Green University of Bangladesh
Department of Computer Science and Engineering(CSE)

Faculty of Sciences and Engineering
Semester: (Fall, Year:2022), B.Sc. in CSE (Day)

LAB REPORT NO : 04

Course Title: Computer Networking Lab
Course Code: CSE 312 Section: DB

Lab Experiment Name: Configuration of Static and Dynamic Routing Protocols

Student Details

	Name	ID
1.	Hamad Ismail	201902046

Lab Date : 24/12/2022
Submission Date : 31/12/2022
Course Teacher's Name : Rusmita Halim Chaity

[For Teachers use only: Don't Write Anything inside this box]

Lab Report Status

Marks: …… **Signature:.....**
Comments:..... **Date:.....**

1. OBJECTIVES/AIM

- To understand the static and dynamic routing.
- Configure static routes on each router to allow communication between all clients.
- Configure dynamic routes on each router to allow communication between all clients.

2. PROCEDURE / ANALYSIS / DESIGN

1. Create a network topology by setting up all the necessary devices in Cisco Packet Tracer.
2. Configure static IP addresses on the PC, and other devices.
3. Configure the Fast Ethernet and Serial interfaces of all the Router.
4. For static routing, enable the static protocol from the router configuration mode. Then set the destination network address, subnet mask and next hop for all the networks.
5. For dynamic routing, enable the RIP routing protocol from the router configuration mode. Then, add all the required network addresses for all of the routers.

3. CONFIGURATION

1. Build the network topology and add serial ports by using WIC-2T. (Figure 1).
2. Configure static IP addresses on the PC's.
3. Configure the Fast Ethernet and serial interfaces of Router 0 (Figure 2).
4. In the same way, configure the Fast Ethernet and serial interfaces of other Routers.
5. For static routing, enable the static protocol from the router configuration mode and add the destination address, subnet mask and next hops (Figure 3).
6. For dynamic routing, enable the RIP routing protocol from router configuration mode and add the network addresses for all of the three routers.

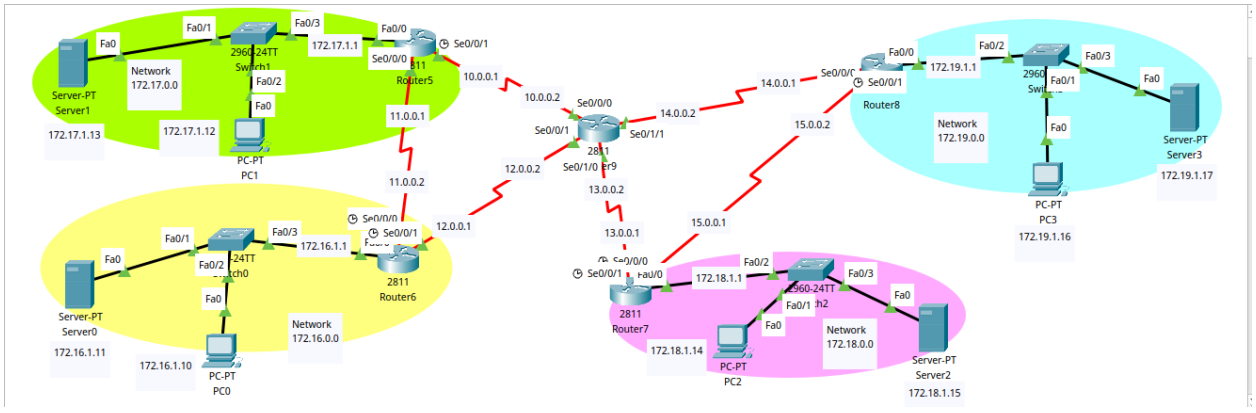
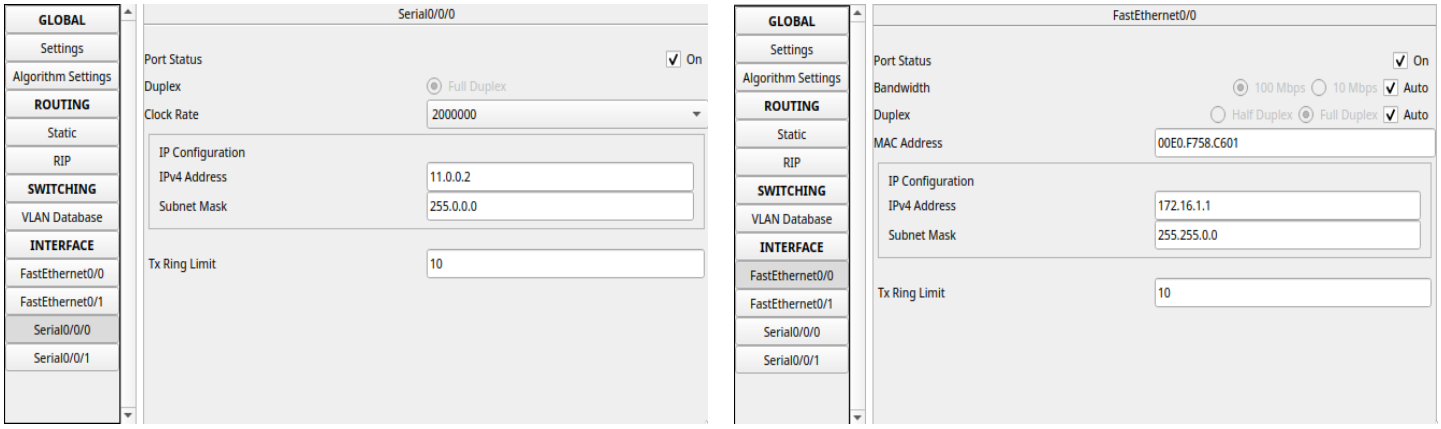


