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CHAPTER **16**

N Commands

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

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native-autonomous-fabric-num

To create an IVR persistent FC ID database entry, use the **native-autonomous-fabric-num** command in fcdomain database configuration submode. To delete all IVR persistent FC ID database entries for a given AFID and VSAN, use the **no** form of the command.

native-autonomous-fabric-num *afid-num* **native-vsan** *vsan-id* **domain** *domain-id*

no native-autonomous-fabric-num *afid-num* **native-vsan** *vsan-id* **domain** *domain-id*

Syntax Description

afid-num	Specifies the native AFID. The range is 1 to 64.
native-vsan <i>vsan-id</i>	Specifies the native VSAN ID. The range is 1 to 4093.
domain <i>domain-id</i>	Specifies the domain ID. The range is 1 to 239.

Defaults

None.

Command Modes

fcdomain database configuration submode.

Command History

Release	Modification
2.1(2)	This command was introduced.

Usage Guidelines

There is only one domain ID associated with an AFID and VSAN. If you change the domain ID, all the associated FC ID mapping records are also changed.

Examples

The following example shows how to create an entry for a native AFID, VSAN, and domain:

```
switch# config t
switch(config)# ivr fcdomain database autonomous-fabric-num 10 vsan 20
switch(config-fcdomain)# native-autonomous-fabric-num 20 native-vsan 30 domain 15
switch(config-fcdomain-fcid)#
```

The following example shows how to remove all entries for a native AFID and VSAN:

```
switch# config t
switch(config)# ivr fcdomain database autonomous-fabric-num 10 vsan 20
switch(config-fcdomain)# no native-autonomous-fabric-num 20 native-vsan 30
```

Related Commands

Command	Description
ivr fcdomain database autonomous-fabric-num	Creates IVR persistent FC IDs.
show ivr fcdomain database	Displays IVR fcdomain database entry information.

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node (Cisco IOA cluster node configuration submode)

To configure IOA switch, use the **node** command. To delete a node to the cluster, use the **no** form of the command.

node {**local** | *remote-node-name* **or** *ip-address* }

no node {**local** | *remote-node-name* **or** *ip-address* }

Syntax	Description
local	Specifies local node as a part of the cluster.
<i>remote-node-name</i>	Specifies either through the DNS name or IPV4/IPV6 address.

Defaults None.

Command Modes Cisco IOA cluster node configuration submode.

Command History	Release	Modification
	NX-OS 4.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to configure the local switch:

```
switch(config)# ioa cluster tape_vault
switch#(config-ioa-cl)# node local
switch(config-ioa-cl-node)# node 172.23.144.95
2009 May 19 21:06:57 sjc-sw2 %CLUSTER-2-CLUSTER_QUORUM_GAIN: Cluster 0x2143000dec3ee782
now has quorum with 1 nodes
2009 May 19 21:07:03 sjc-sw2 %CLUSTER-2-CLUSTER_QUORUM_GAIN: Cluster 0x2143000dec3ee782
now has quorum with 2 nodes
sjc-sw2(config-ioa-cl-node)# end
```

Related Commands	Command	Description
	interface ioa	Configures the IOA interface.

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node

To configure Cisco SME switch, use the **node** command. To disable this command, use the **no** form of the command.

```
node {local | {A.B.C.D | X:X::X/n| DNS name}}
```

```
no node {local | {A.B.C.D | X:X::X/n| DNS name}}
```

Syntax Description	local	Configures the local switch.
	<i>A.B.C.D</i>	Specifies the IP address of the remote switch in IPv4 format.
	<i>X:X::X/n</i>	Specifies the IP address of the remote switch in IPv6 format.
	<i>DNS name</i>	Specifies the name of the remote database.

Defaults None.

Command Modes Cisco SME cluster configuration submode.

Command History	Release	Modification
	3.2(2)	This command was introduced.

Usage Guidelines None.

