MIT World Peace University

Computer Networks
Second Year B. Tech, Semester 3

Configuration of Routing protocols RIP, OSPF and EIGRP

Practical Report
Assignment 7

Prepared By

Krishnaraj Thadesar
Cyber Security and Forensics
Batch A1, PA 20

November 27, 2022

Contents

1 Aim and Objectives

Set up a network - configure interfaces, IP addresses and routing protocols (RIP,OSPF,EIGRP,BGP).

2 Devices

1. 2 Switchs 2950 with 24 LAN Ports
2. 4 Generic PCs
3. 4 Generic Laptops
4. 2 1841 Routers.

3 Cables

1. Straight LAN Cable to connect unlike Devices
2. Crossover LAN Cable to connect like Devices
3. Serial DCE Timed Cable to connect the 2 Routers.

4 Procedure to Configure the Network

1. Create the Network as shown in the figure below.
2. Connect the various components with respective cables.
3. find a switch, then connect it to pcs, and stuff, assign their ips according to that network family.
4. Do that 2 or 3 times with however many switch networks you want the router to connect
5. Then connect a router to the switches, in the gigabit ethernet port. Then connnec tthe routhers with each other using the serial port, which you will have to install in the router, by first switching it off, and then adding nim 2t port or any port that has a serial port to it. Then switch it on.
6. Now assign the ip addresses to the router. You would have to assign an ip of the family to which it is connected to the port where you are connecting that network like gigabit ethernet or soemthing.
7. Now assign the ip for the router network. set clock to the same as the one that is on the other router. use a clocked red serial cable to connect the 2 routers.
8. Now all the things must be on.

5 Commands

```
For RIP

conf t
router rip
ver 1
network 10.0.0.0
network 11.0.0.0

For EIGRP

no router rip
router eigrp 1
network 12.0.0.0
network 11.0.0.0


11 is the network of the routers. 10 would be the networks on the left and 12 would be the netwo

Router#
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#router ospf ?
<1-65535> Process ID
Router(config)#router ospf 1
Router(config-router)#network 10.0.0.0 0.255.255.255 area 0
Router(config-router)#network 11.0.0.0 0.255.255.255 area 0
Router(config-router)#
Router#
```

6 Platform

Operating System: Arch Linux x86-64
IDEs or Text Editors Used: Visual Studio Code
Programs Used: Cisco Packet Tracer v6.0.1

7 Output

```
Router#show ip route
Codes: L - local, C - connected, S - static, 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
```

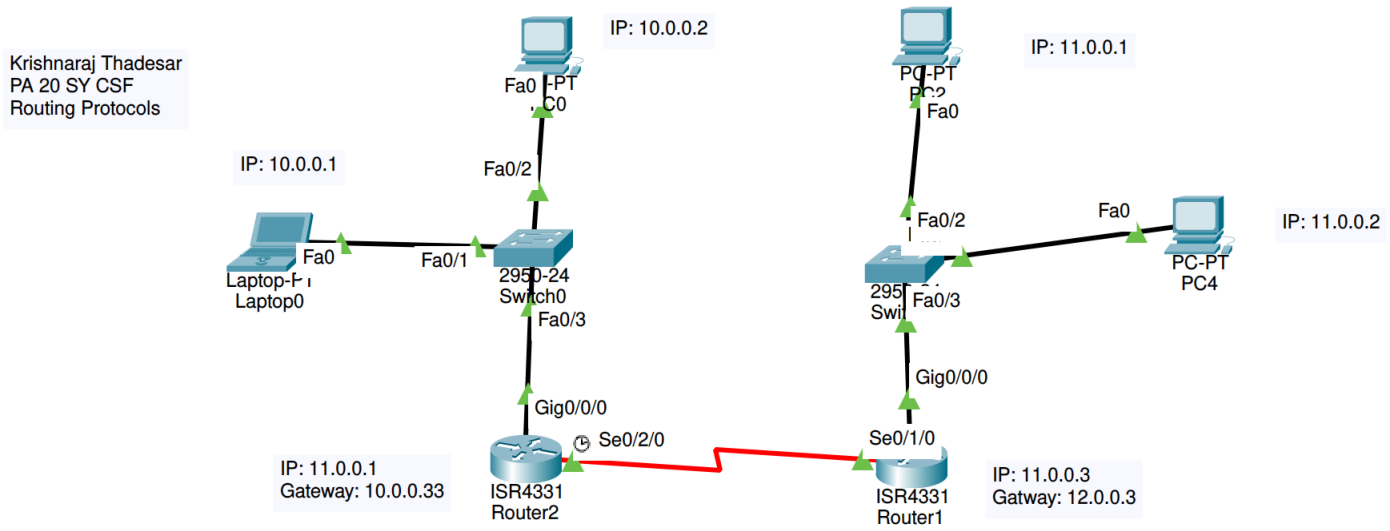
```
i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area \* - candidate default,
P - periodic downloaded static route

Gateway of last resort is not set

     10.0.0.0/8 is variably subnetted, 2 subnets, 2 masks

C 10.0.0.0/8 is directly connected, GigabitEthernet0/0/0
L 10.0.0.3/32 is directly connected, GigabitEthernet0/0/0
12.0.0.0/8 is variably subnetted, 2 subnets, 2 masks
C 12.0.0.0/8 is directly connected, Serial0/2/0
L 12.1.1.2/32 is directly connected, Serial0/2/0
```

8 Connection Screenshot



9 Conclusion

Thus routing Protocols were Executed on a simple LAN, and the connection was verified using the ping command. 3 Routing Protocols were executed successfully. RIP, OSPF and EIGRP. Their Differences were studied and understood.