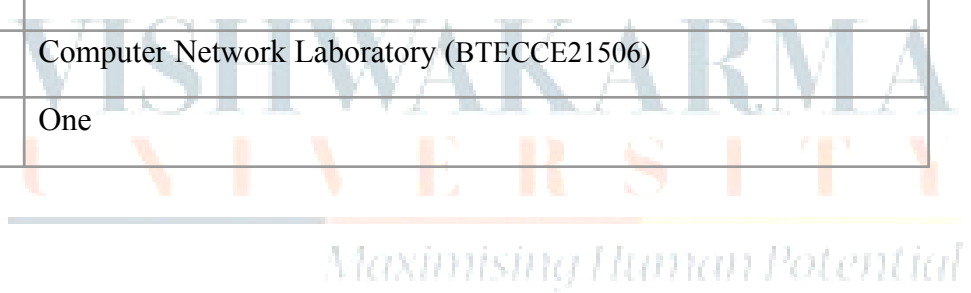
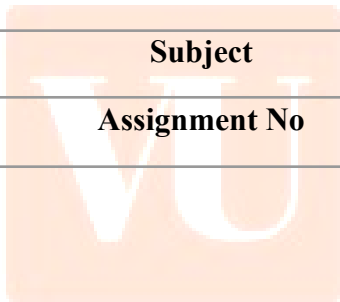




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Year	Third Year
Division	G
Subject	Computer Network Laboratory (BTECCE21506)
Assignment No	One



Assignment Number - 01

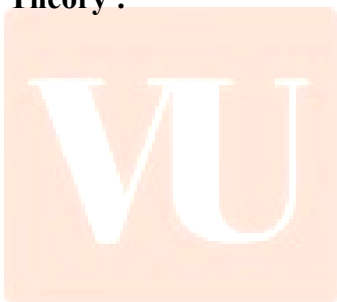
Title : Ad-Hoc and Infrastructure Network

Problem Statement : Set up a small network of 2 to 4 computers using Switch. It includes installation of LAN Cards, Preparation of Cables, Assigning IP addresses and sharing C drive.

Write information IN word document related to following computer network terms with diagram.

