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Practical - 4.

Aim: Setup and configure a lan (local area network) using a switch and ethernet cables in your lab

What is lan?

A local area network (Lan) refers to a network that connects device 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 collaborate and transfer information b/w users such as computers, printers, servers and switches. A local area network (LAN) switch serves as the primary connecting device managing & directing communication within the local network. Each connected device on a lan switch can communicate directly with each other, allowing for fast and secure data transfer.

How to setup a lan.

Step - 1: Plan & 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 as ~~simple plugging one end of the ethernet cable into your computer and the~~

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sufficient for networks of these size and 4 ethernet cables.

Step-3:
Connect your computers to network switch via and ethernet cable, which is as simple 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 pcs
1. Log on to the client component as administrator or as owner.
2. click network and Internet connections.
3. Right click local Area connection/ethernet → Go to properties → select Internet protocol (Tcp/IPV4) → click on properties → Select use the following ip address option and assign ip address

Control Panel > Network & Internet > Network conn

Networking | Sharing

Ip version 4 (Tcp/IPv4) Properties
○ obtain van 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 setting upon exit
advanced

Similarly assign Ip address to all the pcs connected to switch

pc1 - Ip address : 10.1.1.1, Subnet mask 255.0.0.0

pc2 - Ip address - 10.1.1.2 , Subnet mask 255.0.0

pc3 - Ip address 10:1.1.3 , Subnet mask 255.0.0

pc4 - Ip address 10.1.1.4 , Subnet mask 255.0.0

Step-5: configure a network switch

1. connect your 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 into the web Interface: open a web browser and enter the Ip address of the switch in the address bar. This should bring up the login page for the switch's web Interface. Enter the username and password login

3. configure basic settings once you're logged in, you will be able to configure basic settings for the network Switch

4. Assign Ip address as 10.1.1.5, Subnet mask 255.0.0.0

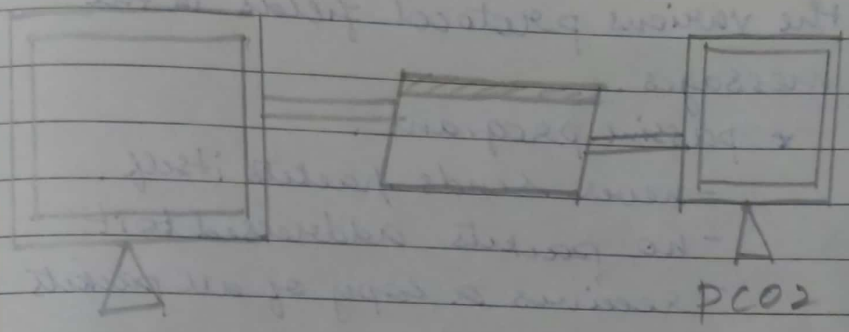
Step-6: Check the connectivity b/w switch and other machine by using ping command in the command prompt of the device.

Step-7: Select a folder, -> go to properties -> click Sharing tab -> share it with

everyone on the same Lan

Step:8:

Try to access the shared folder from others computers of the network.



Result:

Thus the experiment is successfully executed and output is verified.

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