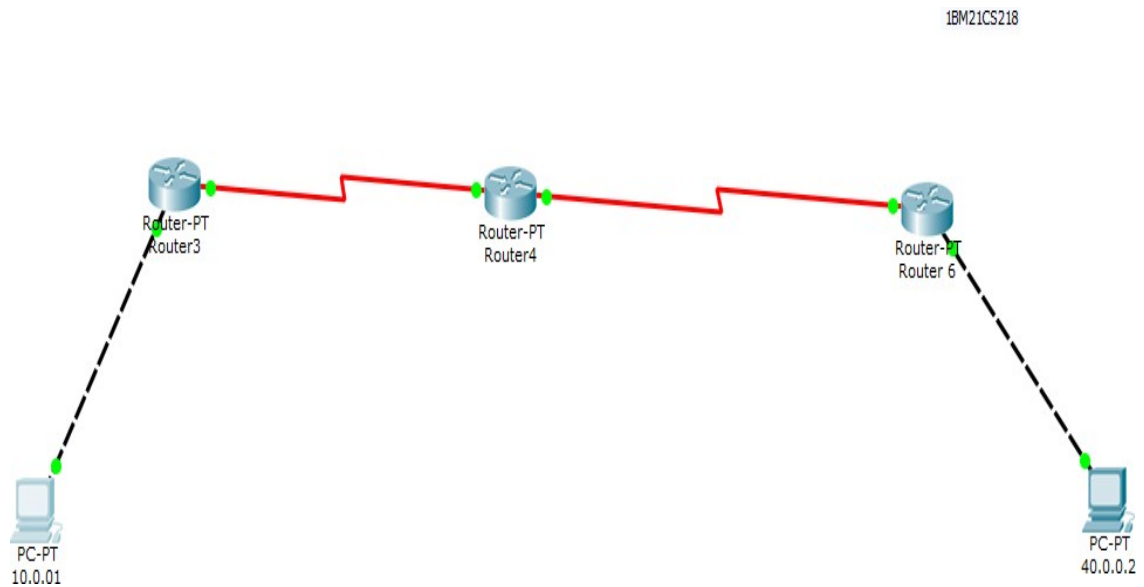


CN-LAB 03

TOPOLOGY:



