



Experiment-3

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Subject Name: Computer Networks

Subject Code: 22CSH-312

1. Aim: Implement different network topologies like Star, Bus, and Mesh Topology with the help of Packet Tracer.

2. Objective:

To understand Star, Bus, and Mesh Topology.

3. Tools Needed:

- Cisco Packet Tracer

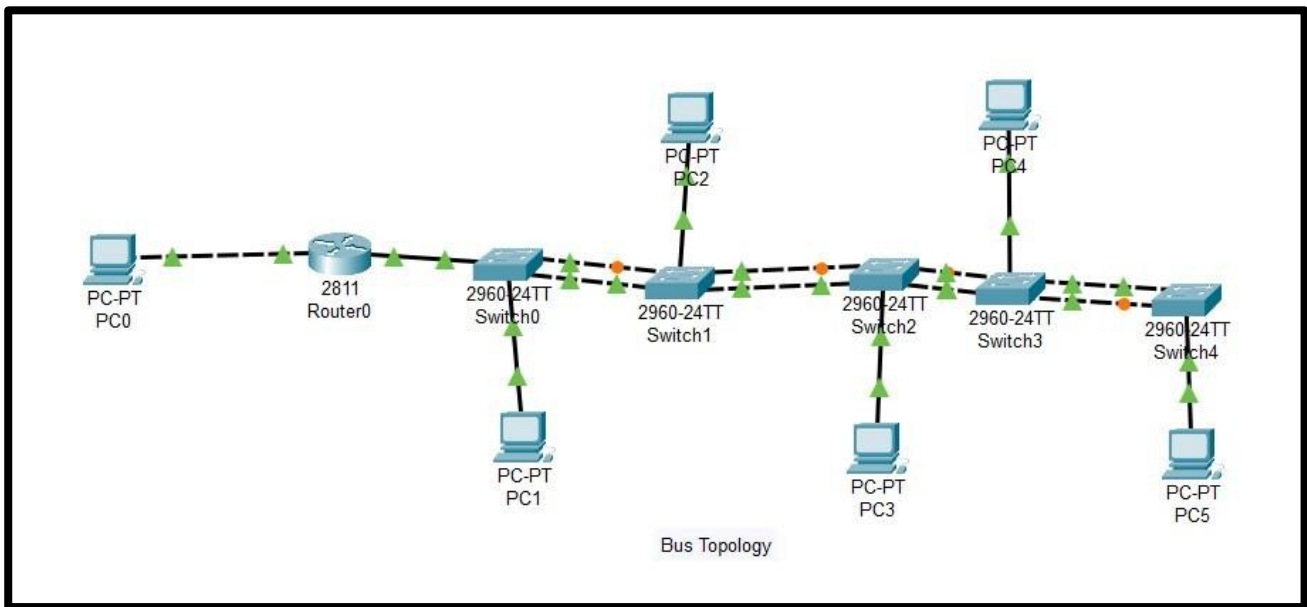
4. Procedure:

