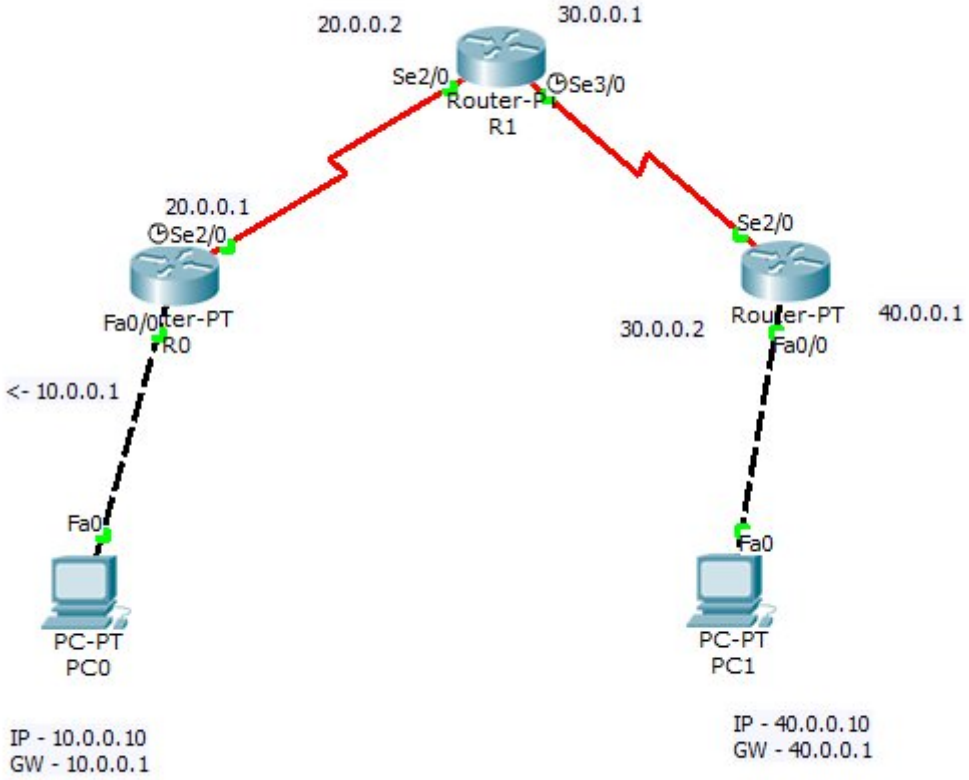
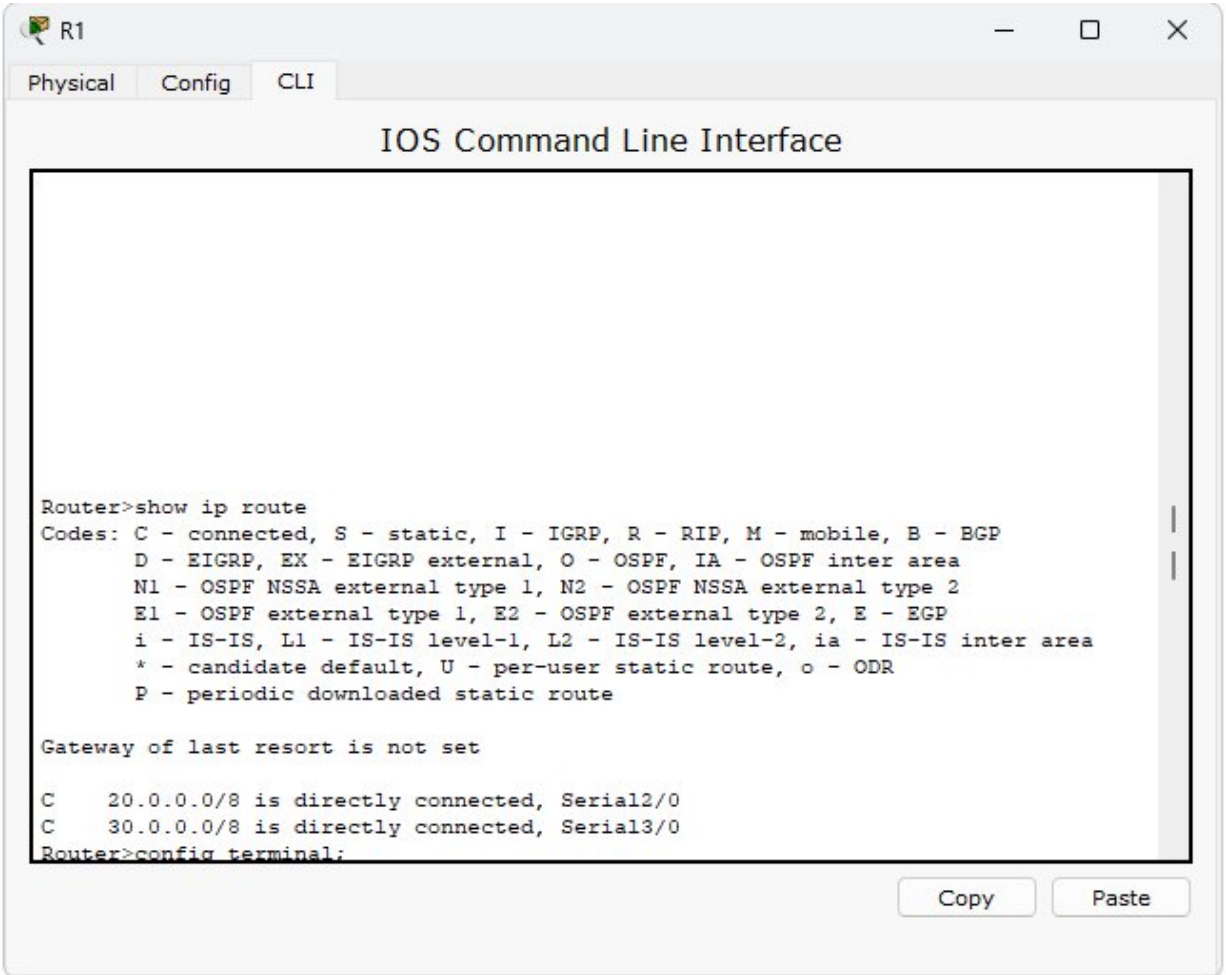
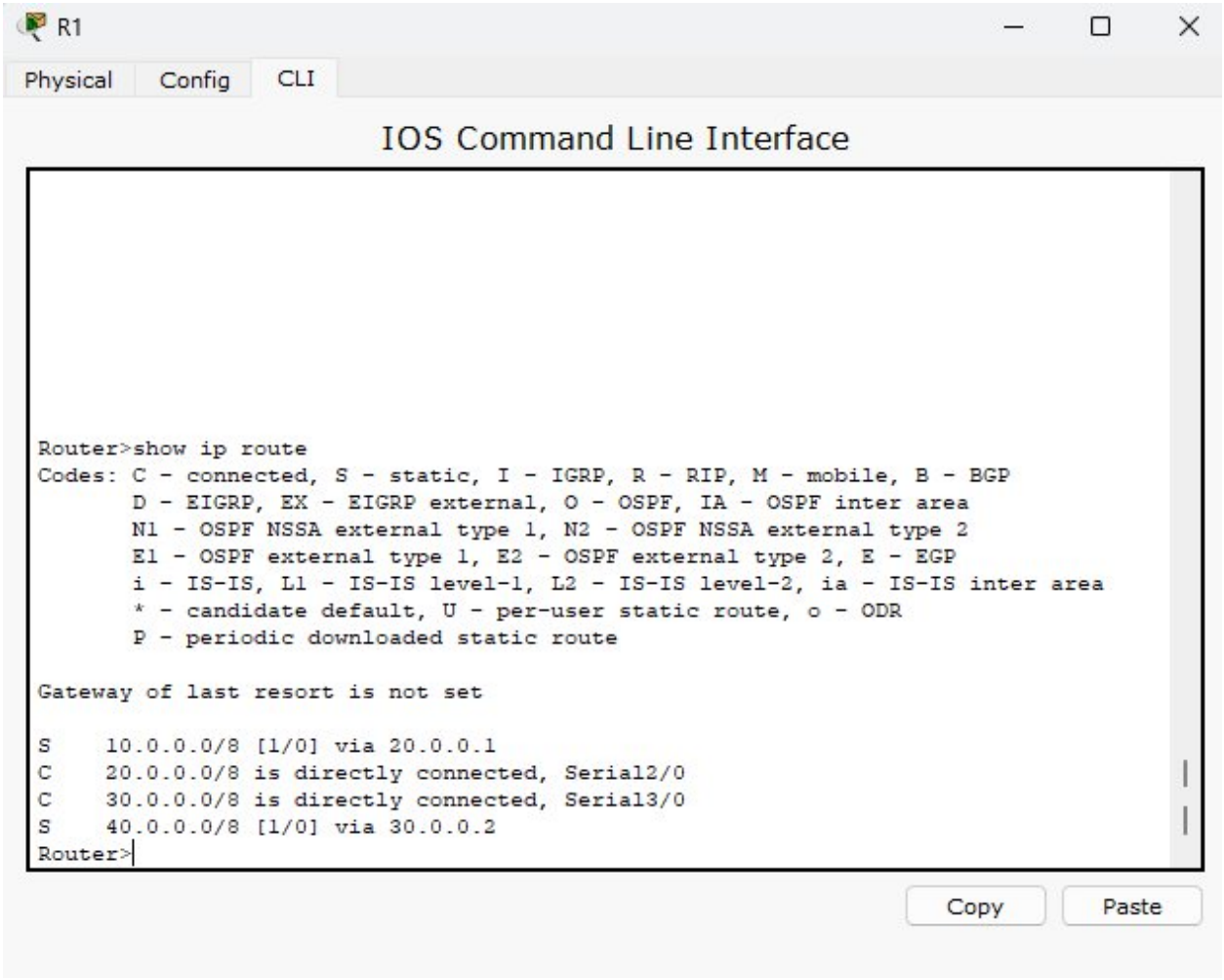
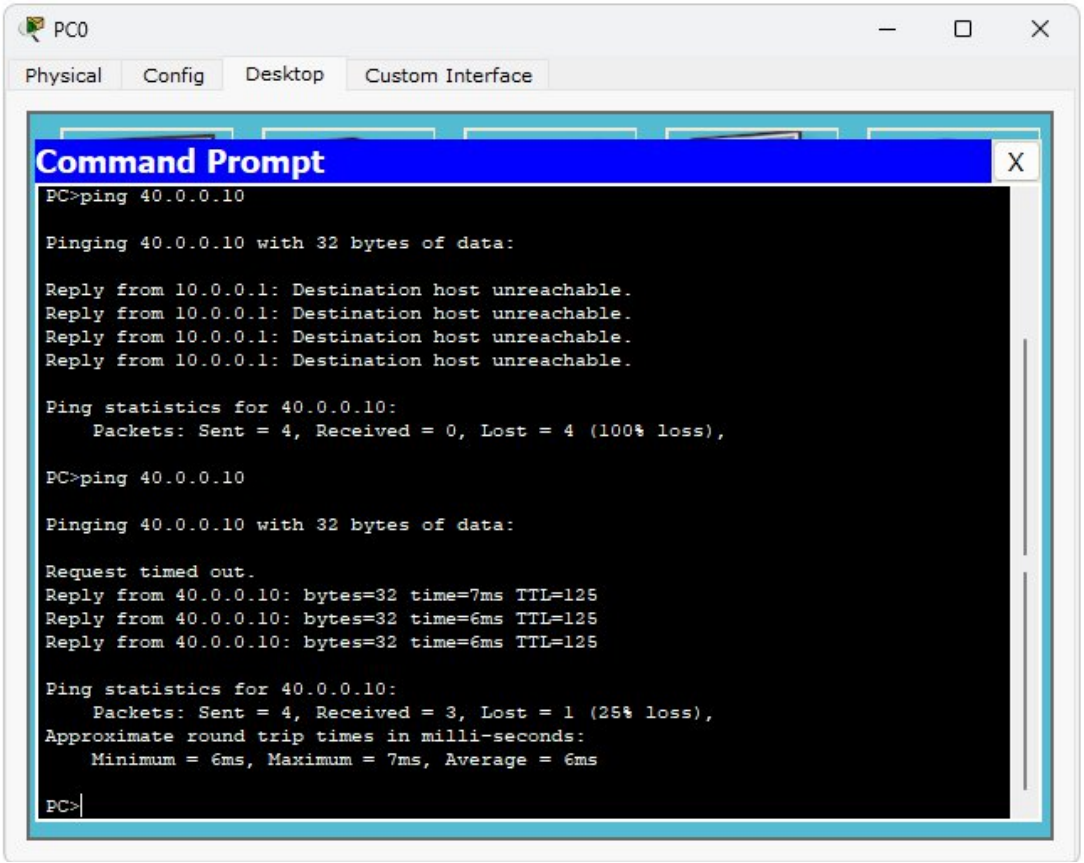
3) Configure default route, static route to the Router






R1
Physical
Config
CLI
IOS Command Line Interface
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


PC0
Physical
Config
Desktop
Custom Interface
Command Prompt
X
PC>ping 40.0.0.10
Pinging 40.0.0.10 with 32 bytes of data:
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Reply from 10.0.0.1: Destination host unreachable.
Ping statistics for 40.0.0.10:
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
PC>ping 40.0.0.10
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=6ms 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 = 6ms, Maximum = 7ms, Average = 6ms
PC>

```
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=8ms TTL=125
Reply from 40.0.0.10: bytes=32 time=9ms TTL=125
Reply from 40.0.0.10: bytes=32 time=7ms 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 = 7ms, Maximum = 9ms, Average = 8ms

PC>
```

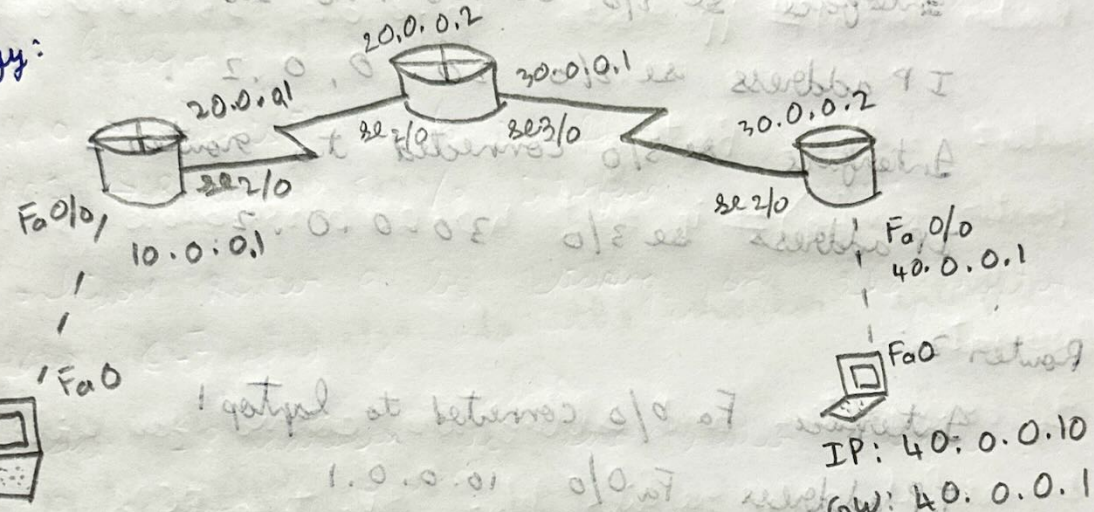
23-Oct-2024

Lab 3 : Configure default route, static route to the Router

Static routing and Default routing demonstrated, using 3 routers

Aim: Demonstrate static and Default routing using 3 routers

Topology:



IP : 10.0.0.10
GW: 10.0.0.1

Laptop 0: Connected to router 0's interface Fa 0/0 using a cross over cable

IP: 10.0.0.10
GW: 10.0.0.1

Laptop 2: Connected to router 2's interface Fa 0/0 using a cross over cable

IP : 40.0.0.10
GW: 40.0.0.1

Router 0:

Interface Fa 0/0 connected to Laptop 0

IP address Fa 0/0 10.0.0.1

Interface se 2/0 connected to router 1

IP address se 2/0 : 20.0.0.1

Router 1:

Interface se 2/0 connected to router 0

IP address se 2/0 20.0.0.2

Interface se 3/0 connected to router 2

IP address se 3/0 30.0.0.2

Router 2:

Interface Fa 0/0 connected to laptop 1

IP address Fa 0/0 10.0.0.1

Interface se 2/0 connected to Router 1

IP address se 2/0 30.0.0.2

Procedure

open cisco packet trace and drag the following components

Router: Place 3 routers in the middle

PC: Place 2 PC's on either side of the router

Use crossover cables to join the following

PC0 → Router 1 Fa 0/0 interface

PC1 → Router 2 Fa 0/0 interface

- Configure Router 0 by clicking on the router and enter CLI

Assign IP addresses to the router interfaces:

Router > enable

Router # configure terminal

Router # (config) # interface serial 2/0

Router (config-if) # ip address 20.0.0.2 255.0.0.0

Router (config-if) # no shut

Router (config) # interface serial 3/0

Router (config-if) # ip address 30.0.0.1 255.0.0.0

Router (config-if) # no shut

- Configure Router 1 in the following manner

enter CLI

Assign IP addresses to the router interface

Router > enable

Router # configure terminal

Router (config) # interface fastethernet 0/0

Router (config-if) # ip address 10.0.0.1 255.0.0.0

Router (config-if) # no shut

Router (config) # interface serial 2/0

Router (config-if) # ip address 20.0.0.1 255.0.0.0

Router (config-if) # no shut

- Configure the two PC's

PC0:

click on PC0 and set IP address to 10.0.0.10, and subnet mask to 255.0.0.0 and default gateway 10.0.0.1

PC1:

Click on PC1 and set up IP address to 40.0.0.10 and subnet mask to 255.0.0.0 and default gateway 40.0.0.1

Router 1 - Default Routing:

Router (config)# ip route 0.0.0.0 0.0.0.0 20.0.0.2

Router 2 Default Routing:

Router (config)# ip route 0.0.0.0 0.0.0.0 30.0.0.2

Router 1 - static Routing:

Router (config)# ip route 10.0.0.0 255.0.0.0 20.0.0.1

Router 2 - static Routing

Router (config)# ip route 40.0.0.0 255.0.0.0 30.0.0.2

Observation:

- If configuration and cabling are correct you will recieve successful ping replies b/w the two PC's
- Router's show ip routes gateway of last report is 20.0.0.2 to network 0.0.0.0
- The ping results are as follows:

PC > ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of dat-

Reply from 40.0.0.10 : bytes = 32 time = 6ms TTL = 125
Reply from 40.0.0.10 bytes = 32 time = 6 ms TTL = 125
Reply from 40.0.0.10 bytes = 32 time = 10 ms TTL = 125
Reply from 40.0.0.10 bytes = 32 time = 9 ms TTL = 125

Ping statistics from 40.0.0.10

Packets: sent = 4, received = 4, Lost = 0

(0% loss)

Approximate round trip time in milliseconds:

Minimum = 6ms, Maximum = 10ms, Average = 7ms

Router > show ip route [Router 1]

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