Aim: Dynamic routing Protocol RIP V2

Components Required:

1. Routers ─────────────── ③
2. Serial DCE wires ──────── ③
3. End Devices ─────────── ②
4. Copper cross-over wires── ②

Procedure :

Place 3 routers on screen with component name Router 0, Router 1, and Router 2 respectively. On each router go to physical mode turn off the device add 'WIC-2T' module and power on the device. Now connect serial 0/1/0 ofø Router 0 to serial 0/1/0 of Router 1; serial 0/1/1 of Router 1 to serial 0/1/0 of Router 2, serial 0/1/1 of Router 2 to serial 0/1/1 of Router 0. Add 2 PC to the network with name PC0 and PC1. Connect PC0 to Fast Ethernet 0/0 of Router 0 and PC1 to FastEthernet 0/0 of Router 2.

Router1

se 0/1/0
192.168.0.34

se 0/1/1
192.168.0.65

192.168.0.32

192.168.0.64

192.168.0.33
se 0/1/0

Router 0   192.168.0.46

192.168.0.66
se 0/1/0

se 0/1/1
192.168.0.97

se 0/1/1
192.168.0.98

Router 2

Fa 0/0
192.168.0.1

Fa 0/0
192.168.0.124

192.168.0.0

192.168.0.128

192.168.0.2

192.168.0.130

PC0

PC1
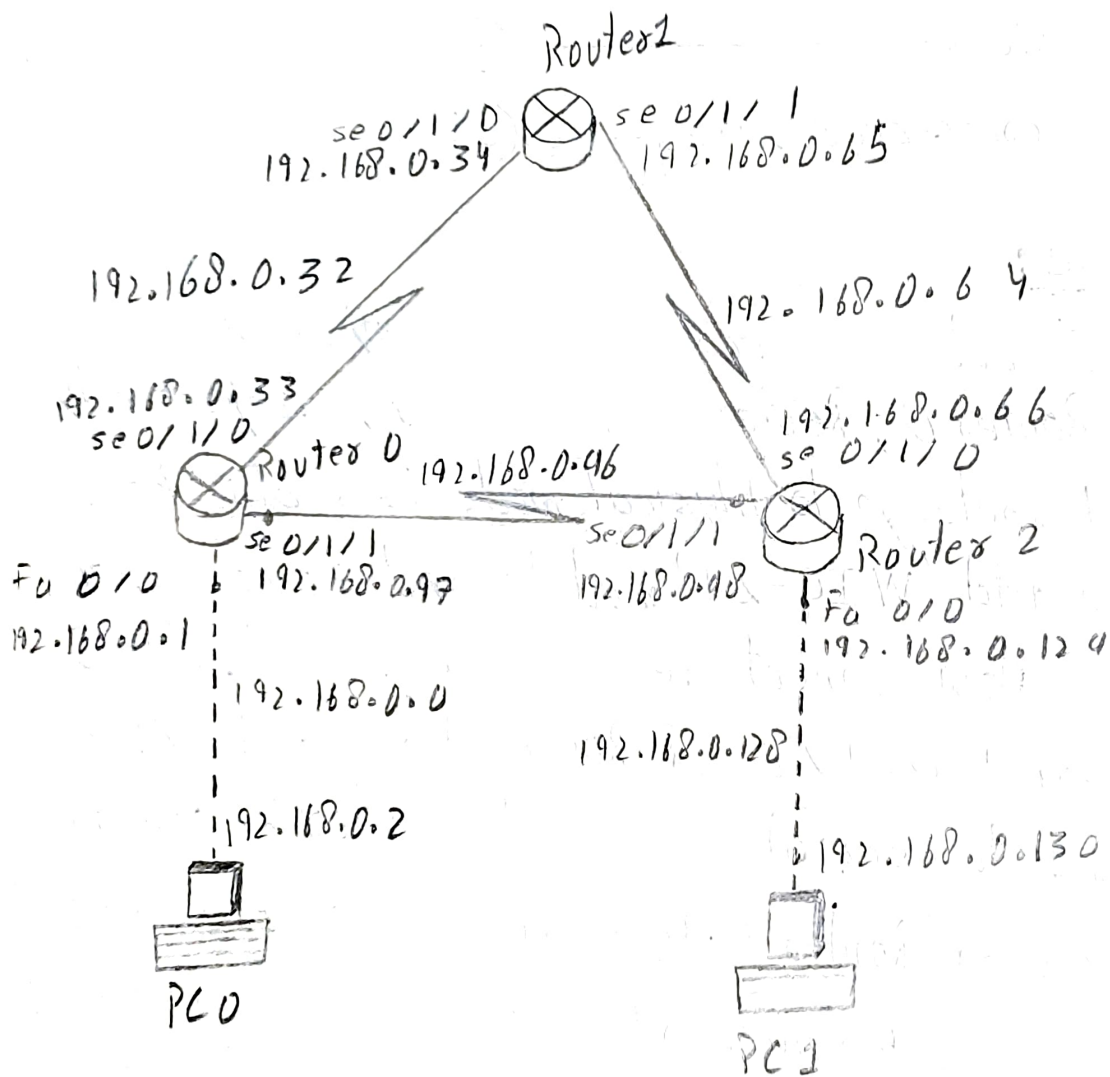
On PC0:

Enter   IP address   192.168.0.2
        Subnet mask   255.255.255.224
        Default gateway 192.168.0.1

On PC1:

Enter   IP address   192.168.0.130
        Subnet mask   255.255.255.224
        Default gateway 192.168.0.129

On Router 0:

1. [yes/no] : no
2. Router > enable
3. Router # config t
4. Router (config) # int fa 0/0
5. Router (config-if) # ip add 192.168.0.1 255.255.255.22
6. Router (config-if) # no shutdown
7. Router (config-if) # exit
8. Router (config) # int serial 0/1/0
9. Router (config-if) # ip add 192.168.0.33 255.255.255.224
10. Router (config-if) # clock rate 64000
11. Router (config-if) # no shutdown
12. Router (config-if) # exit
13. Router (config) # int serial 0/1/1
14. Router (config-if) # ip add 192.168.0.97 255.255.255.224
15. Router (config-if) # no shutdown
16. Router (config-if) # exit

17. Router (config)# router rip
18. Router (config-router)# version 2
19. Router (config-router)# network 192.168.0.0
20. Router (config-router)# network 192.168.0.32
21. Router (config-router)# network 192.168.0.97

On Router 1:

1. [yes/no]: no
2. Router > enable
3. Router # config t
4. Router (config)# int ~~fa 0/0~~ serial 0/1/0
5. Router (config-if)# ip add 192.168.0.34 255.255.255.224
6. Router (config-if)# ~~#~~ no shutdown
7. Router (config-if)# exit
8. Router (config)# int serial 0/1/1
9. Router (config-if)# ip add 192.168.0.65 255.255.255.224
10. Router (config-if)# clock rate 64000
11. Router (config-if)# no shutdown
12. Router (config-if)# exit
13. Router (config)# router rip
14. Router (config-router)# version 2
15. Router (config-router)# network 192.168.0.32
16. Router (config-router)# network 192.168.0.64
17. Router (config-router)# exit

On Router 2:

1. [yes/no]: no
2. Router > enable
3. Router # config t

4. Router (config)# int fa 0/0
5. Router (config-if)# ip add 192.168.0.124 255.255.255.224
6. Router (config-if)# no shutdown
7. Router (config-if)# exit
8. Router (config)# int serial 0/1/0
9. Router (config-if)# ip add 192.168.0.66 255.255.255.224
10. Router (config-if)# no shutdown
11. Router (config-if)# exit
12. Router (config)# int serial 0/1/1
13. Router (config-if)# ip add 192.168.0.98 255.255.255.224
14. Router (config-if)# clock rate 64000
15. Router (config-if)# no shutdown
16. Router (config-if)# exit
17. Router (config)# ~~int serial~~ router rip
18. Router (config-router)# version 2
19. Router (config-router)# network 192.168.0.64
20. Router (config-router)# network 192.168.0.96
21. Router (config-router)# network 192.168.0.128

Verification:

1. Go to PC0 terminal and type command
2. Ping 192.168.0.2
3. Ping 192.168.0.3 0
4. Repeat steps 2 and 3 for PC 1

<u>Result</u> : Dynamic routing using Protocol RIP V2
was successfully done.