

Exercise – 6 Static And Default Routing

Aim

To Configure And Verify Static And Default Routing On Cisco Routers Using Packet Tracer.

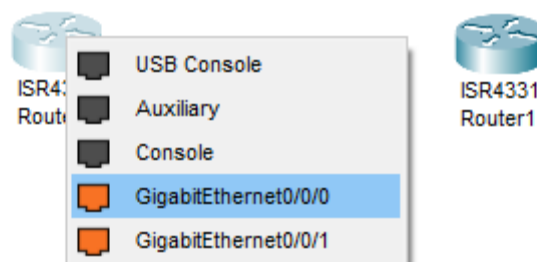
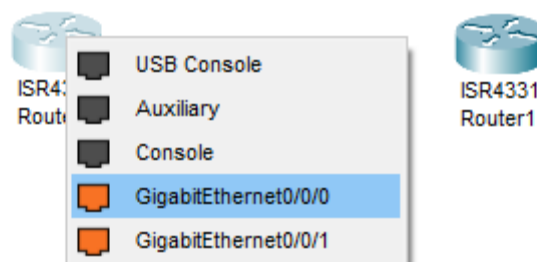
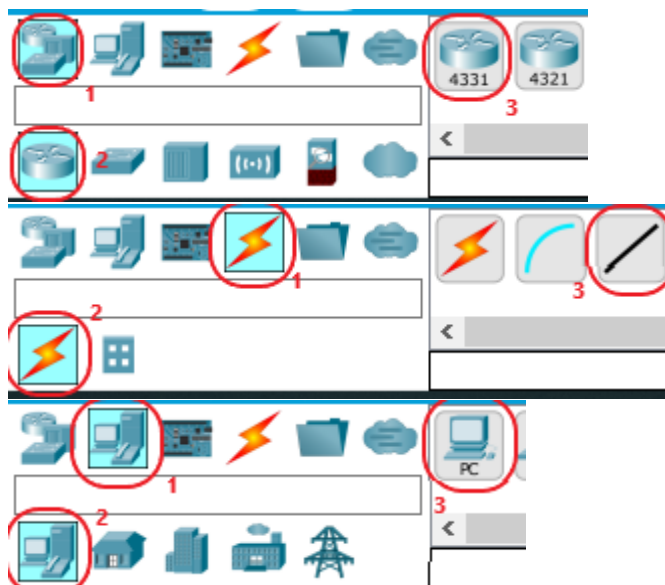
Pre-requisite:

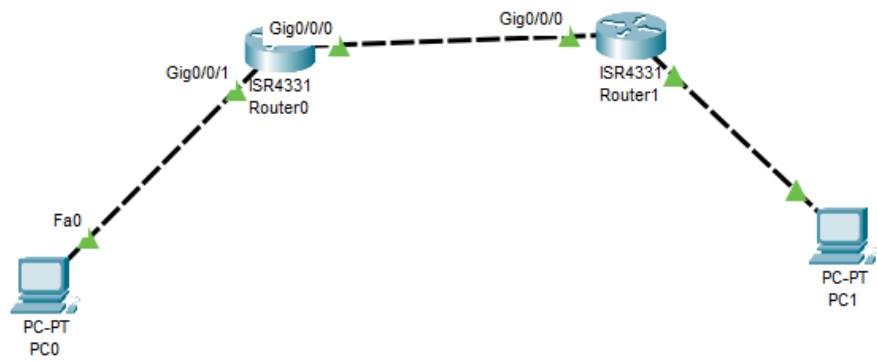
Static Routing, Default Static Routing

Procedure:

To Configure Static Routing in Cisco Packet Tracer

1. Select Router from Network devices. Place Two Routers.
Select PC from End Devices and place Two PC's and connect them with copper cross over cables