Figure 1: Network Configuration



(a) IP Configuration of Serial 0/0/0 port of Router 6 *(b) IP Configuration of fast-Ethernet 0/0 port of Router 6*

Figure 2: IP Configuration of Router 6

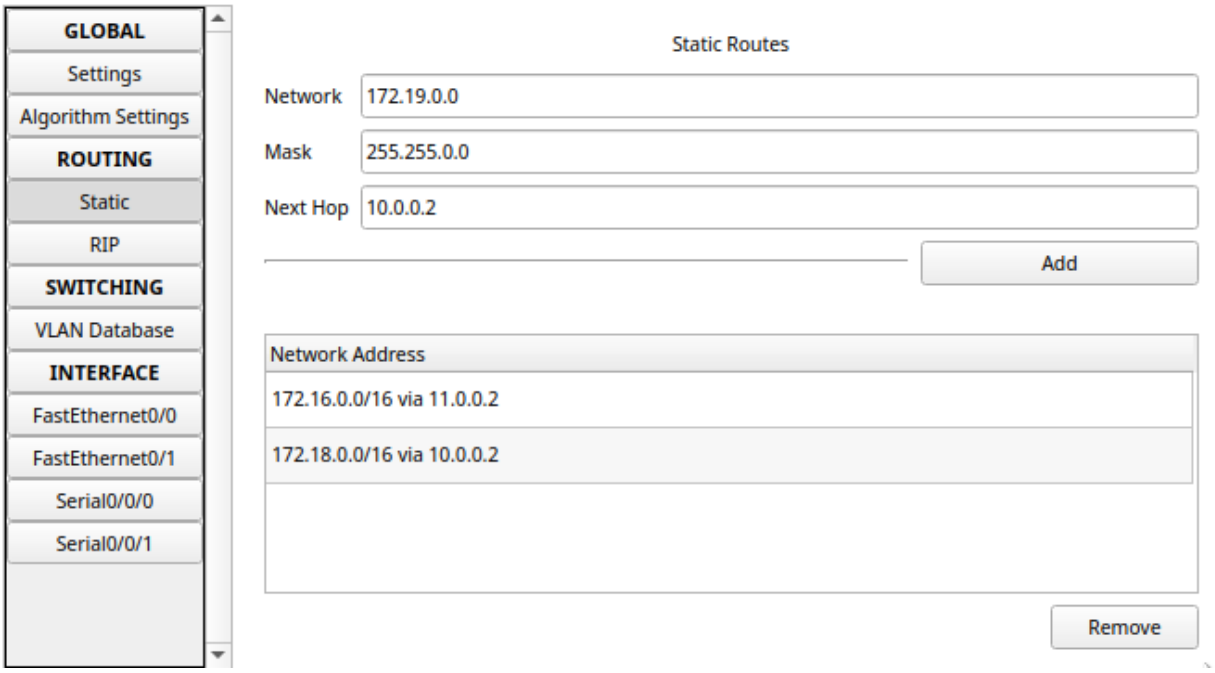


Figure 3: Network Configuration of Static Protocol

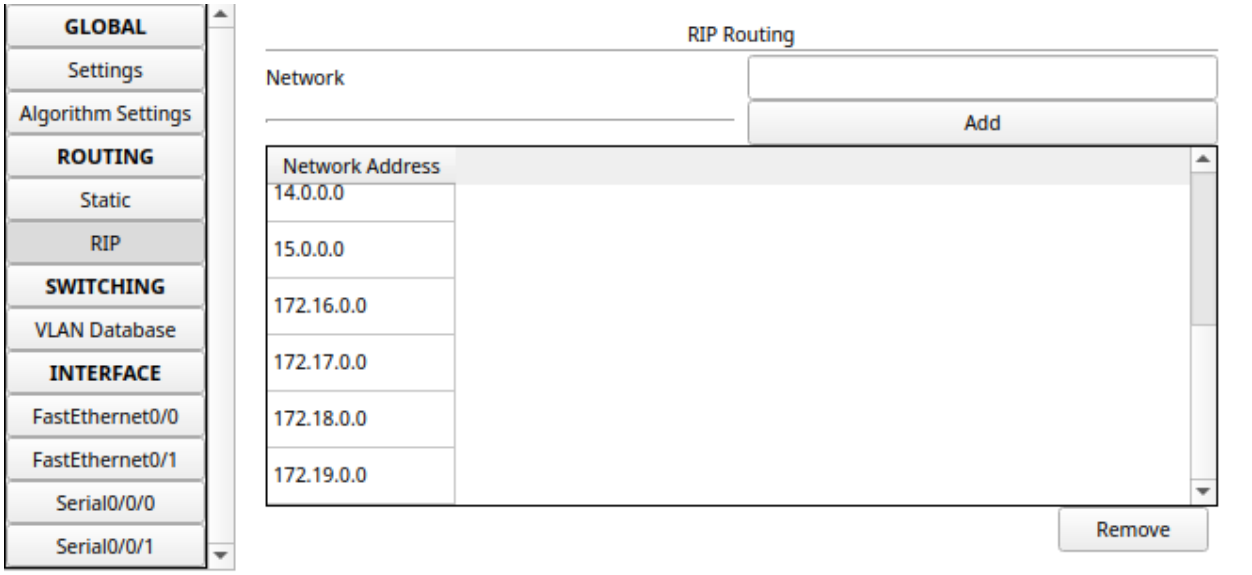


Figure 4: Network Configuration of RIP Protocol

4. TEST RESULT / OUTPUT

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic
	Successful	PC1	PC0	ICMP		0.000	N
	Successful	PC1	PC2	ICMP		0.000	N

Figure 5: Output of Static routing

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic
	Successful	PC1	PC3	ICMP		0.000	N
	Successful	PC3	PC1	ICMP		0.000	N
	Successful	PC1	PC2	ICMP		0.000	N

Figure 6: Output of RIP Protocol

5. ANALYSIS AND DISCUSSION

- Based on the focused objective(s) to learn the step-by-step configuration of static and dynamic routing.
- The term routing is used for taking a packet from one device and sending it through the network to another device on a different network.
- The task will help us to configure static and dynamic routes for taking a packet from one device to another device.
- The additional lab exercise will help us to be confident towards the fulfillment of the objectives(s).