



Slot and subslot configuration

This chapter contains information on slots and subslots. Slots specify the chassis slot number in your device and subslots specify the slot where the service modules are installed.

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Best practice for multiple-rate SFP usage

- When using multiple-rate SFPs on the same interface (for example, 1G SFP or 10G SFP+ on a 10G port), verify compatibility with your platform.
- Ensure all member interfaces in a port-channel operate at the same speed and duplex.
- Use duplex interfaces of the same speed as member interfaces when configuring a port-channel.
- For more information about supported interfaces, see the corresponding data sheets.

Configure Gigabit Ethernet interfaces

This section outlines the process for configuring Gigabit Ethernet interfaces.

Procedure

Step 1

enable

Example:

```
Router> enable
```

Enables privileged EXEC mode. Enter your password if prompted.

Step 2

configure terminal

Example:

```
Router# configure terminal
```

Enter global configuration mode.

Step 3 **interface** **GigabitEthernet** *slot/subslot/port***Example:**

```
Router(config)# interface GigabitEthernet 0/0/1
```

Configure a GigabitEthernet interface.

- **GigabitEthernet**—Type of interface.
- *slot*—Chassis slot number.
- */subslot*—Secondary slot number. The slash (/) is required.
- */port*—Port or interface number. The slash (/) is required.

Step 4 **ip address** *ip-address* *mask* [**secondary**] **dhcp** **pool****Example:**

```
Router(config-if)# ip address 10.0.0.1 255.255.255.0 dhcp pool
```

Assign an IP address to the GigabitEthernet.

- **ip address** *ip-address*—IP address for the interface.
- *mask*—Mask for the associated IP subnet.
- **secondary** (optional)—Specifies that the configured address is a secondary IP address. If this keyword is omitted, the configured address is the primary IP address.
- **dhcp**—IP address negotiated via DHCP.
- **pool**—IP address autoconfigured from a local DHCP pool.

Step 5 **negotiation** **auto****Example:**

```
Router(config-if)# negotiation auto
```

Select the negotiation mode.

- **auto**—Performs link autonegotiation.

Step 6 **end****Example:**

```
Router(config-if)# end
```

End the current configuration session and return to privileged EXEC mode.

The specified Gigabit Ethernet interface is now configured with the selected IP settings and link negotiation.

Interface configuration commands

This example shows the **interface gigabitEthernet** command being used to add the interface and set the IP address. 0/0/0 is the slot/subslot/port. The ports are numbered zero to five.



Note Several platforms, NIMs, and SM cards support configuring multiple-rate SFPs on the same interface, such as 1-gigabit SFP or 10-gigabit SFP+ on a 10-gigabit port.

In port-channel bundles, all member interfaces should operate at the same speed and duplex settings. Refer to the corresponding datasheets for information on supported SFP rates by platform or interface.

```
Router# show running-config interface gigabitEthernet 0/0/0
Building configuration...
Current configuration : 71 bytes
!
interface gigabitEthernet0/0/0
no ip address
negotiation auto
end
```

```
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# interface gigabitEthernet 0/0/0
```

Commands for displaying interface summaries

In this example, the **show platform software interface summary**, **show interfaces summary**, and **show platform software status control-process brief** commands are used to display all the interfaces:

The following command displays a list of all interfaces with traffic statistics and queue information.

```
Router# show platform software interface summary
```

Interface	IHQ	IQD	OHQ	OQD	RXBS	RXPS	TXBS	TXPS	TRTL
* GigabitEthernet0/0/0	0	0	0	0	0	0	0	0	0
* GigabitEthernet0/0/1	0	0	0	0	0	0	0	0	0
* GigabitEthernet0/0/2	0	0	0	0	0	0	0	0	0
* GigabitEthernet0/0/3	0	0	0	0	0	0	0	0	0
* Te0/0/4	0	0	0	0	0	0	0	0	0
* Te0/0/5	0	0	0	0	0	0	0	0	0

The following command provides a summarized view of interface states and key counters.

```
Router# show interfaces summary
*: interface is up
IHQ: pkts in input hold queue
OHQ: pkts in output hold queue
RXBS: rx rate (bits/sec)
TXBS: tx rate (bits/sec)
TRTL: throttle count
```

Interface	IHQ	IQD	OHQ	OQD	RXBS	RXPS	TXBS	TXPS	TRTL
* GigabitEthernet0/0/0	0	0	0	0	0	0	0	0	0
* GigabitEthernet0/0/1	0	0	0	0	0	0	0	0	0
* GigabitEthernet0/0/2	0	0	0	0	0	0	0	0	0

Viewing information about an interface: Example

```
* GigabitEthernet0/0/3 0 0 0 0 0 0 0 0 0
* Te0/0/4 0 0 0 0 0 0 0 0 0
* Te0/0/5 0 0 0 0 0 0 0 0 0
```

The following command displays processor, memory, and CPU utilization for router platform components

```
Router# show platform software status control-process brief
```

Load Average

```
Slot Status 1-Min 5-Min 15-Min
RP0 Healthy 0.83 0.91 0.91
```

Memory (kB)

```
Slot Status Total Used (Pct) Free (Pct) Committed (Pct)
RP0 Healthy 7768456 2654936 (34%) 5113520 (66%) 3115212 (40%)
```

CPU Utilization

```
Slot CPU User System Nice Idle IRQ SIRQ IOwait
RP0 0 2.70 1.70 0.00 95.59 0.00 0.00 0.00
    1 0.00 0.00 0.00 100.00 0.00 0.00 0.00
    2 0.00 0.00 0.00 100.00 0.00 0.00 0.00
    3 0.00 0.00 0.00 100.00 0.00 0.00 0.00
    4 2.40 1.40 0.00 96.19 0.00 0.00 0.00
    5 0.80 1.60 0.00 97.59 0.00 0.00 0.00
    6 12.40 12.30 0.00 75.30 0.00 0.00 0.00
    7 11.20 12.40 0.00 76.40 0.00 0.00 0.00
    8 2.80 1.80 0.00 95.40 0.00 0.00 0.00
    9 0.00 0.00 0.00 100.00 0.00 0.00 0.00
   10 0.00 0.00 0.00 100.00 0.00 0.00 0.00
   11 0.00 0.00 0.00 100.00 0.00 0.00 0.00
```

Viewing information about an interface: Example

This example demonstrates how to display a brief summary of an interface's IP information and status, as well as the virtual interface bundle information, by using the **show ip interface brief** command.

```
Router# show ip interface brief
```

```
GigabitEthernet0/0/0 10.10.3.1 YES NVRAM up up
GigabitEthernet0/0/1 192.0.5.2 YES NVRAM up up
GigabitEthernet0/0/2 192.0.2.5 YES NVRAM down down
GigabitEthernet0/0/3 unassigned YES NVRAM down down
Te0/0/4 unassigned YES NVRAM down down
Te0/0/5 10.20.4.8 YES NVRAM down down
Te0/1/0 unassigned YES NVRAM down down
```