Name* **vsan** *vsan-id*

Syntax Description

origZone-Name cloneZone-Name	Clones a zone attribute group from the current name to a new name. Maximum length of names is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
2.1(1a)	This command was introduced.

Usage Guidelines

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

Examples

The following example creates a clone of the original zone group named origZone into the clone zone group cloneZone on VSAN 45:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone clone origZone cloneZone vsan 45
```

Related Commands

Command	Description
show zone	Displays zone information.

zone commit vsan

To commit zoning changes to a VSAN, use the **zone commit vsan** command in configuration mode. To negate the command, use the **no** form of the command.

zone commit vsan *vsan-id* [**force**]
no zone commit vsan *vsan-id* [**force**]

Syntax Description

vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.
force	(Optional) Forces the commit.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
2.0(1a)	This command was introduced.

Usage Guidelines

Use the **no** form of the **zone commit vsan command to clear a session lock on a switch where the lock originated**.

Examples

The following example commits zoning changes to VSAN 200:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone commit vsan 200
```

Related Commands

Command	Description
show zone	Displays zone information.

zone compact vsan

To compact a zone database in a VSAN, use the **zone compact vsan** command.

zone compact vsan *vsan-id*

Syntax Description

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

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

Prior to Cisco MDS SAN-OS Release 3.0(1), only 2000 zones were supported per VSAN. Starting with SAN-OS Release 3.0(1), 8000 zones are supported.

If more than 2000 zones are added, then a configuration check is registered to indicate that downgrading to a previous release could cause you to lose the zones over the limit. To avoid the configuration check, you can delete the excess zones and compact the zone database for the VSAN. If there are 2000 zones or fewer after you delete excess zones, the compacting process reissues zone IDs and the configuration can be supported by previous versions.

If you want to downgrade, you should configure less than 2001 zones across all VSANs and then issue the **zone compact vsan** command on all VSANs.

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

Activation will fail if more than 2000 zones are present in the VSAN and all the switches in the fabric cannot support more than 2000 zones.

Examples

The following example shows how to compact a zone database in VSAN 1:

```
switch# config terminal
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 confirm-commit enable

To enable the display of the pending-diff and subsequent confirmation of pending-diff on issuing a zone commit, use the **zone confirm-commit enable** command in configuration mode. To disable this feature command, use the **no** form of the command.

zone confirm-commit enable vsan *vsan-id*
no zone confirm-commit enable vsan *vsan-id*

Syntax Description

vsan	Enables the zone pending-diff display during commit for a VSAN.
vsan-id	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

Disabled.

Command Modes

Configuration mode.

Command History

Release	Modification
6.2(9)	This command was introduced.

Usage Guidelines

This command is available only in enhanced mode.

If the zone confirm-commit command is enabled for a VSAN, on committing the pending database, the pending-diff is displayed on the console and the user is prompted for Yes or No. If the zone confirm-commit command is disabled, the pending-diff is not displayed and the user is not prompted for Yes or No.

Note If this feature is enabled, downgrade is blocked by a configuration check. To resume downgrade correctly, confirm-commit has to be disabled on all VSANs.

Examples

The following example shows how to enable the confirm messages during commit for a VSAN:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone confirm-commit enable vsan 1
switch(config)#
```

The following example shows how to disable the confirm messages during commit for a VSAN:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# no zone confirm-commit enable vsan 1
switch(config)#
```

Related Commands

Command	Description
show running-config zone | inc confirm	Checks if the confirm-commit option is enabled for any VSAN.

zone convert smart-zoning

To configure smart zoning convert commands, use the **zone convert smart-zoning** command in configuration mode.

zone convert smart-zoning {**fcalias name** *fcalias-name* **vsan** *vsan-id* | **vsan** *vsan-id* | **zone name** *zone-name* **vsan** *vsan-id* | **zoneset name** *zoneset-name* **vsan** *vsan-id*}

Syntax Description

fcalias name	Specifies auto-convert commands for a fcalias.
fcalias-name	Specifies the fcalias name. The maximum size is 64 characters.
vsan	Specifies the auto convert commands for a VSAN.
vsan-id	Specifies the VSAN ID. The range is from 1 to 4093.
zone name	Specifies the auto convert commands for a given zone.
zone-name	Specifies the zone name. The maximum size is 64 characters.
zoneset name	Specifies the auto convert commands for a zoneset.
zoneset-name	Specifies the zoneset name. The maximum size is 64 characters.
vsan	Specifies the VSAN.
vsan-id	Specifies the VSAN ID. The range is from 1to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
6.2(7)	Changed the command output.
5.2(6)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to Specify the auto convert commands for a VSAN.

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone convert smart-zoning vsan 1
smart-zoning auto_convert initiated. This operation can take few minutes. Please wait..
switch(config)#
```

