

Interface configuration

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

For further information on the slots and subslots, see the “About Slots and Interfaces” sections:

- Hardware Installation Guide for Cisco 8300 Series Secure Routers

These section is included in this chapter:

- Configure the interfaces, on page 1

Configure the interfaces

These sections describe how to configure Gigabit interfaces and also provide examples of configuring the router interfaces:

- Configure Gigabit Ethernet interfaces, on page 1
- Configure the interfaces: Example, on page 3
- View a list of all interfaces: Example, on page 3
- View information about an interface: Example, on page 6

Configure 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
```

Enters global configuration mode.

Step 3 **interface TwoGigabitEthernet** *slot/subslot/port*

Example:

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

Configures a GigabitEthernet interface.

- **TwoGigabitEthernet**—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
```

Assigns 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
```

Selects the negotiation mode.

- **auto**—Performs link autonegotiation.

Step 6 **end**

Example:

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

Ends the current configuration session and returns to privileged EXEC mode.

Configure the interfaces: Example

This example shows the **interface TwogigabitEthernet** command being used to add the interface and set the IP address. **0/0/1** is the slot/subslot/port. The ports are numbered 0 to 5.

```
Router# show running-config interface TwogigabitEthernet 0/0/1
Building configuration...
Current configuration : 108 bytes
!
interface TwoGigabitEthernet0/0/1
no ip address
shutdown
negotiation auto
mka policy priority100
end
Router# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)# interface TwogigabitEthernet 0/0/1
```



Note The Cisco C8355-G2 does not support Layer 2 EtherChannels, including on its Layer 2-capable embedded interfaces.

Several Cisco platforms, NIMs, and SM cards support configuring multiple-rate SFPs on same interface, e.g., 1G SFP or 10G SFP+ on a 10G port.

In a port-channel bundle, all member interfaces should be of same speed, and duplex. It is recommended to use duplex interfaces of the same speed as member interfaces for configuring a port-channel.

For more information about interfaces that support multiple-rate SFPs, see the corresponding datasheets.

View a list of all interfaces: Example

In this example, the **show interfaces summary**, and **show platform software status control-process brief** commands are used to display all the interfaces for C8375-E-G2:

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

Interface                   IHQ       IQD       OHQ       OQD      RXBS      RXPS      TXBS
      TXPS      TRTL
------------------------------------------------------------------------------------------------

 Tw0/0/0                      0         0         0         0         0         0
 0         0         0
 Tw0/0/1                      0         0         0         0         0         0
 0         0         0
 Tw0/0/2                      0         0         0         0         0         0
```

```
 0         0         0
*Tw0/0/3                    0         0         0         0         0         0
 0         0         0
*Tw0/0/3.10                 -         -         -         -         -         -
 -         -         -
*Te0/0/4                    0         0         0         0         0         0
 0         0         0
*Te0/0/4.10                 -         -         -         -         -         -
 -         -         -
*Te0/0/5                    0         0         0         0         0         0
 0         0         0
*Te0/0/5.10                 -         -         -         -         -         -
 -         -         -
 Tw0/1/0                    0         0         0         0         0         0
 0         0         0
 Tw0/1/1                    0         0         0         0         0         0
 0         0         0
 Tw0/1/2                    0         0         0         0         0         0
 0         0         0
 Tw0/1/3                    0         0         0         0         0         0
 0         0         0
 Tw0/1/4                    0         0         0         0         0         0
 0         0         0
 Tw0/1/5                    0         0         0         0         0         0
 0         0         0
*Tw0/1/6                    0         0         0         0         0         0
 0         0         0
*Tw0/1/7                    0         0         0         0         0         0
 0         0         0
*Tw0/1/7.10                 -         -         -         -         -         -
 -         -         -
*Service-Engine0/4/0        0         0         0         0         0         0
 0         0         0
*GigabitEthernet0           0         0         0         0      2000         3
 0         0         0
*Tunnel0                    0         0         0         3         0         0
 0         0         0
*VirtualPortGroup0          0         0         0         0         0         0
 0         0         0
*VirtualPortGroup1          0         0         0         0      4000         4
3000         4         0
*VirtualPortGroup10         0         0         0         0         0         0
 0         0         0
 Vlan1                      0         0         0         0         0         0
 0         0         0
NOTE:No separate counters are maintained for subinterfaces

Hence Details of subinterface are not shown


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
```

In this example, the **show interfaces summary**, and **show platform software status control-process brief** commands are used to display all the interfaces for C8355-G2:

```
Router# show interfaces summary
*: interface is up

IHQ: pkts in input hold queue     IQD: pkts dropped from input queue

OHQ: pkts in output hold queue    OQD: pkts dropped from output queue

RXBS: rx rate (bits/sec)          RXPS: rx rate (pkts/sec)

TXBS: tx rate (bits/sec)          TXPS: tx rate (pkts/sec)

TRTL: throttle count

Interface                   IHQ       IQD       OHQ       OQD      RXBS      RXPS      TXBS
      TXPS      TRTL
------------------------------------------------------------------------------------------------------------

Fi0/0/0                       0         0         0         0         0         0
0         0         0
Fi0/0/1                       0         0         0         0         0         0
0         0         0
Fi0/0/2                       0         0         0         0         0         0
0         0         0
Fi0/0/3                       0         0         0         0         0         0
0         0         0
GigabitEthernet0/0/4          0         0         0         0         0         0
0         0         0
GigabitEthernet0/0/5          0         0         0         0         0         0
0         0         0
Te0/0/6                       0         0         0         0         0         0
0         0         0
Te0/0/7                       0         0         0         0         0         0
0         0         0
* Te0/0/8                      0         0         0         0 9614824000   1353964
9614825000   1353964         0
* Te0/0/9                      0         0         0         0 9614822000   1353963
9614826000   1353963         0
* GigabitEthernet0             0         0         0         0      7000         7
1000         2         0
* Loopback1                    0         0         0         0         0         0
  0         0         0
* Loopback2                    0         0         0         0         0         0
  0         0         0
* Loopback3                    0         0         0         0         0         0
  0         0         0
Tunnel3                       0         0         0         0         0         0
0         0         0
Vlan1                         0         0         0         0         0         0
0         0         0
Vlan10                        0         0         0         0         0         0
0         0         0
```

