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## CHAPTER **27**

# Z Commands

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The commands in this chapter apply to the Cisco MDS 9000 Family of multilayer directors and fabric switches. All commands are shown here in alphabetical order regardless of command mode. See [“About the CLI Command Modes”](#) section on page 1-3 to determine the appropriate mode for each command.

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## 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*

<b>Syntax Description</b>	<i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
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<b>Defaults</b>	None.	
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<b>Command Modes</b>	Configuration mode.	
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(x)	This command was introduced.

<b>Usage Guidelines</b>	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.
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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.

<b>Examples</b>	The following example shows how to enable zone configuration broadcasting over the fabric:
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```
switch# config terminal
switch(config)# zone broadcast enable vsan 10
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show zone</b>	Displays zone information.

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

**Defaults** 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
	<b>show zone</b>	Displays zone information.

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## 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 <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
	<b>force</b>	(Optional) Forces the commit.

Defaults	None.
----------	-------

Command Modes	Configuration mode.
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Command History	Release	Modification
	2.0(1a)	This command was introduced.

Usage Guidelines	Use the <b>no</b> form of the <b>zone commit vsan</b> command to clear a session lock on a switch where the lock originated.
------------------	--

Examples	The following example commits zoning changes to VSAN 200:
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```
switch# config terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# zone commit vsan 200
```

Related Commands	Command	Description
	<b>show zone</b>	Displays zone information.

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## zone compact vsan

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

```
zone compact vsan vsan-id
```

<b>Syntax Description</b>	<i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
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<b>Defaults</b>	None.
-----------------	-------

<b>Command Modes</b>	Configuration mode.
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	3.0(1)	This command was introduced.

<b>Usage Guidelines</b>	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.
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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.

<b>Examples</b>	The following example shows how to compact a zone database in VSAN 1:
-----------------	---

```
switch# config terminal
switch(oongif)# zone compact vsan 1
```

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
	<b>show zone</b>	Displays zone information.
	<b>show zone analysis</b>	Displays detailed analysis and statistical information about the zoning database.

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## 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	Parameter	Description
	<b>fcalias name</b>	Specifies auto-convert commands for a fcalias.
	<i>fcalias-name</i>	Specifies the fcalias name. The maximum size is 64 characters.
	<b>vsan</b>	Specifies the auto convert commands for a VSAN.
	<i>vsan-id</i>	Specifies the VSAN ID. The range is from 1 to 4093.
	<b>zone name</b>	Specifies the auto convert commands for a given zone.
	<i>zone-name</i>	Specifies the zone name. The maximum size is 64 characters.
	<b>zoneset name</b>	Specifies the auto convert commands for a zoneset.
	<i>zoneset-name</i>	Specifies the zoneset name. The maximum size is 64 characters.
	<b>vsan</b>	Specifies the VSAN.
	<i>vsan-id</i>	Specifies the VSAN ID. The range is from 1 to 4093.

**Defaults** 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 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
switch(config)#
```

Related Commands	Command	Description
	<b>show zone</b>	Displays zone information.

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## 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

<b>active-zoneset</b>	Copies from the active zone set.
<b>full-zoneset</b>	Copies the active zone set to the full-zone set.
<b>vsan</b> <i>vsan-id</i>	Configures to copy active zone set on a VSAN to full zone set. The ID of the VSAN is from 1 to 4093.
<b>bootflash:</b>	Copies the active zone set to a location in the bootflash: directory.
<b>ftp:</b>	Copies the active zone set to a remote location using the FTP protocol.
<b>scp:</b>	Copies the active zone set to a remote location using the SCP protocol.
<b>sftp:</b>	Copies the active zone set to a remote location using the SFTP protocol.
<b>slot0:</b>	Copies the active zone set to a location in the slot0: directory.
<b>tftp:</b>	Copies the active zone set to a remote location using the TFTP protocol.
<b>volatile:</b>	Copies the active zone set to a location in the volatile: directory.