Related Commands

Command	Description
show zone	Displays zone information.

zone convert zone

To convert the zone member type from one type to another, use the zone convert zone command in the configuration mode.

zone convert zoneset name source-member-type dest-member-type vsan vsan-id

Syntax Description

name	Displays the name of the zone or zoneset. All members of the specified zone or zoneset will be converted to the new type.
source-member-type	Displays the member type of the members that have to be converted. The values of the supported source member types include fWWN, pWWN, Device-Alias, FCID, Interface and Interface-Domain.
dest-member-type	Displays the member type of the destination member. The values of the supported destination member types include fWWN, pWWN, Device-Alias, FCID, Interface, and Interface-Domain.
vsan vsan-id	Displays the VSAN ID.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
3.2(1)	This command was introduced.

Usage Guidelines

To use this command, all members have to be logged in. The conversion will fail even if a single member conversion is not achieved.

Table 1: Conversion Matrix of the Member Types, on page 10 describes the conversion matrix of the member types supported by this command.

Table 1: Conversion Matrix of the Member Types

Source Member Types	Supported Destination Member Types
fWWN	pWWN, FCID, Device-alias, Interface, Interface-Domain
Interface	pWWN, FCID, Device-alias, Interface, Interface-Domain
Interface-Domain	pWWN, FCID, Device-alias, Interface
pWWN	FCID, Device-Alias
FCID	pWWN, Device-Alias
Device-Alias	FCID, pWWN

Examples

The following example shows the zone member type conversion:

```
switch# show zoneset name zs1
zoneset name zs1 vsan 1
  zone name zone2 vsan 1
    fcid 0x0b04d3
    fcid 0x0b04cd
    fcid 0x0b04ce
    fcid 0x0b04d1
    fcid 0x0b04d2

  zone name zone1 vsan 1
    fcid 0x0b04d6
    fcid 0x0b04d9
switch# conf t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone convert zoneset name zs1 fcid pwwn vsan 1
switch(config)# ex
switch# show zoneset name zs1
zoneset name zs1 vsan 1
  zone name zone2 vsan 1
    pwwn 22:00:00:0c:50:02:cf:56
    pwwn 22:00:00:0c:50:02:cf:72
    pwwn 22:00:00:0c:50:02:ca:b5
    pwwn 22:00:00:0c:50:02:cb:43
    pwwn 22:00:00:0c:50:02:cd:c0

  zone name zone1 vsan 1
    pwwn 22:00:00:0c:50:02:cb:0c
    pwwn 22:00:00:0c:50:02:c9:a2
```

Related Commands

Command	Description
show zone	Displays the zone information.
show zoneset	Displays the configured zone sets.

zone copy

To copy the active zone set to the full zone set, use the **zone copy** command in EXEC mode. Use the **no** form of the command to negate the command or revert to the factory defaults.

zone copy active-zoneset full-zoneset vsan *vsan-id*
zone copy vsan *vsan-id* **active-zoneset** {**bootflash: ftp:** | **full-zoneset** | **scp:** | **sftp:** | **tftp:** | **volatile:**}

Syntax Description

active-zoneset	Copies from the active zone set.
full-zoneset	Copies the active zone set to the full-zone set.
vsan *vsan-id*	Configures to copy active zone set on a VSAN to full zone set.The ID of the VSAN is from 1 to 4093.
bootflash:	Copies the active zone set to a location in the bootflash: directory.
ftp:	Copies the active zone set to a remote location using the FTP protocol.
scp:	Copies the active zone set to a remote location using the SCP protocol.
sftp:	Copies the active zone set to a remote location using the SFTP protocol.
slot0:	Copies the active zone set to a location in the slot0: directory.
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
1.3(1)	This command was modified.

Usage Guidelines

None.

Examples

The following example copies the active zone set to the full zone set:

```
switch# zone copy active-zoneset full-zoneset vsan 1
```

The following example copies 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 (nodes not assigned a created zone) permits or denies access to all in the default zone, use the **zone default-zon**e command in configuration mode. Use the **no** form of the command to negate the command or revert to the factory defaults.

zone default-zone [**permit**] **vsan** *vsan-id*
no zone default-zone [**permit**] **vsan** *vsan-id*

Syntax Description

permit	(Optional) Permits access to all in the default zone.
vsan *vsan-id*	Sets default zoning behavior for the specified VSAN. The ID of the VSAN is from 1 to 4093.

Command Default

All default zones are permitted access.

Command Modes

Configuration mode.

