



# I Commands

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

# in-order-guarantee

To enable in-order delivery, use the **in-order-guarantee** command. To disable in-order delivery, use the **no** form of this command.

**in-order-guarantee** [**vsan** *vsan-id*]

**no in-order-guarantee** [**vsan** *vsan-id*] [,] [-]

## Syntax Description

|                            |                                                                                                             |
|----------------------------|-------------------------------------------------------------------------------------------------------------|
| <b>vsan</b> <i>vsan-id</i> | (Optional) Specifies a VSAN ID. The range is from 1 to 4093.                                                |
| [,] [-]                    | (Optional) Allows you to enter multiple VSANs separated by commas, or a range of VSANs separated by a dash. |

## Command Default

Disabled

## Command Modes

Global configuration mode

## Command History

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

## Usage Guidelines

In-order delivery of data frames guarantees frame delivery to a destination in the same order that they were sent by the originator.

## Examples

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

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

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

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

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

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

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

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

## Related Commands

| Command                        | Description                             |
|--------------------------------|-----------------------------------------|
| <b>show in-order-guarantee</b> | Displays the in-order-guarantee status. |

# install feature-set virtualization

To install the Cisco virtual machine feature set on the switch, use the **install feature-set virtualization** command. To remove the Cisco virtual machine feature set, use the **no** form of this command.

**install feature-set virtualization**

**no install feature-set virtualization**

|                           |                                            |
|---------------------------|--------------------------------------------|
| <b>Syntax Description</b> | This command has no arguments or keywords. |
|---------------------------|--------------------------------------------|

|                        |          |
|------------------------|----------|
| <b>Command Default</b> | Disabled |
|------------------------|----------|

|                      |                           |
|----------------------|---------------------------|
| <b>Command Modes</b> | Global configuration mode |
|----------------------|---------------------------|

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

|                         |                                                    |
|-------------------------|----------------------------------------------------|
| <b>Usage Guidelines</b> | This command requires an Enhanced Layer 2 license. |
|-------------------------|----------------------------------------------------|

|                 |                                                                                        |
|-----------------|----------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to install the Cisco virtual machine feature set on the switch: |
|-----------------|----------------------------------------------------------------------------------------|

```
switch# configure terminal
switch(config)# install feature-set virtualization
switch(config)#
```

| Related Commands | Command                           | Description                                                  |
|------------------|-----------------------------------|--------------------------------------------------------------|
|                  | <b>feature-set virtualization</b> | Enables the Cisco Virtual Machine feature set on the switch. |
|                  | <b>show feature-set</b>           | Displays the status of the virtualization feature set.       |
|                  | <b>show running-config</b>        | Displays the running system configuration information.       |

# interface fc

To configure a Fibre Channel interface on a Cisco Nexus 6000 Series switch, use the **interface fc** command. To revert to defaults, use the **no** form of this command.

```

interface fc slot/port
    channel-group { group-id [force] | auto }
    fcdomain rcf-reject vsan vsan-id
    fcsp { auto-active | auto-passive | on | off } [timeout-period]
    fspf { cost link-cost vsan vsan-id | dead-interval seconds vsan vsan-id | hello-interval seconds vsan vsan-id | passive vsan vsan-id | retransmit-interval seconds vsan vsan-id }
    switchport

no interface fc slot/port
    no channel-group { group-id [force] | auto }
    no fcdomain rcf-reject vsan vsan-id
    no fcsp { auto-active | auto-passive | on | off }
    no fspf { cost link-cost vsan vsan-id | dead-interval seconds vsan vsan-id | hello-interval seconds vsan vsan-id | passive vsan vsan-id | retransmit-interval seconds vsan vsan-id }
    switchport

