



Polytechnic University of Puerto Rico

Department of Electrical Engineering

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Module 4 Project COE 4331

Computer Networks Laboratory

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## Introduction

In this report, I will showcase the process and results of configuring a simple Ethernet network using Cisco Packet Tracer. The goal was to create a network with three PCs and a switch, configure their IP settings, and observe the behavior of ARP and ICMP traffic. Although some challenges arose during the setup, with the help of external resources, including a YouTube tutorial, I successfully completed the activity. This exercise provided valuable hands-on experience with network simulation tools and protocols.

## Method

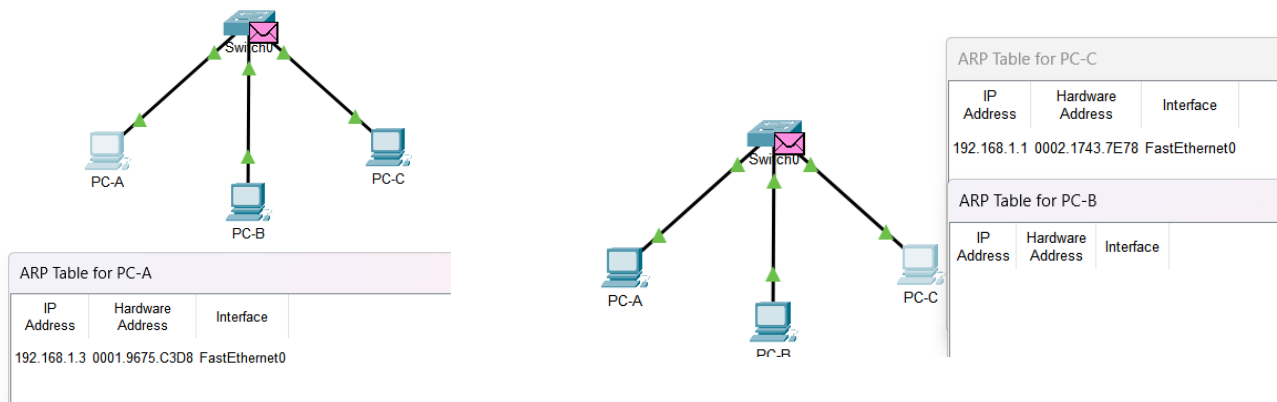
To complete the activity, I followed a step-by-step approach in Cisco Packet Tracer to set up the network. First, three PCs and a 2960 switch were added to the workspace, and straight-through cables were used to connect the devices. The correct ports on the switch were assigned to ensure proper connectivity. Each PC was configured with a static IP address and subnet mask to establish a functional network.

Next, I used the simulation mode to generate and observe network traffic. An ICMP ping was initiated from PC-A to PC-C to monitor the flow of data. By analyzing the ARP and ICMP packets, I was able to understand how devices communicate at the network and data link layers. Throughout the process, I utilized the command-line interface and desktop tools on the PCs to verify configurations and inspect ARP tables. External tutorials played a crucial role in clarifying steps and addressing technical challenges.

Final look:



20241205-1432-26.20  
67629.mp4



# Lab Results

Cisco Packet Tracer - C:\Users\coral\Downloads\3.5.2.4 Packet Tracer - Learn to use Packet Tracer.pka - Guest - 2024-12-04 14:01:36

File Edit Options View Tools Extensions Window Help

Activity Results

Time Elapsed: 20:45:14

Congratulations Guest! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Congratulations on completing this activity!

Cisco Packet Tracer - C:\Users\coral\Downloads\3.5.2.4 Packet Tracer - Learn to use Packet Tracer.pka - Guest - 2024-12-04 14:01:36

File Edit Options View Tools Extensions Window Help

Activity Results

Time Elapsed: 20:45:39

Congratulations Guest! You completed the activity.

Overall Feedback Assessment Items Connectivity Tests

Expand/Collapse All Show Incorrect Items

Assessment Items	Status	Points	Component(s)	Feedback
Network				
PC-A				
Ports				
FastEthernet0				
IP Address	Correct	0	Ip	
Subnet Mask	Correct	0	Ip	
PC-B				
Ports				
FastEthernet0				
IP Address	Correct	0	Ip	
Subnet Mask	Correct	0	Ip	
PC-C				
Ports				
FastEthernet0				
IP Address	Correct	0	Ip	
Subnet Mask	Correct	1	Ip	
Switch0				
Ports				
FastEthernet0/1				
Link to PC-A	Correct	1	Physical	
Type	Correct	1	Physical	
FastEthernet0/2				
Link to PC-B	Correct	1	Physical	
Type	Correct	1	Physical	

Score : 5/5

Item Count : 10/10

Component	Items/Total	Score
Ip	6/6	1/1
Physical	4/4	4/4

Score	: 5/5	
Item Count	: 10/10	
<hr/>		
Component	Items/Total	Score
Ip	6/6	1/1
Physical	4/4	4/4

## Conclusion

This activity demonstrated the foundational concepts of setting up and troubleshooting a simple Ethernet network. The process highlighted the importance of accurate configuration and validation in networking. Despite initial challenges, the task reinforced the value of persistence and using available resources to overcome obstacles. Successfully completing the activity provided a better understanding of network protocols, device communication, and the functionality of Cisco Packet Tracer as a learning tool.

## References

- [1] “3.5.2.4 Packet Tracer - Learn to Use Packet Tracer,” *YouTube*, 2024. Available: <https://www.youtube.com/watch?v=97UzJKOGmkk>. [Accessed: Dec. 04, 2024]
- [2] “Cisco packet tracer tutorial for beginners in easy way!!,” *YouTube*, 2024. Available: <https://www.youtube.com/watch?v=QmL0AXymS5U>. [Accessed: Dec. 03, 2024]
- [3] “4.6.5 Packet Tracer - Connect a Wired and Wireless LAN,” *YouTube*, 2024. Available: <https://www.youtube.com/watch?v=RCBgZ7uQryQ>. [Accessed: Dec. 03, 2024]