### Defaults

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
```

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**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show zone</b>	Displays zone information.

---



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## 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-zone** 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

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

### Defaults

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
<b>show zone</b>	Displays zone information.
<b>system default zone default-zone permit</b>	Configures default values for a zone.

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## 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

<i>name</i>	Displays the name of the zone or zoneset. All members of the specified zone or zoneset will be converted to the new type.
<i>source-member-type</i>	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.
<i>dest-member-type</i>	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.
<b>vsan</b> <i>vsan-id</i>	Displays the VSAN ID.

### Defaults

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 27-1](#) describes the conversion matrix of the member types supported by this command.

**Table 27-1 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

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### 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
<b>show zone</b>	Displays the zone information.
<b>show zoneset</b>	Displays the configured zone sets.

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## 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*

<b>Syntax Description</b>	<i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
---------------------------	----------------	--

<b>Defaults</b>	Disabled.	
-----------------	-----------	--

<b>Command Modes</b>	Configuration mode.	
----------------------	---------------------	--

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	2.0(x)	This command was introduced.

<b>Usage Guidelines</b>	If merge control setting is restricted and the two databases are not identical, the ISLs between the switches are isolated.	
-------------------------	---	--

<b>Examples</b>	The following example shows how to configure zone merge control:	
	<pre>switch# <b>config terminal</b> switch(config)# <b>zone merge-control restrict vsan 10</b></pre>	

<b>Related Commands</b>	<b>Command</b>	<b>Description</b>
		<b>show zone</b>

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## 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*

**no zone mode enhanced vsan** *vsan-id*

Syntax Description	<i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
--------------------	----------------	--

Defaults	Disabled.
----------	-----------

Command Modes	Configuration mode.
---------------	---------------------

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines	Before using the <b>zone mode enhanced vsan</b> 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.

Examples	The following example shows how to enable enhanced zoning mode:
----------	---

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

Related Commands	Command	Description
	<b>show zone</b>	Displays zone information.

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## 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 }
```

```
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 }
```



### Note

On a Cisco Fabric Switch for HP c-Class BladeSystem and on a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
interface { bay port | ext port }
```

### Syntax Description

<b>zone-name</b>	Specifies the name of the zone. Maximum length is 64 characters.
<b>vsan</b> <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.
<b>attribute</b>	Sets zone attributes.
<b>read-only</b>	Sets read-only attribute for the zone (default is read-write).
<b>broadcast</b>	Sets broadcast attribute for the zone.
<b>smart-zoning</b>	Sets the smart zoning for the zone.
<b>qos priority</b> { <b>high</b>   <b>low</b>   <b>medium</b> }	Sets QoS attribute for the zone (default is low).
<b>attribute-group</b> <i>group-name</i>	Configures an attribute group. Maximum length is 64 characters.
<b>member</b>	Adds a member to a zone.
<b>device-alias</b> <i>alias-name</i>	Adds a member using the device alias name.
<b>lun</b> <i>lun-id</i>	Specifies the LUN number in hexadecimal format.
<b>domain-id</b> <i>domain-id</i>	Adds a member using the domain ID.
<b>port-number</b> <i>port-number</i>	Adds a member using the port number of the domain ID portnumber association.
<b>fcalias</b> <i>name</i>	Adds a member using the fcalias name.
<b>fcid</b> <i>fcid-id</i>	Adds a member using the FCID member in the format <i>0xhhhhhh</i> .
<b>fwwn</b> <i>fwwn-id</i>	Adds a member using the fabric port WWN in the format <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
<b>interface fc</b> <i>slot/port</i>	Adds a member using the Fibre Channel interface to a Cisco MDS 9000 Family switch.

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<b>interface bay   ext port</b>	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.
<b>swwn</b> <i>swwn-id</i>	(Optional) Specifies the switch WWN in the format <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
<b>ip-address</b> <i>ip-address</i>	Adds a member using the IP address.
<i>subnet-mask</i>	(Optional) Specifies an optional subnet mask.
<b>pwwn</b> <i>pwwn-id</i>	Adds a member using the port WWN in the format <i>hh:hh:hh:hh:hh:hh:hh:hh</i> .
<b>symbolic-nodename</b> <i>identifier</i>	Adds a member using the symbolic node name in the form of a name or an IP address.

### Defaults

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 <b>attribute</b> , <b>interface</b> , and <b>lun</b> subcommands.
2.0(x)	<ul style="list-style-type: none"> <li>Added the <b>broadcast</b> and <b>qos priority</b> options to the <b>attribute</b> subcommand.</li> <li>Added the <b>attribute-group</b> subcommand.</li> <li>Added the <b>device-alias</b> <i>aliasname</i> [<b>lun</b> <i>lun-id</i>] option to the <b>member</b> subcommand.</li> </ul>
3.1(2)	Added the <b>interface bay   ext</b> option to the <b>member</b> subcommand.
5.2(6)	Added the <b>smart-zoning</b> 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.

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### 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 pwnn 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
<b>zone-attribute-group name</b>	Configures zone attribute groups.
<b>zone rename</b>	Renames zones.
<b>show zone</b>	Displays zone information.



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## 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	<i>zone-name</i>	Specifies the name of the zone. Maximum length is 64 characters.
--------------------	------------------	--

Defaults	None.
----------	-------

Command Modes	Zone set configuration mode.
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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
	<b>show zoneset</b>	Displays zone set information.
	<b>zone name (configuration mode)</b>	Configure zones.
	<b>zoneset</b>	Configures zone set attributes.

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## 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		
	<i>current-name</i>	Specifies the current fcalias name. Maximum length is 64 characters.
	<i>new-name</i>	Specifies the new fcalias name. Maximum length is 64 characters.
	<b>vsan</b> <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.

**Defaults** 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
	<b>show zone</b>	Displays zone information.
	<b>zone name</b>	Creates and configures zones.

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## zone smart-zoning enable

To enable the smart zoning feature, use the **zone smart-zoning enable** command. To disable 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.
	<i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.

Defaults	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
	<b>show zone</b>	Displays the zone information.

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

**Defaults** 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
	<b>show zone-attribute-group</b>	Displays zone attribute group information.

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## 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		
	<i>zone-name</i>	Specifies the zone attribute name. Maximum length is 64 characters.
	<b>vsan</b> <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.

Defaults	None.
----------	-------

Command Modes	Configuration mode.
---------------	---------------------

Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines	<p>You can use this command to create a zone attribute group and to modify an existing zone attribute group.</p> <p>Zone attribute groups are only supported for enhanced zoning. You can enable enhanced zoning using the <b>zone mode enhanced vsan</b> command.</p>
------------------	--

Examples	<p>The following example shows how to create a zone attribute group and enter attribute group configuration submode:</p>
----------	--

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

Related Commands	Command	Description
	<b>show zone-attribute-group</b>	Displays zone attribute group information.
	<b>zone mode enhanced vsan</b>	Enables enhanced zoning for a VSAN.

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## 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		
	<i>current-name</i>	Specifies the current zone attribute name. Maximum length is 64 characters.
	<i>new-name</i>	Specifies the new zone attribute name. Maximum length is 64 characters.
	<b>vsan</b> <i>vsan-id</i>	Specifies the VSAN ID. The range is 1 to 4093.

**Defaults** 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
	<b>show zone-attribute-group</b>	Displays zone attribute group information.

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## 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

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

### Defaults

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)#
```