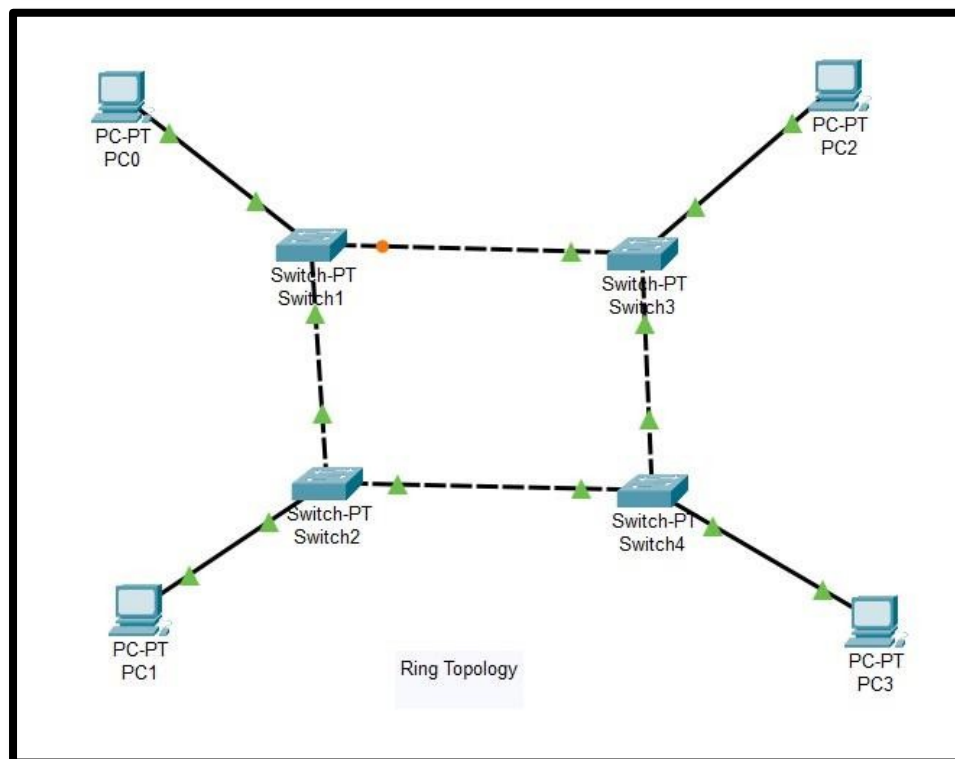
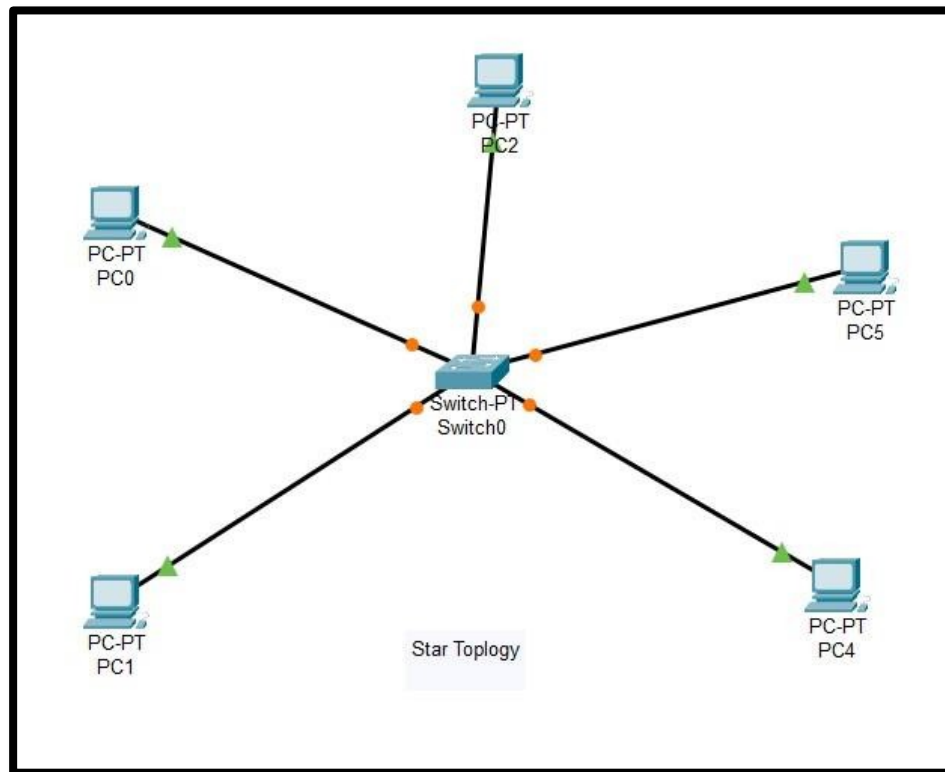
- **Launch Cisco Packet Tracer:** Open the Packet Tracer application.
- **Select Devices:** Choose the required network devices (routers, switches, PCs, cables) from the device palette.
- **Create a Workspace:** Drag and drop the selected devices onto the workspace to create a basic network layout.

