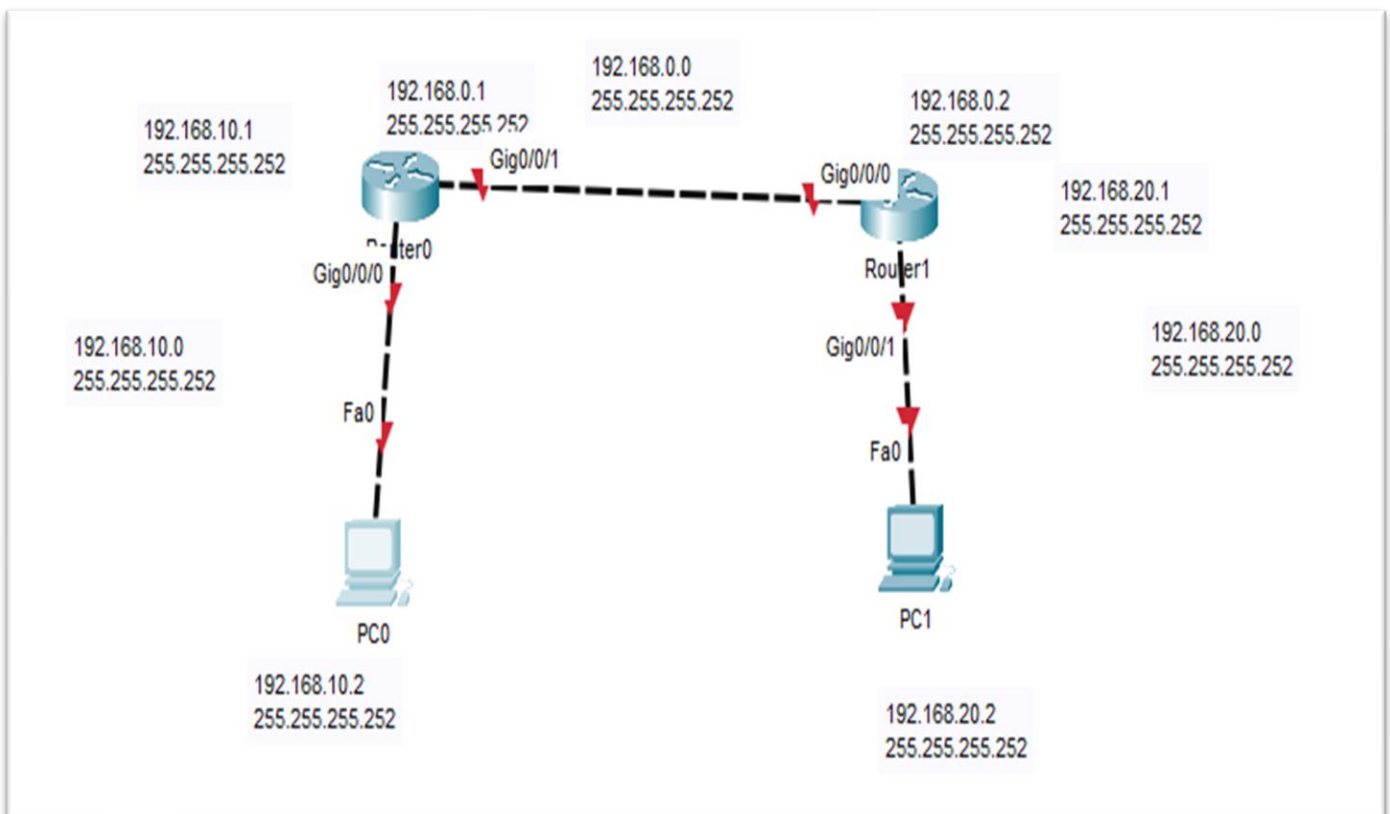


# EIGRP Configuration Step by Step Guide

- ✓ Enhanced Interior Gateway Routing Protocol (EIGRP)
- ✓ An advanced distance-vector routing protocol
- ✓ Used for automating routing decisions and configuration
- ✓ Used on a router to share routes with other routers within the same autonomous system.

