EXP NO: 4   3/8/2024

AIM:- To setup and configure a LAN using a switch and Ethernet cables in your lab.

WHAT IS A LAN?

Refers to a network that connects devices within a limited area such as office building, school, home. It connects devices to promote collaboration and transfer information between users, such as computers, printers, servers and switches. A primary connecting device on a LAN switch can communicate directly with each other, allowing for fast and secure data transfer.

How to SET UP A LAN?

STEP1:- Plan and Design an appropriate network topology taking into account network requirements and equipment location.

STEP2:- You can take 8 computers, a switch with 16 or 24 ports which is sufficient for network of these sujes and Ethernet cable.

STEP3:- connect your computers to network switch via an Ethernet cable which is plugging at one end of the cable to computer 2 other end to switch.

STEP4:- Assign IP address to your PCs
  1. Log on to the client computer as Administrator or as Owner
  2. Click NW & internet connection
  3. Right click LAN → Properties → Select Internet
Protocol (TCP/PV4) → Properties → Select using following address optic

Similarly assign IP address to all the PCS connected to switch

PC-1 IP address 10.1.1.1 subnet mask 255.0.0.0
PC2-IP address 10.1.1.2 subnet mask 255.0.0.0
PC3-IP address 10.1.1.3 subnet mask 255.0.0.0
PC4-IP address 10.1.1.4 subnet mask 255.0.0.0

STEP5 :- 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 ethernet cable.

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

3. Configure basic settings

4. Assign IP address as 10.1.1.5 subnet mask 255.0.0.0.

STEP6 :- Check the connectivity issues

STEP7 :- Select a folder → go to properties → clicks haring tab
↓
Share it with everyone in LAN

STEP8 :- Try to access the shared folder from other computers of the network.

Networking sharing

IP version 4 (TCP/IPV4) properties
- Obtain IP address automatically
- Use the following IP address

    IP address   `110.1.1.1`

    Subnet mask   `255.0.0.0`

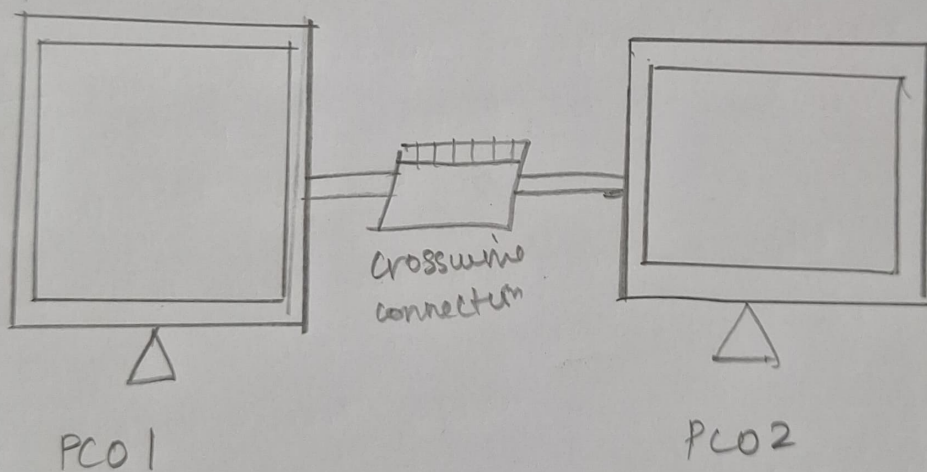   Default Gateway   `. . . .`

- Use the following DNS server addresses

    Preferred DNS server   `. . . .`

    Alternate DNS server   `. . . .`

    ☐ Validate settings upon exist

                        `Advanced`

a)

Crosswire connection

PCO1   PCO2

RESULT :-
    To setup & configure a LAN using a switch and
ethernet cables.

10/8/24