Command History

Release	Modification
1.0(2)	This command was introduced.

Usage Guidelines

Use the **zone default-zone permit vsan** command to define the operational values for the default zone in a VSAN. This command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

Use the **system default zone default-zone permit** command to use the default values defined for the default zone for all VSANs. The default values are used when you initially create a VSAN and it becomes active.

Examples

The following example permits default zoning in VSAN 2:

```
switch# config terminal
switch(config)# zone default-zone permit vsan 2
```

Related Commands

Command	Description
show zone	Displays zone information.
system default zone default-zone permit	Configures default values for a zone.

zone gs

To change zone generic service permission for a given VSAN, use zone gs command. To set the value for zone generic service permission as none (deny) for a given VSAN, use the no form of the command.

zone gs {**read** | **read-write**} **vsan** *vsan-id*
no zone gs {**read** | **read-write**} **vsan** *vsan-id*

Syntax Description

read	Specifies the zone generic service permission as read only.
read-write	Specifies the zone generic service permission as read write.
vsan	Specifies the zone generic service permission as read only on a given VSAN.
vsan-id	Specifies VSAN ID. The range is from 1 to 4093.

Command Default

read-write.

Command Modes

Configuration mode.

Command History

Release	Modification
3.2(1)	This command was introduced.

Usage Guidelines

Zone generic service permission setting is used to control zoning operation through the GS (generic service) interface. The zone generic service permission can be read-only, read-write or none (deny). Modifying gs permission value as write only is not supported.

Examples

The following example shows how to configure zone generic service permission value as read only for a given VSAN:

```
switch# config terminal
switch(config)# zone gs read vsan 1
switch(config)#
```

The following example shows how to configure zone generic service permission value as read-write for a given VSAN:

```
switch# config terminal
switch(config)# zone gs read-write vsan1
switch(config)#
```

The following example shows how to configure zone generic service permission value as none(deny) for a given VSAN:

```
switch# config terminal
switch(config)# no zone gs read-write vsan 1
switch(config)#
```

Related Commands

Command	Description
show zone policy vsan	Displays the zone policy for a given VSAN.

zone merge-control restrict vsan

To restrict zone database merging, use the **zone merge-control restrict vsan** command **in configuration mode.** To disable this feature, use the **no** form of the command.

zone merge-control restrict vsan *vsan-id*
no zone merge-control restrict vsan *vsan-id*

Syntax Description

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

Command Default

Disabled.

Command Modes

Configuration mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

If merge control setting is restricted and the two databases are not identical, the ISLs between the switches are isolated.

Examples

The following example shows how to configure zone merge control:

```
switch# config terminal
switch(config)# zone merge-control restrict vsan 10
```

Related Commands

Command	Description
show zone	Displays zone information.

zone mode enhanced vsan

To enable enhanced zoning for a VSAN, use the **zone mode enhanced vsan** command in configuration mode. To disable this feature, use the **no** form of the command.

zone mode enhanced vsan *vsan-id* [**single-session**]
no zone mode enhanced vsan *vsan-id* [**single-session**]

Syntax Description

vsan-id	Specifies the VSAN ID. The range is 1 to 4093.
single-session	(Optional) Allows zoning changes only from a single session.

Command Default

Disabled.

Command Modes

Configuration mode (config)

Command History

Release	Modification
8.4(2)	Added the **single-session** option.
2.0(x)	This command was introduced.

Usage Guidelines

Before using the **zone mode enhanced vsan** 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, then 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.

The **single-session** option enforces a limit of one zone configuration session on the switch holding the zone configuration lock in a VSAN and identified by a user's login session. If the login session is disconnected for some reason, such as after a supervisor switchover, the zone session remains, retaining the fabric wide lock and any pending changes. Attempts to make further zone configuration changes from any other login to the switch will be rejected with an error message displaying the previous session owner information. This session information can also be viewed using the **show zone status** command. To recover, the session lock must be cleared using the **clear zone lock** command from the switch the lock was originally obtained from. Clearing the session lock will delete any pending zoning configuration and the zone configuration changes will have to be reentered. Use the **show zone pending-diff** command to display any pending zoning configuration changes prior to clearing the zone lock.

The **single-session** option is not accepted unless enhanced zoning is already enabled for that VSAN. Enable enhanced zoning in the VSAN first and then use the **single-session** option with subsequent **zone mode enhanced** commands.

The command **zone mode enhanced vsan** *id* **single-session** is configured per switch, not across the entire fabric.

