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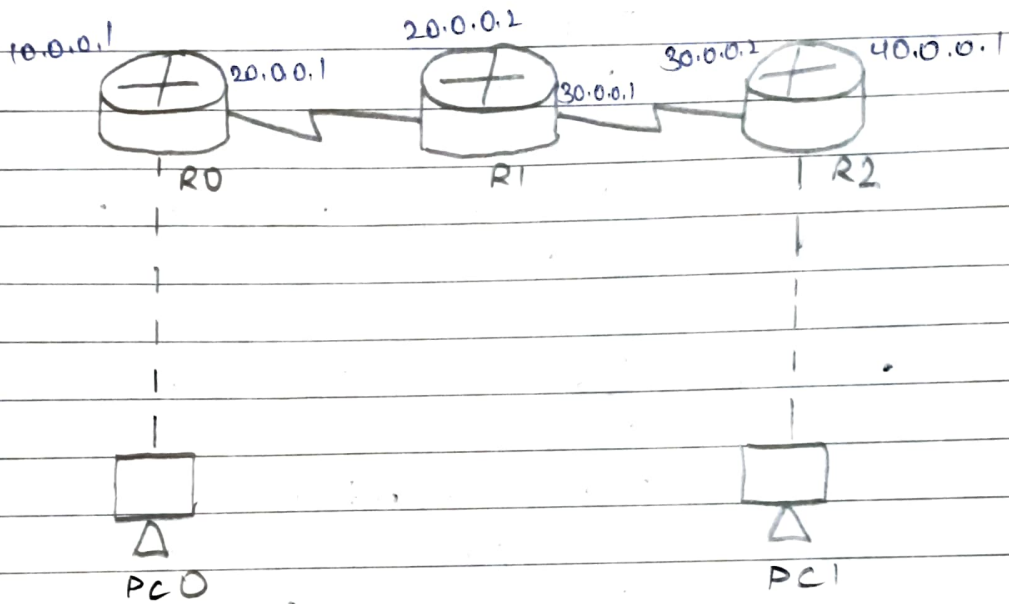
LAB-03

- Objective: Configure one static routing and two default routings using three routers and two PC's.

- Topology:



10.0.0.10
GW - 10.0.0.1

40.0.0.10
GW - 40.0.0.1

- Procedure:

1) Connect two PC's with two different routers using copper cross over.

2) Connect both the routers using one more router using serial DCE.

3) Open config in the PC and configure the IP address and the gateway.

4) Do the same for the other PC.

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5) Open CLI in the router and configure the fastethernet connection by the following commands:

> enable
> config terminal
> interface fastethernet 0/0
> ip address 10.0.0.1 255.0.0.0
> no shutdown
> exit

6) Repeat the steps for the router connected to other PC.

7) Connect the routers by the following commands:

> enable
> config terminal
> interface serial 2/0
> ip address 20.0.0.1 255.0.0.0
> no shutdown
> exit

8) Repeat the steps for the other routers.

9) Now make the middle router as static router using following commands:

> enable
> config terminal
> ip route 10.0.0.0 255.0.0.0 20.0.0.1
> ip route 40.0.0.0 255.0.0.0 30.0.0.2
> exit

10) Make the other routers as Default routing

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by following commands:
> enable
> config terminal
> ip route 0.0.0.0 0.0.0.0 20.0.0.2

11) Repeat the steps for the ~~or~~ routers connected ~~to~~ to other ~~router~~ PC.

- Observation:

