

14/8/25

Experiment 4

AIM : Setup and configure a LAN using a switch and Ethernet cables in your lab

What is a LAN ?

A LAN refers to network that connects devices within a limited area - office, school or home. It enables users to share resources - data, printers and Internet access.

A 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 requirement.

Step 2 :

Take 4 computers, a switch with 8, 16 or 24 ports and 4 Ethernet cables.

Step 3 :

Connect the computers to network switch via an Ethernet cable.

Step 4 :

Assign IP addresses to the PCs.

1. Client computer - Admin / owner
2. Network and Internet connections
3. LAN / Ethernet → Properties → Internet Protocol → Properties → Assign IP.

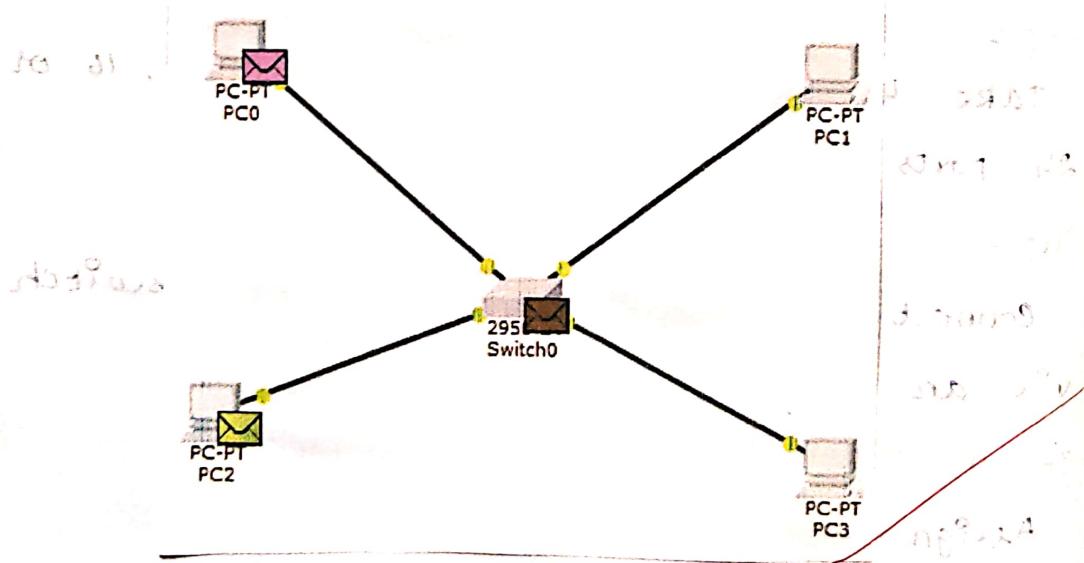
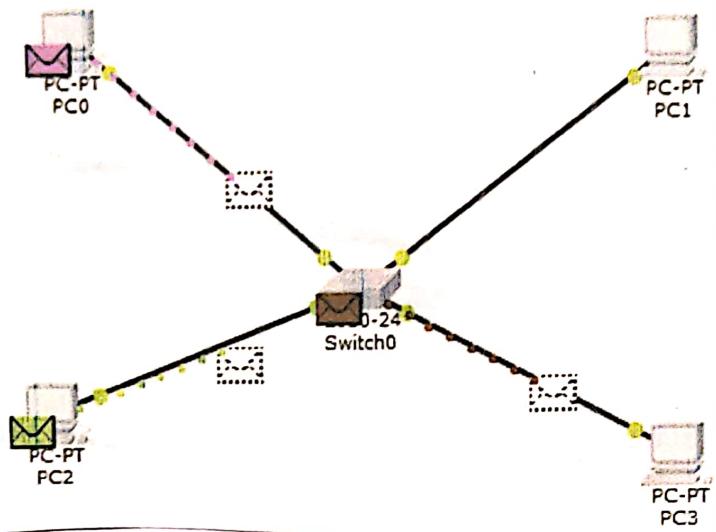
Step 5:

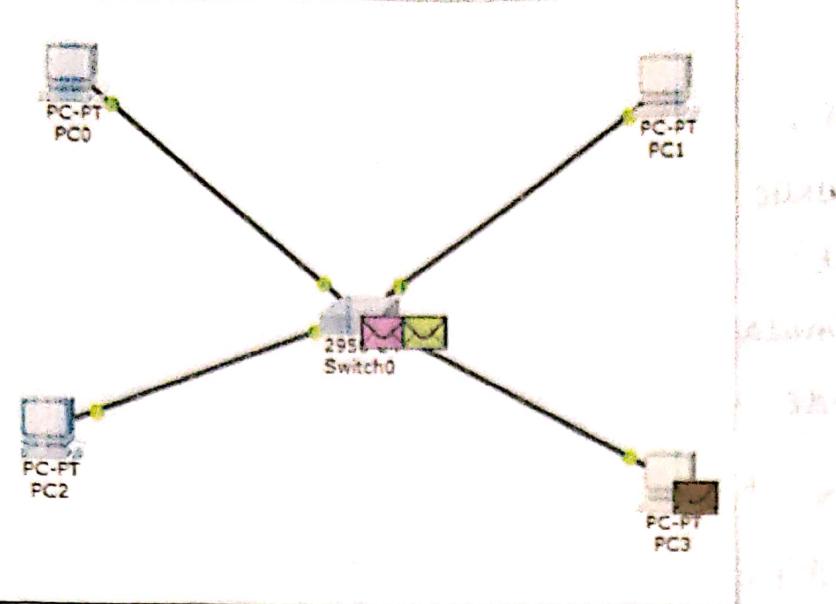
Configure network switch

Step 6:

check the connectivity between switch and outer machine by using ping command.

output in CISCO Packet Tracer





With the help of above diagram we can understand how a LAN works. A LAN is a group of computers or other devices connected together by a common channel. This channel may be optical fiber, coaxial cable, or twisted pair cables. All the devices connected to a LAN share the same bandwidth.

The main advantage of LAN is that it allows multiple users to access the same resources simultaneously. It also provides better security and reliability compared to other networking technologies.

Result: Thus a LAN has been setup and configured using a switch and ethernet cables.

Ques. What is meant by broadcast domain?

Ans. Broadcast domain is a group of hosts that receive all broadcast messages sent by any host in the group.