

Ex-10b)

Date : 25/9/24 INTERNETWORK WITH WIRELESS
ROUTER, DHCP SERVER AND

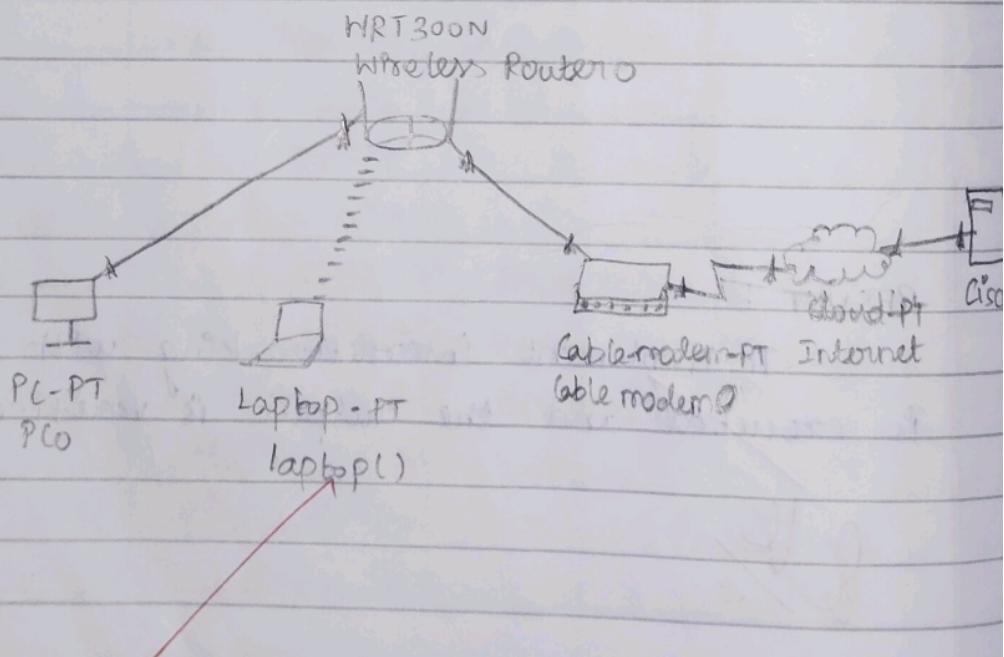
INTERNET CLOUD

AIM

To design and configure an internetwork with wireless router, DHCP server and Internet cloud.

PROCEDURE

- 1) Build a simple network in the logical Topology workspace using wireless router, PC, laptop, cable modem, Internet cloud and server-PT.
- 2) Configure the network devices
- 3) Test connectivity between network devices
- 4) Save the file and cisco Packet Tracer.



Output:

To test connectivity to the cisco.com server from the PC.

In command prompt of PC: (These 4 replies
ping cisco.com need to come).

Pinging 208.67.220.220 with 32 bytes of data:

Reply from 208.67.220.220: bytes = 32 time = 6ms

Reply from 208.67.220.220: bytes = 32 time = 10ms TTL = 127

Reply from 208.67.220.220: bytes = 32 time = 10ms TTL = 127

Reply from 208.67.220.220: bytes = 32 time = 10ms TTL = 127

Student Observation:

Write down the key features of configuring wireless router and DHCP server.

→ Set the wireless network name (SSID) and choose encryption (WPA2) for security.

→ Enable DHCP to automatically assign IP addresses to connected devices, define the IP range, Subnet and lease time.

→ Select WiFi channel to minimize interference for signal quality

→ Assign a static IP to the router to serve as the network gateway for both wired and wireless clients

- 2) What is the significance of DHCP server in Internetworking.

It is essential because it automatically assigns IP addresses to devices, simplifying network management and preventing address conflicts. It enables efficient IP use, reduces configuration errors, and supports mobile devices as they move across networks.

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

1) Build a network using wireless router, PC, laptop, cable modem, Internet cloud and server - PT.

2) Connect FastEthernet0 of PC to Ethernet1 of wireless router through copper straight-through cable

3) Connect Internet interface of wireless router to port1 Interface of cable modem through copper straight-through cable.

4) Connect port0 interface of cable modem to coaxial interface of internet cloud through coaxial cable

5) Connect Ethernet interface of cloud to fastethernet0 of cisco.com server using copper straight-through cable.

b) To configure wireless router:

- Open GUI tab of router, in wireless

tab set SSID to HomeNetwork and save settings

- In setup tab, set DHCP server to

enabled and configure static IP address of
DNS server to 208.67.220.220 and save settings.

c) To configure laptop:

- In physical tab, off the laptop

and remove Ethernet copper module and drag &
drop the WPC300N module from modules section
and turn on the laptop.

- In desktop tab, select PC wireless,
in connect 'HomeNetwork' will be visible
Select it and click connect.

d) To configure PC:

- In desktop tab, select IP
configuration, select DHCP to receive IPv4
address from the wireless router

- In command prompt,
to verify if it is received type 'ipconfig /all'.

e) To configure Internet cloud:

- In physical tab, make sure
PT-cloud-mm-ICY, PT-cloud-nm-ICFE modules
are available.

- In config tab, select ethernet 6
and select cable and in cable section,
select coaxial 7 in from port and Ethernet 6
in to port and click add.

- 10) To configure cisco.com :
- In service tab, select DHCP
 - click on service
 - Pool name : DHCP pool
 - Gateway : 208.67.220.220
 - DNS : 208.67.220.220
 - IP : 208.67.220.1
 - Subnet : 255.255.255.0
 - Users : 50

and click add.

- Select DNS from service :

- Click on service
- Name : Cisco.com
- Type : A record
- Address : 208.67.220.220

and click add.

- Select config .

- Select static
- Gateway : 208.67.220.1
- DNS : 208.67.220.220

- 11) To verify connectivity :

In command prompt of PC ,

ipconfig / release

ipconfig / renew .

To check If IPv4 address is received
and check connectivity between PC and cisco.com
ping cisco.com and we get 4 replies .

RESULT :

Therefore , the Internetwork between
the devices are implemented .