**Step1:** Add place note in all devices for IP address and subnet mask.



## Step2: Configure each end devices (PC, laptop, mobile etc) by adding IP address, subnet mask and default gateway IP.

The screenshot shows a configuration window for a PC named PC0. The window has four tabs: Physical, Config, Desktop (selected), Programming, and Attributes. The Desktop tab displays the IP Configuration settings for the FastEthernet0 interface.

**IP Configuration**

Interface: FastEthernet0

**IP Configuration**

☐ DHCP ☒ Static

IPv4 Address: 192.168.10.2

Subnet Mask: 255.255.255.252

Default Gateway: 192.168.10.1

DNS Server: 0.0.0.0

**IPv6 Configuration**

☐ Automatic ☒ Static

IPv6 Address: /

Link Local Address: FE80::204:9AFF:FEDA:2D5B

Default Gateway:

DNS Server:

**802.1X**

☐ Use 802.1X Security

Authentication: MD5

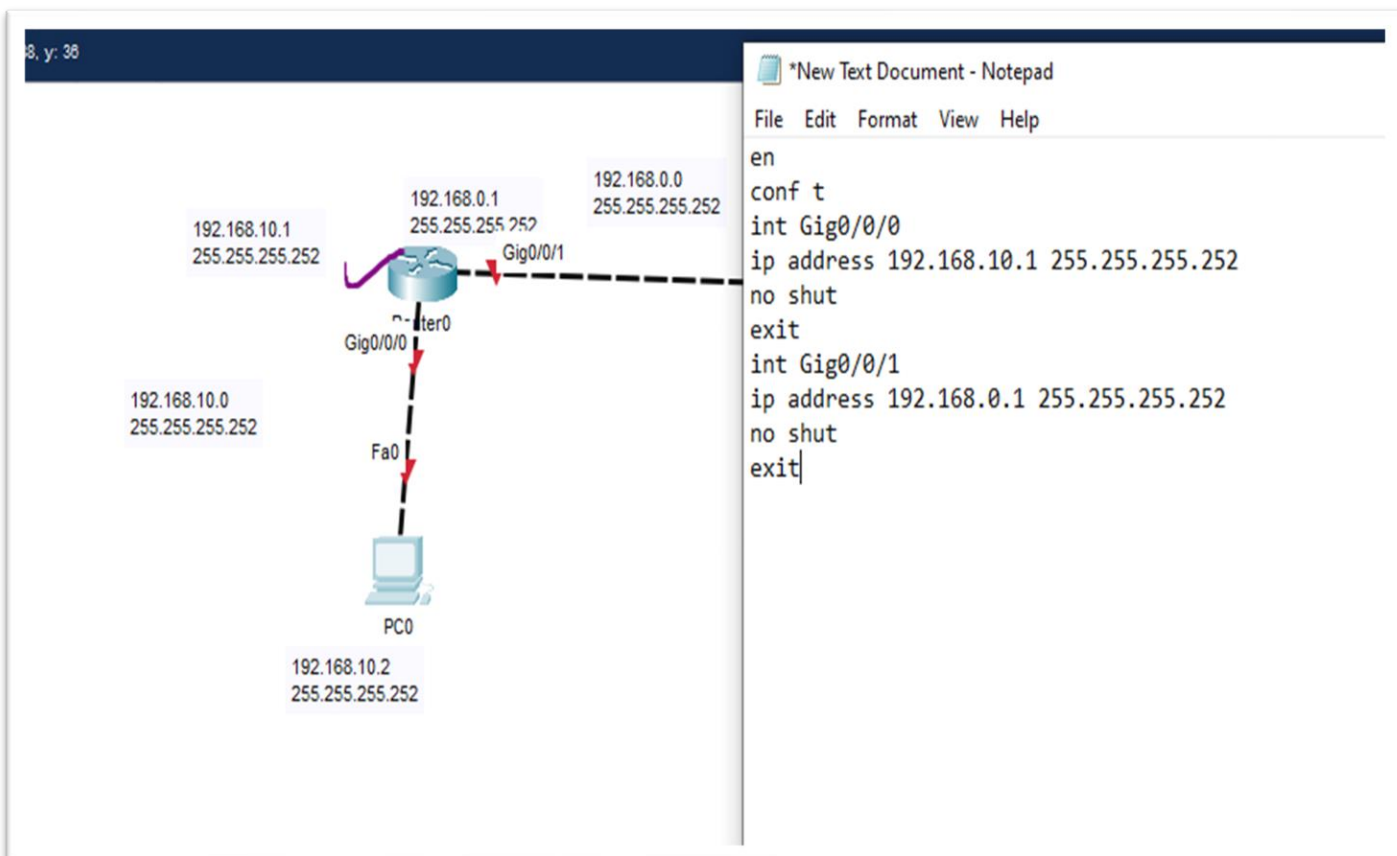
Username:

Password:

### Step3: Configure each router by writing command in CLI.

The commands are as follows. Write the same command if more than one port is used in the router.

```
Router>en
Router# conf t
Router(config)# int port_number
Router(config-if)# ip address gateway_ip subnet_mask
Router(config-if)#no shutdown
Router(config-if)#exit
```



## IOS Command Line Interface

3207167K bytes of flash memory at bootflash:.  
OK bytes of WebUI ODM Files at webui:.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int Gig0/0/0

Router(config-if)#ip address 192.168.10.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int Gig0/0/1

Router(config-if)#ip address 192.168.0.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

Router(config)#

Ctrl+F6 to exit CLI focus

Copy

Paste

Logic

\*New Text Document - Notepad

File Edit Format View Help

```
en
conf t
int Gig0/0/1
ip address 192.168.20.1 255.255.255.252
no shut
exit
int Gig0/0/0
ip address 192.168.0.2 255.255.255.252
no shut
exit
```

192.168.0.0  
255.255.255.252

192.168.0.2  
255.255.255.252

192.168.20.1  
255.255.255.252

192.168.20.0  
255.255.255.252

192.168.20.2  
255.255.255.252

Gig0/0/0

Router1

Gig0/0/1

Fa0

PC1

Time: 00:25 Ln 1, Col 1 100% Windows (CRLF) UTF-8

```
graph TD
    N1[192.168.0.0/24] --- Gig0_0_0[Gig0/0/0]
    Gig0_0_0 --- Router1[Router1]
    Router1 --- Gig0_0_1[Gig0/0/1]
    Gig0_0_1 --- Fa0[Fa0]
    Fa0 --- PC1[PC1]
    PC1 --- N2[192.168.20.0/24]
```

## IOS Command Line Interface

OK Bytes of WebUI ODM files at WebUI...

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: no

Press RETURN to get started!

Router>en

Router#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#int Gig0/0/1

Router(config-if)#ip address 192.168.20.1 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