2. Configure the router0 using the following commands in CLI tab

```
en

conf t

int gi0/0/0

ip address 10.10.10.1 255.255.255.248

no shutdown

exit

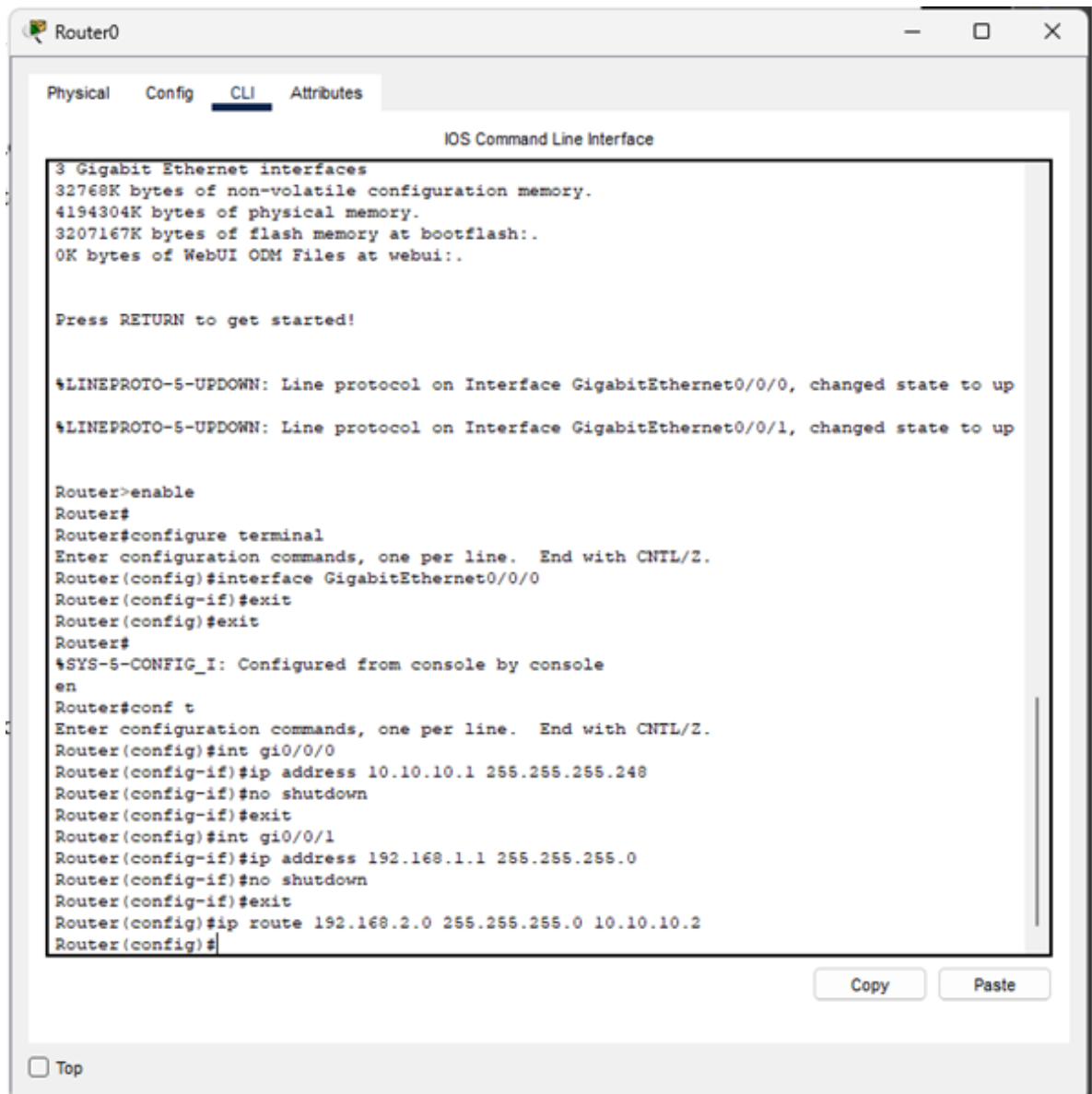
int gi0/0/1

ip address 192.168.1.1 255.255.255.0

no shutdown

exit

ip route 192.168.2.0 255.255.255.0 10.10.10.2
```



3. Configure the router1 using the following commands in CLI tab

```
en

conf t

int gi0/0/0

ip address 10.10.10.2 255.255.255.248

no shutdown

exit

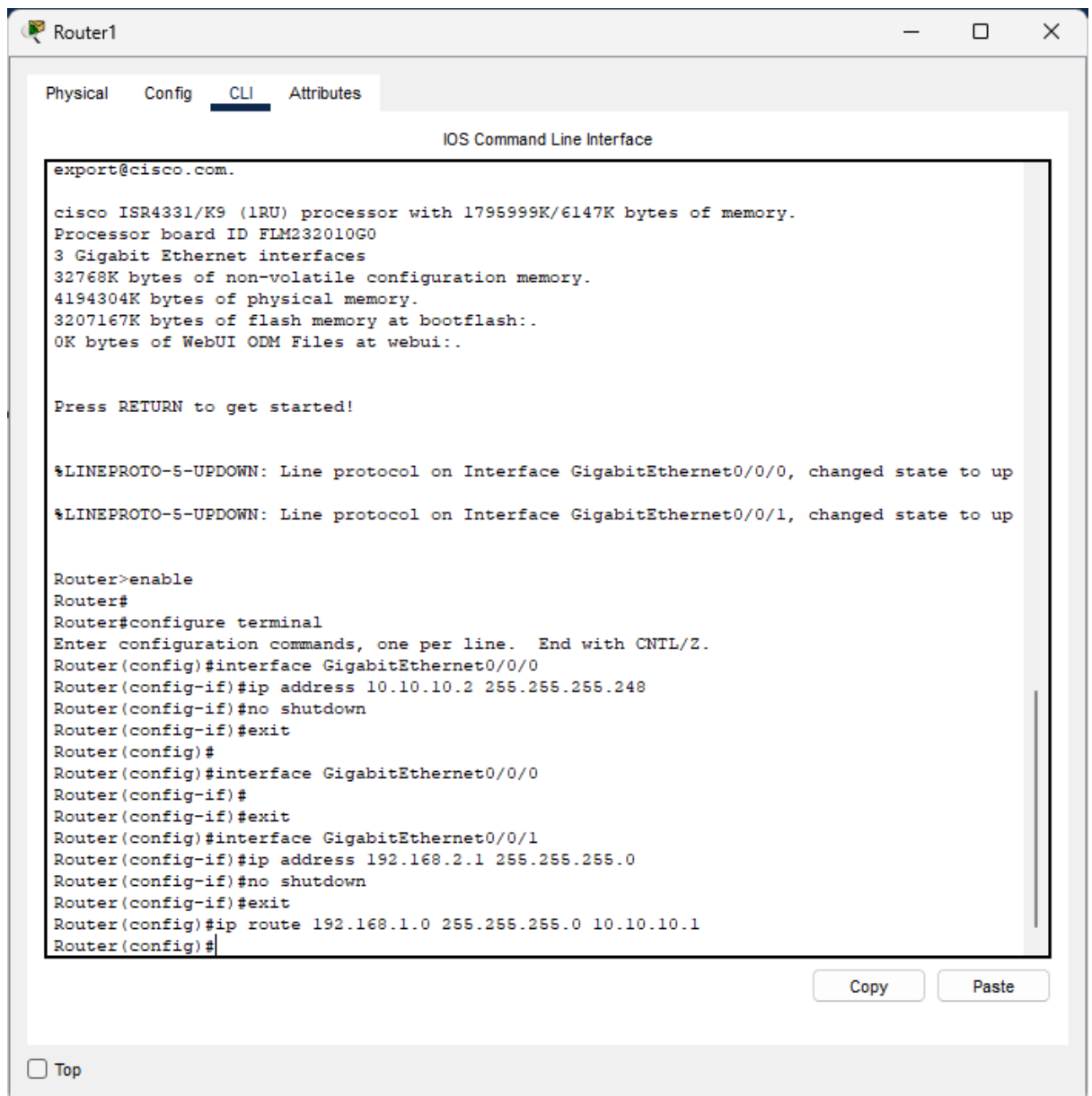
int gi0/0/1

ip address 192.168.2.1 255.255.255.0

no shutdown

exit

ip route 192.168.1.0 255.255.255.0 10.10.10.1
```



