Class: Sem VI **Subject Code: ECL 602**

Subject Name: Computer Communication Network Laboratory

Experiment No. 7

Aim: Installation And Configuration of Local Area Network using Hubs, Switches and Routers For Packet Transmission Using Cisco Packet Tracer.

Learning Objectives:

- To understand working of Hubs, Switches and Routers.
- To simulate LAN using Hubs & switches in CISCO Packet Tracer.
- To understand to connect two different LAN using Router practically in CISCO Packet Tracer.

Learning Outcomes:

After successful completion of the experiment students will be able to:

- Explain working of Hubs & Switches.
- Simulate LAN using Hubs & switches in CISCO Packet Tracer.
- Understand to connect two different LAN using Router in CISCO Packet Tracer.

Theory:

Cisco network devices such as routers, switches, and other generic devices such as bridges, hubs, repeaters, and WAN emulators are available to work in the cisco packet tracer. Network devices enable the end devices to communicate with each other. These devices can be configured from the config tab. You will be able to configure routers and switches using the config tab without using Cisco commands.

PROCEDURE:

HUB:

Connect four PCs to a HUB in cisco packet tracer.

configure each PC with IP address and subnet mask.

select the simulation tab.

Edit filters for ARP and ICMP.

Take a simple PDU, and select a source and destination PC for it.

Press Auto Capture/Play button

Observe the HUB operation.

SWITCH:

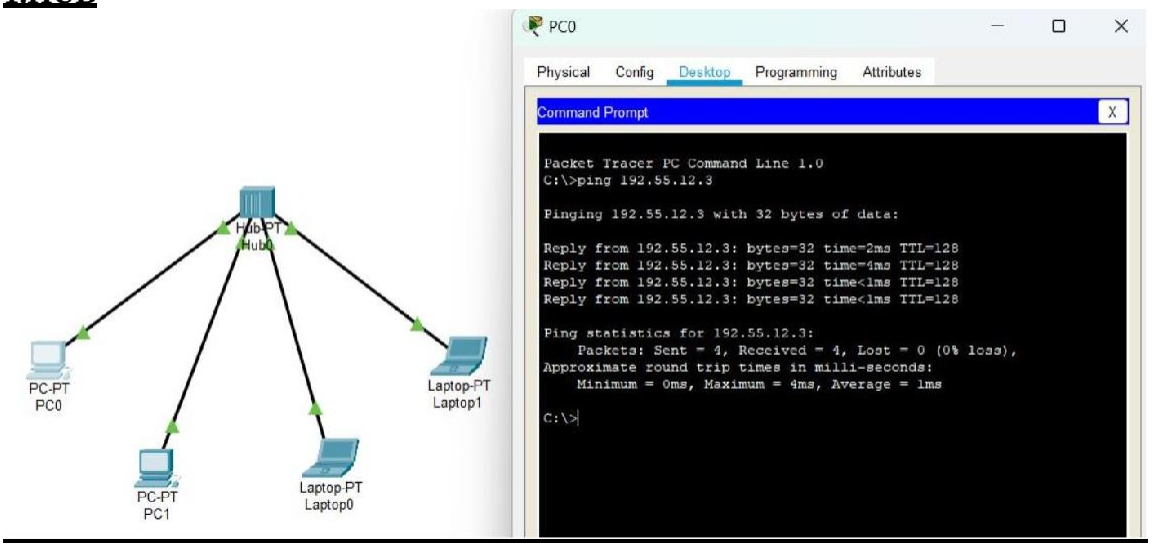
- Connect four PCs to a switch in cisco packet tracer.
- configure each PC with IP address and subnet mask.
- select the simulation tab.
- Take a simple PDU, and select a source and destination PC for it.
- Press Auto Capture/Play button
- observe the switch operation.
- ping all other PCs from each PC.

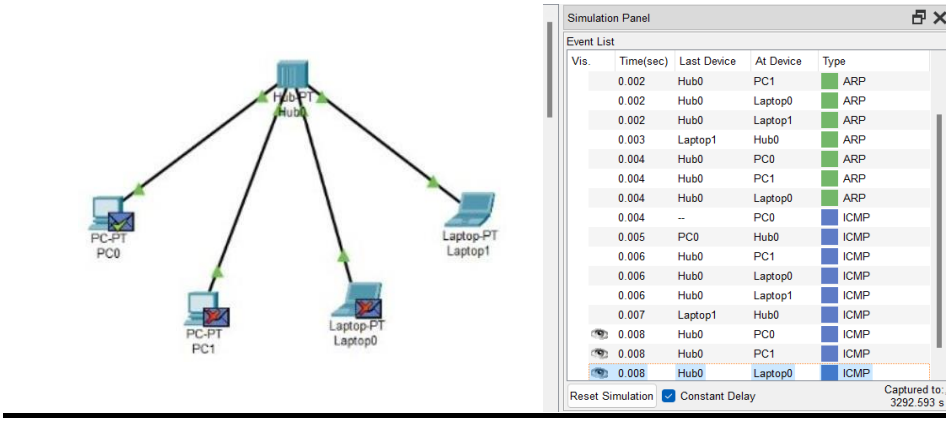
ROUTER:

