Green University of Bangladesh

Department of Computer Science and Engineering
Faculty of Sciences and Engineering
Semester: (Fall, Year:2023), B.Sc. in CSE(Day)

Lab Report :03
Course Title: Computer Networking Lab
Course Code: CSE 312
Section: 211 D2

Experiment Name:

Configuration of static routing using Cisco Packet Tracer for the above network

Student Details

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Submission Date: December 4, 2023

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Status	
Marks:	Signature: .....
Comments:	Date: .....

0.1 Introduction

In the ever-evolving landscape of networking, the ability to establish efficient communication between devices is paramount. Understanding and configuring routing protocols is a fundamental skill for network administrators and engineers. This lab report delves into the intricacies of static routing using Cisco Packet Tracer, a powerful simulation tool that allows us to design, configure, and troubleshoot networks in a virtual environment.The focus of this lab is on configuring static routes within a network, a method where network administrators manually define the paths that data packets should take to reach their destination. Unlike dynamic routing protocols that automatically adapt to network changes, static routing provides a more controlled and predictable way to manage network traffic.Our objective is to design and implement a network topology using Cisco Packet Tracer, simulating a real-world scenario where static routing is employed. Through hands-on experience, we aim to grasp the principles behind static routing, comprehend its advantages, and gain proficiency in configuring and troubleshooting static routes within a Cisco-based network.

0.2 Objectives

1. To understand the static routing.
2. To Identify Routing Requirements.
3. To Configure static routes on each router to allow communication between all clients.

