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# Exercise 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.

**Introduction:**

In networking, routers are used to connect multiple networks.   
Switches connect devices within a single LAN.   
In this experiment, two LANs (connected by switches) are linked using a router.   
Each LAN will have its own IP network, and the router will route packets between them.

**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)
* Configurerouter **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.

**NetworTopology**: A diagram of a computer network

AI-generated content may be incorrect.

**Output**:

A computer screen with white text

AI-generated content may be incorrect.

**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.