Examples

The following example shows how to enable enhanced zoning mode on VSAN 10:

```
switch# configure terminal
switch(config)# zone mode enhanced vsan 10
```

The following example shows how to enable zoning changes only from a single session on VSAN 10:

```
switch# configure terminal
switch(config)# zone mode enhanced vsan 10 single-session
```

The following example shows how to disable only the zoning changes from a single session without disabling the enhanced zoning mode on VSAN 10:

```
switch# configure terminal
switch(config)# no zone mode enhanced vsan 10 single-session
```

The following example shows how to disable single session and enhanced zoning mode on VSAN 10:

```
switch# configure terminal
switch(config)# no zone mode enhanced vsan 10
```

The following examples show how to clear the zoning configuration session lock and verify the status of the session when the **single-session** option is enabled:

- The following example shows that the zoning configuration session is locked by another session:

```
switch# configure
switch(config)# zone name engineering vsan 2
Error:This login is not the zoning session lock owner. Lock taken by test-user@pts/0
from 192.168.1.1 with PID=6629 at 2019-01-09T06:19:40.55504Z
```

- The following example shows the zoning configuration session lock status when the session is locked by user *test-user*. The session status is shown in the *session:* field:

```
switch(config-zone)# show zone status vsan 2
VSAN: 2 default-zone: permit distribute: full Interop: default
    mode: enhanced merge-control: allow
    session:  cli [test-user] on user/0 from 192.168.1.1 at 2019-01-09T06:19:40.55504Z

    single-session: enabled
    hard-zoning: enabled broadcast: unsupported
    smart-zoning: disabled
    rscn-format: fabric-address
    activation overwrite control: disabled
Default zone:
    qos: none broadcast: unsupported ronly: unsupported
Full Zoning Database :
    DB size: 360 bytes
    Zonesets:  2 Zones: 3 Aliases: 0 Attribute-groups: 1
Active Zoning Database :
    Database Not Available
Current Total Zone DB Usage: 360 / 4000000 bytes (0 % used)
Pending (Session) DB size:
    Full DB Copy size: 396 bytes
    Active DB Copy size: 0 bytes
SFC size: 5104 / 4000000 bytes (0 % used)
```

```
Status:
```

- The following example shows how to clear the zoning configuration session lock. This should be done from the same switch where the session is locked. The IP address of the switch holding the lock may be identified in the *session:* field of the above command.

```
switch(config)# clear zone lock vsan 2
Command will clear lock from the entire fabric only if issued on initiating switch.
Else lock will be cleared only locally.
Do you want to continue? (y/n) [n] y
```

- The following example shows the zoning configuration session lock status after clearing the lock. The session status is shown in the *session:* field.

```
switch(config)# show zone status vsan 2
VSAN: 2 default-zone: deny distribute: full Interop: default
    mode: enhanced merge-control: allow
    session:  none
    single-session: enabled
    hard-zoning: enabled broadcast: unsupported
```

Related Commands

Command	Description
clear zone lock	Clears zone server database lock.
show zone	Displays zone information.

zone name (configuration mode)

To create a zone, use the **zone name** command **in configuration mode.** Use the **no** form of the command to negate the command or revert to the factory defaults.

zone name *zone-name* **vsan** *vsan-id* **attribute** {**broadcast** | **smart-zoning** | **qos priority** {**high** | **low** | **medium**} | **read-only**} **attribute-group** *group-name* **member** {**device-alias** *alias-name* [**lun** *lun-id*] | **domain-id** *domain-id* **port-number** *port-number* | **fcalias** *name* | **fcid** *fcid-value* [**lun** *lun-id*] | **fwwn** *fwwn-id* | **interface fc** *slot / port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **ip-address** *ip-address* [*subnet-mask*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *identifier* **member** {**device-alias** *alias-name* [**lun** *lun-id*] | **domain-id** *domain-id* **port-number** *port-number* | **fcalias** *name* | **fcid** *fcid-value* [**lun** *lun-id*] | **fwwn** *fwwn-id* | **interface fc** *slot / port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **ip-address** *ip-address* [*subnet-mask*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *identifier*}}
no zone name *zone-name* **vsan** *vsan-id* **attribute** {**broadcast** | **smart-zoning** | **qos priority** {**high** | **low** | **medium**} | **read-only**} **attribute-group** *group-name* **member** {**device-alias** *alias-name* [**lun** *lun-id*] | **domain-id** *domain-id* **port-number** *port-number* | **fcalias** *name* | **fcid** *fcid-value* [**lun** *lun-id*] | **fwwn** *fwwn-id* | **interface fc** *slot / port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **ip-address** *ip-address* [*subnet-mask*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *identifier* **member** {**device-alias** *alias-name* [**lun** *lun-id*] | **domain-id** *domain-id* **port-number** *port-number* | **fcalias** *name* | **fcid** *fcid-value* [**lun** *lun-id*] | **fwwn** *fwwn-id* | **interface fc** *slot / port* [**domain-id** *domain-id* | **swwn** *swwn-id*] | **ip-address** *ip-address* [*subnet-mask*] | **pwwn** *pwwn-id* [**lun** *lun-id*] | **symbolic-nodename** *identifier*}}
interface {**bay port** | **ext port**}

