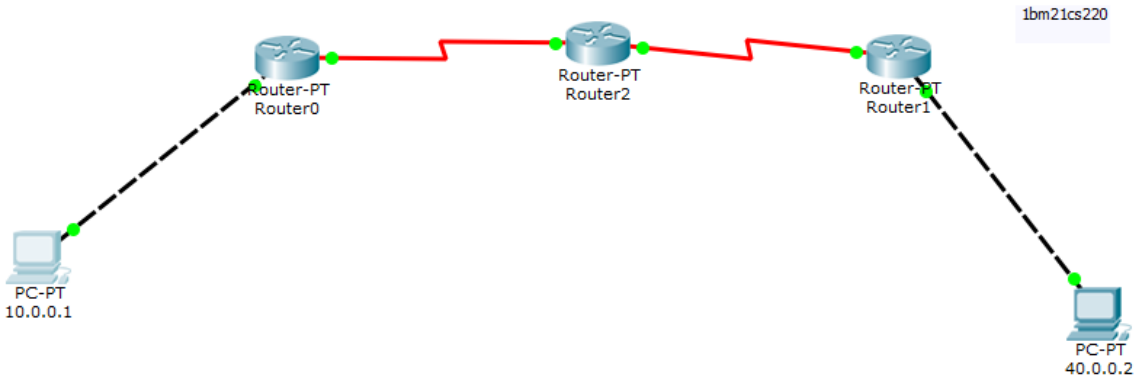


Router1

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

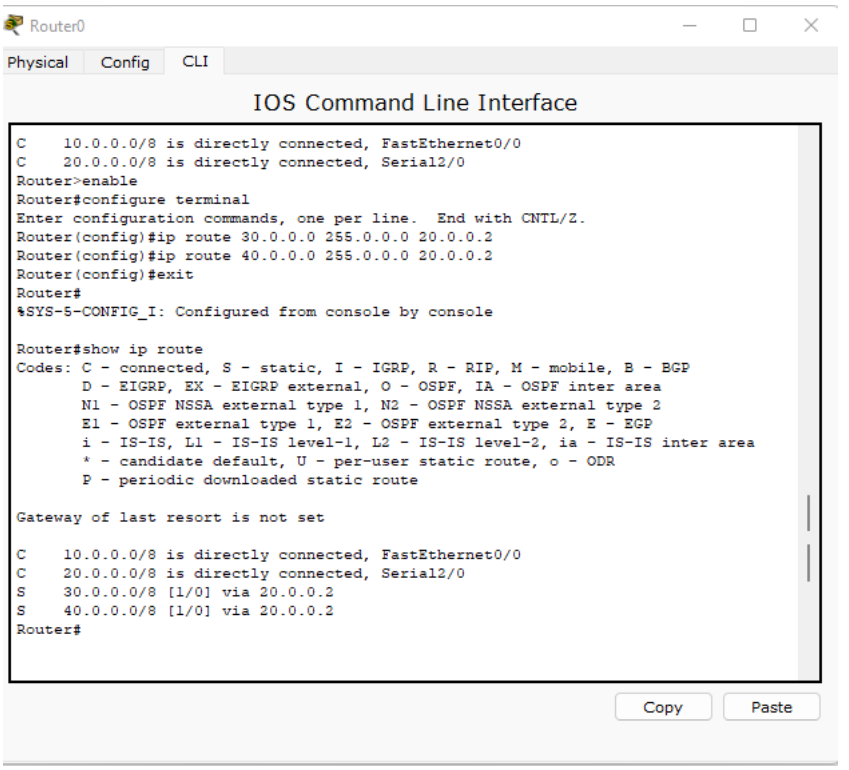
Router2

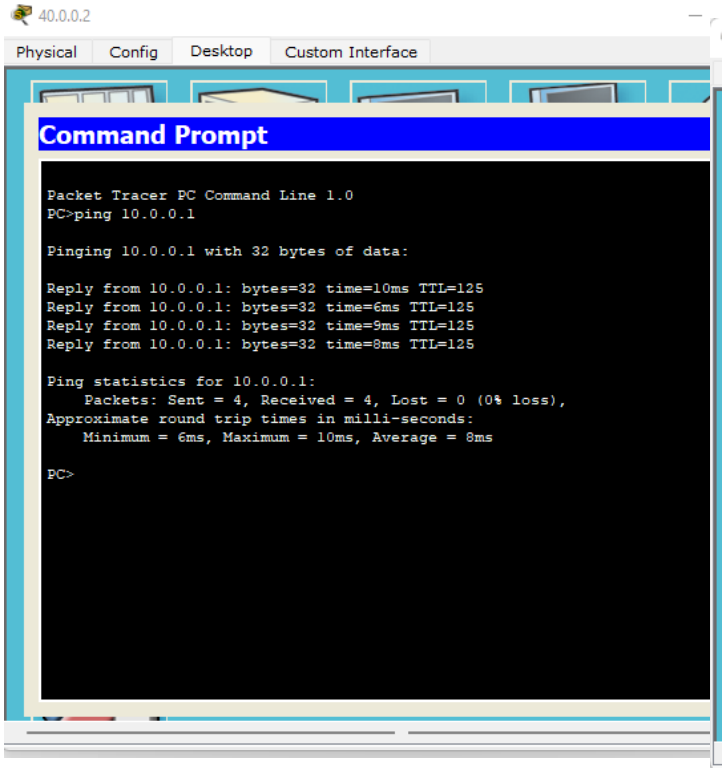
Physical | Config | CLI

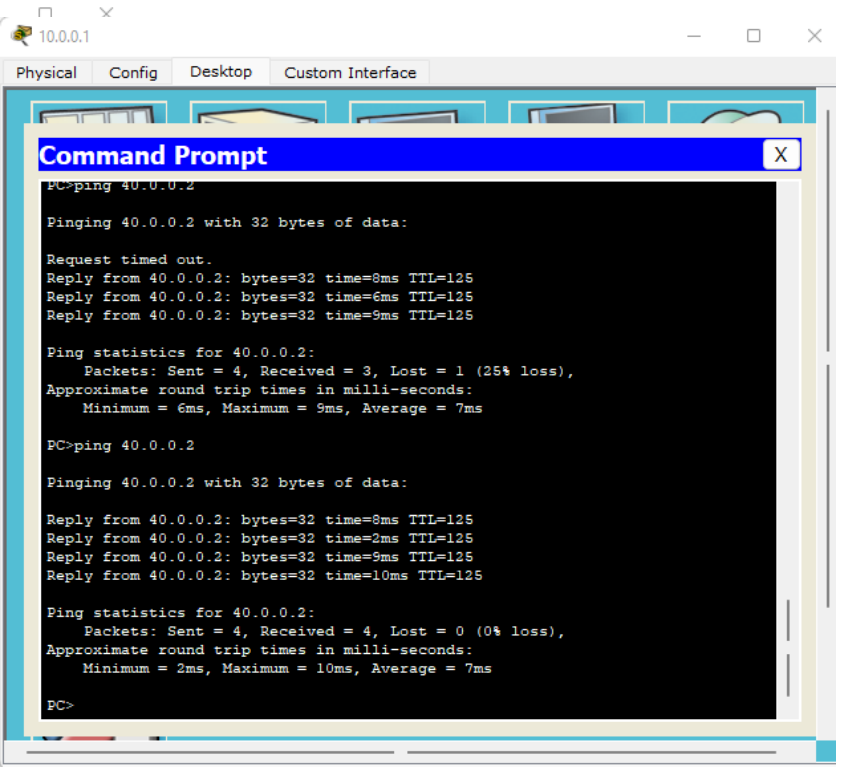
IOS Command Line Interface

```
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

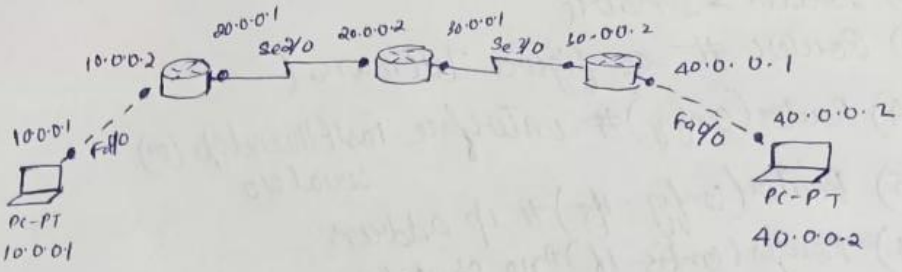

Router0
Physical
Config
CLI
IOS Command Line Interface
C 10.0.0.0/8 is directly connected, FastEthernet0/0
C 20.0.0.0/8 is directly connected, Serial2/0
Router>enable
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip route 30.0.0.0 255.0.0.0 20.0.0.2
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>

LAB-05

network of routers



1) pinging from PC0 to Router0 : PC>ping 10.0.0.2
   ping statistics for 10.0.0.2
   packets: sent = 4, recieved = 4, lost = 0
   Approximate round trip times in milli-seconds:
   minimum = 0ms, Maximum = 0ms, Average = 0ms

2) ping from PC0 to Router0: pc>ping 20.0.0.1
   Request timed out

3) ping from PC0 to Router2 : pc>ping 20.0.0.2
   request timed out

4) pc>ping 30.0.0.1
   ~~destination host unreachable~~ request timed out

5) pc>ping 30.0.0.2
   ~~destination host unreachable~~ request timed out

6) pc>ping 40.0.0.1
   request timed out

7) pc>ping 4.0.0.2
   request timed out

steps to configure the router

1) press no
2) Router > enable
3) Router # configure terminal
