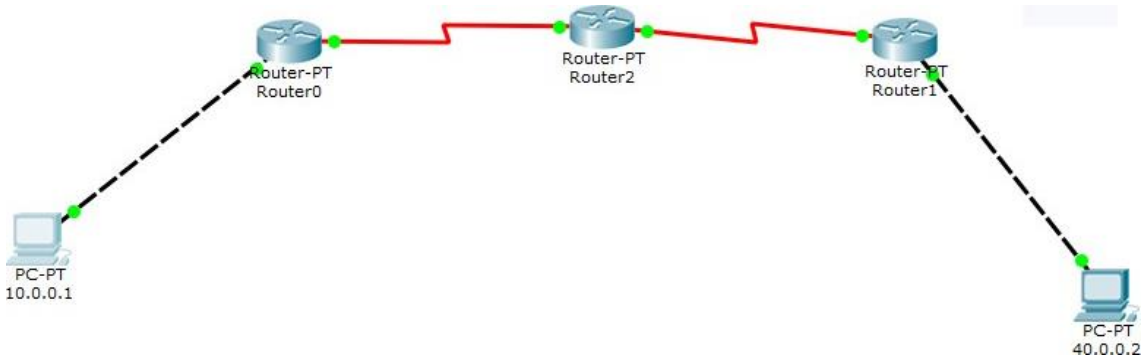
LAB : 3



Router1

Physical | Config | CLI

IOS Command Line Interface

```
       P - periodic downloaded static route

Gateway of last resort is not set

C    30.0.0.0/8 is directly connected, Serial3/0
C    40.0.0.0/8 is directly connected, FastEthernet0/0
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip route 20.0.0.0 255.0.0.0 30.0.0.1
Router(config)#ip route 10.0.0.0 255.0.0.0 30.0.0.1
Router(config)#exit
Router#
%SYS-5-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, FastEthernet0/0
Router#
```