0.3 Implementation

Configuration of static routing using Cisco Packet Tracer for the above network

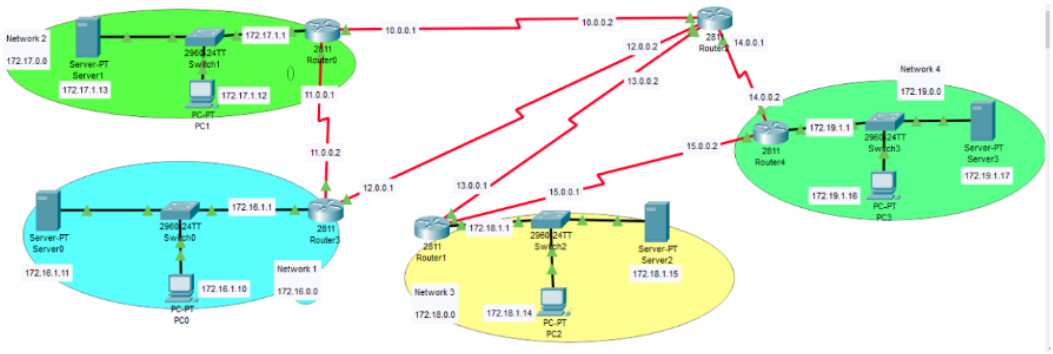

Figure 8

Figure 1: Given figure

Network Configuration

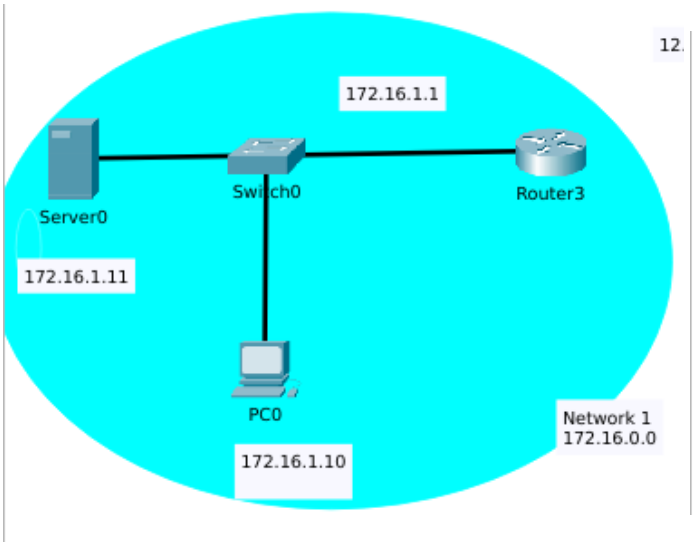

Figure 2: Network 1

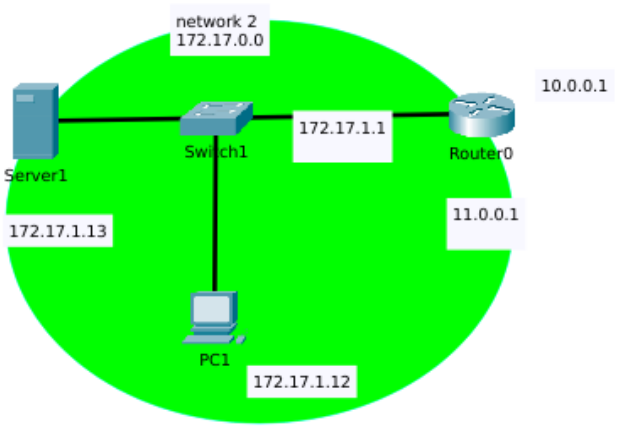

Figure 3: Network 2

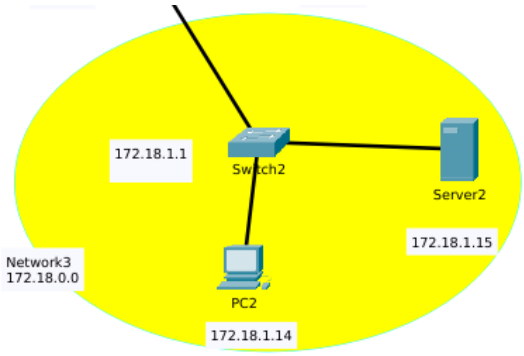

Figure 4: Network 3

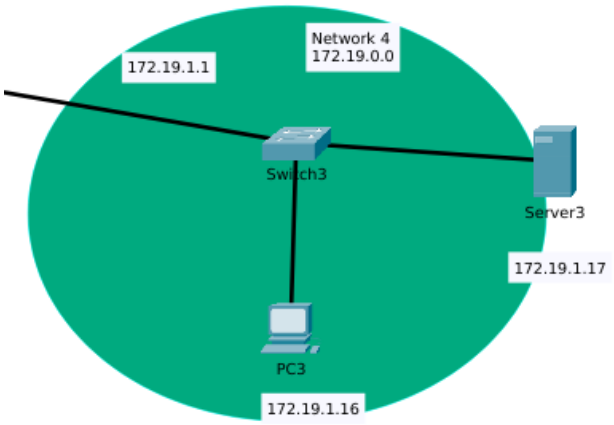

Figure 5: Network 4

Final Network

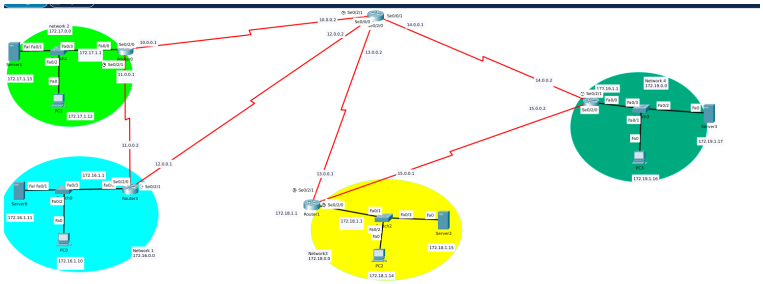