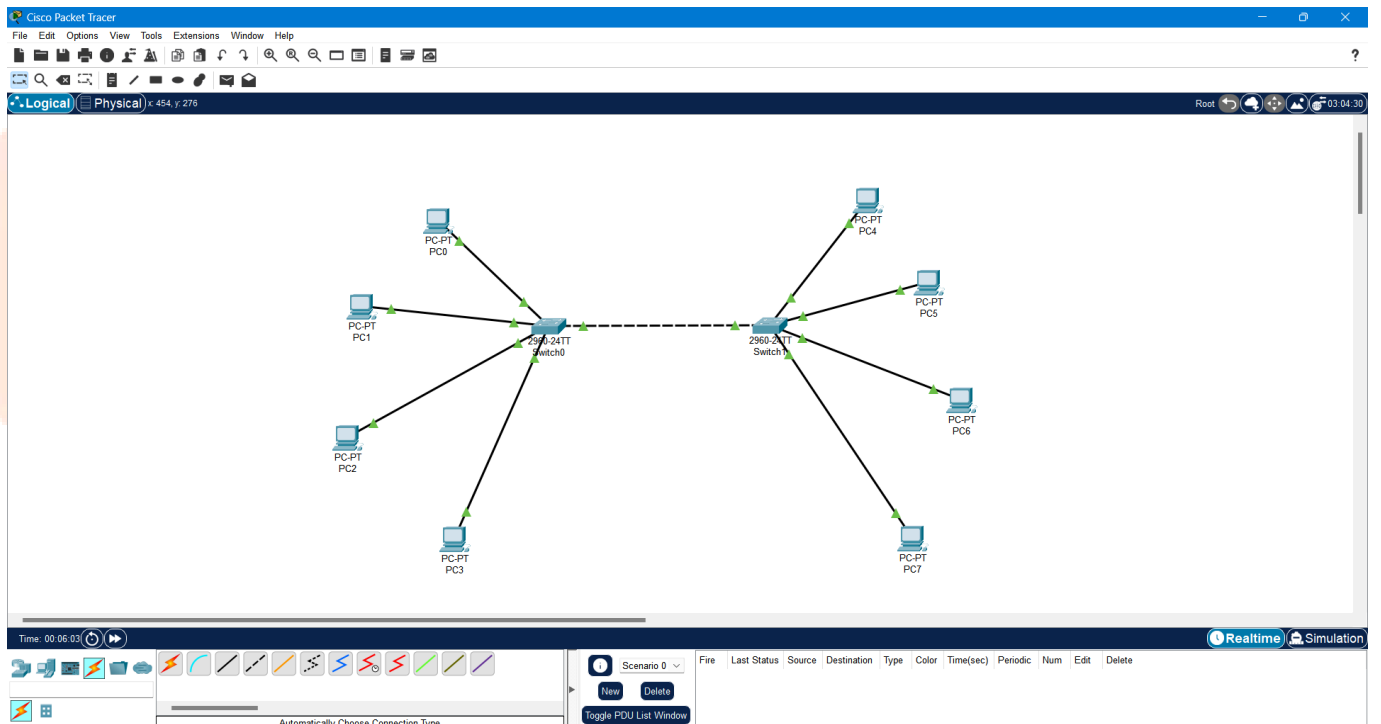
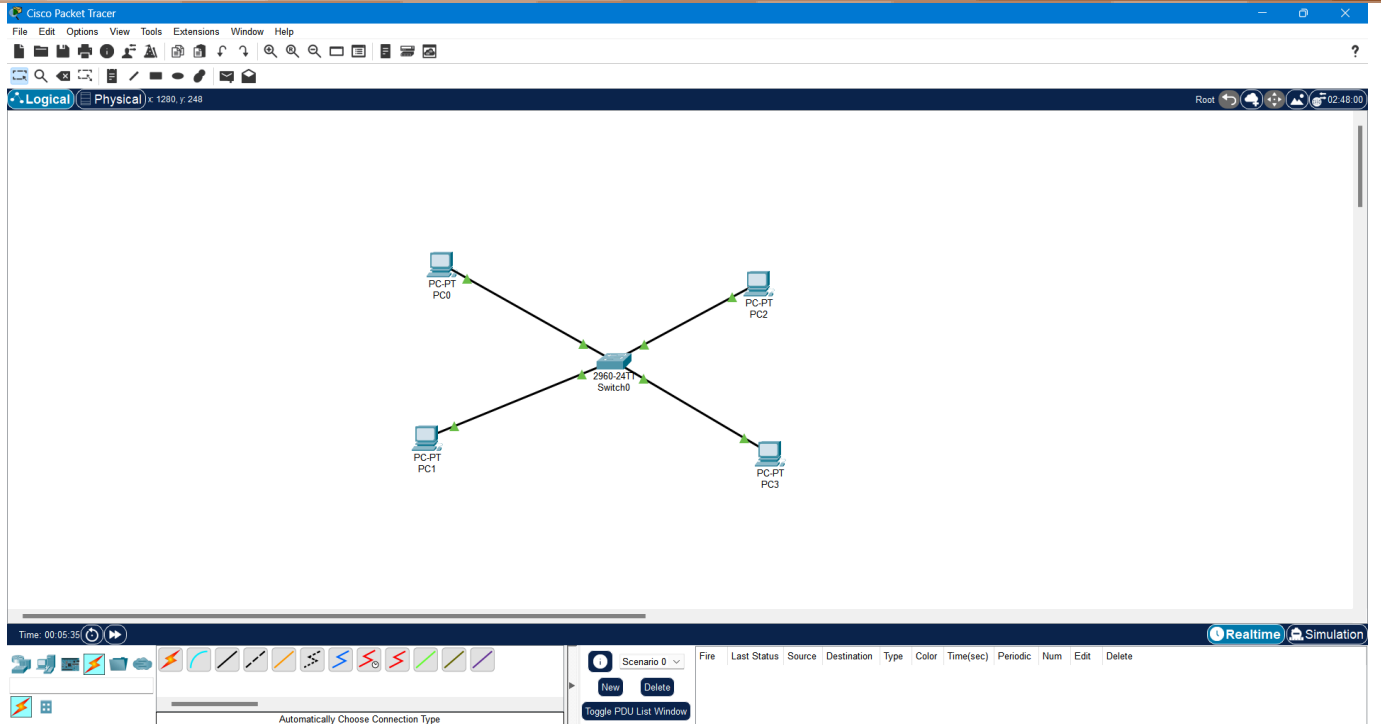
1. NIC Card
2. Hub
3. Switch
4. Network Topology
5. Crimping tool
6. LAN tester
7. Connector -RJ11, RJ45
8. Twisted pair cable – Straight through cable & Cross Over cable

Theory :



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1) NIC Card

Network Interface Card (NIC) is a hardware component that enables a computer to communicate over a network. It connects to the computer's motherboard and provides a physical connection to the network medium.

2) Hub

A hub is a network device that connects multiple devices together, forming a network. It broadcasts data to all connected devices, regardless of the intended recipient.

3) Switch

A switch is a network device that connects multiple devices together, similar to a hub. However, it intelligently forwards data only to the intended recipient, improving network performance.

4) Network Topology

Network topology refers to the arrangement of network devices. Common topologies include:

- 5) **Bus topology:** All devices are connected to a single cable.
- 6) **Star topology:** All devices are connected to a central hub or switch.
- 7) **Ring topology:** Devices are connected in a circular fashion.
- 8) **Mesh topology:** Every device is connected to every other device.
- 9) **Hybrid topology:** A combination of two or more topologies.

10) Crimping tool

A crimping tool is used to attach connectors to network cables. It compresses the connector onto the cable, ensuring a secure connection.

11) LAN tester

A LAN tester is a device used to verify the connectivity and performance of network cables. It can identify cable faults and measure cable length.

12) Connector -RJ11, RJ45

RJ11: Commonly used for telephone connections.

RJ45: Commonly used for Ethernet network connections.

13) Twisted pair cable – Straight through cable & Cross Over cable

Twisted pair cable: A type of network cable consisting of pairs of copper wires twisted together to reduce electromagnetic interference.

Straight through cable: Used to connect a computer to a switch or hub.

Crossover cable: Used to connect two similar devices (e.g., two computers) directly.

Conclusion : Through this assignment, I have learned many valuable components and tools of networking. Starting with learning about different types of devices, such as NIC cards, hubs, and switches, to the different kinds of topologies, shows how complex yet important the design of a network really is. The practical part of networking, like using crimping tools, LAN testers, and being able to distinguish between connectors and cables, has really opened my eyes to a whole new level concerning how the networks are set up and maintained. This knowledge is very important for any person intending to work in IT or as a network administrator.



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