Router(config)#int Gig0/0/0

Router(config-if)#ip address 192.168.0.2 255.255.255.252

Router(config-if)#no shut

Router(config-if)#exit

%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

Router(config)#

Ctrl+F6 to exit CLI focus

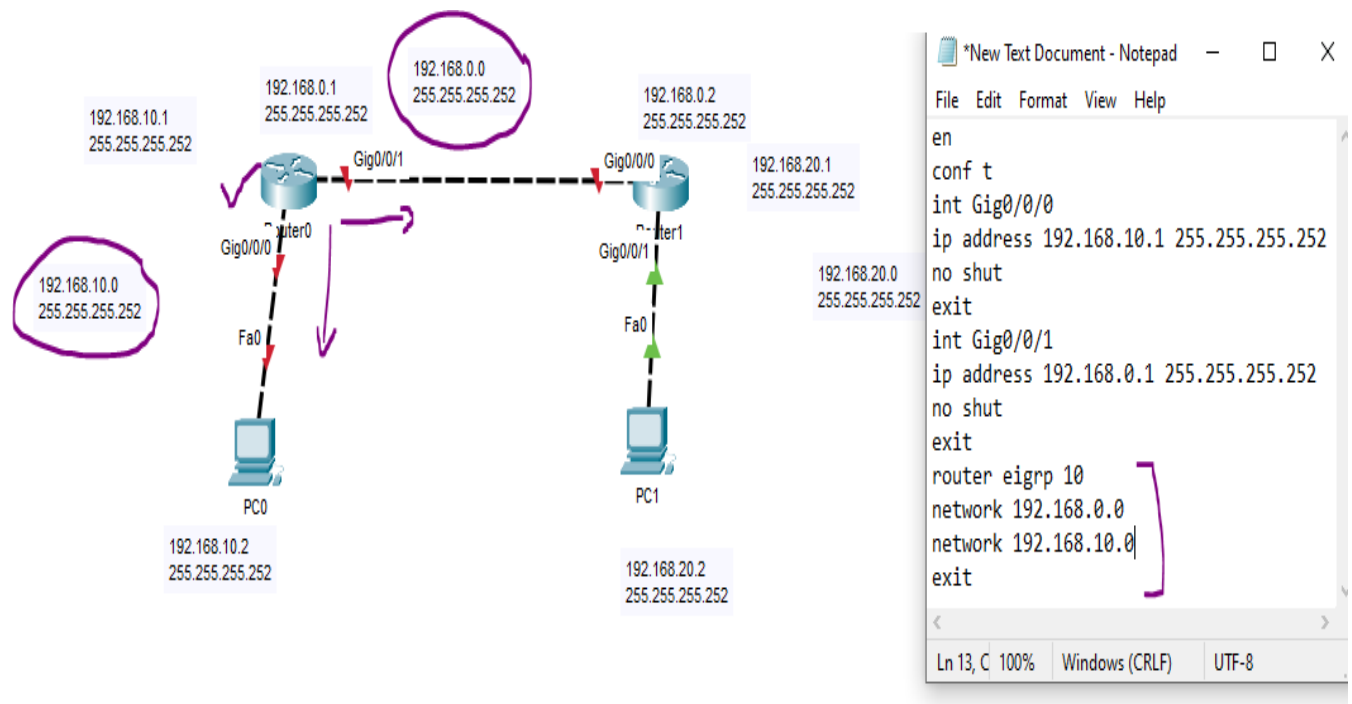
Copy

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## Step4: Configure RIP for each router by writing command in CLI.

The commands are as follows:

```
Router0 (config) #router eigrp autonomous_system_number  
Router0 (config-router) # network connected_network_IP  
Router0 (config-router) # network connected_network_IP  
Router (config-if) #exit
```



## IOS Command Line Interface

Press RETURN to get started!

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int Gig0/0/0
Router(config-if)#ip address 192.168.10.1 255.255.255.252
Router(config-if)#no shut

Router(config-if)#exit
Router(config)#int Gig0/0/1
Router(config-if)#ip address 192.168.0.1 255.255.255.252
Router(config-if)#no shut

Router(config-if)#exit
Router(config)#router eigrp 10
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.10.0
Router(config-router)#exit
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

%LINK-5-CHANGED: Interface GigabitEthernet0/0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/1, changed state to up

%DUAL-5-NBRCHANGE: IP-EIGRP 10: Neighbor 192.168.0.2 (GigabitEthernet0/0/1) is up: new
adjacency

