23|10|2024 Week-4(Experiment 3b)

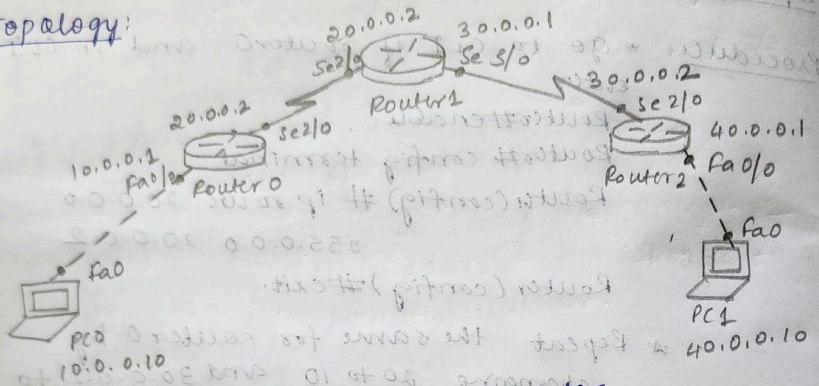
Observation Book:

23|10|2024 LAB-04

Question: Configure Default route, static route to Router

AIM: To config Default routing.

Topology:



Procedure: • Place 2 PC's and 3 routers

- Setup the IP address of PC's and the gateway of the PC's.
- Set up the IP address of the router (do similar to experiment -2)
- Connect the PCs and routers using the appropriate connection cables.
- Go to Router 1 and do static routing, to setup the connection to 10.0.0.0 and 40.0.0.0 network on CLI (R1)

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

- In Router 0 and 2 go to their CLI and enter the following commands.

CLI(Router0):
Router(config)#ip route 0.0.0.0 0.0.0.0 20.0.0.2

CLI(Router 2):
Router(config)# ip route 0.0.0.0 0.0.0.0 30.0.0.1

This step is called default routing, in this if any network packet other than connected network will be passed to specified router.

- Once the configuration is complete, we can now ping from the end device to other

PC0
ping 40.0.0.10

OBSERVATION :-

1) On pinging from one end device to other

ping 40.0.0.10

Pinging 40.0.0.10 with 32 bytes of data.

Reply from 40.0.0.10 bytes = 32 time=2ms TTL=253
Reply from 40.0.0.10 bytes = 32 time=2ms TTL=253
Reply from 40.0.0.10 bytes = 32 time=8ms TTL=253
Reply from 40.0.0.10 bytes = 32 time=10 ms TTL=253

Ping statistics for 40.0.0.2.

Packets: sent=4, Recieved=4, lost 0 (0% Loss)

2) In Router 0

Router#show ip route

Gateway of last router is 20.0.0.2 to network 0.0.0.0

C 10.0.0.0/8 is directly connected, Fast Ethernet 0/0
C 20.0.0.0/8 is directly connected, serial 2/0
S 0.0.0.0/0 [1/0]

(similar output for Router 2).

In Router 1

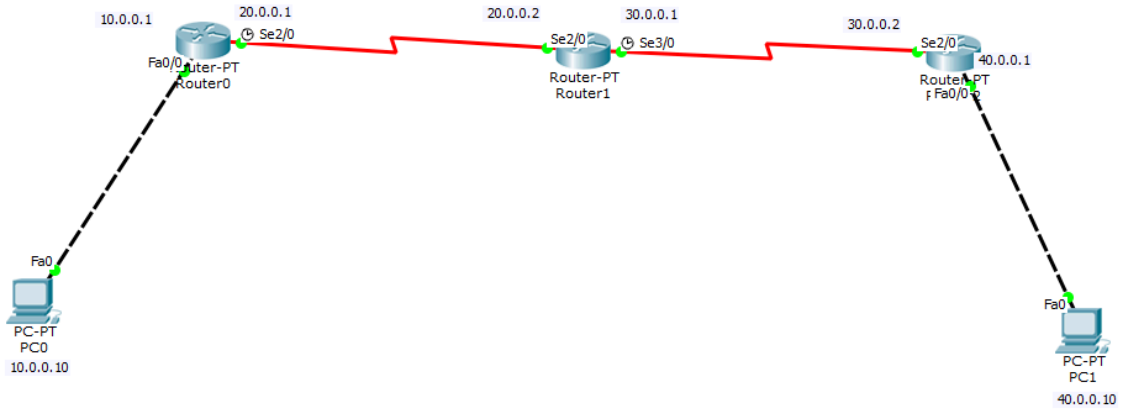
Router#show ip route

Gateway of last resort is not set

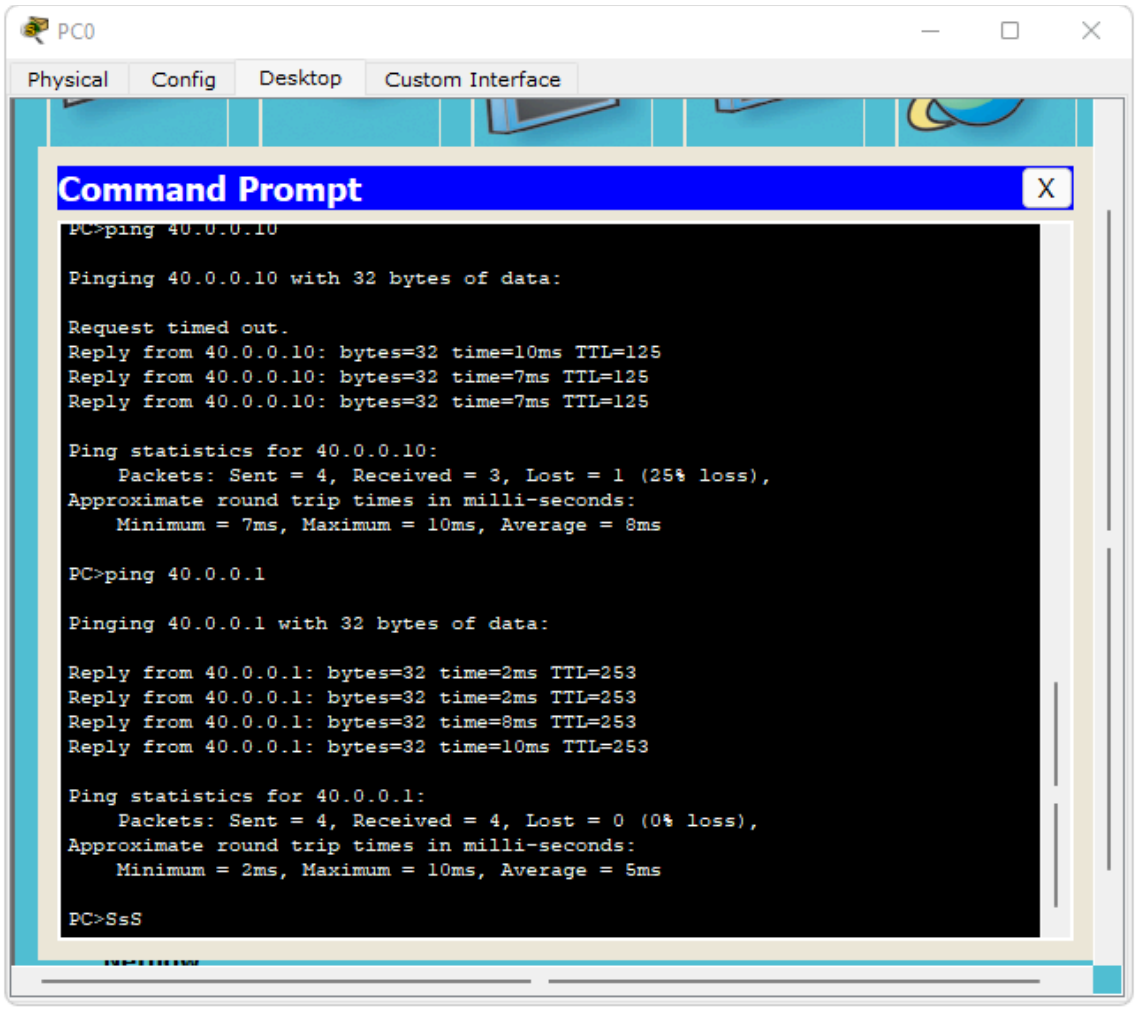
S 10.0.0.0/8 [1/0] via 20.0.0.1
C 20.0.0.0/8 is directly connected, serial 2/0
C 30.0.0.0/8 is directly connected, serial 3/0
S 40.0.0.0/8 [1/0] via 30.0.0.2

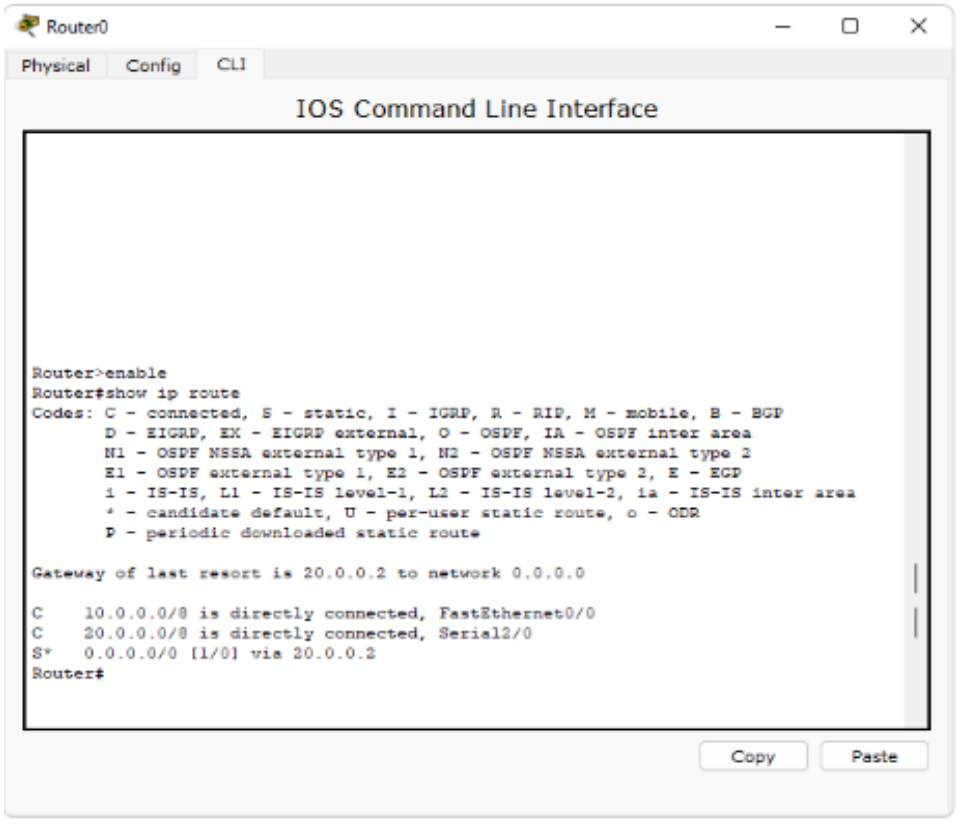
Through this experiment, we learnt, on how to connect 3 or more networks by the concept of static and default routing. and we also sent messages from end device to other.

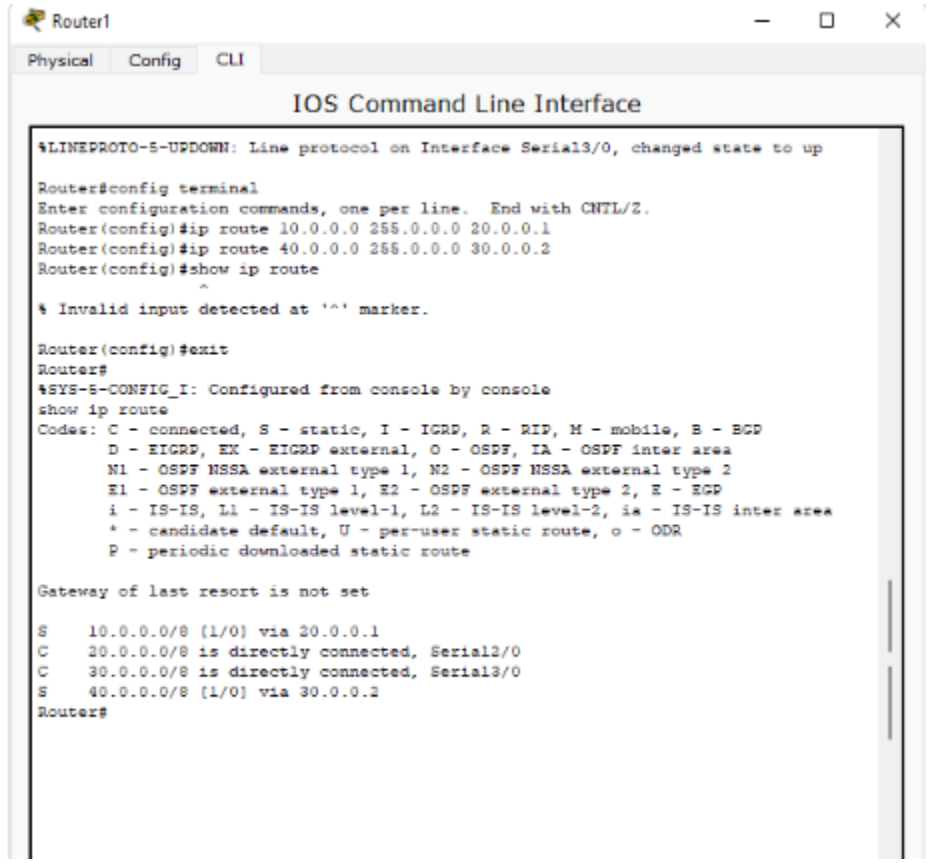
Topology:



Output:




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#
Copy
Paste


Router1
Physical
Config
CLI
IOS Command Line Interface
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial3/0, changed state to up
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)#show ip route
^
% Invalid input detected at '^' marker.
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
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#