Examples The following example adds the Cisco SME interface from a local switch:

```
switch# config t
switch(config)# sme cluster c1
switch(config-sme-cl)# node local
switch(config-sme-cl-node)#
```

The following example adds the Cisco SME interface from a remote switch:

```
switch# config t
switch(config)# sme cluster c1
switch(config-sme-cl)# node 171.71.23.33
switch(config-sme-cl-node)#
```

Related Commands	Command	Description
	show sme cluster <i>cluster name</i> node	Displays Cisco SME node information about a local or remote switch.

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npiv enable

To enable N port identifier virtualization (NPIV) for all VSANs on a switch, use the **npiv enable** command in configuration mode. To disable NPIV, use the **no** form of the command.

npiv enable

no npiv enable

Syntax Description This command has no arguments or keywords.

Defaults Disabled.

Command Modes Configuration mode.

Command History	Release	Modification
	3.0(1)	This command was introduced.

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

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



Note

All of the N Port Identifiers are allocated in the same VSAN.

Examples The following example enables NPIV for all VSANs on the switch:

```
switch# config terminal
switch(config)# npiv enable
```

The following example disables NPIV for all VSANs on the switch:

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

Related Commands	Command	Description
	show interface	Displays interface configurations.

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nport

To configure the site and VSAN ID of the N ports, use the **nport** command. To delete the N port from the IOA cluster, use the **no** form of the command.

nport { **pwwn** *pwwn* **site** *site name* **vsan** *vsan-id* }

no nport { **pwwn** *pwwn* **site** *site name* **vsan** *vsan-id* }

Syntax Description		
pwwn		Specifies the N port.
<i>pwwn</i>		Specifies the N port PWWN. The format is hh:hh:hh:hh:hh:hh:hh:hh.
site		Specifies an IOA site.
<i>site name</i>		Specifies an IOA site name. The maximum length is 31 characters.
vsan		Specifies the VSAN where this flow is accelerated.
<i>vsan id</i>		Specifies the VSAN ID where this flow is accelerated. The range is from 1 to 4093.

Defaults None.

Command Modes Configuration mode.

Command History	Release	Modification
	NX-OS 4.2(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to configure the site and VSAN ID of the N port:

```
switch(config-ioa-cl)# nport pwwn 10:0:0:0:0:0:0:1 site SJC vsan 100
switch(config-ioa-cl)# no nport pwwn 11:0:0:0:0:0:0:1 site SJC vsan 100
switch(config-ioa-cl)# end
```

Related Commands	Command	Description
	show ioa cluster summary	Displays the summary of all the IOA clusters.

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nport pwwn

To configure the N Port pWWN for the SAN extension tuner, use the **nport pwwn** command in SAN extension configuration mode. To revert to the default value, use the **no** form of the command.

```
nport pwwn pwwn-id vsan vsan-id interface gigabitethernet slot/port
```

```
no nport pwwn pwwn-id vsan vsan-id interface gigabitethernet slot/port
```

Syntax Description		
<i>pwwn-id</i>		Specifies the port WWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
<i>vsan vsan-id</i>		Specifies the VSAN ID. The range is 1 to 4093.
interface <i>gigabitethernet</i> <i>slot</i> / <i>port</i>		Specifies the Gigabit Ethernet interface slot and port.

Defaults None.

Command Modes SAN extension configuration mode.

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

Usage Guidelines None.

Examples The following example shows how to add an entry to the SAN extension tuner database:

```
switch# san-ext-tuner
switch(san-ext)# nport pwwn 11:22:33:44:55:66:77:88 vsan 1 interface gigabitethernet 1/1
```

Related Commands	Command	Description
	san-ext-tuner	Enters SAN extension configuration mode.
	show san-ext-tuner	Shows SAN extension tuner information.

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npv enable

To enable N port virtualization (NPV), use the **npv enable** command in configuration mode. To disable this feature, use the **no** form of the command.

npv enable

no npv enable

Syntax Description	This command has no other arguments or keywords.
---------------------------	--

Defaults	None.
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Command Modes	Configuration mode.
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Command History	Release	Modification
	3.2(1)	This command was introduced.

