PRACTICAL 4

SETTING UP AND CONFIGURING A LAN USING A SWITCH

AIM: To set up and configure a Local Area Network (LAN) using a switch and Ethernet cables.

What is a LAN?

A Local Area Network (LAN) connects devices in a limited area (like a lab, office, or home) to share resources such as data, printers, and internet access. It enables fast, secure data transfer between connected devices, like computers, printers, and servers, through a central device called a switch.

Steps to Set Up a LAN

1. Plan the Network

- Design the layout based on equipment location and network requirements.

2. Gather Equipment

- 4 computers, an 8-, 16-, or 24-port switch, and 4 Ethernet cables.

3. Connect Devices

- Connect each computer to the switch using Ethernet cables.

4. Assign IP Addresses to Computers

- Log in as an Administrator, go to Network Settings:

- Right-click Local Area Connection → Properties → Internet Protocol (TCP/IPv4) .

- Choose Use the following IP address and assign IPs:

- PC1: IP 10.1.1.1, Subnet Mask 255.0.0.0

- PC2: IP 10.1.1.2, Subnet Mask 255.0.0.0

- PC3: IP 10.1.1.3, Subnet Mask 255.0.0.0

- PC4: IP 10.1.1.4, Subnet Mask 255.0.0.0

5. Configure the Switch

- Connect your computer to the switch and log into the switch's web interface using its IP address.

- Set the switch's IP address to **10.1.1.5** with Subnet Mask **255.0.0.0**.

6. Test Connectivity

- Use the ping command in Command Prompt to check if each device can communicate with the switch and other computers.

7. Share Files

-      Right-click on a folder, select Properties → Sharing tab → Share it with everyone on the LAN.

8. Access Shared Files

   - On other computers, navigate to the shared folder to ensure file sharing is successful.