Experiment 1: Setup and Configuration of LAN

1. Aim:

a. Create Wired Local Area Network (IEEE 802.3 LAN) using Cisco Packet Tracer.
b. Create Wired LAN using Real Cisco Switches and check connectivity.

2. Tools Used: Cisco Packet Tracer, Switches, Ethernet Cables and connectors, PCs.

3. Related Theory:

A local area network (LAN) is a group of computers and peripheral devices that share a common communications line or wireless link to a server within a distinct geographic area. A local area network may serve as few as two or three users in a home-office or several hundred users in a corporation's central office. Homeowners and information technology (IT) administrators set up LANs so that network nodes can share resources such as printers or servers. LAN networking requires cables, switches, routers, and other components that let users connect to internal servers, websites and other LANs. Ethernet (IEEE 802.3) and Wi-Fi (IEEE 802.11) are the two primary ways to enable LAN connections.

4. Laboratory Exercise:

Create the topology given in fig: 1 using Cisco Packet Traer simulator. Configure the PCs and Server to make them communicate with each other. The PCs should be able to communicate with each other and all the PCs should be able to access the web page stored on the web server.

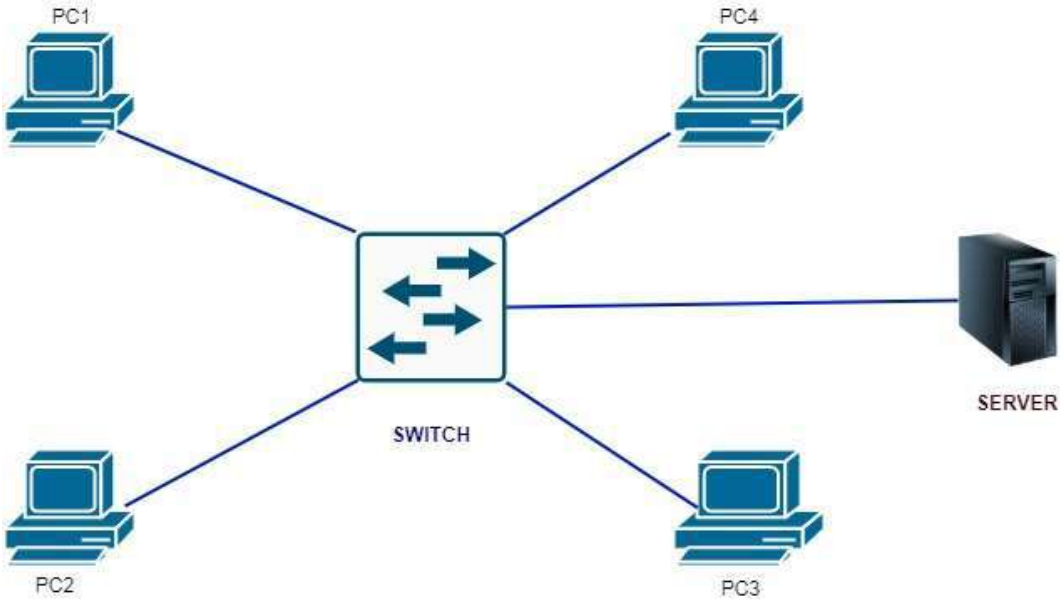

Fig: 1. Ethernet LAN with Web Server

5. Post-Experiment Exercise:

#Attach the screenshots of operations and outputs

A. Conclusion:

#Summarize your observations and understanding

B. Questions:

a. What is LAN? Highlight its importance and applications.
b. List popular LAN technologies, their standards and specifications.
c. What is Cisco Packet Tracer? Mention its features and applications.