Usage Guidelines	When NPV is enabled, all configurations are erased and the switch is rebooted. The switch restarts in the NPV mode. All configuration and verification commands for NPV are available only when NPV is enabled on the switch. When you disable this feature, all related configurations are automatically erased and the switch is rebooted.
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Examples	The following example shows how to enable NPV:
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```
switch# config
switch(config)# npv enable
```

Related Commands	Command	Description
	show npv status	Displays the NPV current status.

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npv auto-load-balance disruptive

To enable autoloading balance disruptive, use the **npv auto-load-balance disruptive** command in configuration mode. To disable this feature, use the **no** form of the command.

npv auto load-balancing disruptive

no npv auto load-balancing disruptive

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes Configuration mode.

Command History	Release	Modification
	3.3(1)	This command was introduced.

Usage Guidelines None.

Examples The following example shows how to enable autoloading balance disruptive:

```
switch(config)# npv auto-load-balance disruptive
Enabling this feature may flap the server interfaces whenever load is not in a balanced state. This process may result in traffic disruption. Do you want to proceed? (y/n):
Please enter y or n Y
switch(config)#
```

Related Commands	Command	Description
	npv traffic-map server interface	Configures server interface traffic engineering.

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npv traffic-map server-interface

To configure the server interface based traffic engineering, use the **npv traffic-map server-interface** command in configuration mode. To revert to the default value, use the **no** form of the command.

npv traffic-map server-interface *if-range* **external-interface** *if-range*

no npv traffic-map server-interface *if-range* **external-interface** *if-range*

Syntax Description	<i>if-range</i>	Range may vary from 1 to 1.
Defaults	None.	
Command Modes	Configuration mode.	
Command History	Release	Modification
	3.3(1a)	This command was introduced.
Usage Guidelines	None.	
Examples	<p>The following example shows how to configure NPV traffic map server interface:</p> <pre>switch(config)# npv traffic-map server-interface fc1/1 external-interface fc1/2 switch(config)# npv traffic-map server-interface fc1/4-5 external-interface fc1/6-7 switch(config)# no npv traffic-map server-interface fc1/4-5 external-interface fc1/6-7 switch(config)# no npv traffic-map server-interface fc1/1 external-interface fc1/2 switch(config)#</pre>	
Related Commands	Command	Description
	show npv-traffic-map	Displays information about the NPV traffic map.

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ntp

To configure NTP settings on the switch, use the **ntp** command in configuration mode.

```
ntp {peer hostname | server | tstamp-check}
```

Syntax Description	peer <i>hostname</i>	The hostname and IP address of the NTP peer (Maximum Size is 80).
	server	The hostname and IP address of the NTP server (Maximum Size is 80).
	tstamp-check	Enables or disables the Timestamp Check.

Defaults This command has no default settings.

Command Modes Configuration mode.

Command History	Release	Modification
	NX-OS 4.1(3)	Added a Note.
	1.0(2)	This command was introduced.

Usage Guidelines None.



Note

If the MDS switch does not see the server's time updates for a longer than period of time, it starts polling the server, or it may not poll the server at all. Even after the poll, if the time updates are not coming, the poll interval is reduced until it can elicit a response. The poll interval is reduced up to a minimum of 4 seconds.

Examples This example forms a server association with a server:

```
switch(config)# ntp server 10.10.10.10
switch(config)#
```

This example forms a peer association with a peer. You can specify multiple associations:

```
switch(config)# ntp peer 10.20.10.0
switch(config)#
```

Related Commands	Command	Description
	ntp distribute	Enables CFS distribution for NTP.
	show ntp	Displays NTP information.

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ntp abort

To discard the Network Time Protocol (NTP) Cisco Fabric Services (CFS) distribution session in progress, use the **ntp abort** command in configuration mode.

ntp abort

Syntax Description This command has no other arguments or keywords.

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 configure NTP CFS distribution session in progress:

```
switch# config terminal
switch(config)# ntp abort
```

Related Commands	Command	Description
	ntp distribute	Enables CFS distribution for NTP.
	show ntp	Displays NTP information.

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ntp commit

To apply the pending configuration pertaining to the Network Time Protocol (NTP) Cisco Fabric Services (CFS) distribution session in progress in the fabric, use the **ntp commit** command in configuration mode.

ntp commit

Syntax Description This command has no other arguments or keywords.

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 commit changes to the active NTP configuration:

```
switch# config terminal  
switch(config)# ntp commit
```

Related Commands	Command	Description
	ntp distribute	Enables CFS distribution for NTP.
	show ntp	Displays NTP information.

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ntp distribute

To enable Cisco Fabric Services (CFS) distribution for Network Time Protocol (NTP), use the **ntp distribute** command. To disable this feature, use the **no** form of the command.

ntp distribute

no ntp distribute

Syntax Description This command has no other arguments or keywords.

Defaults Disabled.

Command Modes Configuration mode.

Command History This command was introduced in Cisco MDS SAN-OS Release 1.0(2).

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

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

Examples The following example shows how to distribute the active NTP configuration to the fabric:

```
switch# config terminal
switch(config)# ntp distribute
```

Related Commands	Command	Description
	ntp commit	Commits the NTP configuration changes to the active configuration.
	show ntp	Displays NTP information.

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ntp sync-retry

To retry synchronization with configured servers, use the **ntp sync-retry** command.

ntp sync-retry

Syntax Description This command has no arguments or keywords.

Defaults None.

Command Modes EXEC mode.

Command History	Release	Modification
	4.1(1b)	Added a note.
	3.3(1a)	This command was introduced.

Usage Guidelines None.



Note

If the user changes the mgmt0 ip address, NX-OS should conditionally do an internal **ntp synchronization-retry**.

Examples The following example displays the sup-fc0 message logs:

```
switch# ntp sync-retry
```

Related Commands	Command	Description
	ntp distribute	Enables CFS distribution for NTP.
	show ntp	Displays NTP information.

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nwwn (DPVM database configuration submode)

To add a device to a dynamic port VSAN membership (DPVM) database using the nWWN, use the **nwwn** command in DPVM database configuration submode. To remove a device from a DPVM database using the nWWN, use the **no** form of the command.

```
nwwn nwwn-id vsan vsan-id
```

```
no nwwn nwwn-id vsan vsan-id
```

Syntax Description

nwwn-id	Specifies the node WWN ID. The format is <i>hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
vsan vsan-id	Specifies the VSAN ID. The range is 1 to 4093.

Defaults

None.

Command Modes

DPVM database configuration submode.

Command History

Release	Modification
2.0(x)	This command was introduced.

Usage Guidelines

To use this command, DPVM must be enabled using the **dpvm enable** command.

Examples

The following example shows how to add an entry to the DPVM database:

```
switch# config terminal
switch(config)# dpvm database
switch(config-dpvm-db)# nwwn 11:22:33:44:55:66:77:88 vsan 1
```

The following example shows how to delete an entry from the DPVM database:

```
switch(config-dpvm-db)# no nwwn 11:22:33:44:55:66:77:88 vsan 1
```

Related Commands

Command	Description
dpvm database	Configures the DPVM database.
show dpvm	Displays DPVM database information.

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nwwn (SAN extension configuration mode)

To configure the nWWN for the SAN extension tuner, use the **nwwn** command in SAN extension configuration submode.

```
nwwn nwwn-id
```

Syntax Description	<i>nwwn-id</i>	Specifies the nWWN address. The format is <i>hh:hh:hh:hh:hh:hh:hh:hh</i> , where <i>h</i> is a hexadecimal number.
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Defaults	None.
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Command Modes	SAN extension configuration mode.
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Command History	Release	Modification
	2.0(x)	This command was introduced.

Usage Guidelines	None.
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Examples The following example shows how to add an entry to the SAN extension tuner database:

```
switch# san-ext-tuner
switch(san-ext)# nwwn 20:42:00:0b:46:79:f1:80
```

Related Commands	Command	Description
	san-ext-tuner	Enters SAN extension configuration mode.
	show san-ext-tuner	Shows SAN extension tuner information.

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