Copy | Paste

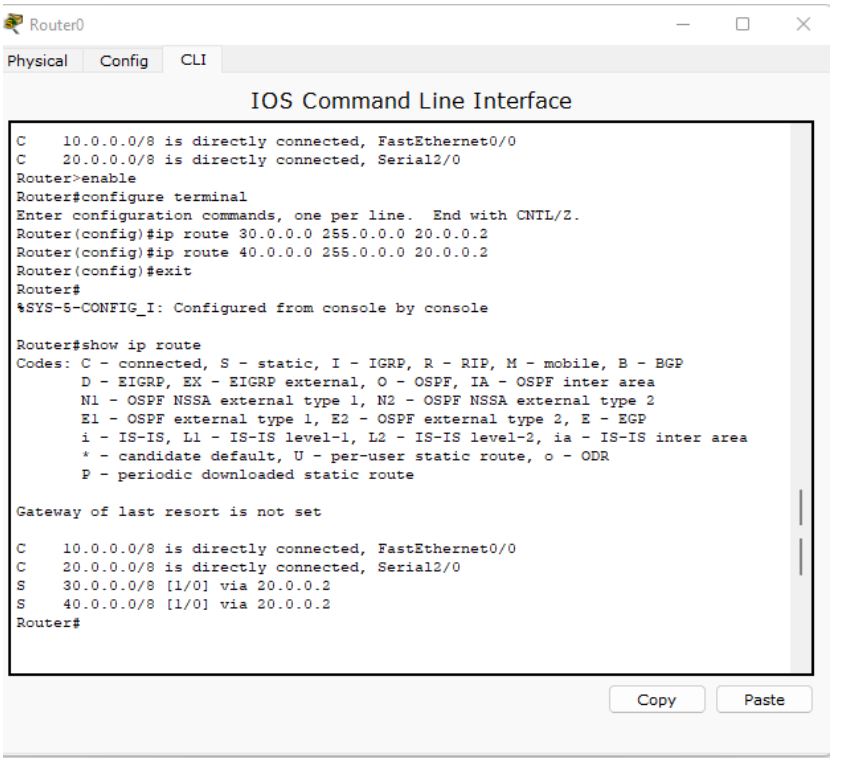
Router2

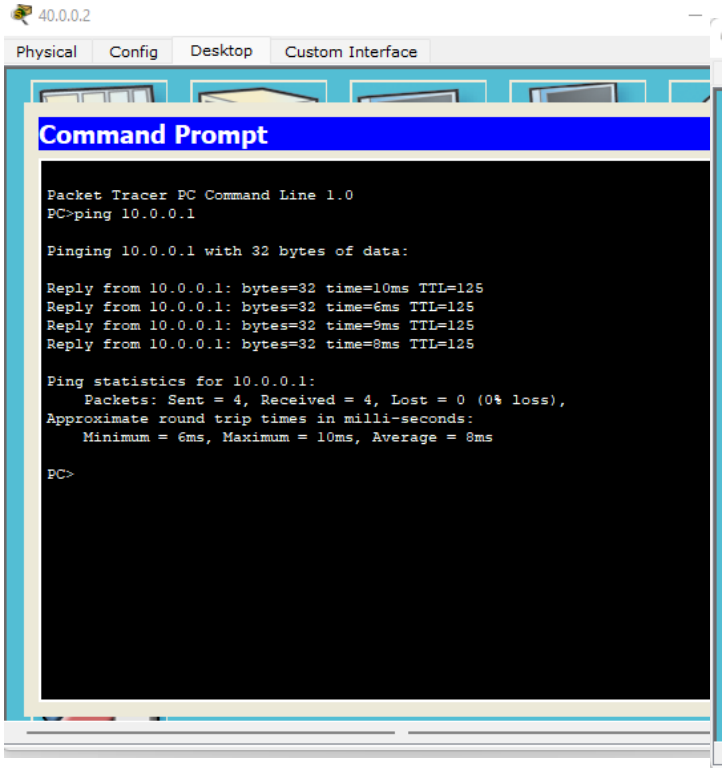
Physical | Config | CLI

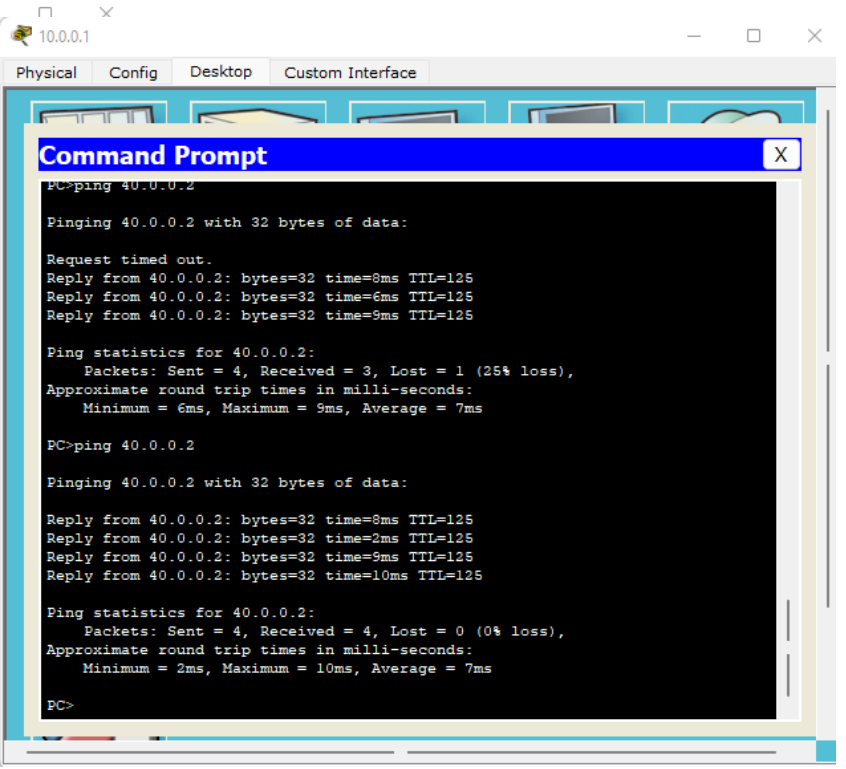
IOS Command Line Interface

```
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 20.0.0.2
%Invalid next hop address (it's this router)
Router(config)#ip route 10.0.0.0 255.0.0.0 20.0.0.1
Router(config)#exit
Router#
%SYS-5-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#
```