- Connect Two routers with a serial connection and connect a switch to each router in cisco packet tracer.
- connect four PCs to each switch.
- configure the serial and fast Ethernet interfaces for IP addresses on each router
- Define static routes on each router
- configure each PC with IP address and subnet mask.
- check the connectivity between two PCs belonging to different networks (routers)
- select the simulation tab.
- Take a simple PDU, and select a source and destination PC for it.
- Press Auto Capture/Play button
- Observe the router operation

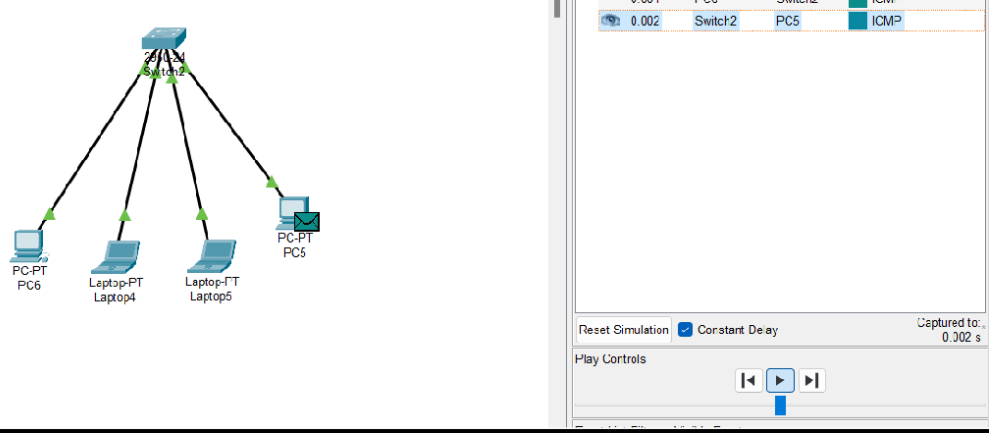
SCREENSHOT:

1.HUB

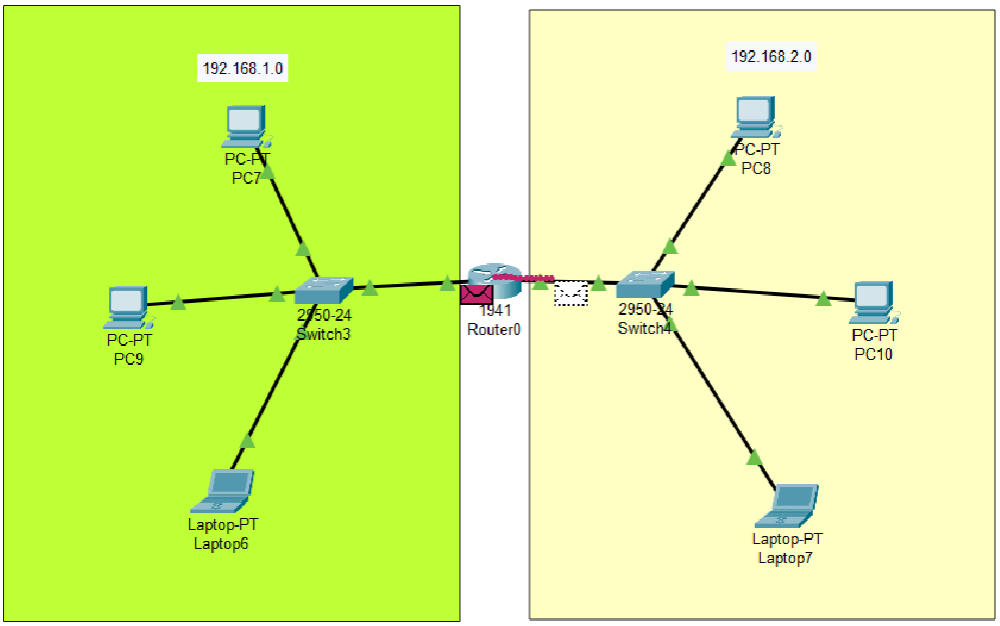




2.SWITCH



3.ROUTER



CONCLUSION: