3/10/25 Experiment 10 a

Internetworking with routers in cisco packet tracer simulator.

AIM: Internetworking with routers in cisco packet tracer simulator, design a simple network with 1 router and 2 pcs using cisco packet tracer.

Procedure:

1) configure Router:

* Go to CLI → enable → config t
* Set IP for Fast Ethernet 0/0: 192.168.10.1 255.255.255.0 → no shutdown
* Set IP for Fast Ethernet 0/1: 192.168.20.1 255.255.255.0 → no shutdown.

2) configure PCs:

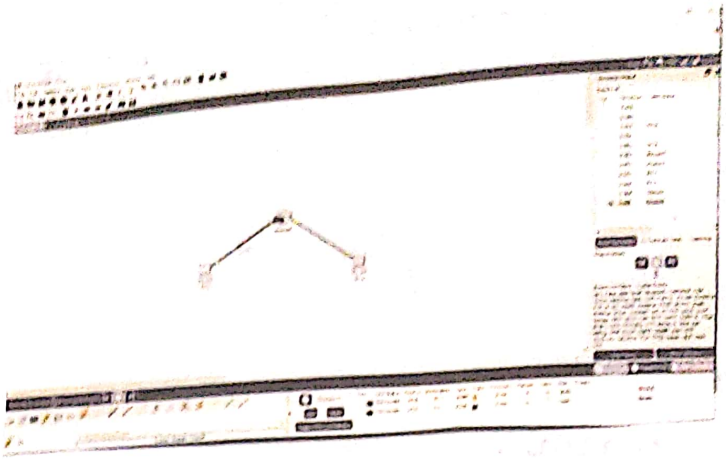
* PC0: IP 192:168.10.2, Gateway 192.168.10.1
* PC1: IP 192:168.20.2, Gateway 192.168.20.1

3) Connect Devices

* PC0 → Router Fast Ethernet 0/0 (copper straight-Through)
* PC1 → Router Fast Ethernet 0/1 (copper straight-Through)

4) Test connectivity:

* ping from PC0 to PC1 to verify network connection.



## Experiment 10 b

**Aim:** configure a network with a wireless router, DHCP server and internet connection.

**Procedure:**

1) * Add wireless router, PC, laptop, cable Modem, Internet cloud, cisco.com server.
   * Connect using copper and coaxial cables as required.

2) **configure wireless Router:**
   * set SSID : Home Network
   * Enable DHCP & set DNS : 208.67.220.220.

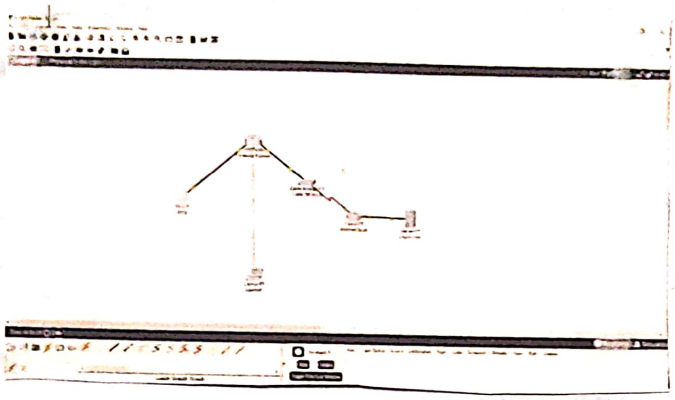
3) **configure laptop & PC**
   * **laptop:** Install wireless module → connect to Home network.
   * **PC:** Enable DHCP → Get IP automatically from routes.

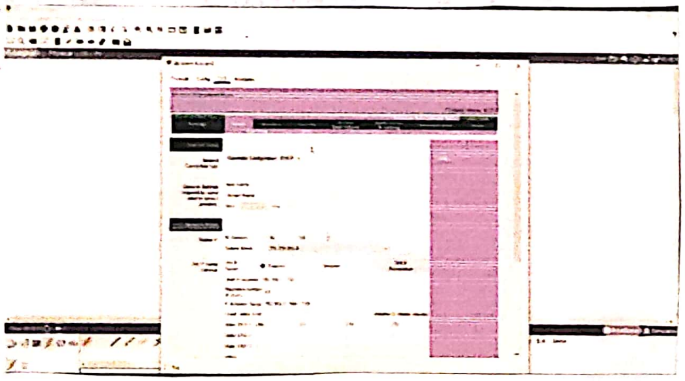
4) **configure cisco.com server:**
   * Enable DHCP & DNS services with IP : 208.67.220.220.

* set pool and global gateway settings.

Verify connectivity:

* Refresh IP on PC (ipconfig / release → ipconfig / renew)
* ping cisco.com to test internet connection





Student observation

1) write down the key features of configuring wireless routes & DHCP server.

A) wireless Router: provides wi-fi, sets SSID, connects devices.

DHCP Server : Automatically assigns IP, gate... subnet, DNS.

2) What is the significance of DHCP server in internetwork-ing ?

A) * Simplifies IP assignment & avoids conflicts
* Ensures smooth network communication.

3) Design & configure an Inter-network in your lab using switch, router & Ethernet cables. Draw & label.

A) * Setup : Router → switch → PCs (Ethernet cables)
* Router : 192.168.1.1
* PC0 : 192.168.1.2, Gateway : 192.168.1.1
* PC1 : 192.168.1.3, Gateway : 192.168.1.1
* Test : ping between PCs to verify connection

**Result:** Internetworking with routers in cisco packet tracer simulator is done successfully.

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DHCP server : Automatically assigns IP, gateway, subnet, DNS.

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A) * Simplifies IP assignment & avoids conflicts
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A) * Setup : Router → switch → PCs ( Ethernet cables eg)
* Router : 192.168.1.1
* PC0 : 192.168.1.2, Gateway : 192.168.1.1
* PC1 : 192.168.1.3, Gateway : 192.168.1.1
* Test : ping between PCs to verify connection

**Result**: Internetworking with routers in cisco packet tracer simulator is done successfully.

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