Copy | Paste


Router0
Physical
Config
CLI
IOS Command Line Interface
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, Serial2/0
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 30.0.0.0 255.0.0.0 20.0.0.2
Router(config)#ip route 40.0.0.0 255.0.0.0 20.0.0.2
Router(config)#exit
Router#
%SYS-5-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
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, Serial2/0
S 30.0.0.0/8 [1/0] via 20.0.0.2
S 40.0.0.0/8 [1/0] via 20.0.0.2
Router#
Copy
Paste

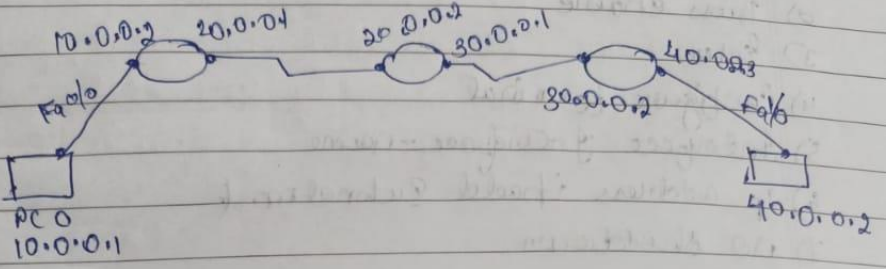

40.0.0.2
Physical
Config
Desktop
Custom Interface
Command Prompt
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1
Pinging 10.0.0.1 with 32 bytes of data:
Reply from 10.0.0.1: bytes=32 time=10ms TTL=125
Reply from 10.0.0.1: bytes=32 time=6ms TTL=125
Reply from 10.0.0.1: bytes=32 time=9ms TTL=125
Reply 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 = 6ms, Maximum = 10ms, Average = 8ms
PC>


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=8ms TTL=125
Reply from 40.0.0.2: bytes=32 time=6ms TTL=125
Reply from 40.0.0.2: bytes=32 time=9ms 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 = 6ms, 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=8ms TTL=125
Reply from 40.0.0.2: bytes=32 time=2ms TTL=125
Reply from 40.0.0.2: bytes=32 time=9ms TTL=125
Reply from 40.0.0.2: bytes=32 time=10ms 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 = 2ms, Maximum = 10ms, Average = 7ms
PC>

DATE :

Lab - 03

Network of Routers



1) Ping from PC0 to R1
Ping statistics for 10.0.0.2
Packet: sent = 4, Recieved = 4, Lost = 0
Approximate round trip times in milli-seconds
Minimum = 0ms, Maximum = 0ms, Average = 0ms

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

5) Ping 20.0.0.1
Request timed out
Packets: sent = 4, Recieved = 0, lost = 4.

Steps to configure Router :-

1) Press no
2) Press enable
3) Enter
4) Configure terminal
5) Interface interface-name
6) ip address ipaddr 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 shut down
→ exit

Router 2:

→ no
→ enable
→ configure terminal
→ interface Serial 2/0
→ ip address 20.0.0.2 255.0.0.0
→ no shut down
→ exit

→ interface Serial 3/0
→ ip address 30.0.0.1 255.0.0.0
→ no shut down
→ exit

Router 3

→ no
→ enable
→ interface Serial 3/0
→ ip address 30.0.0.2 255.0.0.0
→ no shutdown
→ 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 address (to reach);
→ for configuring we should go to configured mode.

for Router 1

→ enable
→ Configure terminal
→ Router(config)# ip route 30.0.0.0 25.0.0.0 20.0.0.2
→ Router(config)# ip route 40.0.0.0 25.0.0.0 20.0.0.2
→ Router(config)# exit

Router# show ip route

C 10.0.0.0/8 is directly connected, FastEthernet 0/0
C 20.0.0.0/8 is directly connected, Serial 2/0
S 30.0.0.0/8 connected via 20.0.0.2
S 40.0.0.0/8 connected via 20.0.0.2

Router 2 (after giving manual connection)

→ show ip route

S 10.0.0.0/8 [1/0] via 20.0.0.1
C 20.0.0.0/8 is directly connected, Serial 2/0
C 30.0.0.0/8 is directly connected, Serial 3/0
S 40.0.0.0/8 [1/0] via 30.0.0.2

for Router 3

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# 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 3/0
C 40.0.0.0/8 is directly connected, FastEthernet 1/0

from PC0
Ping 40.0.0.2
Packets sent=4 Recieved=4 lost=0,