

no: 4
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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 refers to a network that connects devices within a limited area such as an office building or home. It enables users to share resources including data, printers and internet access. LAN connect devices, promote collaboration and transfer information between users such as computer, printers, servers and switches.

How to setup a LAN

Step 1: Plan and Design an appropriate Network topology taking into account network requirement and equipment location

Step 2: You can take 4 computers, a switch 8, 16 or 24 ports which is sufficient for network of these sizes and 4 ethernet cables.

Step 3: Connect your computer to network switch via an ethernet cable.

Step 4: Assign IP address to your PC's

1. Log on to the client computer as administrator or owner.
2. Click network and Internet connection.
3. Right click Local Area Connection/Ethernet → Go to properties → select IP → click on properties → select use the following IP address option and assign IP address.

Internet properties X

Networking | Sharing

Internet protocol v4

General

You can get IP settings assigned automatically if your network supports the following:

- ☐ Obtain an IP address automatically.
- ☐ Use the IP address.

IP address: 10.1.1.1

Subnet mask: 255.0.0.0

Preferred DNS server: . . .

Is validate settings ☒ Advanced

Similarly assign IP address to all 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 255.0.0.0

PC3 - IP address : 10.1.1.3, 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

2. Log in the web interface : Open a web browser and enter the IP address. Enter username and password.

3. Configure basic settings.

4. Assign IP address as 10.1.5 subnet mask 255.0.0.0.

Step 6:

Check the connectivity between switch and **other machine** by using ping command.

Step 7: Select a folder → go to properties click sharing → share it on LAN.

Step 8: Try to access the shared folder **from** other computer.

Result:

Thus the setup and configuration of **LAN was** successfully executed.

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Summary

PC1 IP address: 10.1.1.1, subnet mask 255.0.0.0
PC2 IP address: 10.1.1.2, subnet mask 255.0.0.0
PC3 IP address: 10.1.1.3, subnet mask 255.0.0.0

Step 1: 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.

2. In the web interface, open a web browser and go to

the IP address. Enter username and password.