```

## Syntax Description

|                                           |                                                                                                                                                |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>slot/port</i>                          | Slot number and port number of the interface.                                                                                                  |
| <b>channel-group</b>                      | Adds to or removes from a port channel.                                                                                                        |
| <i>group-id</i>                           | Port channel group number from 1 to 128.                                                                                                       |
| <b>force</b>                              | (Optional) Forcefully adds a port.                                                                                                             |
| <b>auto</b>                               | Enables autocreation of port channels.                                                                                                         |
| <b>fcdomain</b>                           | Enters the interface mode.                                                                                                                     |
| <b>rcf-reject</b>                         | Configures the rcf-reject flag.                                                                                                                |
| <b>vsan</b> <i>vsan-id</i>                | Specifies the VSAN ID. The range is from 1 to 4093.                                                                                            |
| <b>fcsp</b>                               | Configures Fibre Channel Security Protocol (FC-SP) parameters for a specific interface.                                                        |
| <b>auto-active</b>                        | Configures the auto-active mode to authenticate the specified interface.                                                                       |
| <b>auto-passive</b>                       | Configures the auto-passive mode to authenticate the specified interface.                                                                      |
| <b>on</b>                                 | Configures the on mode to authenticate the specified interface.                                                                                |
| <b>off</b>                                | Configures the off mode to authenticate the specified interface.                                                                               |
| <i>timeout-period</i>                     | (Optional) Timeout period to reauthenticate the interface. The time ranges from 0 (default—no authentication is performed) to 100,000 minutes. |
| <b>fspf</b>                               | Configures the FSPF parameters.                                                                                                                |
| <b>cost</b> <i>link-cost</i>              | Configures the FSPF link cost. The range is from 1 to 65535.                                                                                   |
| <b>dead-interval</b> <i>seconds</i>       | Configures the FSPF dead interval in seconds. The range is from 2 to 65535.                                                                    |
| <b>hello-interval</b> <i>seconds</i>      | Configures the FSPF hello-interval. The range is from 1 to 65535.                                                                              |
| <b>passive</b>                            | Enables or disables FSPF on the interface.                                                                                                     |
| <b>retransmit-interval</b> <i>seconds</i> | Configures the FSPF retransmit interface in seconds. The range is from 1 to 65535.                                                             |
| <b>switchport</b>                         | Configures switchport parameters.                                                                                                              |

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**Command Default** Disabled

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**Command Modes** Global configuration mode

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

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**Usage Guidelines** You can specify a range of interfaces by entering a command with the following example format:

```
interface fc 1/1 - 5 , fc 2/5 - 7
```

Use the **no shutdown** command to enable the interface.

The **interface fc** command enters interface configuration mode, which includes five commands (each with a no form). These five commands can only be used in the interface configuration mode.

The **channel-group auto** command enables autocreation of port channels. If autocreation of port channels is enabled for an interface, you must first disable this configuration before downgrading to earlier software versions or before configuring the interface in a manually configured channel group.

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**Examples** This example shows how to configure ports 1 to 4 in Fibre Channel interface 3:

```
switch(config)# interface fc 3/1 - 4
```

This example shows how to enable the Fibre Channel interface in port 1 of slot 3:

```
switch(config)# interface fc 3/1
switch(config-if)# no shutdown
```

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| Related Commands | Command               | Description                                                    |
|------------------|-----------------------|----------------------------------------------------------------|
|                  | <b>show interface</b> | Displays an interface configuration for a specified interface. |
|                  | <b>shutdown</b>       | Disables and enables an interface.                             |

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# interface san-port-channel

To configure a SAN port channel interface on a Cisco Nexus 6000 Series switch, use the **interface san-port-channel** command. To revert to the defaults, use the **no** form of this command.

**interface san-port-channel** *port*

**no interface san-port-channel** *port*

|                           |                                                                        |
|---------------------------|------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>port</i> SAN port channel interface ID. The range is from 1 to 256. |
|---------------------------|------------------------------------------------------------------------|

|                        |      |
|------------------------|------|
| <b>Command Default</b> | None |
|------------------------|------|

|                      |                           |
|----------------------|---------------------------|
| <b>Command Modes</b> | Global configuration mode |
|----------------------|---------------------------|

| <b>Command History</b> | <b>Release</b> | <b>Modification</b>          |
|------------------------|----------------|------------------------------|
|                        | 6.0(2)N1(1)    | This command was introduced. |

|                         |                                          |
|-------------------------|------------------------------------------|
| <b>Usage Guidelines</b> | This command does not require a license. |
|-------------------------|------------------------------------------|

|                 |                                                                                                                                                                                              |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Examples</b> | <p>This example shows how to configure SAN port channel interface 3:</p> <pre>switch# <b>configure terminal</b> switch(config)# <b>interface san-port-channel 3</b> switch(config-if)#</pre> |
|-----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Related Commands</b> | <b>Command</b>                               | <b>Description</b>                                                      |
|-------------------------|----------------------------------------------|-------------------------------------------------------------------------|
|                         | <b>channel mode active (SAN PortChannel)</b> | Configures a SAN port channel interface as an active port channel port. |
|                         | <b>show interface</b>                        | Displays an interface configuration for a specified interface.          |
|                         | <b>shutdown</b>                              | Disables and enables an interface.                                      |
|                         | <b>switchport (SAN PortChannel)</b>          | Configures switch port parameters on a SAN port channel interface.      |

# interface vethernet

To enter interface configuration mode for a virtual Ethernet (vEth) interface, use the **interface vethernet** command. To remove a virtual Ethernet interface, use the **no** form of this command.