Router(config)#
```

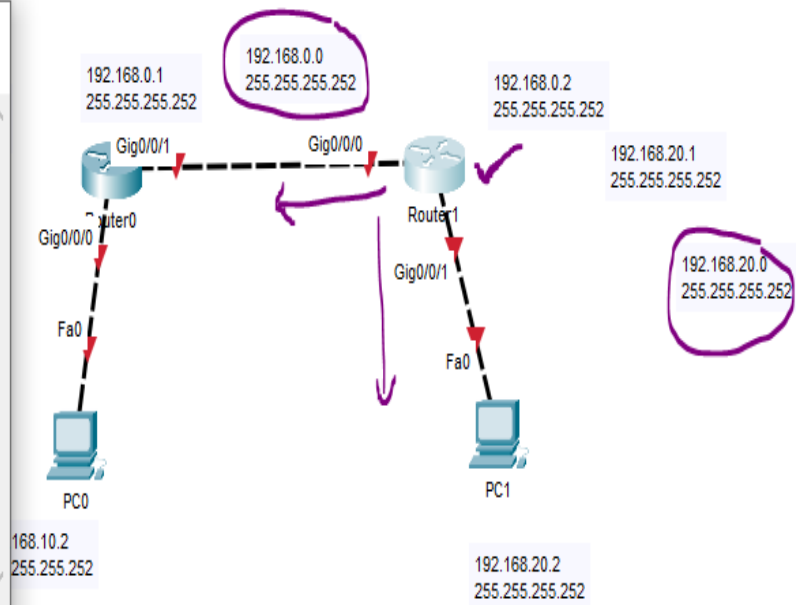
Ctrl+F6 to exit CLI focus

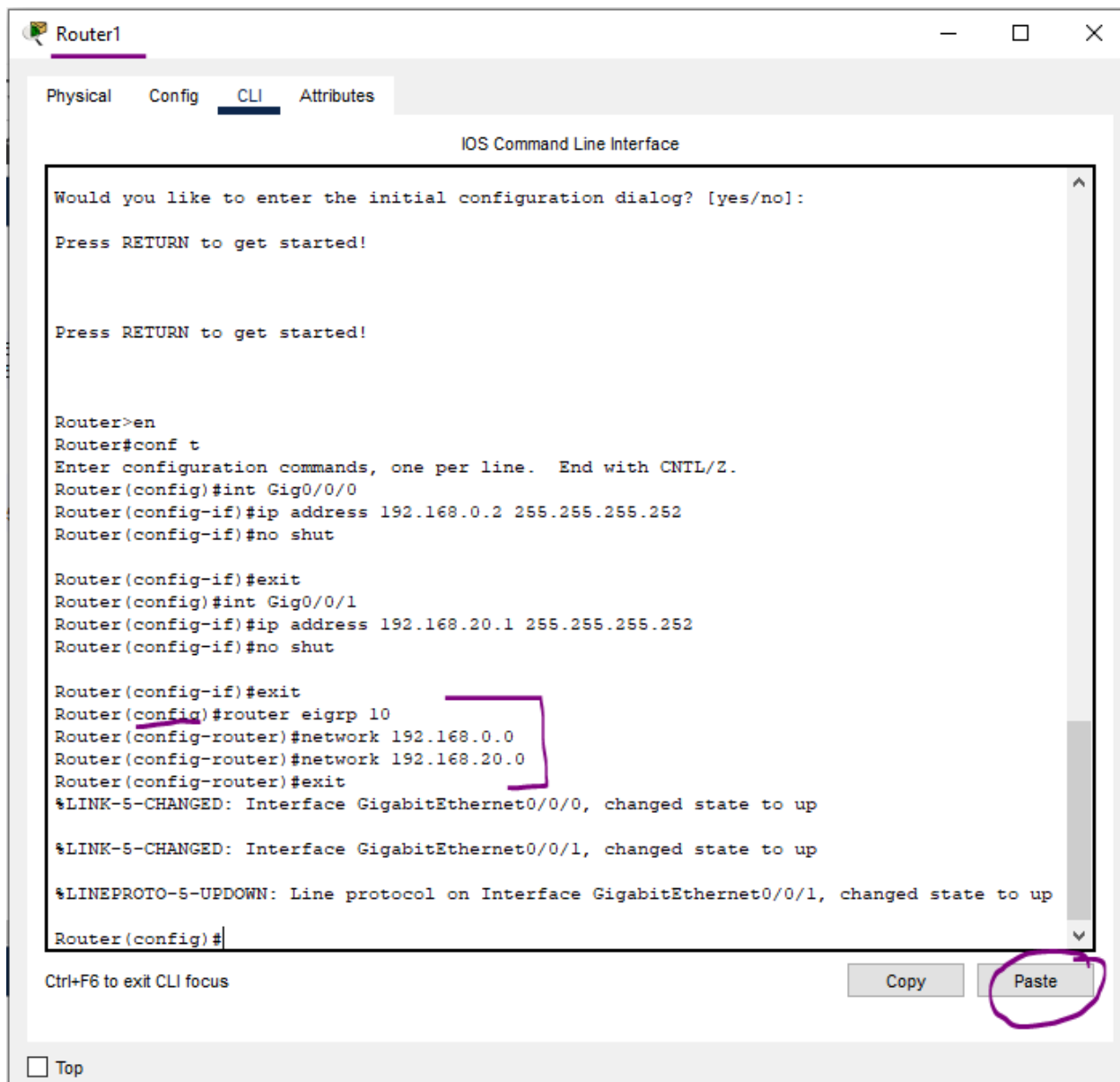
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Paste

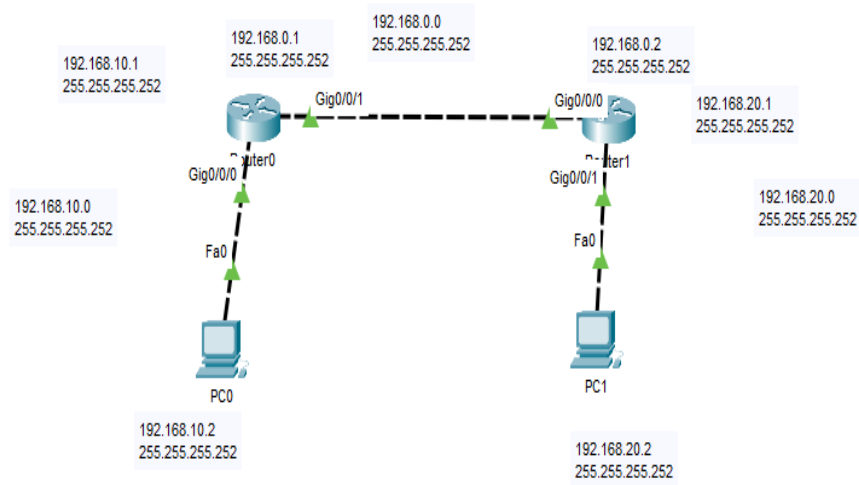