Figure 6: Final Network

Ip configaration of Device

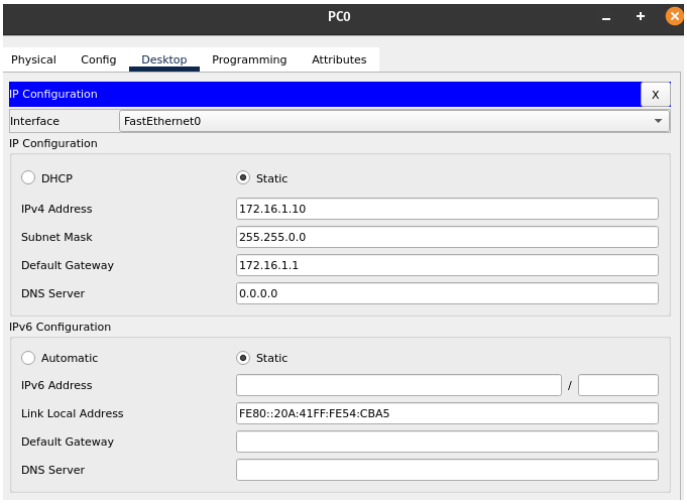

Figure 7: Pc0 Configaration

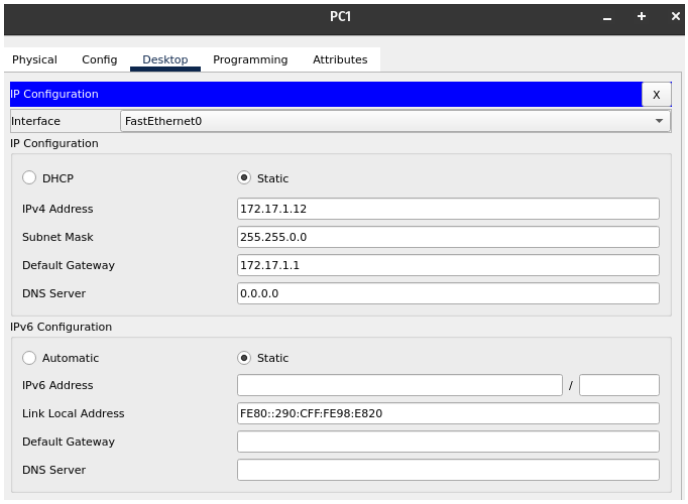

Figure 8: Pc1 Configaration

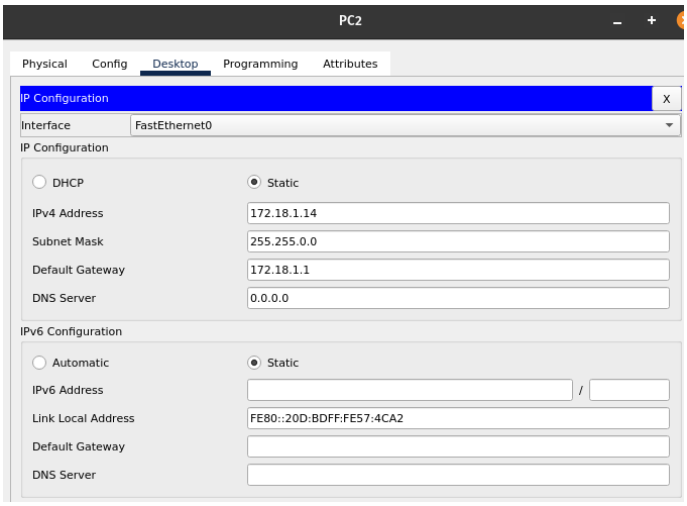

Figure 9: Pc2 Configaration

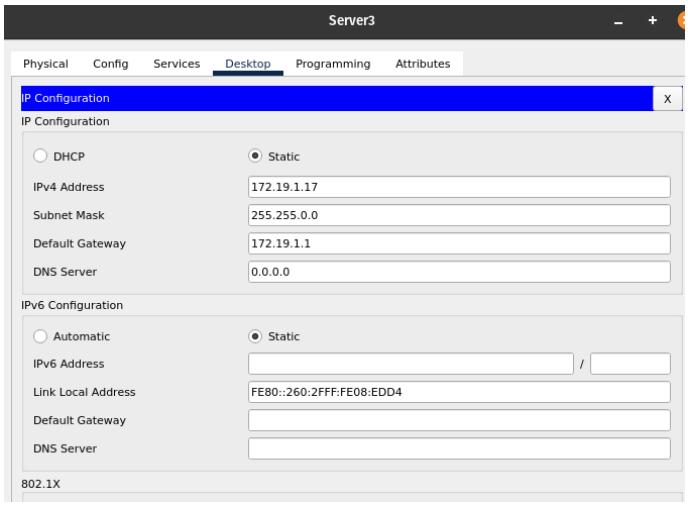

Figure 10: Pc3 Configaration

IP Configuration of Router

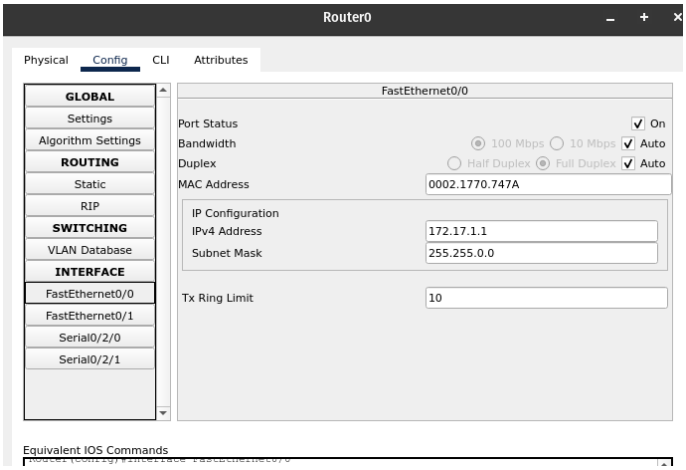

Figure 11: Router0 FastEthernet 0/0 Configuration

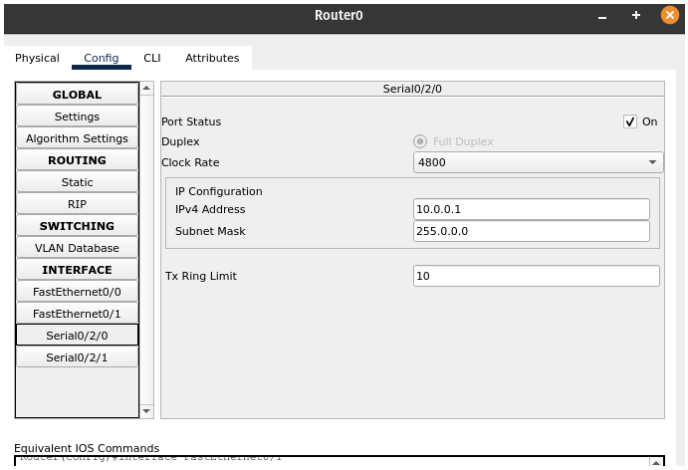

