PRACTICAL - 10

AIM :-

(a)

Internetworking with routers in cisco PACKET TRACER simulator

Design and configure a simple internetwork using a router.

step 1 :-

1) Select the router & open CLI

2) Press ENTER to start configuring Router 1.

3) Type enable to activate the privileged mode.

step 2 :-

1) Assign IP Addresses to every PC in the network.

2) Select the PC, go to the desktop and select IP configuration & assign an IP address.

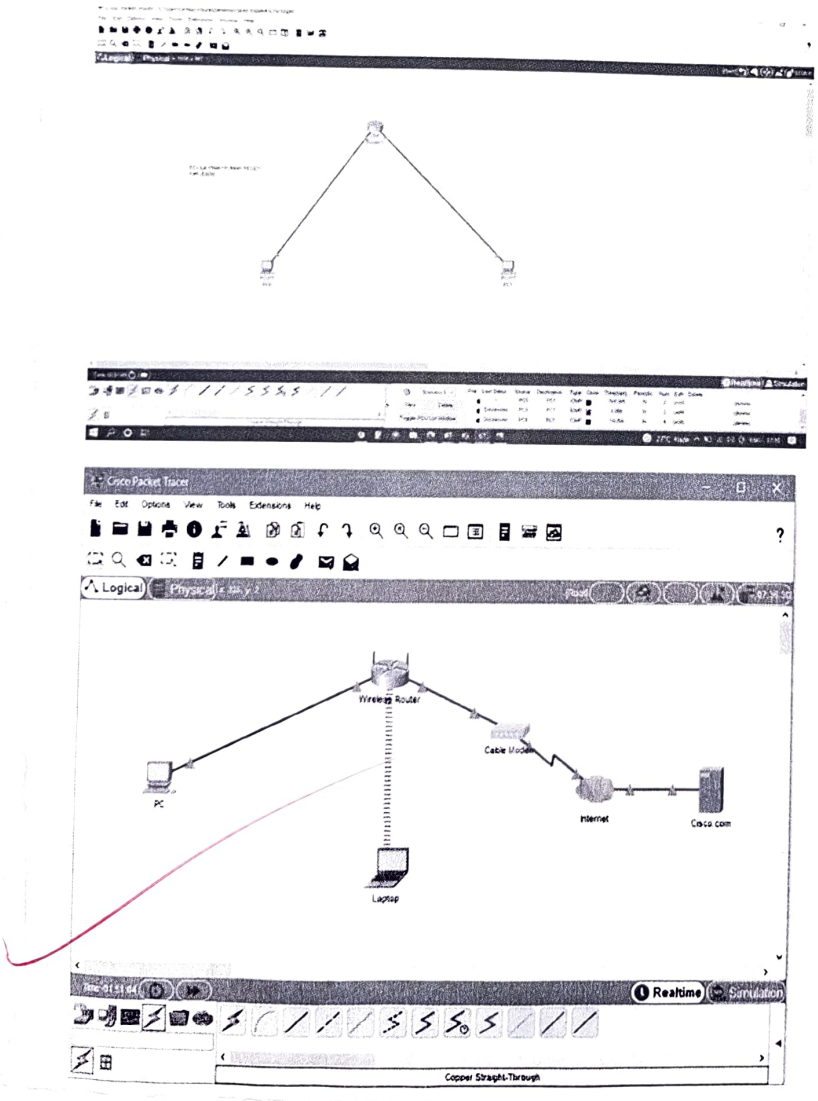
3) Assign the default gateway of PC0 as 192.168.10.1

4) Assign the default gateway of PC1 & 192.168.20.1

step 3 :-

1) Connect fast Ethernet 0 port of PC0 with fast Ethernet 0/0 port of Router 1 using a copper straight - through cable.

2) Connect fast Ethernet 1 port of PC1 with fast Ethernet 0/1 port of Router using a copper straight - through cable.



(b)

AIM:-

Design and configure an internetwork using wireless router, DHCP server and internet cloud.

Build a simple Network in the Logical step1:- Topology Workspace.

Launch Packet Tracer.

step 2:-

Build the topology

a) Add network devices to the workspace

Using the device selection box, add the network devices to the workspace as shown in the topology.

(b) Change display names of the network devices.

To change the display names of the network devices click on the device icon on the Packet Tracer Logical workspace, then click on the config tab in the device configuration.