Syntax Description

zone-name	Specifies the name of the zone. Maximum length is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.
attribute	Sets zone attributes.
read-only	Sets read-only attribute for the zone (default is read-write).
broadcast	Sets broadcast attribute for the zone.
smart-zoning	Sets the smart zoning for the zone.
qos priority {**high** | **low** | **medium**	Sets QoS attribute for the zone (default is low).
attribute-group *group-name*	Configures an attribute group. Maximum length is 64 characters.
member	Adds a member to a zone.
device-alias *alias-name*	Adds a member using the device alias name.
lun *lun-id*	Specifies the LUN number in hexadecimal format.
domain-id *domain-id*	Adds a member using the domain ID.
port-number *port-number*	Adds a member using the port number of the domain ID portnumber association.
fcalias *name*	Adds a member using the fcalias name.

fcid fcid-id	Adds a member using the FCID member in the format *0***x***hhhhhh*.
fwwn fwwn-id	Adds a member using the fabric port WWN in the format *hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh*.
interface fc *slot*/*port*	Adds a member using the Fibre Channel interface to a Cisco MDS 9000 Family switch.
interface bay | ext port	Adds a member using the Fibre Channel interface to a Cisco Fabric Switch for HP c-Class BladeSystem or to a Cisco Fabric Switch for IBM BladeCenter . The range is 0 to 48.
swwn *swwn-id*	(Optional) Specifies the switch WWN in the format *hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh*.
ip-address ip-address	Adds a member using the IP address.
subnet-mask	(Optional) Specifies an optional subnet mask.
pwwn pwwn-id	Adds a member using the port WWN in the format *hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh***:***hh*.
symbolic-nodename *identifier*	Adds a member using the symbolic node name in the form of a name or an IP address.

Command Default

Zone attribute is read-only.

Command Modes

Configuration mode.

Command History

Release	Modification
1.0(2)	This command was introduced.
1.2(1)	Added the **attribute**, **interface**, and **lun** subcommands.
2.0(x)	• Added the **broadcast** and **qos priority** options to the **attribute** subcommand. • Added the **attribute-group** subcommand. • Added the **device-alias** *aliasname* [lun *lun-id*] option to the **member** subcommand.
3.1(2)	Added the **interface bay | ext** option to the **member** subcommand.
5.2(6)	Added the smart-zoning keyword to the syntax description.

Usage Guidelines

Zones are assigned to zone sets, zone sets are then activated from one switch and propagate across the fabric to all switches. Zones allow security by permitting and denying access between nodes (hosts and storage). **zone name** commands are issued from the configuration mode. Configure a zone for a VSAN from the config-zone submode.

Use the **show wwn switch** command to retrieve the sWWN. If you do not provide a sWWN, the software automatically uses the local sWWN.

Broadcast frames are sent to all Nx ports.

If any NL port attached to an FL port shares a broadcast zone with the source of the broadcast frame,

The frames then are broadcast to all devices in the loop.

Examples

The following example configures attributes for the specified zone (Zone1) based on the member type (pWWN, fabric pWWN, FCID, or FC alias) and value specified:

```
switch# config terminal
switch(config)# zone name Zone1 vsan 10
```

switch(config-zone)# **attribute broadcast**

switch(config-zone)# **attribute read-only**

The following example configures members for the specified zone (Zone2) based on the member type (pWWN, fabric pWWN, FCID, or FC alias) and value specified:

```
switch# config terminal
switch(config)# zone name Zone2 vsan 10
```

switch(config-zone)# **attribute broadcast**

switch(config-zone)# **attribute read-only**

pWWN example:

```
switch(config-zone)# member pwwn 10:00:00:23:45:67:89:ab
Fabric pWWN example:
switch(config-zone)# member fwwn 10:01:10:01:10:ab:cd:ef
FC ID example:
switch(config-zone)# member fcid 0xce00d1
FC alias example:
switch(config-zone)# member fcalias Payroll
Domain ID example:
switch(config-zone)# member domain-id 2 portnumber 23
FC alias example:
switch(config-zone)# member ipaddress 10.15.0.0 255.255.0.0
Local sWWN interface example:
switch(config-zone)# member interface fc 2/1
Remote sWWN interface example:
switch(config-zone)# member interface fc2/1 swwn 20:00:00:05:30:00:4a:de
Domain ID interface example:
switch(config-zone)# member interface fc2/1 domain-id 25
The following example shows how to remove the smart zoning configuration:
switch# config terminal
switch(config)# zone name Zone2 vsan 10
```

switch(config-zone)# no **attribute smart-zoning**

switch(config-zone)#

Related Commands

Command	Description
zone-attribute-group name	Configures zone attribute groups.
zone rename	Renames zones.