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---

**Related Commands**

<b>Command</b>	<b>Description</b>
<b>show zone policy vsan</b>	Displays the zone policy for a given VSAN.

---



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## 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.

### Defaults

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
```

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

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## zoneset (configuration mode)

To group zones under one zone set, use the **zoneset** command in configuration mode. 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 | 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		
<b>activate</b>		Activates a zone set
<b>clone</b>	<i>zoneset-currentName</i> <i>zoneset-cloneName</i>	Clones a zone set from the current name to a new name. Maximum length of names is 64 characters.
<b>name</b>	<i>zoneset-name</i>	Specifies a name for a zone set. Maximum length is 64 characters.
<b>distribute full vsan</b>	<i>vsan-id</i>	Enables zone set propagation. Activates a zone set on the specified VSAN. The range is 1 to 4093.
<b>rename</b>	<i>current-name</i> <i>new-name</i>	Renames a zone set. Specifies the current fc alias name. Specifies the new fc alias name.

**Defaults** None.

**Command Modes** Configuration mode.

Command History	Release	Modification
	1.0(2)	This command was introduced.
	2.0(x)	Added the <b>rename</b> option.
	2.1(1a)	Added the <b>clone</b> 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.

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**Note**

To replace the active IVR zone set with a new IVR zone set without disrupting traffic, activate the new IVR zone set without deactivating the current active IVR zone set.

**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
<b>show zoneset</b>	Displays zone set information.
<b>system default zone distribute full</b>	Configures default values for distribution to a zone set

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## 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
```



### Note

On a Cisco Cisco Fabric Switch for HP c-Class BladeSystem and a Cisco Fabric Switch for IBM BladeCenter, the syntax differs as follows:

```
import interface {bay|ext port | port-channel port-number}
```

### Syntax Description

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

### Defaults

None.

### Command Modes

EXEC mode.

### Command History

Release	Modification
1.3(2)	This command was introduced.
3.1(2)	Added the <b>interface bay  ext</b> option.

### Usage Guidelines

You can also use the **zoneset import** and the **zoneset export** commands for a range of VSANs.

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The **zoneset distribute vsan** *vsan-id* command is supported in **interop 2** and **interop 3** modes not in **interop 1** mode.

### 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
<b>show zone status vsan</b>	Displays the distribution status for the specified VSAN.
<b>show zoneset</b>	Displays zone set information.