Part 2:-

Configure the Network Devices.

step 1:-

Configure the wireless router.

a) Create the wireless network on the wirless router

click on the wireless Router icon on the Packet Tracer Logical workshop space to open the device configuration window.

In the wireless router configuration window, click on the GUI tab to view configuration options for the wireless router.

(b) click on the save settings tab.

(a) Configure the laptop to acess the wireless network.

click on the laptop icon on the Packet Tracer Logical workspace and in the laptop configuration windows select the Physical tab.

3. Configure the PC :-

Configure the PC for the wired network. Click on the PC icon on the Packet Tracer Logical workspace & select the Desktop tab and then the IP configuration icon

Click on the command Prompt icon. Verify that PC has received an IPv4 address by using the ipconfig/all command from the command prompt.

4. Configure the internet cloud :-

(a) Install network modules if necessary click on the Internet cloud icon on the Packet Tracer Logical workspace & then click on the Physical tab.

(b) Identify the From & To ports. Click on the config tab in the cloud device window.

(3) Configure the cisco.com server:-

(a) Configure the cisco.com server as a DHCP server.

Click on the cisco.com server icon on the Packet Tracer Logical workspace & select the services tab

(b) Configure the cisco.com server as a DNS server to provide domain name to IPv4 addresses resolution

(c) Configure the cisco.com server global settings

Select the config tab.

Click on settings in left pane.

(d) Click on Fast Ethernet in left paine of the config tab.

Configure the Fast Ethernet interface settings of the server as follows

→ Select static under IP config

→ IP address : 208.67.220.220.

→ Subnet Mask : 255.255.255.0

3. STUDENT OBSERVATION:-

1) Write down the key features of configu
Wireless router and DHCP server.

Wireless Router Configuration

→ Provides both wired and wireless conn
for devices

→ Supports SSID to identify the wireless
network.

→ Allows password protection and encryptio
for secure access

→ Allows bandwidth control and device
management

4. DHCP server configuration :-

→ Automatically assigns IP addresses,
subnet mask, default gateway and
DNS server to hosts.

→ Reduces manual IP configuration erro

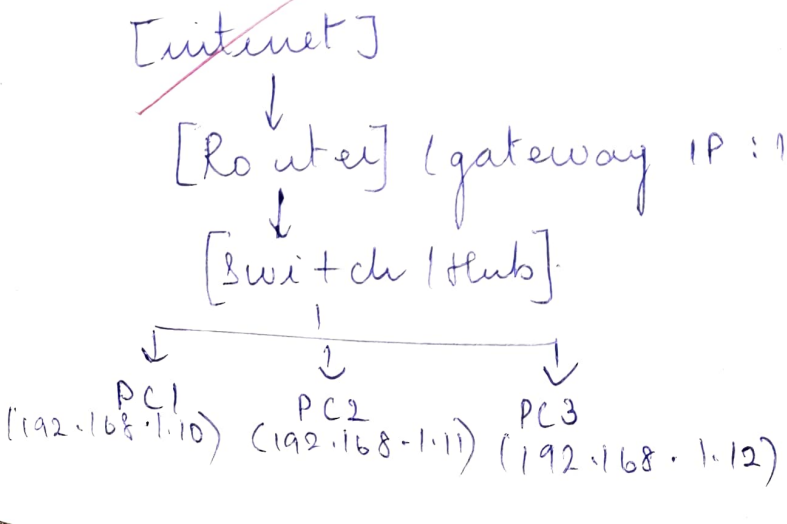
→ Supports lease duration and reservati
for specific devices.

2) What is the significance of DHCP server in internet working?

→ The DHCP server is crucial in internet working because it -

- Automatically assigns unique IP addresses to each device in the network.
- Reduces administrative workload by avoiding manual configuration.
- Prevents IP conflicts between devices.
- Ensures centralized control of network addressing.

3) Design and configure an inter-network in your lab using switch, router & Ethernet cables. Draw & label the design in your notebook. Also, show the ip address configuration of each and every device.



subnet Mask: 255.255.255.0

default Gateway: 192.168.1.1

DNS: 8.8.8.8

→ The router connects to the internet provider gateway acts as
→ The switch interconnects multiple PCs within the LAN
→ Ethernet cables are used to connect the devices physically.
→ The DHCP server assigns IP addresses automatically to all PCs

Result:-

Thus the above experiment is executed successfully.