4. Configure the PC

Choose IP Configuration to do IP configurations, and insert the following informations.

For PC0.

IP Address : 192.168.1.2
Netmask : 255.255.255.0
Gateway : 192.168.1.1

For PC1.

IP Address : 192.168.2.2
Netmask : 255.255.255.0
Gateway : 192.168.2.1

PC1

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps☐ 10 Mbps

☒ Auto

Duplex

☐ Half Duplex☒ Full Duplex

☒ Auto

MAC Address0030.A375.BDA7

IP Configuration

☐ DHCP

☒ Static

IPv4 Address192.168.2.2

Subnet Mask255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

IPv6 Address

Link Local Address: FE80::230:A3FF:FE75:BDA7

☐ Top

PC0

PhysicalConfigDesktopProgrammingAttributes

GLOBAL

Settings

Algorithm Settings

INTERFACE

FastEthernet0

Bluetooth

FastEthernet0

Port Status

☒ On

Bandwidth

☒ 100 Mbps☐ 10 Mbps

☒ Auto

Duplex

☐ Half Duplex☒ Full Duplex

☒ Auto

MAC Address0001.6464.156D

IP Configuration

☐ DHCP

☒ Static

IPv4 Address192.168.1.2

Subnet Mask255.255.255.0

IPv6 Configuration

☐ Automatic

☒ Static

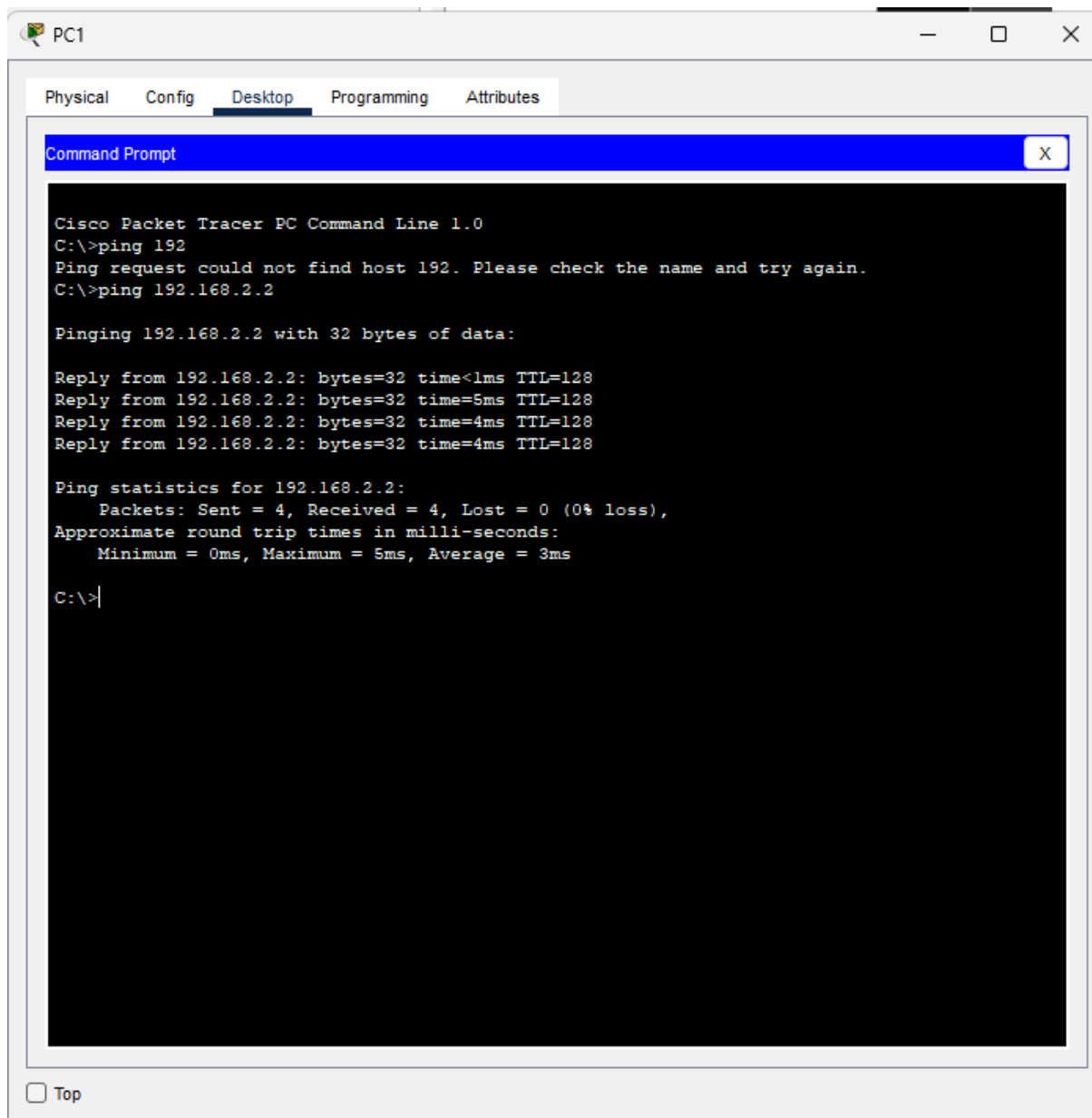
IPv6 Address

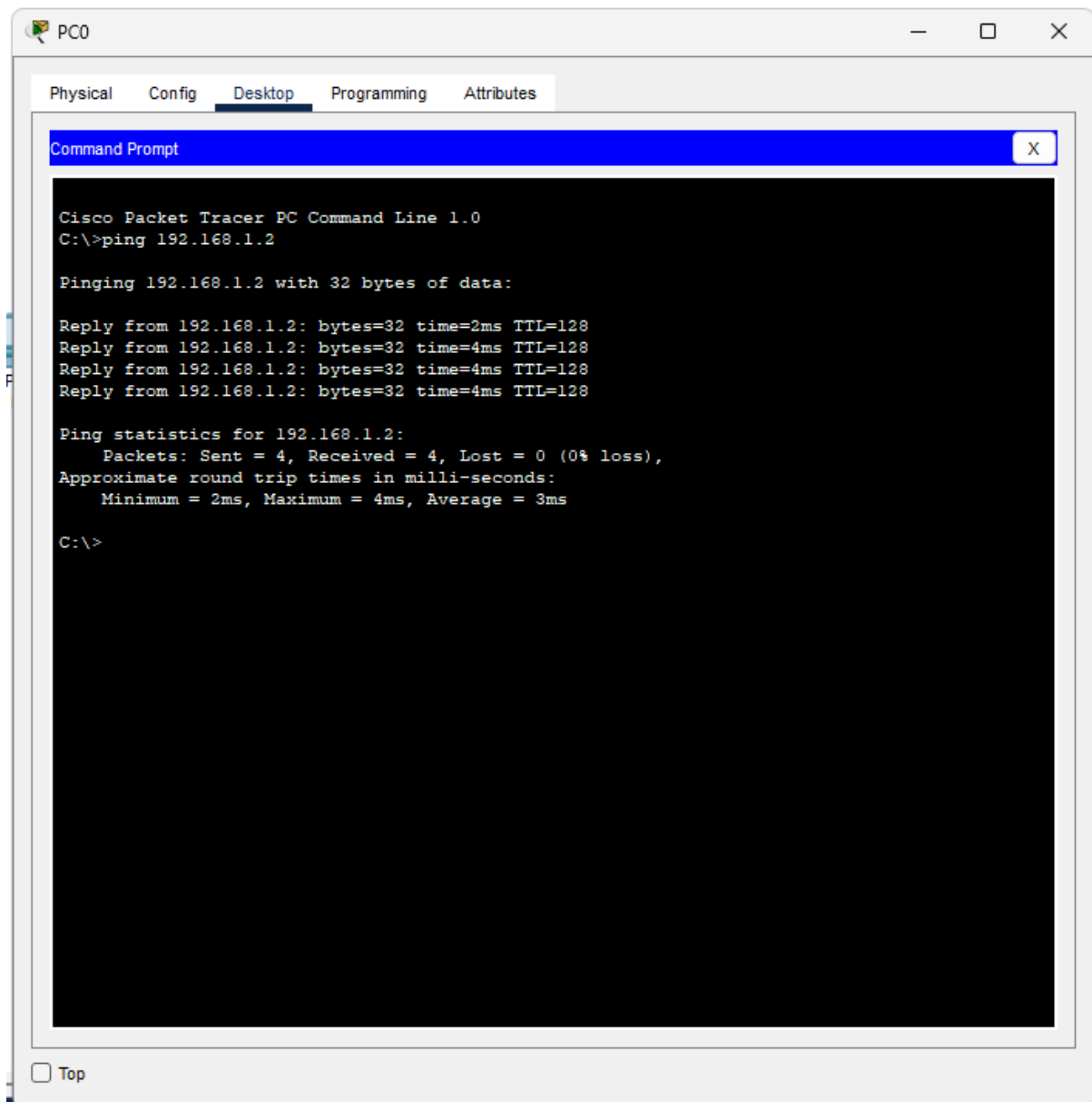
Link Local Address: FE80::201:64FF:FE64:156D

