



# I Commands

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This chapter describes the Cisco NX-OS interface commands that begin with I.

# interface breakout

To configure the Linecard Expansion Module (LEM) in 10G mode, use the **interface breakout** command. To configure the Linecard Expansion Module (LEM) in 40G mode, use the **no** form of this command.

**interface breakout slot *slot-number* port *port-range* map 10g-4x**

**no interface breakout slot *slot-number* port *port-range* map 10g-4x**

## Syntax Description

|                    |                            |
|--------------------|----------------------------|
| <i>slot-number</i> | The range is from 1 to 8.  |
| <i>port-range</i>  | The range is from 1 to 12. |

## Command Default

40G mode

## Command Modes

Global configuration mode

## Command History

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

## Usage Guidelines

You can use this command to configure a LEM in 10G mode and 40G mode.

## Examples

This example shows how to configure a LEM in 40G mode:

```
switch# configure terminal
switch(config)# interface breakout slot 1 port 1-12 map 10g-4x
```

This example shows how to configure a LEM in 10G mode:

```
switch# configure terminal
switch(config)# no interface breakout slot 1 port 1-12 map 10g-4x
```

## Related Commands

| Command                            | Description                                                           |
|------------------------------------|-----------------------------------------------------------------------|
| <b>show interface capabilities</b> | Displays detailed information about the capabilities of an interface. |

# interface ethernet

To enter interface configuration mode for an Ethernet IEEE 802.3 interface, use the **interface ethernet** command.

**interface ethernet** [*chassis\_ID*]/ *slot*[/*QSFP-module*]/*port*

|                           |                    |                                                                                                                                                                                                                              |
|---------------------------|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>chassis_ID</i>  | (Optional) Fabric Extender chassis ID. The chassis ID is from 100 to 199.<br><b>Note</b> This argument is not optional when addressing the host interfaces of a Cisco Nexus 2000 Series Fabric Extender.                     |
|                           | <i>slot</i>        | Slots from 1 to 8. The following list defines the slots available: <ul style="list-style-type: none"> <li>Slots 1 to 4 are fixed Linecard Expansion Modules (LEMs).</li> <li>Slots 5 to 8 are hot-swappable LEMs.</li> </ul> |
|                           | <i>QSFP-module</i> | (Optional) The Linecard Expansion Module that has been set to 10G mode. The <i>QSFP-module</i> number is from 1 to 12.                                                                                                       |
|                           | <i>port</i>        | Port number within a particular slot. The <i>port</i> number is from 1 to 128.                                                                                                                                               |
|                           |                    |                                                                                                                                                                                                                              |

**Command Default** None

**Command Modes** Global configuration mode

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

## Examples

This example shows how to enter configuration mode for Ethernet interface 1/4:

```
switch(config)# interface ethernet 1/4
switch(config-if)#
```

This example shows how to enter configuration mode for a host interface on a Fabric Extender:

```
switch(config)# interface ethernet 101/1/1
switch(config-if)#
```

This example shows how to enter configuration mode for LEM 1/2/1:

```
switch(config)# interface ethernet 1/2/1
switch(config-if)#
```

| <b>Related Commands</b> | <b>Command</b>             | <b>Description</b>                                                       |
|-------------------------|----------------------------|--------------------------------------------------------------------------|
|                         | <b>interface vethernet</b> | Configures a virtual Ethernet interface.                                 |
|                         | <b>show fex</b>            | Displays all configured Fabric Extender chassis connected to the switch. |

| Command                        | Description                                                      |
|--------------------------------|------------------------------------------------------------------|
| <b>show interface ethernet</b> | Displays various parameters of an Ethernet IEEE 802.3 interface. |
| <b>speed</b>                   | Sets the speed on the interface.                                 |
| <b>vtp (interface)</b>         | Enables VLAN Trunking Protocol (VTP) on an interface.            |

# interface ethernet (Layer 3)

To configure a Layer 3 Ethernet IEEE 802.3 routed interface, use the **interface ethernet** command.

**interface ethernet** [*chassis\_ID*] {*slot*[/*QSFP-module*]/*port*[.*subintf-port-no*]}

|                           |                        |                                                                                                                                                                                                                                  |
|---------------------------|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>chassis_ID</i>      | (Optional) Fabric Extender chassis ID. The chassis ID is from 100 to 199.<br><b>Note</b> This argument is not optional when addressing the host interfaces of a Cisco Nexus 2000 Series Fabric Extender.                         |
|                           | <i>slot</i>            | Slots from 1 to 8. The following list defines the slots available: <ul style="list-style-type: none"> <li>• Slots 1 to 4 are fixed Linecard Expansion Modules (LEMs).</li> <li>• Slots 5 to 8 are hot-swappable LEMs.</li> </ul> |
|                           | QSFP-module            | (Optional) Linecard Expansion Module (LEM) that has been set to 10G mode.                                                                                                                                                        |
|                           | <i>port</i>            | Port number within a particular slot. The port number is from 1 to 128.                                                                                                                                                          |
|                           | .                      | (Optional) Subinterface separator.                                                                                                                                                                                               |
|                           | <i>subintf-port-no</i> | (Optional) Port number for the subinterface. The range is from 1 to 48.                                                                                                                                                          |

**Command Default** None

**Command Modes** Global configuration mode  
Interface configuration mode

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

**Usage Guidelines** You must use the **no switchport** command in the interface configuration mode to configure the interface as a Layer 3 routed interface. When you configure the interface as a Layer 3 interface, all Layer 2-specific configurations on this interface are deleted.

