

## **EXPT: 10 DESIGN A SIMPLE TOPOLOGY AND CONFIGURE WITH ONE ROUTER, TWO SWITCHES AND PCS USING CISCO PACKET TRACER**

### **Aim:**

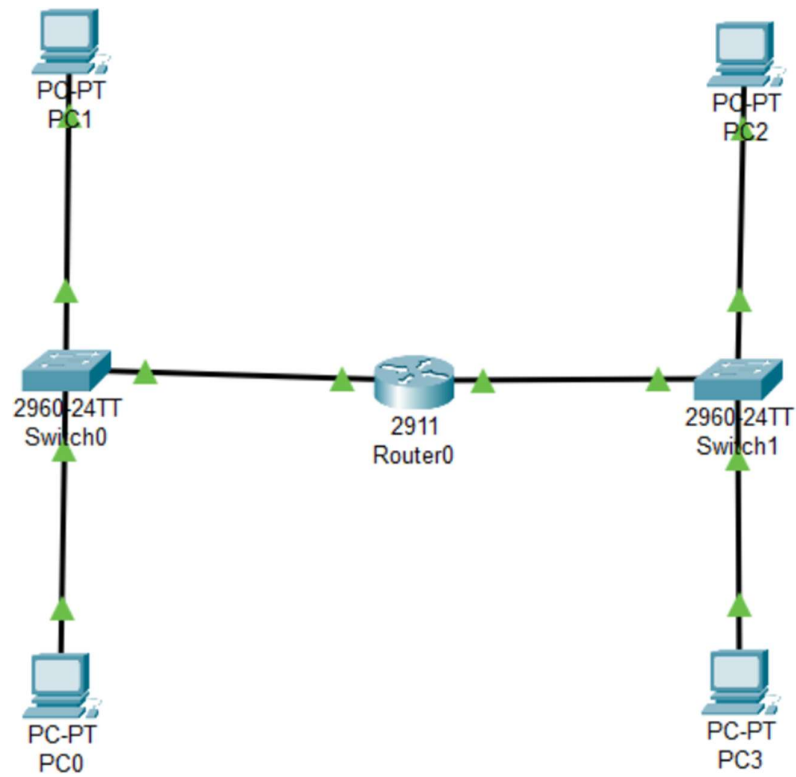
To design and configure a simple network topology using **one router, two switches, and PCs** in Cisco Packet Tracer and verify successful communication between networks.

### **Algorithm:**

- Start **Cisco Packet Tracer**.
- Select **and place devices**:
  - 1 Router (e.g., Cisco 2911)
  - 2 Switches (e.g., 2960)
  - 4 PCs
- Connect **the devices using Copper Straight-Through cables**:
  - PC0 → Switch0 (F0/1)
  - PC1 → Switch0 (F0/2)
  - PC2 → Switch1 (F0/1)
  - PC3 → Switch1 (F0/2)
  - Switch0 → Router (G0/0)
  - Switch1 → Router (G0/1)
- Assign **IP addresses to PCs**:
  - LAN1 → 192.168.1.0/24 (PC0, PC1)
  - LAN2 → 192.168.2.0/24 (PC2, PC3)
- Configure router **interfaces**:
  - Interface G0/0 → 192.168.1.1 255.255.255.0
  - Interface G0/1 → 192.168.2.1 255.255.255.0
  - Use no shutdown command to activate interfaces.
- Set **Default Gateway** on **each PC**:
  - For PCs in LAN1 → 192.168.1.1
  - For PCs in LAN2 → 192.168.2.1
- Verify **connections**:

- Use the ping command from one PC in LAN1 to a PC in LAN2.
- Check for successful replies.
- Stop.
- If packets are successfully received, the topology is working correctly.

**Network Topology:**



**Output:**

```
C:\>ping 192.168.2.1

Pinging 192.168.2.1 with 32 bytes of data:

Reply from 192.168.2.1: bytes=32 time=4ms TTL=255
Reply from 192.168.2.1: bytes=32 time=4ms TTL=255
Reply from 192.168.2.1: bytes=32 time=4ms TTL=255
Reply from 192.168.2.1: bytes=32 time=4ms TTL=255

Ping statistics for 192.168.2.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 4ms, Average = 4ms
```

**Result:**

A simple network topology using **one router, two switches, and multiple PCs** was designed and configured successfully in Cisco Packet Tracer. Communication between both networks was verified using the **ping** command.