☐ Top

5. Ping test between the two PCs.

ping 192.168.1.2 from PC0, and ping 192.168.2.2 from PC1.



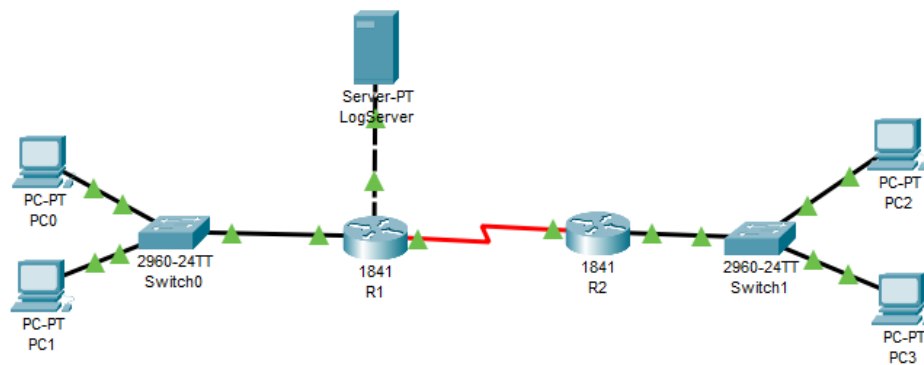


Conclusion

We have successfully completed static routing using cisco packet tracer.

2. Configure a Static Default Route in Cisco Packet Tracer

1. Place two routers and connect them using Serial Cable using Serial port
2. Place two switches one each side and connect them to router using copper straight through cable using Gigabit port on switch and Fast Ethernet port on router.
3. Connect two computer to switches on each side using same copper straight cable using fast Ethernet port from computer to Switch
4. Connect A server to Router R1 using same copper straight through cable

