

03/08/25 Exp No: 11 Setup and Configure LAN

Aim: Setup and Configure a LAN (Local Area Network) using a Switch and Ethernet cables in your lab.

What is a LAN?

A Local Area Network (LAN) refers to a network that connects devices within a limited area, such as a office building, school or home. It enables users to share resources, including data, printers and internet access. LAN connects devices to promote collaboration and transfer information between users, such as computers, servers and switches. A local area network (LAN) switch serves as the primary connecting device, managing and directing communications within the local network.

How to Set up a LAN

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

Step 2: You can take 4 computers, a switch with 8, 16 or 24 ports which is sufficient for networks of this 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 other end into your network switch.

Step 4: Assign IP address to your PC's

1. Log on to the client computer as administrator as shown.

2. Click Network and Internet Connections.

3. Right click Local Area Connection/Ethernet → Go to properties.

→ Select Internet Protocol (TCP/IP v4) → click on Properties →
Select one the following ip address option and assign
IP Address.

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.

PC 2 - IP address: 10.1.1.2, Subnet mask 255.0.0.0.

PC 3 - IP address: 10.1.1.3, Subnet mask 255.0.0.0.

PC 4 - IP address: 10.1.1.4, Subnet mask 255.0.0.0.

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. Login to 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 & password to log in.

3. Configure basic settings: once you're logged in, you will
be able to configure basic settings for the switch.
Assign IP Address as: 10.1.1.5, Subnet mask: 255.0.0.0

Step 6: check the connectivity between switch & 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 other computer of the network.

Result: Hence LAN has been successfully setup and configured.