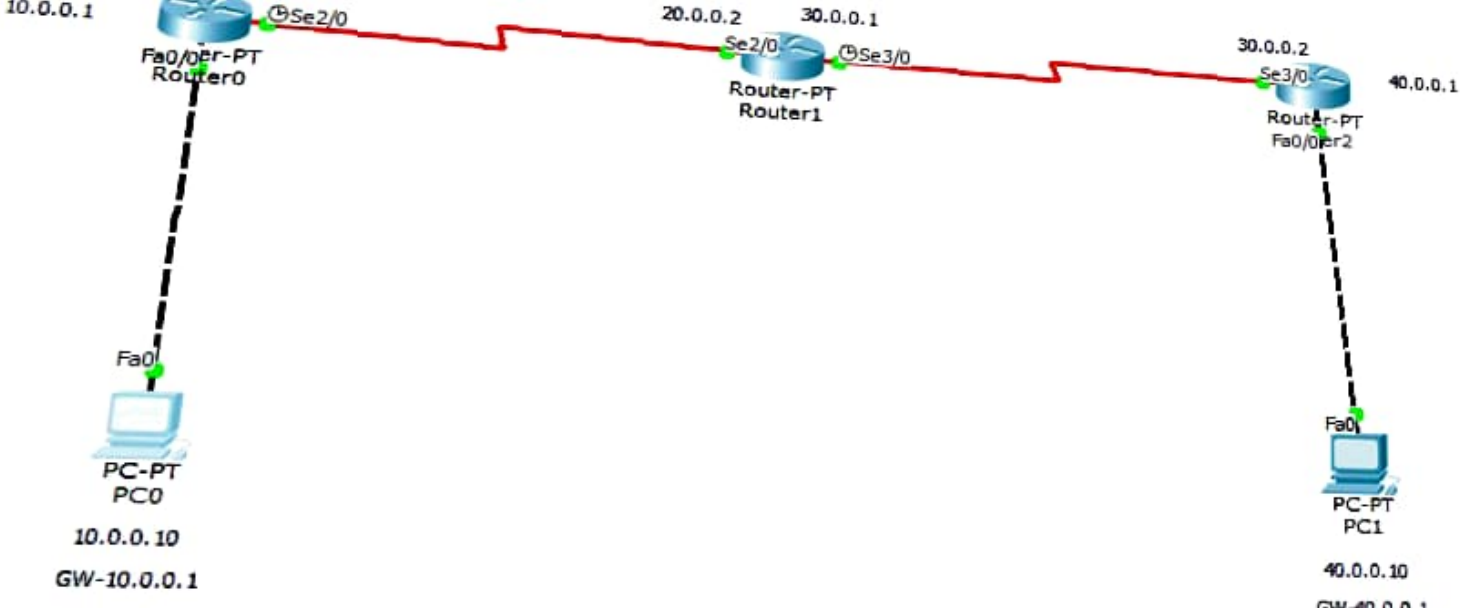
1) All PC's and routers are connected succesfully.

2) ~~Pin~~ Default routing is set for routers connected to PC's (R0 & R2).

3) Static routing is set for R0.

4) From PC0, ping 40.0.0.10 (PC1) will be succesful and all packets will be received.

23/10/24.
10/10


10.0.0.1
Fa0/0
Router-PT
Router0
Se2/0
20.0.0.2
Se2/0
30.0.0.1
Se3/0
Router-PT
Router1
30.0.0.2
Se3/0
40.0.0.1
Router-PT
Fa0/0
Router2
Fa0
PC-PT
PC0
10.0.0.10
GW-10.0.0.1
Fa0
PC-PT
PC1
40.0.0.10
GW-40.0.0.1

Physical Config CLI

IOS Command Line Interface

```
Router>enable
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    20.0.0.0/8 is directly connected, Serial2/0
C    30.0.0.0/8 is directly connected, Serial3/0
Router#config 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)#ip route 40.0.0.0 255.0.0.0 30.0.0.2
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
exit
```