Command	Description
show zone	Displays zone information.

zone name (zone set configuration submode)

To configure a zone in a zone set, use the **zone name** command in zone set configuration submode. To delete the zone from the zone set, use the **no** form of the command.

zone name *zone-name*
no zone name *zone-name*

Syntax Description

zone-name	Specifies the name of the zone. Maximum length is 64 characters.

Command Default

None.

Command Modes

Zone set configuration mode.

Command History

Release	Modification
1.0(2)	This command was modified.

Usage Guidelines

None.

Examples

The following example configure a zone in a zone set:

```
switch# config terminal
switch(config)# zoneset name Sample vsan 1
switch(config-zoneset)# zone name MyZone
```

The following example deletes a zone from a zone set:

switch(config-zoneset)# **no zone name Zone2**

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 **in configuration mode.**

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

Syntax Description

current-name	Specifies the current fcalias name. Maximum length is 64 characters.
new-name	Specifies the new fcalias name. Maximum length is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration submode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to rename a zone:

```
switch# zone rename ZoneA ZoneB vsan 10
```

Related Commands

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

zone rscn address-format port

To configure switch to send the port-address format RSCN for zone configuration changes , use the zone rscn address-format port. To revert to the default settings, use the no form of the command.

zone rscn address-format port vsan *vsan-id*
no zone rscn address-format port vsan *vsan-id*

Syntax Description

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

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
6.2(1)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to configure the switches to the port-address format.

```
switch(config)# zone rscn address-format port vsan 10
switch#
```

Related Commands

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

zone smart-zoning enable

To enable the smart zoning feature, use the **zone smart-zoning enable** command. **To disbale this feature, use the no form of this command.**

zone smart-zoning enable vsan *vsan-id*
no zone smart-zoning enable vsan *vsan-id*

Syntax Description

vsan	Specifies the smart zoning feature on the given VSAN.
vsan-id	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
5.2(6)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to enable the smart zoning feature on the given VSAN:

```
switch# zone smart-zoning enable vsan 10
```

Related Commands

Command	Description
show zone	Displays the zone information.

zone-attribute-group clone

To clone a zone attribute group, use the **zone-attribute-group clone** command **in configuration mode.**

zone attribute clone *origAttGrp-Name cloneAttGrp-Name* **vsan** *vsan-id*

Syntax Description

origAttGrp-Name cloneAttGrp-Name	Clones a zone attribute group from the current name to a new name. Maximum length of names is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
2.1(1a)	This command was introduced.

Usage Guidelines

To remove the zone attribute group, use the **no** form of the **zone-attribute-group name** command.

Examples

The following example shows how to clone a zone attribute group with the original name origZoneAttGrp to a copy named cloneZoneAttGrp on VSAN 45:

```
switch# config terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# zone-attribute-group clone origZoneAttGrp cloneZoneAttGrp vsan 45
```

Related Commands

Command	Description
show zone-attribute-group	Displays zone attribute group information.

zone-attribute-group name

To create and configure a zone attribute group for enhanced zoning, use the **zone-attribute-group name** command **in configuration mode.** To remove the zone attribute group, use the **no** form of the command.

zone attribute group name *zone-name* **vsan** *vsan-id*
no zone attribute group name *zone-name* **vsan** *vsan-id*

Syntax Description

zone-name	Specifies the zone attribute name. Maximum length is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

You can use this command to create a zone attribute group and to modify an existing zone attribute group.

Zone attribute groups are only supported for enhanced zoning. You can enable enhanced zoning using the **zone mode enhanced vsan** command.

Examples

The following example shows how to create a zone attribute group and enter attribute group configuration submode:

```
switch# config terminal
switch(config)# zone-attribute-group name admin-attributes vsan 10
switch(config-attribute-group)#
```

Related Commands

Command	Description
show zone-attribute-group	Displays zone attribute group information.
zone mode enhanced vsan	Enables enhanced zoning for a VSAN.

zone-attribute-group rename

To rename a zone attribute group, use the **zone-attribute-group rename** command **in configuration mode.**

zone attribute group rename *current-name new-name* **vsan** *vsan-id*

Syntax Description

current-name	Specifies the current zone attribute name. Maximum length is 64 characters.
new-name	Specifies the new zone attribute name. Maximum length is 64 characters.
vsan *vsan-id*	Specifies the VSAN ID. The range is 1 to 4093.