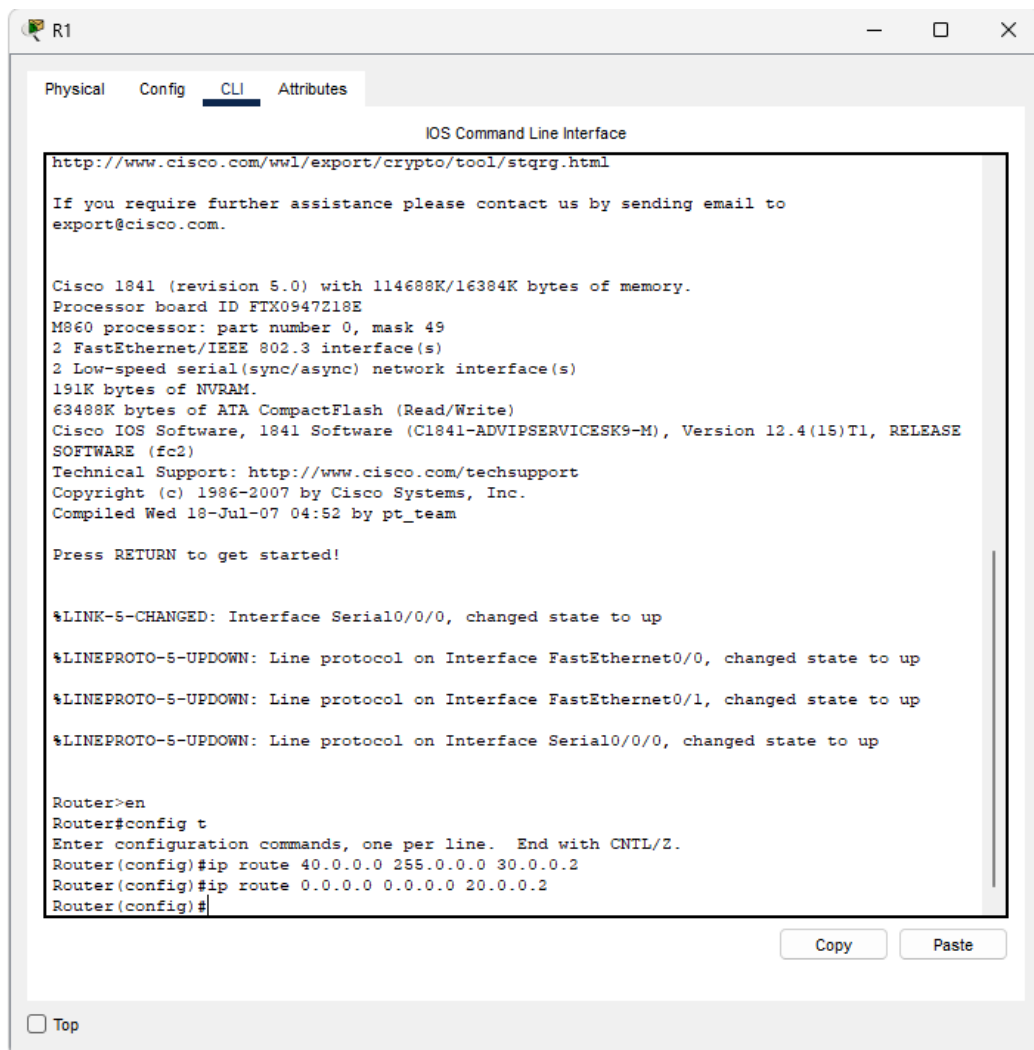


5. Configure the routing on the router R1

Run the following commands on the router R1 from the global configuration mode.

```
Router(config)#ip route 40.0.0.0 255.0.0.0 30.0.0.2
```

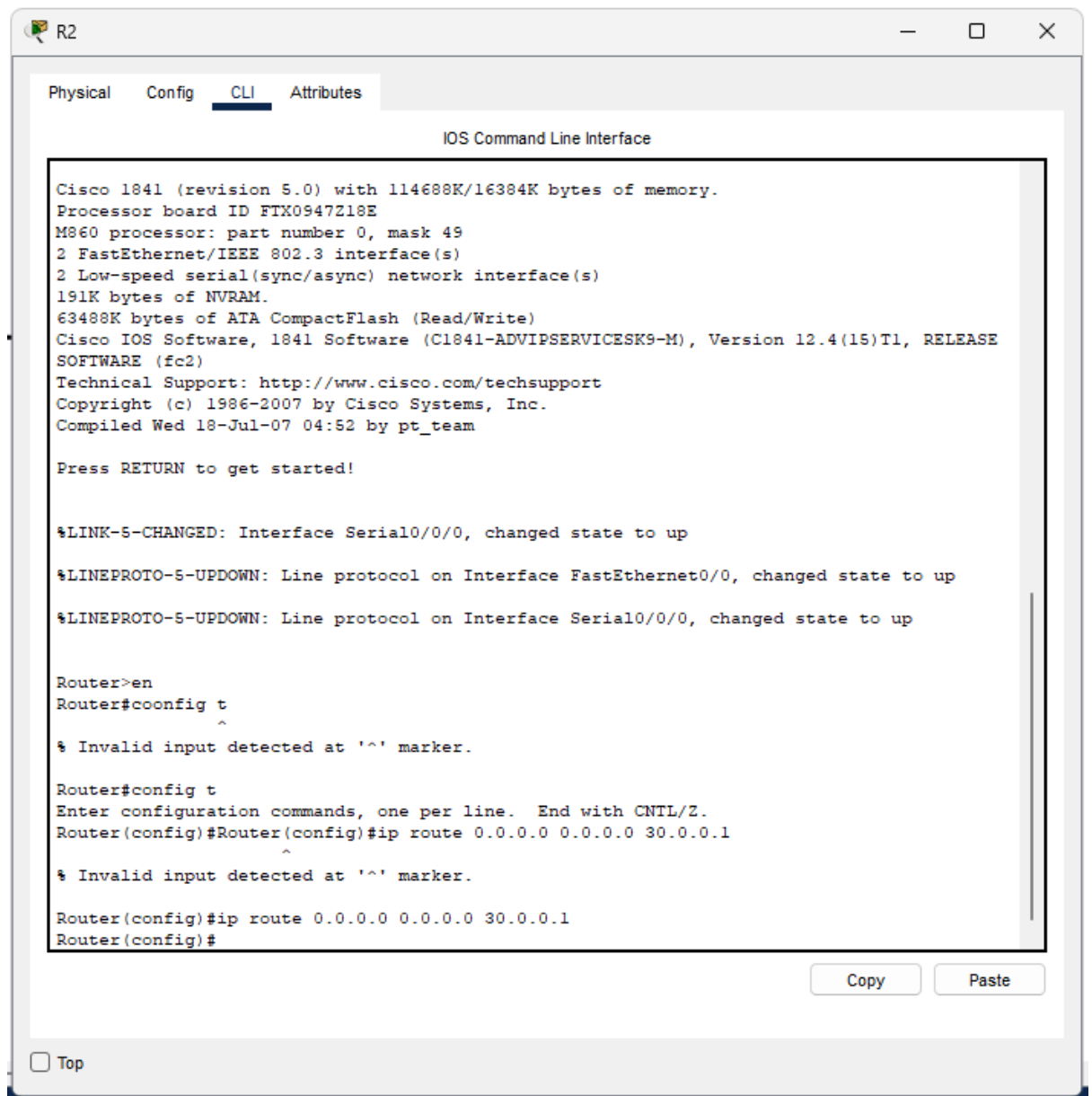
```
Router(config)#ip route 0.0.0.0 0.0.0.0 20.0.0.2
```