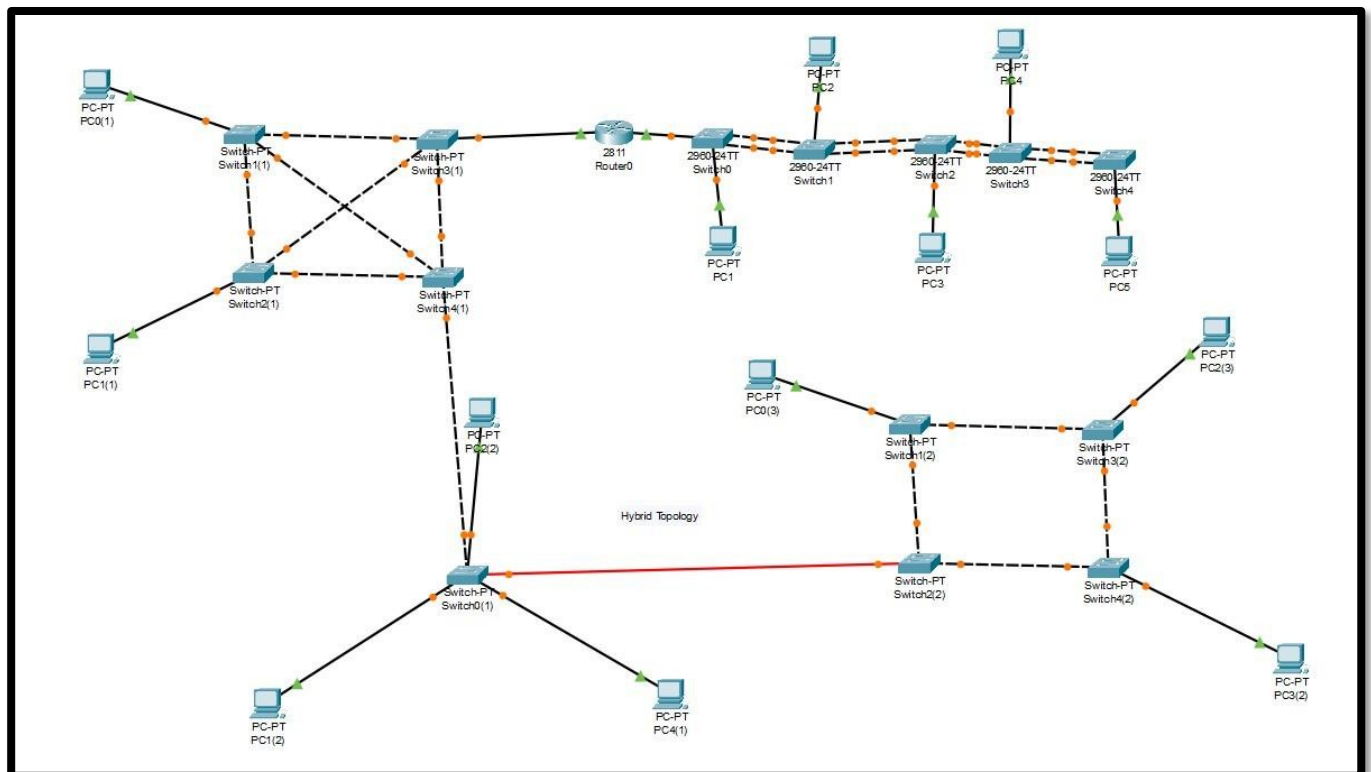
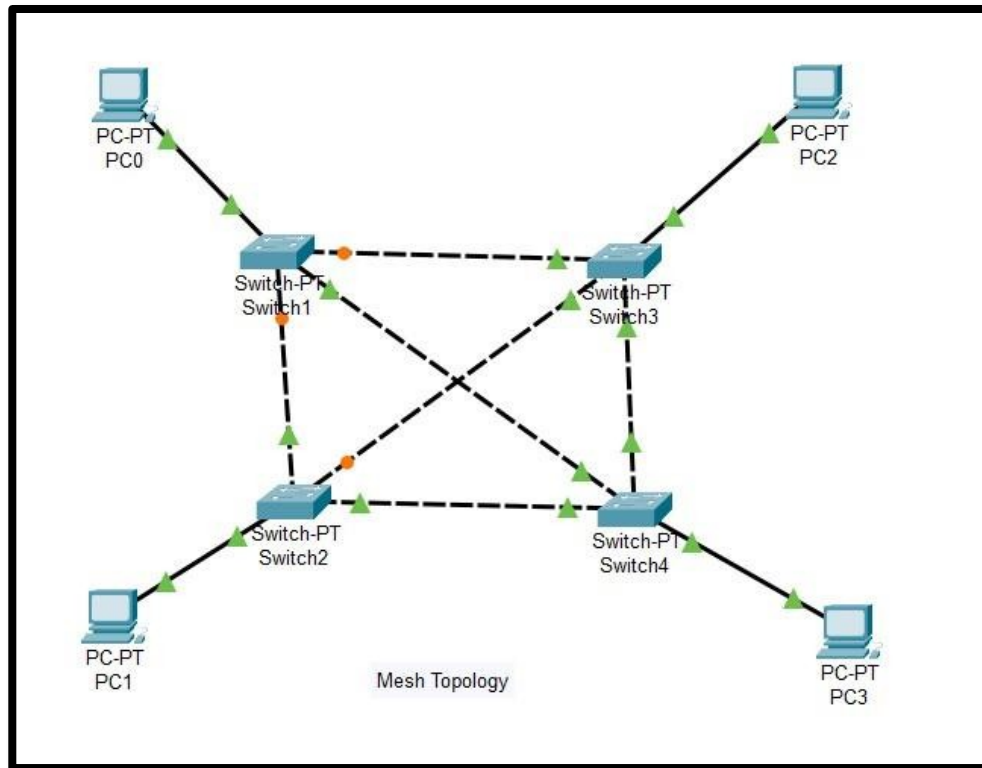
- **Connect Devices:** Use appropriate cables (copper straight-through, crossover, console) to connect devices based on the topology.
- **Configure Devices:**
 - **Routers:**
 - Enter global configuration mode: `enable, configure terminal`
 - Interface configuration: `interface FastEthernet 0/0, ip address <IP address> <subnet mask>, no shutdown`
 - Assign IP addresses to other interfaces as required.
 - **PCs:**
 - Assign static IP addresses, subnet masks, and default gateways.

Verify Connectivity: Use the ping command to test communication between devices.

5. Output:









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6. Learning Outcome:

- a. Understand the setup and configuration of Bus, Ring, Mesh, Star and Hybrid network topologies.
- b. Learn to use Cisco Packet Tracer to simulate different network designs.
- c. Gain practical skills in configuring network devices and analyzing their connectivity.