Command Default

None.

Command Modes

Configuration mode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

None.

Examples

The following example shows how to rename a zone attribute group:

```
switch# config terminal
switch(config)# zone-attribute-group rename Group1 Group2 vsan 10
```

Related Commands

Command	Description
show zone-attribute-group	Displays zone attribute group information.

zonename (iSLB initiator configuration)

To assign a zone name for the initiator, use the **zonename** command in iSLB initiator configuration submode. To remove the zone name for the initiator, use the **no** form of the command.

zonename *name*
no zonename *name*

Syntax Description

zonename *name*	Assigns the zone name for the initiator. The maximum size is 55.

Command Default

Automatically generated.

Command Modes

iSCSI initiator configuration submode.

Command History

Release	Modification
3.0(1)	This command was introduced.

Usage Guidelines

You can configure a zone name where the iSLB initiators and initiator targets are added. If you do not specify a zone name, the IPS manager creates one dynamically. iSLB zone sets have the following considerations:

- Auto-zoning of the initiator with the initiator targets is enabled by default.
- A zone set must be active for a VSAN for auto-zones to be created in that VSAN. The zoneset activate command creates auto-zones only if at least one other change has been made to the zone set.
- iSLB zone set activation might fail if another zone set activation is in process or if the zoning database is locked. Retry the iSLB zone set activation if a failure occurs. To avoid this problem, only perform only one zoning related operation (normal zones, IVR zones, or iSLB zones) at a time.
- If IVR and iSLB are enabled in the same fabric, at least one switch in the fabric must have both features enabled. Any zoning related configuration or activation operation (for normal zones, IVR zones, or iSLB zones) must be performed on this switch. Otherwise, traffic might be disrupted in the fabric.

Examples

The following example assigns the zone name for the iSLB initiator:

```
switch# config t
switch(config)# islb initiator ip-address 100.10.10.10
```

ips-hac2(config-iscsi-islb-init)# zonename ?

<WORD> Enter zone name <Max Size - 55>

ips-hac2(config-islb-init)# zonename testzone1

The following example removes the zone name and reverts to the default zone name for the iSLB initiator:

```
switch (config-islb-init)# no
 zonename testzone1
```

Related Commands

Command	Description
islb initiator	Assigns an iSLB name and IP address to the iSLB initiator and enters iSLB initiator configuration submode.
show islb initiator	Displays iSCSI server load balancing (iSLB) CFS information.
show islb initiator detail	Displays detailed iSLB initiator information.
show islb initiator summary	Displays iSLB initiator summary information.

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 the command.

zoneset {**activate name** *zoneset-name* **vsan** *vsan-id* [**force**] | **clone** *zoneset-currentName zoneset-cloneName* | **distribute full vsan** *vsan-id* | **name** *zoneset-name* **vsan** *vsan-id* | **rename** *current-name new-name* **vsan** *vsan-id*}
no zoneset {**activate name** *zoneset-name* **vsan** *vsan-id* | **clone** *zoneset-currentName zoneset-cloneName* | **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
force	Forces to activate a new zone set even when the zone set overwrite control is activated.
clone *zoneset-currentName zoneset-cloneName*	Clones a zone set from the current name to a new name. Maximum length of names is 64 characters.
name *zoneset-name*	Specifies a name for a zone set. Maximum length is 64 characters.
distribute full vsan vsan-id	Enables zone set propagation. Activates a zone set on the specified VSAN. The range is 1 to 4093.
rename	Renames a zone set.
current-name	Specifies the current fcalias name.
new-name	Specifies the new fcalias name.

Command Default

None.

Command Modes

Configuration mode (config)

Command History

Release	Modification
1.0(2)	This command was introduced.
2.0(x)	Added the **rename** option.
2.1(1a)	Added the **clone** option.
6.2(13)	Added the **force** option.

Usage Guidelines

Zones are activated by activating the parent zone set.

The **zoneset distribute full vsan** command distributes the operational values for the default zone to all zone sets in a VSAN. If you do not want to distribute the operation values, use the **system default zone distribute**

full command to distribute the default values. The default values are used when you initially create a VSAN and it becomes active.

The **zoneset distribute full vsan** command applies to existing VSANs; it has no effect on VSANs that have not yet been created.