Figure 12: Router0 serial 0/2/0 Configuration

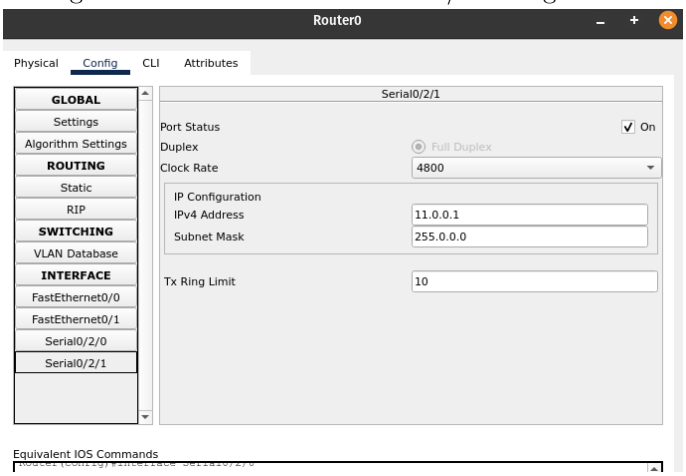

Figure 13: Router0 serial 0/2/1 Configuration

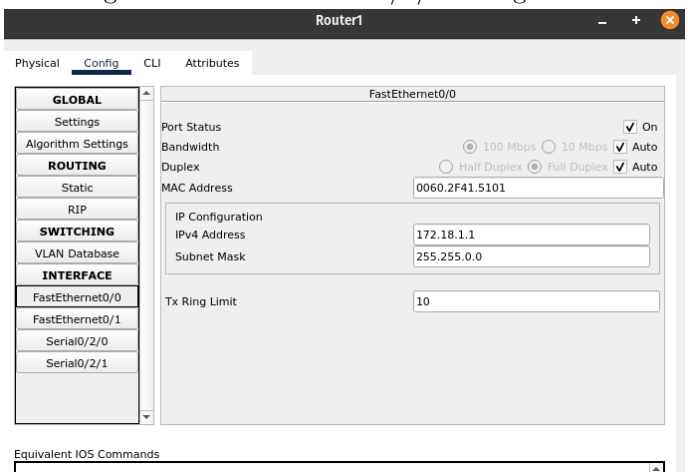

Figure 14: Router1 FastEthernet 0/0 Configuration

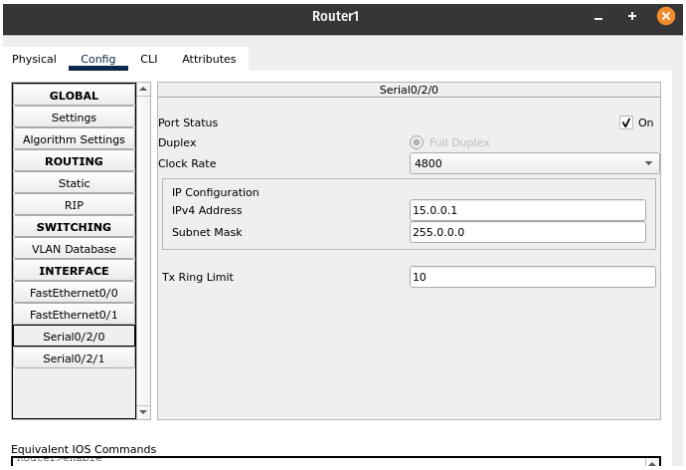

Figure 15: Router1 serial 0/2/0 Configaration

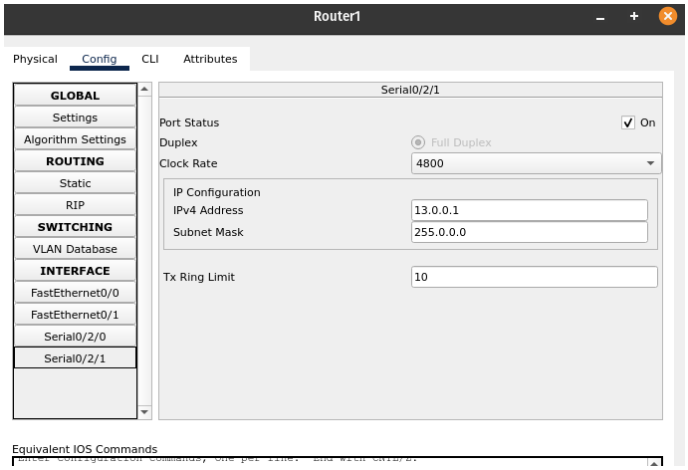

Figure 16: Router1 serial 0/2/1 Configuration

Adding IP address in router

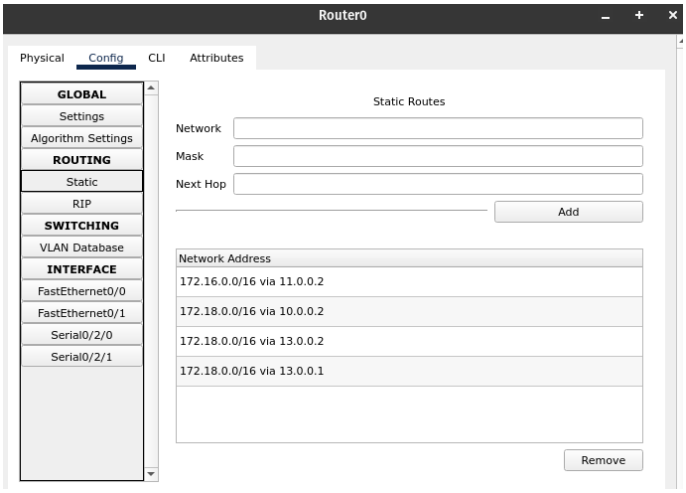