Ping Response before configuring router route:

```
10.0.0.1
Physical Config Desktop Custom Interface

Command Prompt

Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.2

Pinging 10.0.0.2 with 32 bytes of data:

Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255
Reply from 10.0.0.2: bytes=32 time=0ms TTL=255

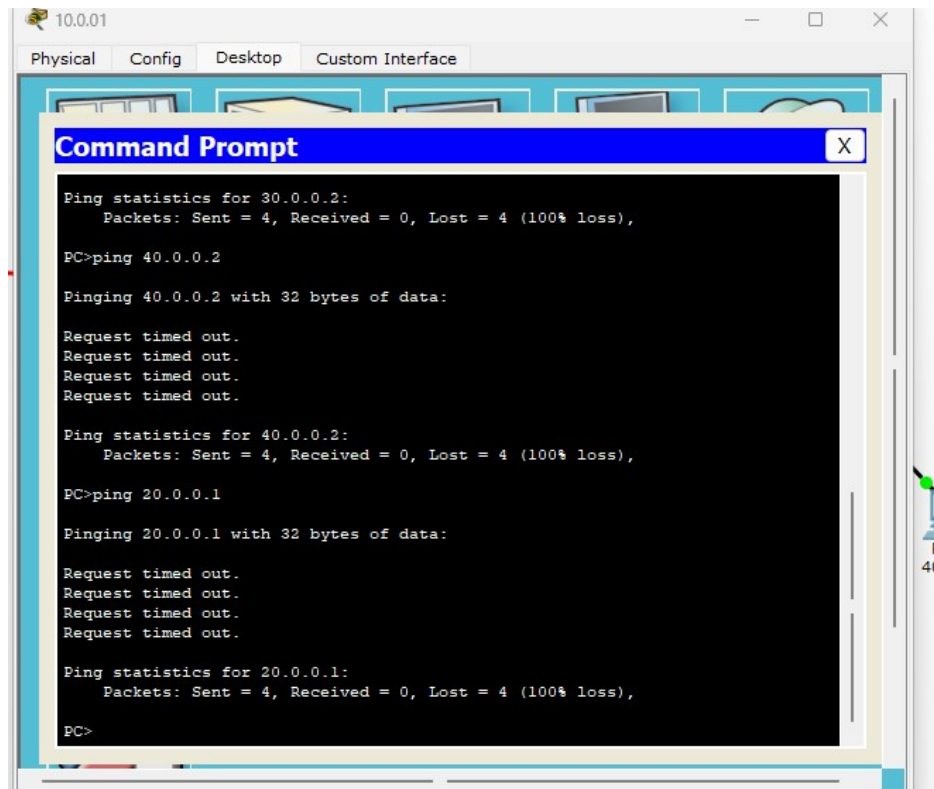
Ping statistics for 10.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

PC>ping 20.0.0.2

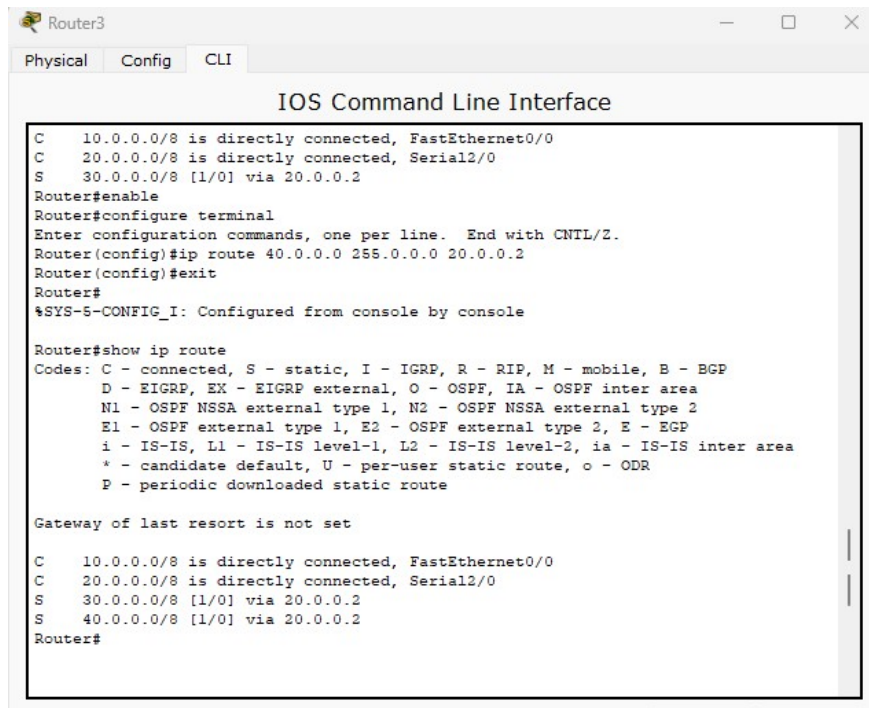
Pinging 20.0.0.2 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 20.0.0.2:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```



Router Route:



Router4

Physical Config CLI

IOS Command Line Interface

