

Exercise No. 4

31/07/24

Aim:

Setup and configure a LAN (Local Area Network) using a switch and Ethernet cables in your lab.

What is Lab?

A local area network refers to a network that connects devices within a limited area, such as an office or home, including data, printers & internet to share resources. 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 and design an appropriate network topology taking into account network requirement & 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 computer 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 onto the client computer as administrator or an owner

2) click network & 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

Internet protocol version - 4	
General	
You can get IP setting assigned automatically if your network supports this capability. otherwise	
Obtain IP address	
Use the IP address	
IP address:	10.1.1.1
Subnet mask:	255.0.0.0
Default gateway:	
Obtain DNS server address	
Preferred DNS server:	...
Alternate DNS server:	...
<input type="checkbox"/> Validate settings upon exit	
Advanced...	

Step 5: Configure a network switch.

1) Connect your computer to a 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 enter username and log in.

3) Configure basic settings

4) Assign IP address as 10.11.5 Subnet mask 255.0.0.0

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

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 other computers on the network

Result: Thus, the setup and configuration of LAN is done successfully.