DATE: PAGE:

20/1/24

LAB-6

Configure RIP routing protocol in routers

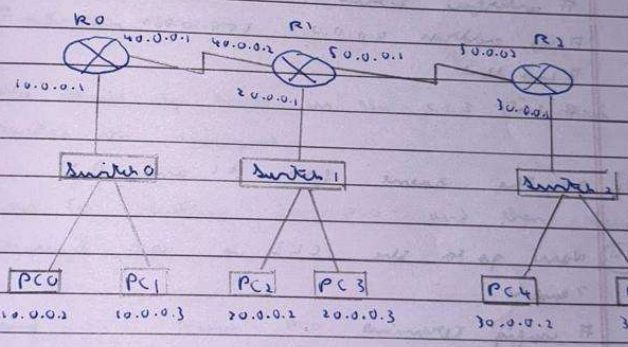
Aim:

To configure routing information protocol in routers

Devices used:

Routers, switches and end devices

Topology:

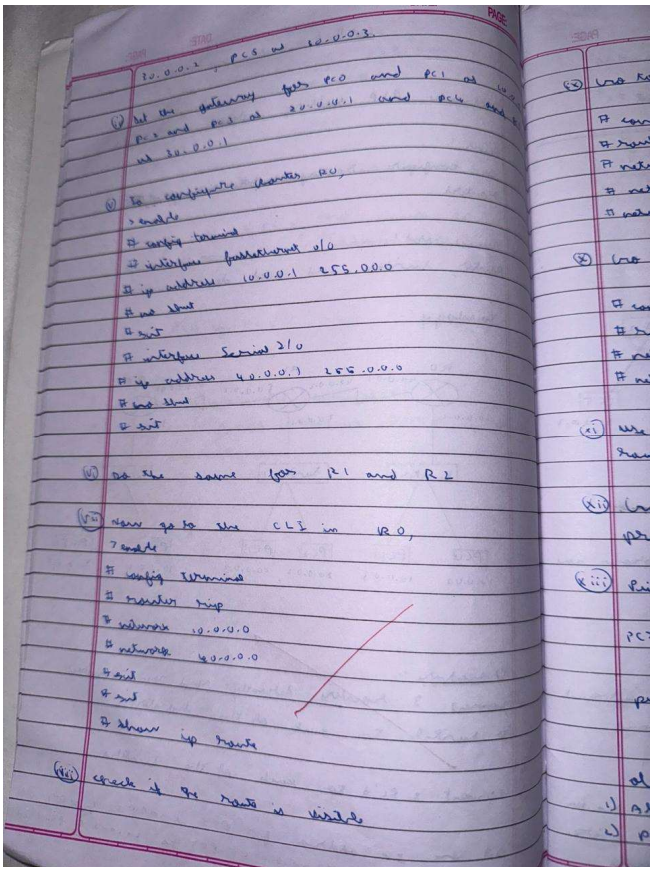


Procedure:

(i) Connect 3 routers serially and then connect a switch to each of the routers.

(ii) connect 2 PC's to each of the switches

(iii) Set the IP address for PC0 as 10.0.0.2, for PC1 as 10.0.0.3, PC 2 as 20.0.0.2, PC3 as 20.0.0.3, PC4 as



10.0.0.2 , PC5 as 20.0.0.3.

(v) Set the gateway for PC0 and PC1 as 10.0.0.1 and PC4 and PC5 as 20.0.0.1 and PC6 as 30.0.0.1