Use the **switchport** command to convert a Layer 3 interface into a Layer 2 interface. When you configure the interface as a Layer 2 interface, all Layer 3-specific configurations on this interface are deleted.

**Examples** This example shows how to enter configuration mode for Layer 3 Ethernet interface 1/5:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 subinterface for Ethernet interface 1/5 in the global configuration mode:

```
switch(config)# interface ethernet 1/5.2
switch(config-if)# no switchport
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 subinterface in interface configuration mode:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# interface ethernet 1/5.1
switch(config-subif)# ip address 10.1.1.1/24
switch(config-subif)#
```

This example shows how to convert a Layer 3 interface to a Layer 2 interface:

```
switch(config)# interface ethernet 1/5
switch(config-if)# no switchport
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)# switchport
switch(config-if)#
```

#### Related Commands

| Command                        | Description                                                              |
|--------------------------------|--------------------------------------------------------------------------|
| <b>bandwidth</b>               | Sets the bandwidth parameters for an interface.                          |
| <b>delay</b>                   | Configures the interface throughput delay value.                         |
| <b>encapsulation</b>           | Sets the encapsulation type for an interface.                            |
| <b>ip address</b>              | Sets a primary or secondary IP address for an interface.                 |
| <b>inherit</b>                 | Assigns a port profile to an interface.                                  |
| <b>interface vethernet</b>     | Configures a virtual Ethernet interface.                                 |
| <b>no switchport</b>           | Configures an interface as a Layer 3 interface.                          |
| <b>service-policy</b>          | Configures a service policy for an interface.                            |
| <b>show fex</b>                | Displays all configured Fabric Extender chassis connected to the switch. |
| <b>show interface ethernet</b> | Displays various parameters of an Ethernet IEEE 802.3 interface.         |

# interface loopback

To create a loopback interface and enter interface configuration mode, use the **interface loopback** command. To remove a loopback interface, use the **no** form of this command.

**interface loopback** *number*

**no interface loopback** *number*

|                           |               |                                                |
|---------------------------|---------------|------------------------------------------------|
| <b>Syntax Description</b> | <i>number</i> | Interface number. The range is from 0 to 1023. |
|---------------------------|---------------|------------------------------------------------|

|                        |      |
|------------------------|------|
| <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> | Use the <b>interface loopback</b> command to create or modify loopback interfaces.                                                                                                                                                                                                                                                                                                                                                                               |  |
|                         | From the loopback interface configuration mode, the following parameters are available:                                                                                                                                                                                                                                                                                                                                                                          |  |
|                         | <ul style="list-style-type: none"><li>• <b>description</b>—Provides a description of the purpose of the interface.</li><li>• <b>ip</b>—Configures IP features, such as the IP address for the interface, Address Resolution Protocol (ARP) attributes, load balancing, Unicast Reverse Path Forwarding (RPF) or IP Source Guard.</li><li>• <b>logging</b>—Configures logging of events.</li><li>• <b>shutdown</b>—Shuts down traffic on the interface.</li></ul> |  |

|                 |                                                        |
|-----------------|--------------------------------------------------------|
| <b>Examples</b> | This example shows how to create a loopback interface: |
|-----------------|--------------------------------------------------------|

```
switch(config)# interface loopback 50
switch(config-if)# ip address 10.1.1.1/24
switch(config-if)#
```

|                         |                                |                                                                             |
|-------------------------|--------------------------------|-----------------------------------------------------------------------------|
| <b>Related Commands</b> | <b>Command</b>                 | <b>Description</b>                                                          |
|                         | <b>show interface loopback</b> | Displays information about the traffic on the specified loopback interface. |

# interface mgmt

To enter the management interface configuration mode, use the **interface mgmt** command.

