

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 an office building, school, or home.

It enables users to share resources, including data, printers and internet access. 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 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.

Internet Protocol Version 4 (TCP/IPv4) Properties

General

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP address:

Subnet mask:

Default gateway:

☐ Obtain DNS server address automatically

☒ Use the following DNS server addresses:

Preferred DNS server:

Alternate DNS server:

☐ Validate settings upon exit

Advanced ...

Step 4: Assign IP address to your PCs

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 (TCP/IPv4) > click on properties > select use the following IP address option and assign IP address.

Steps: 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 ~~ping~~ 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. This should bring up the login page for the switch's web interface. Enter the username and password to log in.

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

4. Assign IP address as: 10.1.1.5, subnet mask 255.0.0.0.

Step 6: Check the connectivity between switch and other machines 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 computers on the network.

RESULT

Thus, a LAN has been successfully setup and configured using a switch and ethernet cables.

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