

## **EXPERIMENT-6**

### **IMPLEMENTATION OF TREE TOPOLOGY USING PACKET TRACER**

**Aim:** To Implement a tree topology using packet tracer and hence to transmit data between the devices connected using tree topology. Software / Apparatus required: Packet Tracer / End devices, Hubs, connectors. Procedure:

Steps for building topology:

**Step 1:** Start Packet Tracer

**Step 2:** Choosing Devices and Connections

**Step 3:** Building the Topology – Adding Hosts Single click on the End Devices. Single click on the Generic host. Move the cursor into topology area. Single click in the topology area and it copies the device.

**Step 4:** Building the Star Topology – Connecting the Hosts to Hubs Select a Hub, by clicking once on Hub and once on a generic Hub Add the Hub by moving the plus sign “+”

**Step 5:** Connect PCs to Hub by first choosing Connections Click once on the Automatic cable selector Click once on PC2 Choose Fast Ethernet Drag the cursor to Hub0 Click once on Hub0 Proceeding in this way create three star topologies

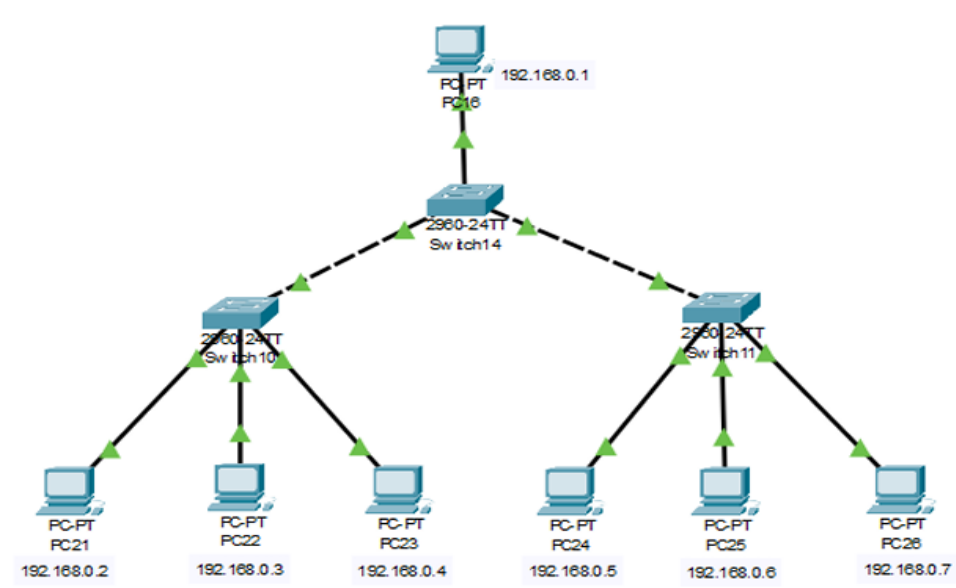
**Step 6:** Building the Tree Topology – Connecting the Hubs to Active Hub Connect the hubs of star topologies to active hub to create tree topology.

**Step 7:** Configuring IP Addresses and Subnet Masks on the Hosts To start communication between the hosts IP Addresses and Subnet Masks had to be configured on the devices. Click once on PC0. Choose the Config tab and click on Fast Ethernet0. Type the IP address in its field. Click on the subnet mask. It will be generated automatically.

**Step 8:** Verifying Connectivity in Real time Mode Be sure you are in Real time mode. Select the Add Simple PDU tool used to ping devices. Click once on PC0, then once on PC3. The PDU Last Status should show as Successful.

**Step 9:** Verifying Connectivity in Simulation Mode Be sure you are in Simulation mode. Deselect all filters (All/None) and select only ICMP. Select the Add Simple PDU tool used to ping devices Click once on PC0, then once on PC3. Continue clicking Capture/Forward button until the ICMP ping is completed. You should see the ICMP messages move between the hosts, hub and switch. The PDU last status should show as Successful.

Diagram:



Output:

Simulation Panel

Vis	Time(sec)	Last Device
	10.188	Switch2
	10.189	Switch2
	10.615	Switch2
	10.616	Switch2
	10.616	Switch2
	10.616	Switch2
	10.617	Switch0
	10.617	Switch0
	10.618	Switch1
	10.618	Switch1
	10.618	Switch1

Reset Simulation Constant Delay Captured to: 10.618 s

Play Controls

Event List Filters - Visible Events

ACL Filter, ARP, BGP, Bluetooth, CAPWAP, CDP, DHCP, DHCPv6, DNS, DTP, EAPOL, EIGRP, EIGRPv6, FTP, H.323, HSRP, HSRPv6, HTTP, HTTPS, ICMP, ICMPv6, IPsec, ISAKMP, Icmp, LACP, LLDP, Mavlink, NDP, NETFLOW, NTP, OSPF, OSPFv6, PAgP, POP3, PPP, PPPoE, PTP, RADIUS, REP, RIP, RIPv2, RIPv3, SCCP, SMTP, SNMP, SSH, STP, SYSLOG, TACACS, TCP, TFTP, Telnet, UDP, USB, VTP

Edit Filters Show All/None

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	PC0	ICMP		0.000	N	0	(edit)	(delete)

**Result:** Thus the Tree topology is implemented with Packet Tracer simulation Tool.