(vi) To configure the routers R0,

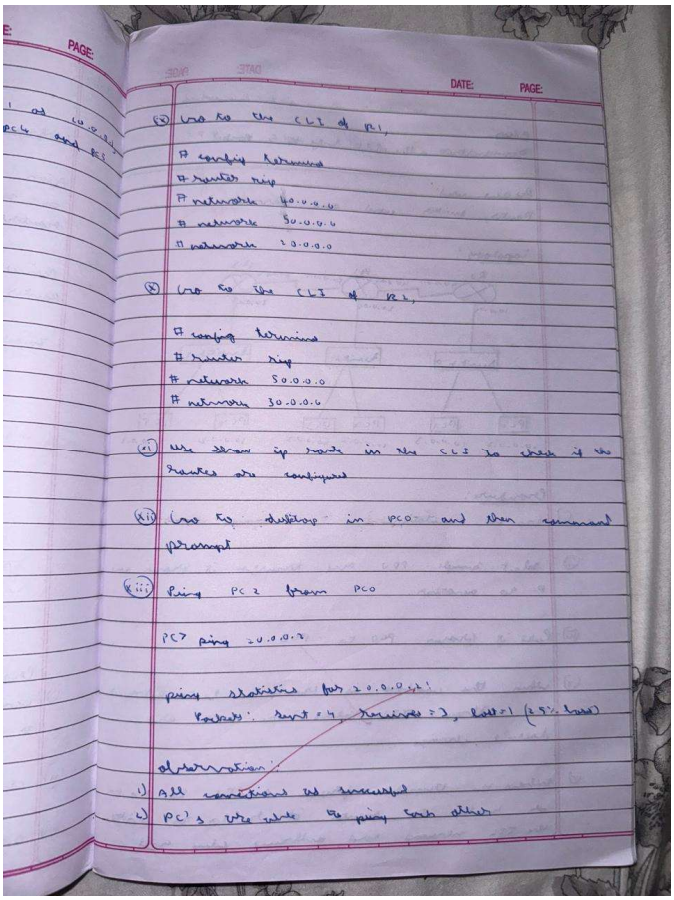
enable
config terminal
interface fastethernet 0/0
ip address 10.0.0.1 255.0.0.0
no shut
exit
interface Serial 2/0
ip address 40.0.0.1 255.0.0.0
no shut
exit

(vii) Do the same for R1 and R2

(viii) Now go to the CLI in R0,

enable
config terminal
router rip
network 10.0.0.0
network 40.0.0.0
exit
exit
show ip route

(ix) check if the route is visible



(x) Now go the CLI of R1,

config terminal
router rip
network 40.0.0.0
network 50.0.0.0
network 20.0.0.0

(xi) Now go the CLI of R2,

config terminal
router rip
network 50.0.0.0
network 30.0.0.0

(xii) Use show ip route in the CLI to check if the routes are configured

(xiii) Now go desktop in pc0 and then command prompt

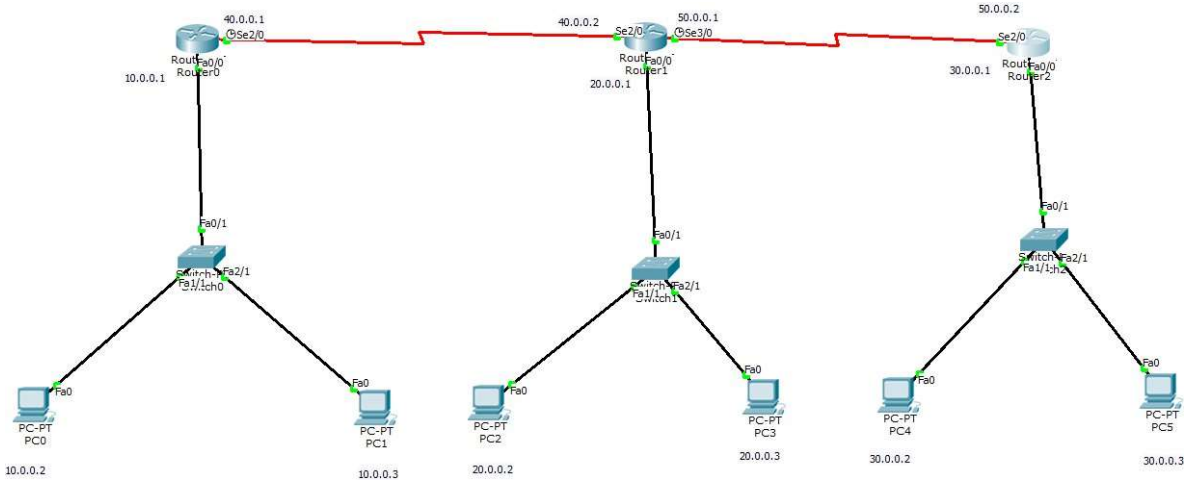
(xiv) Ping PC 2 from PC0

PC7 ping 20.0.0.2

ping statistics for 20.0.0.2:
Packets: Sent = 4, Received = 3, Lost = 1 (25% loss)

observation:

1) All connections are successful
2) PC's are able to ping each other

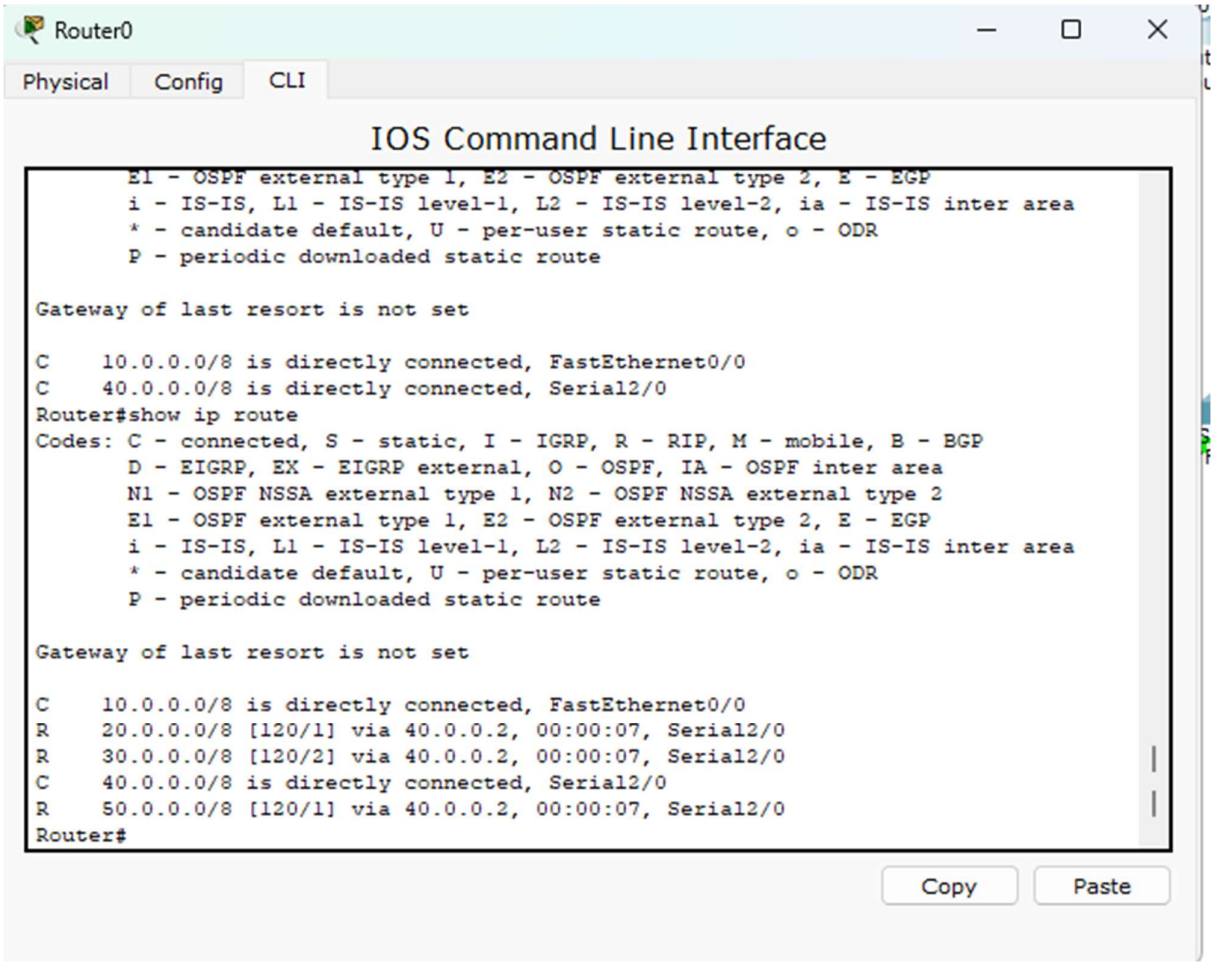


PC0

Physical | Config | Desktop | Custom Interface

Command Prompt

```
Pinging 30.0.0.2 with 32 bytes of data:

Request timed out.
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=6ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 6ms, Maximum = 7ms, Average = 6ms

PC>ping 30.0.0.2

Pinging 30.0.0.2 with 32 bytes of data:

Reply from 30.0.0.2: bytes=32 time=4ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125
Reply from 30.0.0.2: bytes=32 time=7ms TTL=125

Ping statistics for 30.0.0.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 4ms, Maximum = 7ms, Average = 6ms

PC>
```


Router0
Physical
Config
CLI
IOS Command Line Interface
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 40.0.0.0/8 is directly connected, Serial2/0
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
R 20.0.0.0/8 [120/1] via 40.0.0.2, 00:00:07, Serial2/0
R 30.0.0.0/8 [120/2] via 40.0.0.2, 00:00:07, Serial2/0
C 40.0.0.0/8 is directly connected, Serial2/0
R 50.0.0.0/8 [120/1] via 40.0.0.2, 00:00:07, Serial2/0
Router#
Copy
Paste