Figure 17: Adding IP address in router 0

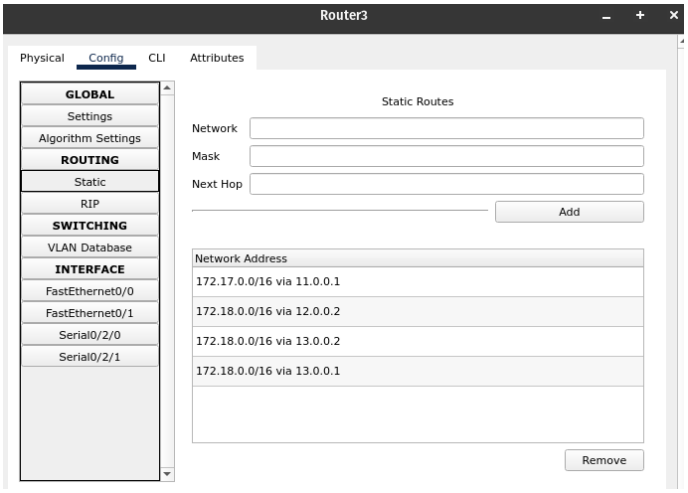

Figure 18: Adding IP address in router3

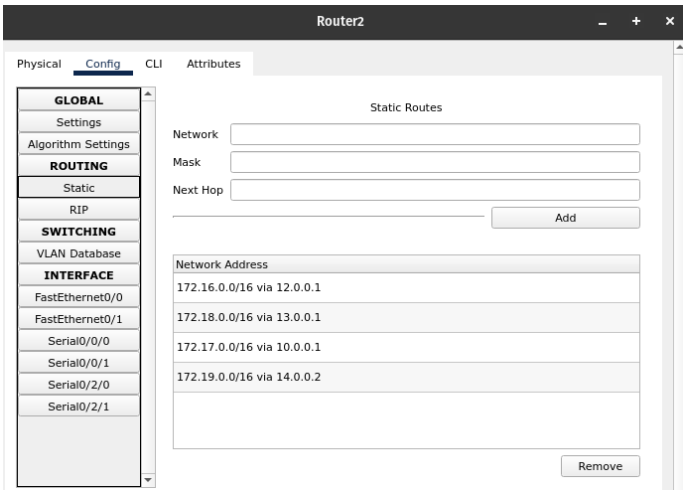

Figure 19: Adding IP address in router2

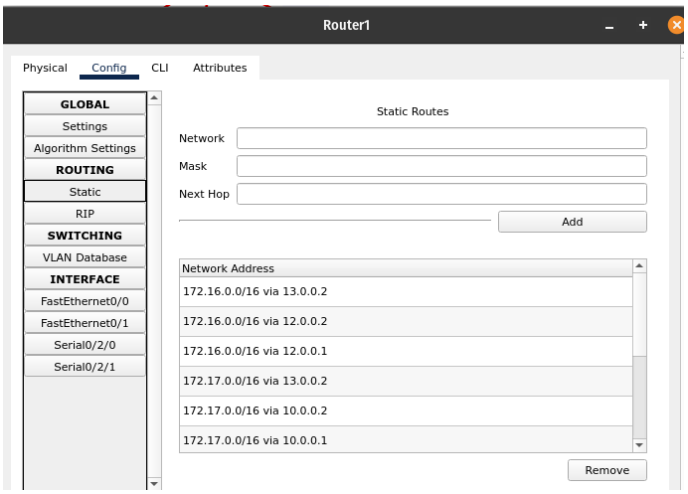

Figure 20: Adding IP address in router1

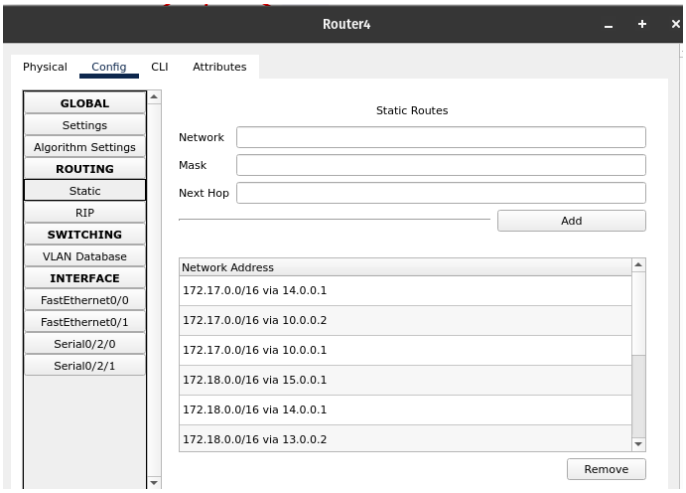

Figure 21: Adding IP address in router4

0.4 Result

Output of Static routing

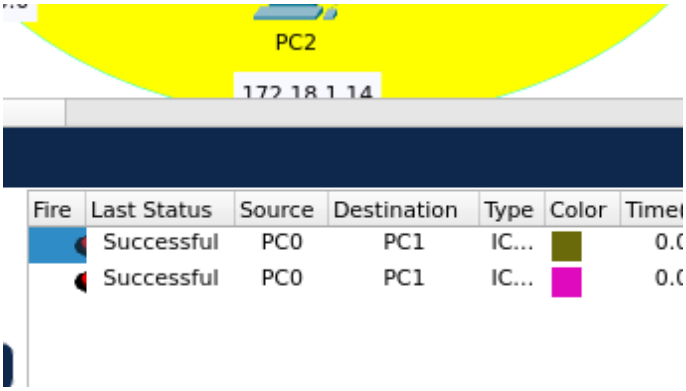

Figure 22: Packet send to Pc0 to Pc1

