Practical - 4

AIM:

To setup and configure a LAN (Local area network) using a switch and ethernet cables in your lab

LAN (Local Area Network) refers to a network that connect devices within a limited area, such as an office building, school, or home. It enables users to share resources, including data, printers, and internet access. LAN connects devices to promote collaboration and transformation between users, such as computers, printers, servers & switches. Each connected device on a LAN switch can communicate directly with each other, allowing for fast and secure data transfer.

How to set up a LAN

Step 1: Plan and design an appropriate network topology taking into account network requirements and equipment location

Step 2: You can take 4 computers, a switch with 8, 16, or 24 ports which is sufficient for networks of these sizes and 4 ethernet cables.

Step 3: Connect your computers to network switch via an Ethernet cable, which is as simple as plugging one end of the ethernet cable into your computer and the other end into your network switch

Step 4: Assign IP address to your PC's

1. Log on to the client computer as Administrator or as Owner
2. Click network and internet connections
3. Right click Local Area Connection / Ethernet → Go to properties → Select Internet Protocol → Click on properties → Select use the following ip address option & assign ipaddress

Control Panel > Network & Internet > Network Connection			X
Networking Sharing			X
IP version 4 (TCP/IPV4) Properties			

○ Obtain an IP address automatically
◉ Use the following IP address

IP address   `10.1.1.1`
subnet mask   `255.0.0.0`
Default gateway   `. . .`

◉ Use the following DNS server addresses:
Preferred DNS server   `. . .`
Alternate DNS server   `. . .`

☐ Validate settings upon exist

`Advanced`

Similarly assign IP address to all the PCS connected to switch

PC1 - IP address: 10.1.1.1, subnetmask 255.0.0.0
PC2 - IP address: 10.1.1.2, subnetmask 265.0.0.0

Step-5 Configure a network switch:

1. Connect your ned computer to the switch: To access the switch's web interface, you will need to connect your computer to the switch using an Ethernet cable.

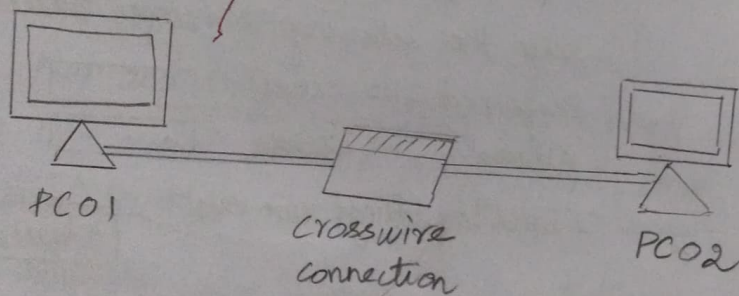2. log in to the web interface: Open a web browser and enter the IP address of the switch in the address bar.

3. configure basic settings: Once you're logged in, you will able to configure basic settings for switch

4. Assign IP address as 10.1.1.5, subnet mas 2550.0

step 6: Check the connectivity between switch and other machine by using ping command in the command prompt of the device

Step 7: Select a folder -> go to properties-> click sharing tab-> share it with everyone one the same LAN

step 8: Try to access the shared folder from other Computers of the network

PC01   Crosswire   PC02
              connection

Result:

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