**interface vethernet** *veth-id*[, **vethernet** *veth-id*, ...]

**no interface vethernet** *veth-id*[, **vethernet** *veth-id*, ...]

|                           |                |                                                                                                                                                                                  |
|---------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>veth-id</i> | Virtual Ethernet interface number. The range is from 1 to 1,048,575.<br><br>You can specify more than one virtual Ethernet interface. Make sure you use the comma (,) separator. |
|---------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                        |      |
|------------------------|------|
| <b>Command Default</b> | None |
|------------------------|------|

|                      |                           |
|----------------------|---------------------------|
| <b>Command Modes</b> | Global configuration mode |
|----------------------|---------------------------|

| <b>Command History</b> | Release     | Modification                 |
|------------------------|-------------|------------------------------|
|                        | 6.0(2)N1(1) | This command was introduced. |

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Usage Guidelines</b> | <p>Before you use a virtual Ethernet interface, you must enable Cisco virtual machine feature on the switch by using the <b>feature-set virtualization</b> command.</p> <p>You can create a maximum of 1000 virtual Ethernet interfaces on a Cisco Nexus 6000 switch. Before you disable the Cisco Adapter Fabric Extender (Adapter-FEX) on the switch, make sure that you delete these interfaces. After you delete a virtual Ethernet interface, make sure that you save the running configuration of the switch to the startup configuration file.</p> |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                 |                                                                                       |
|-----------------|---------------------------------------------------------------------------------------|
| <b>Examples</b> | This example shows how to enter configuration mode for virtual Ethernet interface 10: |
|-----------------|---------------------------------------------------------------------------------------|

```
switch# configure terminal
switch(config)# interface vethernet 10
switch(config-if)#
```

This example shows how to remove a virtual Ethernet interface:

```
switch# configure terminal
switch(config)# no interface vethernet 2
switch(config)#
```

**Related Commands**

| Command                                  | Description                                                  |
|------------------------------------------|--------------------------------------------------------------|
| <b>bind</b>                              | Binds an interface to a virtual Ethernet interface.          |
| <b>feature-set<br/>virtualization</b>    | Enables Cisco virtual machine features on the switch.        |
| <b>show interface<br/>vethernet</b>      | Displays various parameters of a virtual Ethernet interface. |
| <b>show running-config<br/>interface</b> | Displays the running configuration of an interface.          |



# interface vfc

To configure a virtual Fibre Channel interface on a Cisco Nexus 6000 Series switch, use the **interface vfc** command. To remove a virtual Fibre Channel interface, use the **no** form of this command.

**interface vfc** *vfc-id*

**no interface vfc** *vfc-id*

|                           |                                                                                                                                                                                 |                                                                        |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>vfc-id</i>                                                                                                                                                                   | Virtual interface ID. The range is from 1 to 8192.                     |
| <b>Command Default</b>    | Disabled                                                                                                                                                                        |                                                                        |
| <b>Command Modes</b>      | Global configuration mode                                                                                                                                                       |                                                                        |
| <b>Command History</b>    | <b>Release</b>                                                                                                                                                                  | <b>Modification</b>                                                    |
|                           | 6.0(2)N1(1)                                                                                                                                                                     | This command was introduced.                                           |
| <b>Usage Guidelines</b>   | <p>You can specify a range of interfaces by entering a command with the following example format:</p> <pre>interface vfc 1 - 3, vfc 5 - 7</pre>                                 |                                                                        |
| <b>Examples</b>           | <p>This example shows how to enter interface configuration mode for virtual Fibre Channel interface 3:</p> <pre>switch(config)# <b>interface vfc 3</b> switch(config-if)#</pre> |                                                                        |
| <b>Related Commands</b>   | <b>Command</b>                                                                                                                                                                  | <b>Description</b>                                                     |
|                           | <b>bind</b>                                                                                                                                                                     | Binds the virtual Fibre Channel interface to an interface.             |
|                           | <b>description</b>                                                                                                                                                              | Enters a summary purpose of the virtual Fibre Channel interface.       |
|                           | <b>show interface vfc</b>                                                                                                                                                       | Displays the specified VFC interface, attributes, and status.          |
|                           | <b>shutdown</b>                                                                                                                                                                 | Disables and enables an interface.                                     |
|                           | <b>switchport (virtual Fibre Channel interface)</b>                                                                                                                             | Configures a virtual Fibre Channel interface as a virtual E (VE) port. |
|                           | <b>switchport mode trunk</b>                                                                                                                                                    | Configures an Ethernet interface as a trunk port.                      |

