



# 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 10G 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 40G 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
```

Syntax Description		
<i>chassis_ID</i>	(Optional) Fabric Extender chassis ID. The chassis ID is from 100 to 199.	<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

Command History	Release	Modification
	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)#
```

Related Commands	Command	Description
	<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]}
```

Syntax Description		
<i>chassis_ID</i>	(Optional) Fabric Extender chassis ID. The chassis ID is from 100 to 199.	<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

Command History	Release	Modification
	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.
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<b>Command Default</b>	None
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<b>Command Modes</b>	Global configuration mode
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<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	6.0(2)N1(1)	This command was introduced.

<b>Usage Guidelines</b>	<p>Use the <b>interface loopback</b> command to create or modify loopback interfaces.</p> <p>From the loopback interface configuration mode, the following parameters are available:</p> <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>
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**Examples** 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.
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<b>Command Default</b>	None
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<b>Command Modes</b>	Global configuration mode
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<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 the management interface configuration mode:

```
switch# configure terminal
switch(config)# interface mgmt 0
switch(config-if)#
```

<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]
```

Syntax Description		
<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

Command History	Release	Modification
	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.