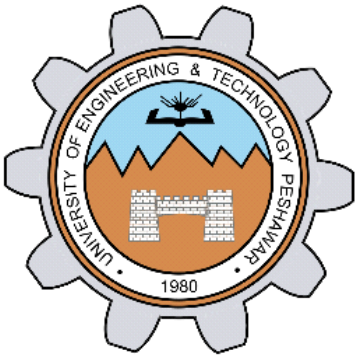
Lab report 8



Data communication and network lab

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Class Section: A

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Date: 1/07/2022

University of Engineering and Technology, Peshawar

Department of Computer Systems Engineering

CSE 303L: Data Communication and Computer Networks

Credit Hours: 1

Demonstration of Concepts	**Poor (Does not meet expectation (1))** The student failed to demonstrate a clear understanding of the assignment concepts	**Fair (Meet Expectation (2-3))** The student demonstrated a clear understanding of some of the assignment concepts	**Good (Exceeds Expectation (4-5)** The student demonstrated a clear understanding of the assignment concepts	**Score** **30%**
Accuracy	The student mis-configured enough network settings that the lab computer couldn't function properly on the network	The student configured enough network settings that the lab computer partially functioned on the network	The student configured the network settings that the lab computer fully functioned on the network	**30%**
Following Directions	The student clearly failed to follow the verbal and written instructions to successfully complete the lab	The student failed to follow the some of the verbal and written instructions to successfully complete all requirements of the lab	The student followed the verbal and written instructions to successfully complete requirements of the lab	**20%**
Time Utilization	The student failed to complete even part of the lab in the allotted amount of time	The student failed to complete the entire lab in the allotted amount of time	The student completed the lab in its entirety in the allotted amount of time	**20%**

Lab 8

Introduction to Cisco Packet Tracer

OBJECTIVES OF THE LAB

This lab aims to introduce Cisco Packet Tracer. Some specific topics covered in this lab are

- Creating Networks
- Making Connections
- Making LAN using Hub
- Making LAN using Switch
- Difference between hub and switch

Introduction

Cisco Packet Tracer is an innovative network simulation and visualization tool. This free software helps you to practice your network configuration and troubleshooting skills via your desktop computer or an Android or iOS based mobile device. Packet Tracer is available for both the Linux and Windows desktop environments.

With Packet Tracer you can choose to build a network from scratch, use a pre-built sample network, or complete classroom lab assignments. Packet Tracer allows you to easily explore how data traverses your network. Packet Tracer provides an easy way to design and build networks of varying sizes without expensive lab equipment.

1. **Creating Devices**
    a. Choose a device type from the **Device-Type Selection** box
    b. Click on the desired device model from the **Device-Specific Selection** box
    c. Click on a location in the workspace to put your device in that location
    d. If you want to cancel your selection, press the **Cancel** icon for that device
    e. Alternatively, you can click and drag a device from the **Device-Specific Selection** box onto the workspace
    f. You can also click and drag a device directly from the **Device-Type Selection** box and a default device model will be chosen for you

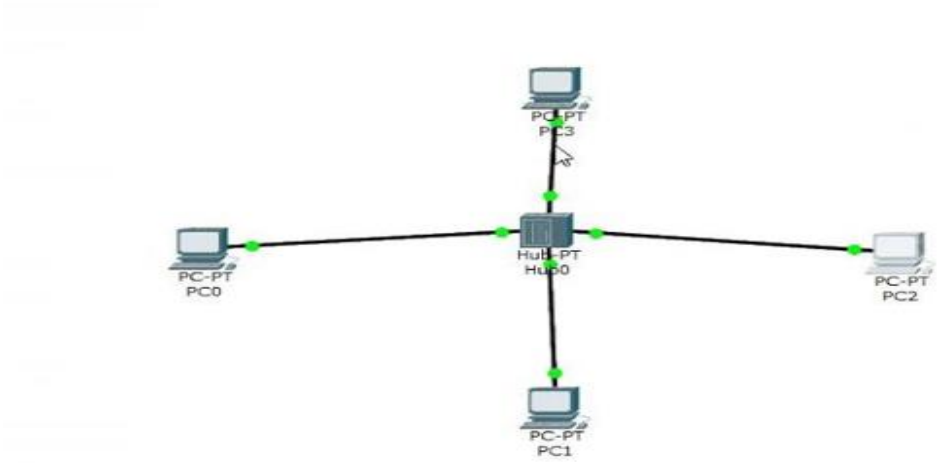
2. **Making Connections**
    a. To make a connection between two devices, first click the **Connections** icon from the **Device-Type Selection** box to bring up the list of available connections.
    b. Then click the appropriate cable type.
    c. The mouse pointer will change into a "connection" cursor.

d. Click on the first device and choose an appropriate interface to which to connect.
e. Then click on the second device and do the same.
f. A connection cable will appear between the two devices, along with link lights showing the link status on each end (for interfaces that have link lights).

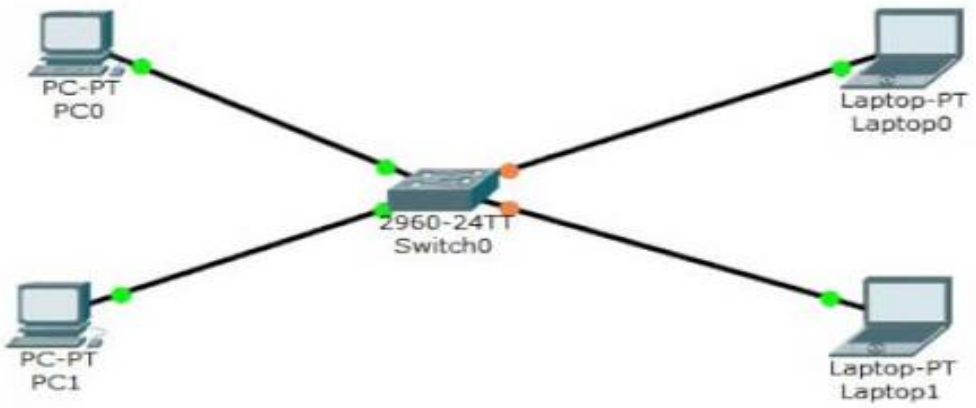
3. **Creating Networks**

Packet Tracer is a cross-platform visual simulation tool designed by Cisco Systems that allows users to create network topologies and imitate modern computer networks. The software allows users to simulate the configuration of Cisco routers and switches using a simulated command line interface.

1. Make a LAN using HUB in Cisco Packet Tracer.



2. Make LAN using SWITCH in Cisco Packet Tracer.



3. What are the pros and cons of HUB?

- Easy to install.
- Very little delay.
- It is used for internal connectivity between the system.
- Can different media type.
- Cheaper.
- Hub device does not affect the performance of the network seriously.
- It can extend the total distance of the network.

4. What are the pros and cons of SWITCH?

   Pros: -

   - They increase the available bandwidth of the network.
   - They help in reducing workload on individual host PCs.
   - They increase the performance of the network.
   - Networks which use switches will have less frame collisions.

   Cons: -

   Broadcast traffic may be troublesome. While uses a limited broadcast, they are not as good as routers. Proper design and most important configuration is needed in order to handle multicast packets.

5. Which ethernet cable did you use for the connection between HUB and PC?

   Straight-through Cables.

6. What does a switch store in its memory?

   The switch Physical Port and MAC address pairs