Copy Paste

Router0

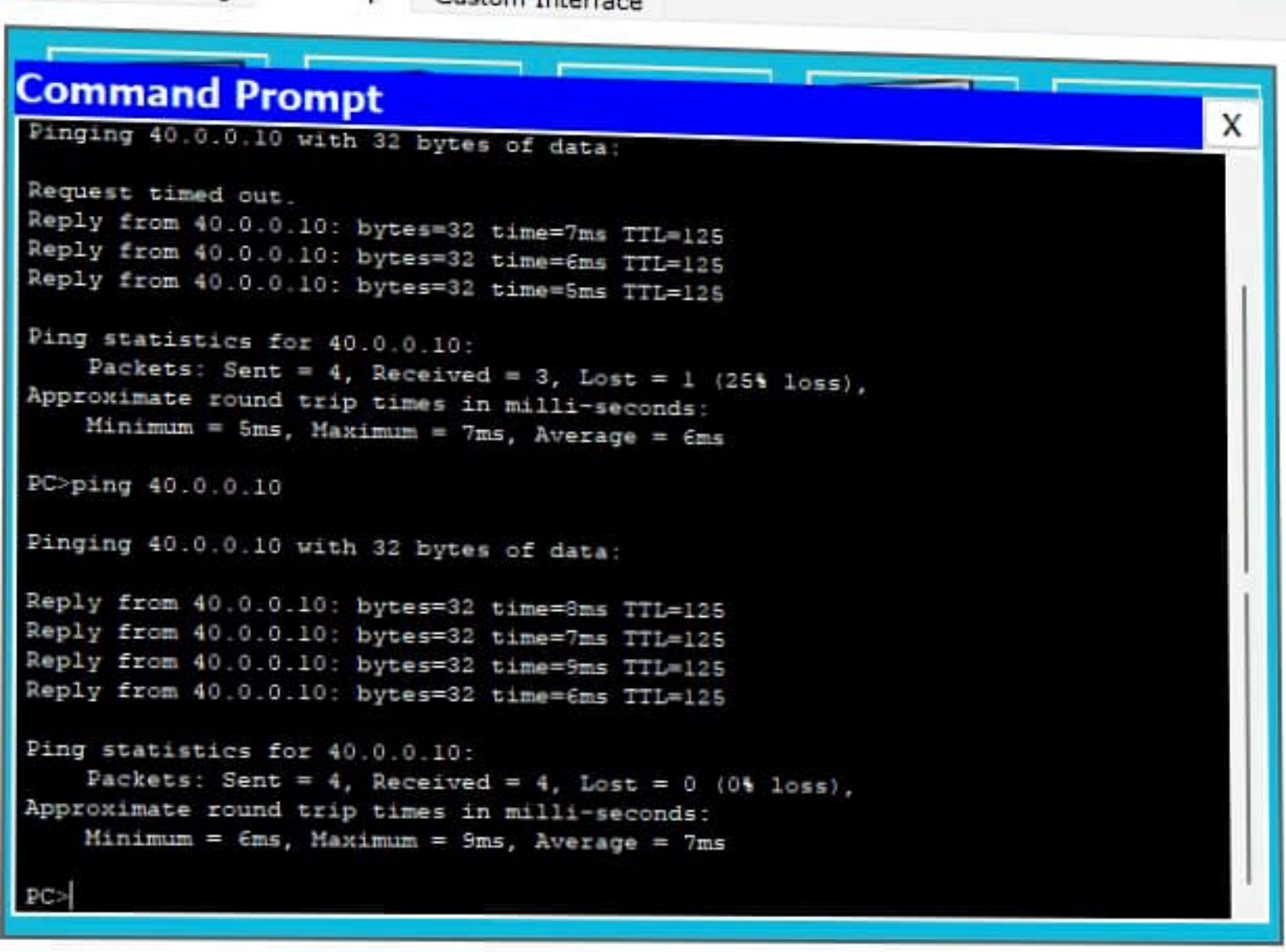
Physical Config CLI

IOS Command Line Interface

```
Router>enable
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 20.0.0.2 to network 0.0.0.0

C    10.0.0.0/8 is directly connected, FastEthernet0/0
C    20.0.0.0/8 is directly connected, Serial2/0
S*   0.0.0.0/0 [1/0] via 20.0.0.2
Router#
```


Command Prompt
X
Pinging 40.0.0.10 with 32 bytes of data:
Request timed out.
Reply from 40.0.0.10: bytes=32 time=7ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Reply from 40.0.0.10: bytes=32 time=5ms TTL=125
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
Minimum = 5ms, Maximum = 7ms, Average = 6ms
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Reply from 40.0.0.10: bytes=32 time=8ms TTL=125
Reply from 40.0.0.10: bytes=32 time=7ms TTL=125
Reply from 40.0.0.10: bytes=32 time=9ms TTL=125
Reply from 40.0.0.10: bytes=32 time=6ms TTL=125
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 6ms, Maximum = 9ms, Average = 7ms
PC>