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

Slot  Status  1-Min  5-Min 15-Min

RP0 Healthy  11.15  11.17  11.10

                                                          Memory (kB)

Slot  Status    Total     Used (Pct)     Free (Pct) Committed (Pct)

RP0 Healthy 16134276  3974444 (25%) 12159832 (75%)   4499476 (28%)

                                                          CPU Utilization

Slot  CPU   User System   Nice   Idle    IRQ   SIRQ IOwait

RP0    0   1.79   2.69   0.00  94.80   0.49   0.19   0.00

1  99.90   0.00   0.00   0.00   0.10   0.00   0.00

2  99.80   0.00   0.00   0.00   0.10   0.10   0.00

3  99.90   0.00   0.00   0.00   0.10   0.00   0.00

4  99.90   0.00   0.00   0.00   0.10   0.00   0.00

5  99.90   0.00   0.00   0.00   0.10   0.00   0.00

6 100.00   0.00   0.00   0.00   0.00   0.00   0.00

7  99.89   0.00   0.00   0.00   0.10   0.00   0.00

8  99.90   0.00   0.00   0.00   0.10   0.00   0.00

9 100.00   0.00   0.00   0.00   0.00   0.00   0.00

10  14.00  58.50   0.00  23.90   3.60   0.00   0.00

11  99.90   0.00   0.00   0.00   0.10   0.00   0.00
```

View information about an interface: Example

This example shows how to display a brief summary of an interface's IP information and status, including the virtual interface bundle information, by using the **show ip interface brief** command for C8375-E-G2:

```
Router# show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol

Tw0/0/0                192.168.10.1    YES NVRAM  down                  down

Tw0/0/1                unassigned      YES NVRAM  administratively down down

Tw0/0/2                192.168.11.1    YES NVRAM  down                  down

Tw0/0/3                unassigned      YES NVRAM  up                    up

Tw0/0/3.10             192.168.3.1     YES NVRAM  up                    up

Te0/0/4                unassigned      YES NVRAM  up                    up

Te0/0/4.10             192.168.4.1     YES NVRAM  up                    up
```

```
Te0/0/5                unassigned      YES NVRAM  up                    up

Te0/0/5.10             192.168.4.2     YES NVRAM  up                    up

Tw0/1/0                unassigned      YES unset  administratively down down

Tw0/1/1                unassigned      YES unset  down                  down

Tw0/1/2                unassigned      YES unset  down                  down

Tw0/1/3                unassigned      YES unset  down                  down

Tw0/1/4                unassigned      YES unset  down                  down

Tw0/1/5                unassigned      YES unset  down                  down

Tw0/1/6                192.168.22.200  YES NVRAM  up                    up

Tw0/1/7                unassigned      YES NVRAM  up                    up

Tw0/1/7.10             192.168.3.2     YES NVRAM  up                    up

Service-Engine0/4/0    unassigned      YES unset  up                    up

GigabitEthernet0       10.79.58.164    YES NVRAM  up                    up

Tunnel0                192.0.2.5       YES unset  up                    up

VirtualPortGroup0      192.0.2.1       YES NVRAM  up                    up

VirtualPortGroup1      192.0.2.5       YES NVRAM  up                    up

VirtualPortGroup10     10.88.88.1      YES NVRAM  up                    up

Vlan1                  unassigned      YES unset  up                    down
```

This example shows how to display a brief summary of an interface's IP information and status, including the virtual interface bundle information, by using the **show ip interface brief** command for C8355-G2:

```
Router# show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol

Fi0/0/0                unassigned      YES NVRAM  administratively down down

Fi0/0/1                unassigned      YES NVRAM  administratively down down

Fi0/0/2                unassigned      YES NVRAM  administratively down down

Fi0/0/3                unassigned      YES NVRAM  administratively down down

GigabitEthernet0/0/4   unassigned      YES unset  administratively down down

GigabitEthernet0/0/5   unassigned      YES unset  administratively down down

Te0/0/6                unassigned      YES unset  administratively down down

Te0/0/7                unassigned      YES unset  administratively down down

Te0/0/8                8.1.1.1         YES NVRAM  up                    up

Te0/0/9                9.1.1.1         YES NVRAM  up                    up

GigabitEthernet0       10.75.163.116   YES NVRAM  up                    up
```

View information about an interface: Example

```
Loopback1              192.168.100.1   YES NVRAM  up                    up
Loopback2              192.168.101.1   YES NVRAM  up                    up
Loopback3              192.168.102.1   YES NVRAM  up                    up
Tunnel3                unassigned      YES TFTP   up                    down
Vlan1                  unassigned      YES unset  up                    down
Vlan10                 7.1.1.1         YES NVRAM  up                    down
```