Examples

The following example activates a zone set named gottons in VSAN 333:

```
switch# config terminal
switch(config)# zoneset activate name gottons vsan 333
Zoneset Activation initiated. check zone status
```

The following example clones a zone set named zSet1 into a new zoneset named zSetClone in VSAN 45:

```
switch(config)# zoneset ?
  activate    Activate a zoneset
  clone       Zoneset clone command
  distribute  Enable zoneset propagation
  name        Configure a zoneset
  rename      Zoneset rename command
switch(config)# zoneset clone ?
  <WORD>  Current zoneset name (Max Size - 64)
switch(config)# zoneset clone existing ?
  <WORD>  New zoneset name (Max Size - 64)
switch(config)# zoneset clone existing new ?
  vsan  Clone zoneset name on a vsan
switch(config)# zoneset clone existing new vsan ?
  <1-4093>  VSAN id
switch(config)# zoneset clone existing new vsan 1 ?
  <cr>  Carriage Return
switch(config)# zoneset clone existing zSet1 zSetClone vsan 45
```

The following example distributes 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
show zoneset	Displays zone set information.
system default zone distribute full	Configures default values for distribution to a zone set
zoneset overwrite-control	Enabling this command for a VSAN causes the **zoneset activate** command to fail if the zone set name is different from the currently active zone set name and the **force** parameter is not specified. This can prevent an inadvertent zoneset activation.

zoneset (EXEC mode)

To merge zone set databases, use the **zoneset** command in EXEC mode.

zoneset {**distribute** | **export** | **import** **interface** {*fc slot-number* | *fcip interface-number* | *port-channel port-number*}} **vsan** *vsan-id*
import **interface** {**bay-ext** *port* | **port-channel** *port-number*}

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.
fc slot-number	Configures a Fibre Channel interface for the specified slot number and port number on an MDS 9000 Family switch.
fcip *interface-number*	Selects the FCIP interface on an MDS 9000 Family switch to configure the specified interface from 1 to 255.
interface bay| ext *port*	(Optional) Configures a Fibre Channel interface for the specified port ona Cisco Fabric Switch for HP c-Class BladeSystem or on a Cisco Fabric Switch for IBM BladeCenter . The range is 0 to 48.
	Specifies PortChannel interface.
vsan *vsan-id* port-channel *port-number*	Merges the zone set database of a VSAN on the specified interface. The ID of the VSAN is from 1 to 4093.

Command Default

None.

Command Modes

EXEC mode.

Command History

Release	Modification
1.3(2)	This command was introduced.
3.1(2)	Added the **interface bay| ext** option.

Usage Guidelines

You can also use 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 not in **interop 1** mode.

Note If a port is part of a PortChannel in the interface, you cannot import the zone set database of the port; therfore, you should import the zone set database of the PortChannel.

Examples

The following example imports the zone set database from the adjacent switch connected through the VSAN 2 interface:

```
switch# zoneset import interface fc1/3 vsan 2
```

The following example exports the zone set database to the adjacent switch connected through VSAN 5:

```
switch# zoneset export vsan 5
```

The following example distributes the zone set in VSAN 333:

```
switch# zoneset distribute vsan 333
Zoneset distribution initiated. check zone status
```

Related Commands

Command	Description
show zone status vsan	Displays the distribution status for the specified VSAN.
show zoneset	Displays zone set information.

zoneset overwrite-control vsan

Enabling the **zoneset overwrite-control** command for a VSAN causes the **zoneset activate** command to fail if the zone set name is different from the currently active zone set name, and the force parameter is not specified. This can prevent an inadvertent zoneset activation. To disable this feature, use the no form of this command.

zoneset overwrite-control vsan *id*

Syntax Description

vsan	Specifies a virtual storage area network (VSAN).
id	VSAN ID. The VSAN ID is in the range of 1 to 4093.

Command Default

This feature is disabled by default.

Command Modes

Configuration mode (config)

Command History

Release	Modification
6.2(13)	This command was introduced.

Usage Guidelines

The **zoneset overwrite-control vsan** *id* command can be enabled only in an enhanced zone mode. Even when the **zoneset overwrite-control vsan** *id* command is enabled, the user can override it and continue with the activation of a new zoneset using the **zoneset activate name** *name* **vsan** *id* **force** command.

Examples

The following example shows how to enable the activation overwrite control for a specified VSAN:

```
switch(config)# zoneset overwrite-control vsan 3
WARNING: This will enable Activation Overwrite control. Do you want to continue? (y/n) [n]
```

Related Commands

Command	Description
show zone status vsan *vsan-id*	Displays zone settings for a VSAN, including if overwrite control is enabled or disabled for the VSAN.
show zoneset	Displays zone set information.
zoneset (configuration mode)	Configures zoneset.