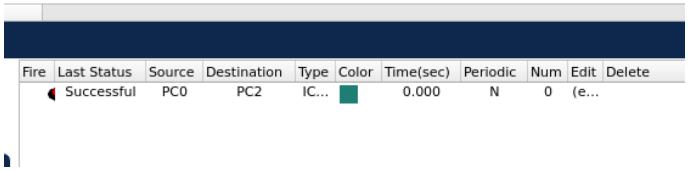

Figure 23: Packet send to Pc0 to Pc2

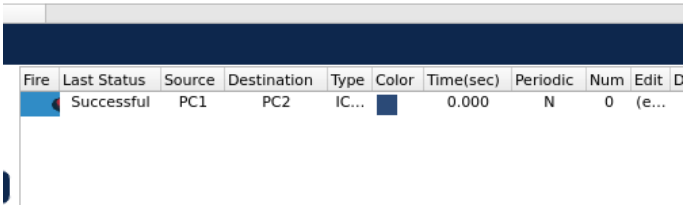

Figure 24: Packet send to Pc1 to Pc2

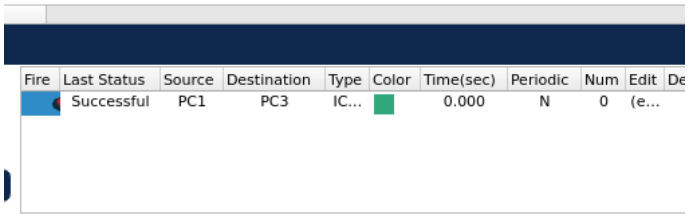

Figure 25: Packet send to Pc1 to Pc3

0.5 Conclusion

In conclusion, the exploration of static routing through the lens of Cisco Packet Tracer has provided a valuable insight into the intricacies of network configuration and routing protocols. Through this lab, we have achieved a range of objectives aimed at deepening our understanding of static routing principles and honing practical skills in its implementation. The configuration of static routes within our simulated network showcased the manual precision involved in directing data packets from source to destination. By employing Cisco Packet Tracer, we were able to design a network topology that mirrored real-world scenarios, enabling us to appreciate the significance of thoughtful network architecture in routing efficiency.