**interface mgmt** *mgmt-intf-num*

|                           |                      |                                                         |
|---------------------------|----------------------|---------------------------------------------------------|
| <b>Syntax Description</b> | <i>mgmt-intf-num</i> | Management interface number. The interface number is 0. |
|---------------------------|----------------------|---------------------------------------------------------|

|                        |      |
|------------------------|------|
| <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>Examples</b> | <p>This example shows how to enter the management interface configuration mode:</p> <pre>switch# <b>configure terminal</b> switch(config)# <b>interface mgmt 0</b> switch(config-if)#</pre> |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| <b>Related Commands</b> | <b>Command</b>                  | <b>Description</b>                                                                                     |
|-------------------------|---------------------------------|--------------------------------------------------------------------------------------------------------|
|                         | <b>show interface mgmt</b>      | Displays information about the management interface.                                                   |
|                         | <b>cdp enable</b>               | Enables the Cisco Discovery Protocol (CDP) on an interface.                                            |
|                         | <b>description (interface)</b>  | Adds a description to an interface configuration.                                                      |
|                         | <b>duplex</b>                   | Configures the duplex mode for an interface.                                                           |
|                         | <b>lldp (interface)</b>         | Enables the reception or transmission of Link Layer Discovery Protocol (LLDP) packets on an interface. |
|                         | <b>rate-limit cpu direction</b> | Configures the packet per second (PPS) rate limit for an interface.                                    |
|                         | <b>snmp trap link-status</b>    | Enables Simple Network Management Protocol (SNMP) link trap generation on an interface.                |
|                         | <b>speed</b>                    | Configures the transmit and receive speed for an interface.                                            |
|                         | <b>vrf member</b>               | Adds an interface to a virtual routing and forwarding (VRF) instance.                                  |

# interface port-channel

To create an EtherChannel interface and enter interface configuration mode, use the **interface port-channel** command. To remove an EtherChannel interface, use the **no** form of this command.

**interface port-channel** *channel-number* [*.subintf-channel-no*]

**no interface port-channel** *channel-number* [*.subintf-channel-no*]

|                           |                           |                                                                                                      |
|---------------------------|---------------------------|------------------------------------------------------------------------------------------------------|
| <b>Syntax Description</b> | <i>channel-number</i>     | Channel number that is assigned to this EtherChannel logical interface. The range is from 1 to 4096. |
|                           | .                         | (Optional) Subinterface separator.                                                                   |
|                           |                           | <b>Note</b> Applies to Layer 3 interfaces.                                                           |
|                           | <i>subintf-channel-no</i> | (Optional) Port number of the EtherChannel subinterface. The range is from 1 to 4093.                |
|                           |                           | <b>Note</b> Applies to Layer 3 interfaces.                                                           |

**Command Default** None

**Command Modes** Global configuration mode  
Interface configuration mode

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

**Usage Guidelines**

A port can belong to only one channel group.

When you use the **interface port-channel** command for Layer 2 interfaces, follow these guidelines:

- If you are using CDP, you must configure it only on the physical interface and not on the EtherChannel interface.
- If you do not assign a static MAC address on the EtherChannel interface, a MAC address is automatically assigned. If you assign a static MAC address and then later remove it, the MAC address is automatically assigned.
- The MAC address of the EtherChannel is the address of the first operational port added to the channel group. If this first-added port is removed from the channel, the MAC address comes from the next operational port added, if there is one.

You must use the **no switchport** command in the interface configuration mode to configure the EtherChannel interface as a Layer 3 interface. When you configure the interface as a Layer 3 interface, all Layer 2-specific configurations on this interface are deleted.

Use the **switchport** command to convert a Layer 3 EtherChannel interface into a Layer 2 interface. When you configure the interface as a Layer 2 interface, all Layer 3-specific configurations on this interface are deleted.

You can configure one or more subinterfaces on a port channel made from routed interfaces.

### Examples

This example shows how to create an EtherChannel group interface with channel-group number 50:

```
switch(config)# interface port-channel 50
switch(config-if)#
```

This example shows how to create a Layer 3 EtherChannel group interface with channel-group number 10:

```
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# ip address 192.0.2.1/24
switch(config-if)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 1 in interface configuration mode:

```
switch(config)# interface port-channel 10
switch(config-if)# no switchport
switch(config-if)# interface port-channel 10.1
switch(config-subif)# ip address 192.0.2.2/24
switch(config-subif)#
```

This example shows how to configure a Layer 3 EtherChannel subinterface with channel-group number 20.1 in global configuration mode:

```
switch(config)# interface port-channel 20.1
switch(config-subif)# ip address 192.0.2.3/24
switch(config-subif)#
```

### Related Commands

| Command                          | Description                                                                   |
|----------------------------------|-------------------------------------------------------------------------------|
| <b>encapsulation</b>             | (Layer 3 interfaces) Sets the encapsulation type for an interface.            |
| <b>ip address</b>                | (Layer 3 interfaces) Sets a primary or secondary IP address for an interface. |
| <b>no switchport</b>             | (Layer 3 interfaces) Configures an interface as a Layer 3 interface.          |
| <b>show interface</b>            | Displays configuration information about interfaces.                          |
| <b>show lacp</b>                 | Displays LACP information.                                                    |
| <b>show port-channel summary</b> | Displays information about the EtherChannels.                                 |
| <b>vtp (interface)</b>           | Enables VLAN Trunking Protocol (VTP) on an interface.                         |