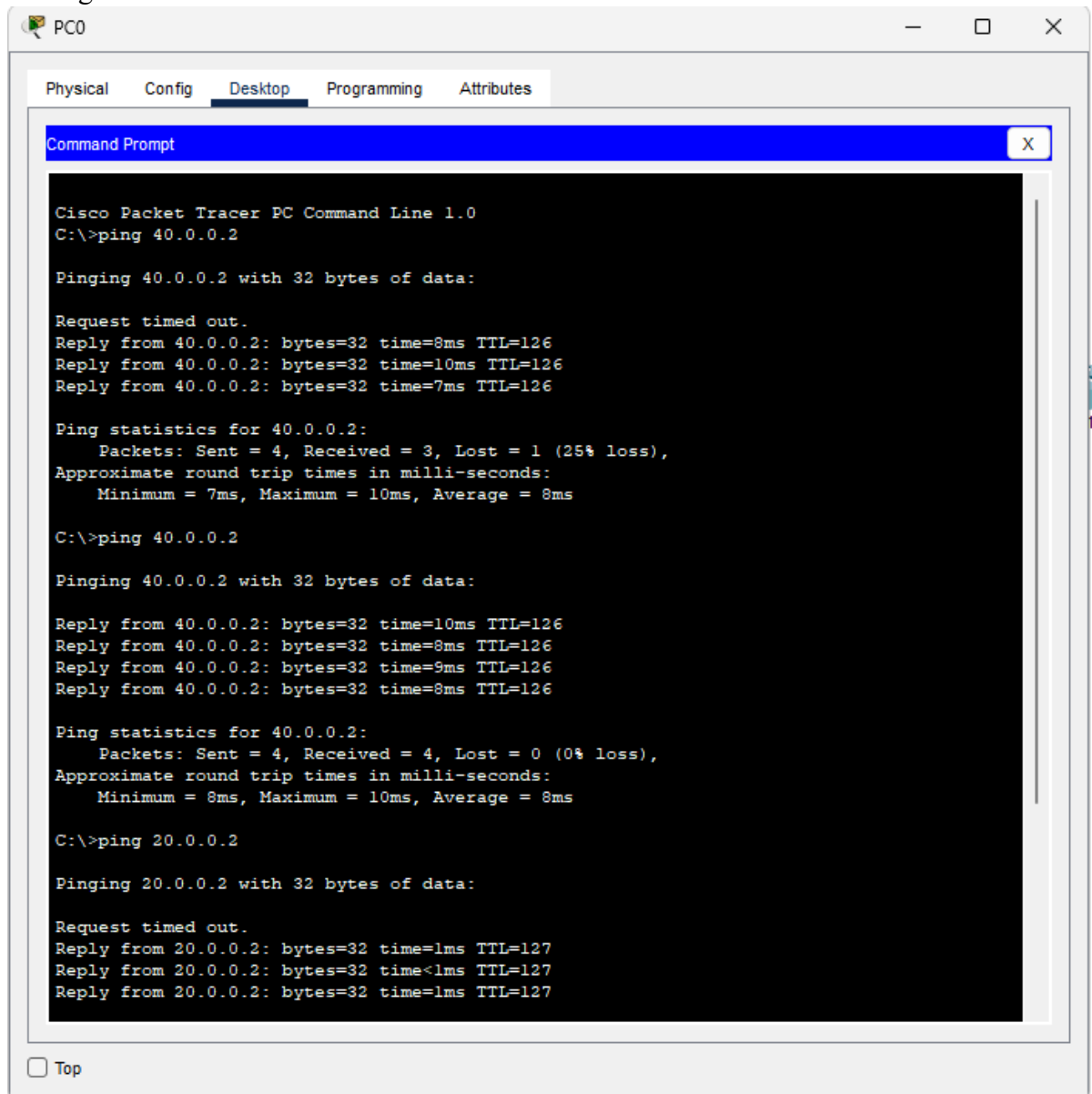
6. Configuring routing on the router R2

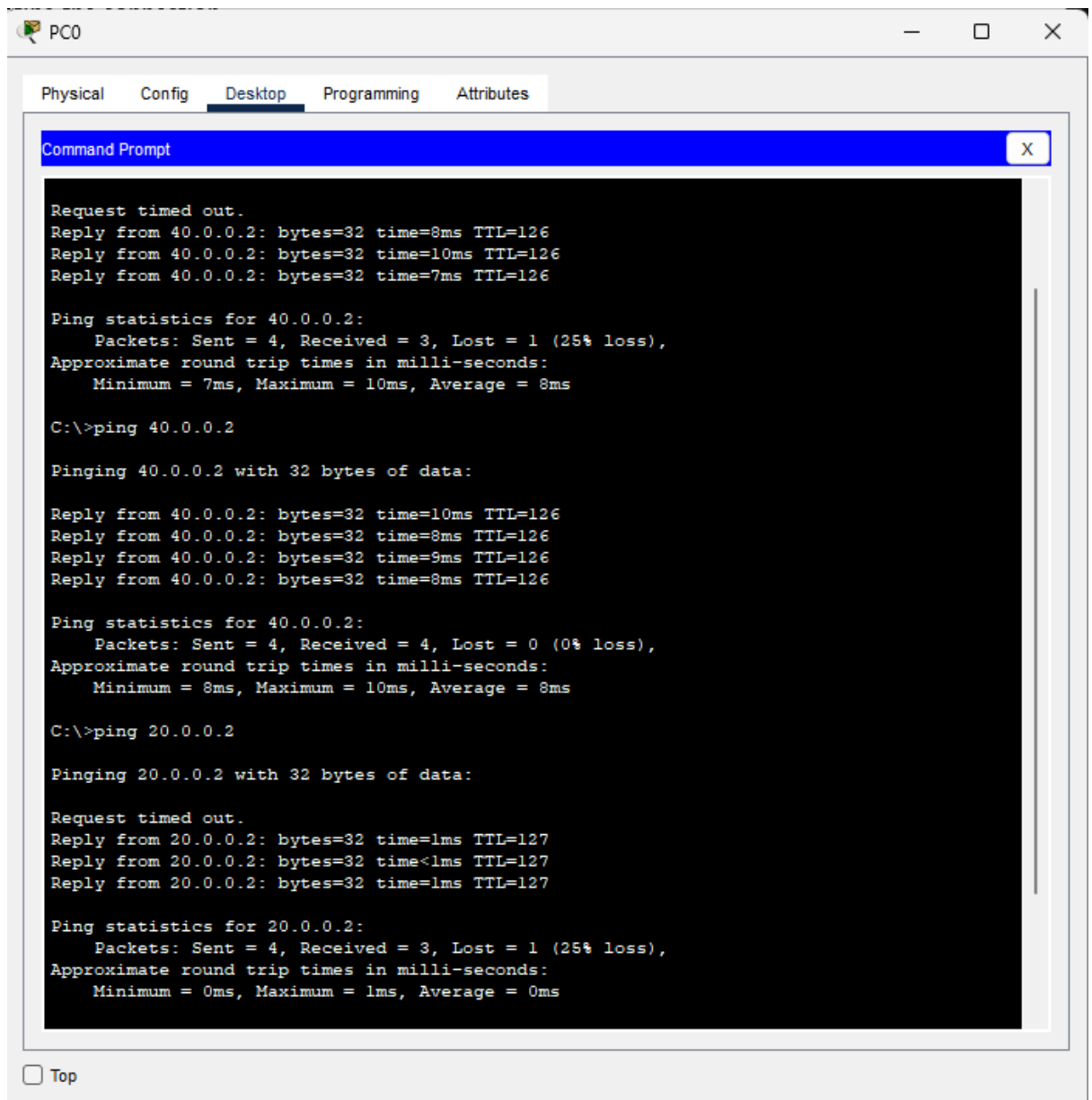
Run the following command from the global configuration mode on the router R2.

```
Router(config)#ip route 0.0.0.0 0.0.0.0 30.0.0.1
```



7. Testing the connection





The screenshot shows a PC0 window with a 'Desktop' tab selected. Inside the window is a 'Command Prompt' application. The command prompt displays the results of two ping commands. The first command is 'ping 40.0.0.2', which shows a 25% loss of packets. The second command is 'ping 20.0.0.2', which also shows a 25% loss of packets. The output for each command includes the number of bytes, time, and TTL for each reply, as well as the ping statistics (Packets: Sent, Received, Lost, and Approximate round trip times).

```
Request timed out.  
Reply from 40.0.0.2: bytes=32 time=8ms TTL=126  
Reply from 40.0.0.2: bytes=32 time=10ms TTL=126  
Reply from 40.0.0.2: bytes=32 time=7ms TTL=126  
  
Ping statistics for 40.0.0.2:  
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 7ms, Maximum = 10ms, Average = 8ms  
  
C:\>ping 40.0.0.2  
  
Pinging 40.0.0.2 with 32 bytes of data:  
  
Reply from 40.0.0.2: bytes=32 time=10ms TTL=126  
Reply from 40.0.0.2: bytes=32 time=8ms TTL=126  
Reply from 40.0.0.2: bytes=32 time=9ms TTL=126  
Reply from 40.0.0.2: bytes=32 time=8ms TTL=126  
  
Ping statistics for 40.0.0.2:  
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 8ms, Maximum = 10ms, Average = 8ms  
  
C:\>ping 20.0.0.2  
  
Pinging 20.0.0.2 with 32 bytes of data:  
  
Request timed out.  
Reply from 20.0.0.2: bytes=32 time=1ms TTL=127  
Reply from 20.0.0.2: bytes=32 time<1ms TTL=127  
Reply from 20.0.0.2: bytes=32 time=1ms TTL=127  
  
Ping statistics for 20.0.0.2:  
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),  
Approximate round trip times in milli-seconds:  
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

Conclusion:

We have successfully configured static and default routes on Cisco routers and verified their functionality.