```
*New Text Document - Notepad
File Edit Format View Help
en
conf t
int Gig0/0/0
ip address 192.168.0.2 255.255.255.252
no shut
exit
int Gig0/0/1
ip address 192.168.20.1 255.255.255.252
no shut
exit
router eigrp 10
network 192.168.0.0
network 192.168.20.0
exit
```





## Step5: Pass the packet from one subnet to another subnet and check the status.



Realtime

Scenario 3

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Period
✓	Failed	PC0	PC1	ICMP	Blue	0.000	N
●	Successful	PC0	PC1	ICMP	Red	0.000	N

## Command description:

Command	Description
Router>en	Enable global configuration mode
Router# conf t	Enter in global configuration mode
Router(config)#int Gig0/0/0	Enter interface mode from global configuration mode
Router(config-if)#ip address 192.168.10.1 255.255.255.252	Assign IP to the interface ( eg. Gig0/0/0)
Router(config-if)#no shutdown	Bring the interface up
Router(config-if)#exit	Return in global configuration mode
Router(config)#router eigrp 10	Enable EIGRP routing protocol in router. We can use any ASN (Autonomous System Number) from 1 to 65,535. In order to become EIGRP neighbors this number must be same on all participates.
Router(config-router)# network 192.168.10.0	Enable EIGRP on all interfaces which belong to network 192.168.10.0

### Written by:

Nasima Islam Bithi

Lecturer

Dept of CSE, DIU