```
Gateway of last resort is not set
C   20.0.0.0/8 is directly connected, Serial2/0
C   30.0.0.0/8 is directly connected, Serial3/0
S   40.0.0.0/8 [1/0] via 30.0.0.2
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 10.0.0.0 255.0.0.0 20.0.0.1
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S   10.0.0.0/8 [1/0] via 20.0.0.1
C   20.0.0.0/8 is directly connected, Serial2/0
C   30.0.0.0/8 is directly connected, Serial3/0
S   40.0.0.0/8 [1/0] via 30.0.0.2
Router#
```

Router6

Physical Config CLI

IOS Command Line Interface

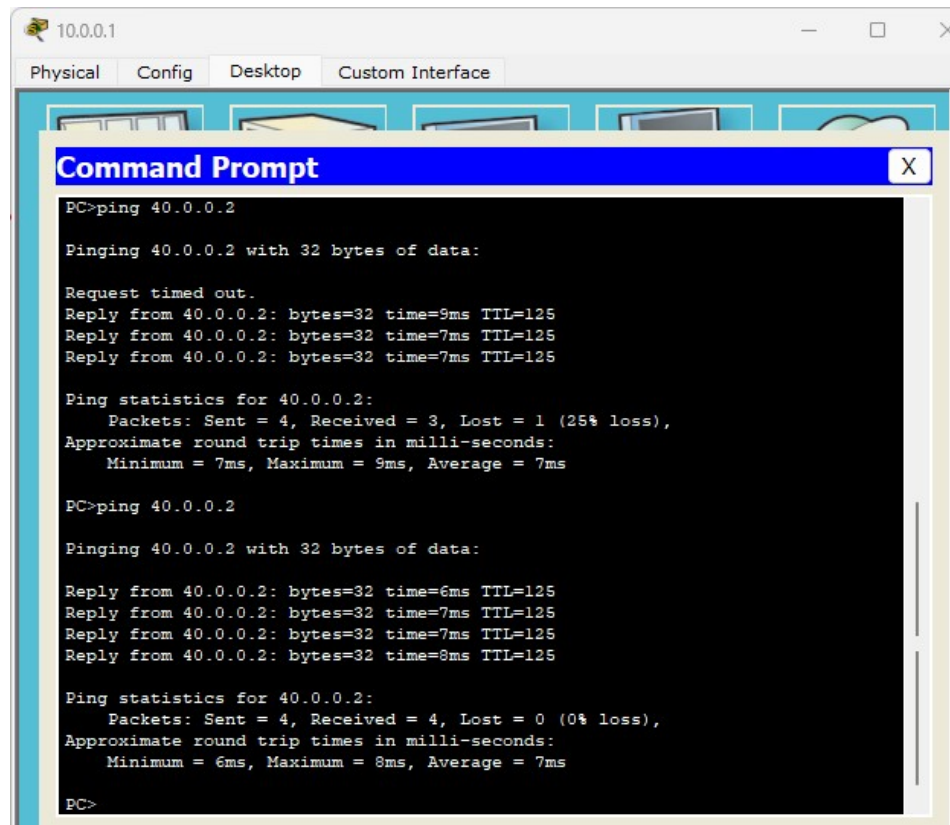
```
C   30.0.0.0/8 is directly connected, Serial3/0
C   40.0.0.0/8 is directly connected, FastEthernet1/0
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 10.0.0.0 255.0.0.0 30.0.0.1
Router(config)#ip route 20.0.0.0 255.0.0.0 30.0.0.1
Router(config)#exit
Router#
%SYS-S-CONFIG_I: Configured from console by console

Router#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

S   10.0.0.0/8 [1/0] via 30.0.0.1
S   20.0.0.0/8 [1/0] via 30.0.0.1
C   30.0.0.0/8 is directly connected, Serial3/0
C   40.0.0.0/8 is directly connected, FastEthernet1/0
Router#
```

Ping Responses final:



The screenshot shows a Packet Tracer PC window for IP 10.0.0.1. The 'Command Prompt' window is open, displaying the results of a ping command to 40.0.0.2. The first ping attempt shows a 'Request timed out' for the first packet, followed by three successful replies. The statistics show a 25% loss rate. The second ping attempt shows four successful replies, and the statistics show a 0% loss rate.

```
10.0.0.1
Physical Config Desktop Custom Interface

Command Prompt X
PC>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 40.0.0.2: bytes=32 time=9ms TTL=125
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125

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 = 9ms, Average = 7ms

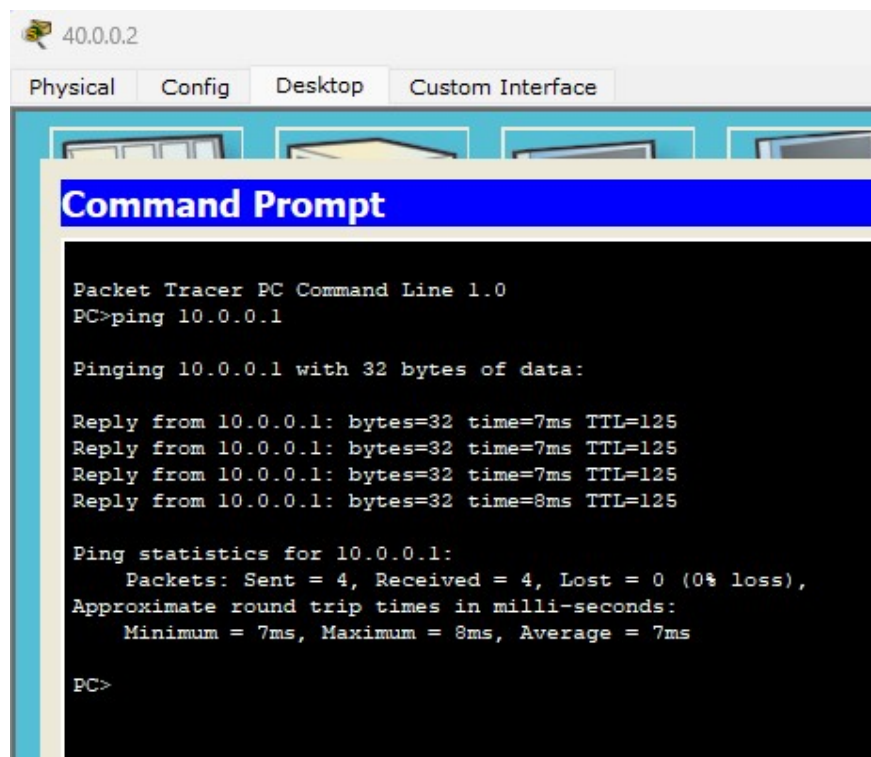
PC>ping 40.0.0.2

Pinging 40.0.0.2 with 32 bytes of data:

Reply from 40.0.0.2: bytes=32 time=6ms TTL=125
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125
Reply from 40.0.0.2: bytes=32 time=7ms TTL=125
Reply from 40.0.0.2: bytes=32 time=8ms TTL=125

Ping statistics for 40.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 6ms, Maximum = 8ms, Average = 7ms

PC>
```



The screenshot shows a Packet Tracer PC window for IP 40.0.0.2. The 'Command Prompt' window is open, displaying the results of a ping command to 10.0.0.1. The output shows four successful replies and statistics indicating a 0% loss rate.

```
40.0.0.2
Physical Config Desktop Custom Interface

Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1

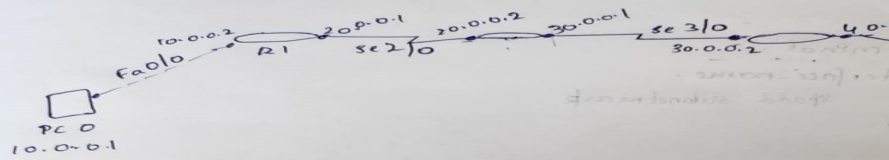
Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time=7ms TTL=125
Reply from 10.0.0.1: bytes=32 time=7ms TTL=125
Reply from 10.0.0.1: bytes=32 time=7ms TTL=125
Reply from 10.0.0.1: bytes=32 time=8ms TTL=125

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 7ms, Maximum = 8ms, Average = 7ms

PC>
```


CN - Lab 03 Network of Routers



① Ping from PC0 to R1

Ping statistics for 10.0.0.2

Packet: sent = 4, Received = 4, Loss = 0%

Approximate round trip times in milliseconds:

Minimum = 0 ms, Maximum = 0 ms, Average = 0 ms

② Ping from PC0 to R2

Ping 20.0.0.2

Request timed out.

③ Ping from PC0 to R3

Ping 30.0.0.2

Request timed out.

④ Ping from PC0 to PC1

Ping 40.0.0.2

Request timed out.

Steps to configure Router :-

- ① Press no
- ② Press enable
- ③ enter
- ④ Configure terminal
- ⑤ interface interface-name
- ⑥ ip address ipadd subnetmask
- ⑦ no shutdown
- ⑧ exit

Router 1:

- no
- enable
- configure terminal
- interface FastEthernet 0/0
- ip address 10.0.0.2 255.0.0.0
- no shutdown
- exit
- interface Serial 2/0
- ip address 20.0.0.1 255.0.0.0
- no shutdown
- exit

Router 2:-

- no
- enable
- configure terminal
- interface Serial 2/0
- ip address 20.0.0.2 255.0.0.0
- no shutdown

→ no
 → enable
 → interface Serial 3/0
 → ip address 30.0.0.2 255.0.0.0
 → no shut down
 → exit
 → interface FastEthernet 1/0
 → ip address 40.0.0.3 255.0.0.0

Click on Router R1, then type (static ip route)
 → ip route network address subnet mask next interface
 * For configuring we should go to configure

For Router 1

→ enable
 → configure terminal
 → Router (config)# ip route 30.0.0.0 255.0.0.0
 Router (config)# ip route 40.0.0.0 255.0.0.0
 Router (config)# exit
 → Router# show ip route
 C 30.0.0.0/8 is directly connected, Ser
 C 40.0.0.0/8 is directly connected.
 S 30.0.0.0/8 connected via 20.0.0.0
 S 40.0.0.0/8 connected via 20.0.0.0

Router 2 (after giving manual connection)

For Router 3:-

After configuration

Router (config)# ip route 10.0.0.0 255.0.0.0 30
 Router (config)# ip route 20.0.0.0 255.0.0.0 3
 Router (config)# exit

Router# show ip route

S 10.0.0.0/8 [1/0] via 30.0.0.1
 S 20.0.0.0/8 [1/0] via 30.0.0.1
 C 30.0.0.0/8 is directly connected, Serial
 C 40.0.0.0/8 is directly connected, Serial Fast