4) Router (config)# interface FastEthernet 0/0 (or) Serial 2/0
5) Router (config-if)# ip address
6) Router (config-if)# no shutdown

(static ip route) → because routing protocols are not configured

→ click on router R0, then type ~~ip route 30.0.0.0~~

ip route 30.0.0.0 255.0.0.0 20.0.0.2
(network address, subnet mask, next interface to reach the (next hop address))

ip route 40.0.0.0 255.0.0.0 20.0.0.2

→ click on router R1

ip route 40.0.0.0 255.0.0.0 30.0.0.2

C → connected
S → statically connected
Router# show ip route
(when executing a command → no needs to be in a

1) for Router0

Router > enable
Router # configure terminal
Router (config)# ip route 20.0.0.0 255.0.0.0 20.0.0.2
Router (config)# ip route 40.0.0.0 255.0.0.0 20.0.0.2
Router (config)# exit
Router#

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 [1/0] via 20.0.0.2
S 40.0.0.0/8 [1/0] via 20.0.0.2
Router#

Router 1

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 # 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 30.0.0.8/8 is directly connected
C 40.0.0.0/8 is directly connected

Router 2
Router (config) # ip route 40.0.0/8 255.0.0.0 20.0.0.1
Router (config) # ip route 10.0.0 255.0.0.0 20.0.0.1

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 serial1/0
40.0.0.0/8 [1/0) via 30.0.0.2

PC> ping 10.0.0.1
Packets sent = 4, Recieved = 4, lost = 0

PC> ping 40.0.0.1
Packets sent = 4, Recieved = 4, lost = 0