

Ex. No: 10

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IMPLEMENTATION WITH ROUTERS AND CISCO PACKET TRACER

(31)

a) Design and configure a simple internetworking using a router.

A router and 2 PC's are used. Computers are connected with routers using a copper straight-through cable. After forming the network, to check network connectivity a simple PDU is transferred from PC<sub>1</sub> to PC<sub>2</sub>.

Procedure:

Step 1: (Configuring Router).

1. Select the router and open CLI.
2. Press Enter to start configuring Router 1.
3. Type enable to activate the privileged mode.

Router 1 Command Line Interface:

Router > enable

Router# config 1.

Enter configuration commands one per line End with CNTL/Z

Router (config) # interface FastEthernet 0/0

Router (config) # ip address 192.168.10.255.255.0

Router (config-if) # no shutdown

Router (config-if) # link → changed: interface

Changed state to up.

Router (config-if) # interface Ethernet 0/1

Router (config-if) # ip address 192.168.20.255.255.0

Router (config-if) # no shutdown

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\* PC 1:

IP - 192.168.20.2

Subnet Mask - 255.255.255.0

Gateway - 192.168.20.1

connect Device.

\* PC0  $\leftrightarrow$  Router (Fast Ethernet 0/0) - copper straight

rough cable

\* PC1  $\leftrightarrow$  Router (Fast Ethernet 0/1) - copper straight  
through cable.

#### Verification:

\* Send a simple PDU from PC0 to PC1 to check connectivity.

\* If successful the network is configured correctly.

#### RESULT:

Therefore the design and configuration of simple Internet with using a router to completed.

B) Design and configure an internet work using wireless router, DHCP Server and internet cloud.

#### AIM:

To design and configure an internet work using a wireless router, DHCP Server and internet cloud in Cisco packet Tracer.

#### Addressing Table:

Device	Interface	IP Address	Subnet Mask	Gateway
PC	Ethernet	DHCP	255.255.255.0	192.168.0.1
wireless router	LAN	192.168.0.1	255.255.255.0	
wireless router	Internet	DHCP		
CISCO com server	Ethernet	208.67.220.220	255.255.255.0	
Laptop	Wireless 0	DHCP		

## Procedure:

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### Part 1: Build the Network.

- \* Add: PC, Laptop, wireless router, cable Modem, Internet cloud, CISCO com server.

#### \* Connect using:

PC  $\leftrightarrow$  Router (copper straight)

Router  $\rightarrow$  Modem [CS-T]

Modem  $\rightarrow$  Cloud (coaxial cable)

Cloud  $\rightarrow$  Server (CS-T)

### Part 2: Configure Devices:

#### \* Wireless Router:

Set SSID = Home Network

Enable DHCP Server

Set DNS = 208.67.220.220

Save Settings

#### \* Laptop:

Replace ethernet module with wireless wpc 300N

Connect to Home network via wifi

IP assigned automatically via DHCP.

#### \* PC:

Set IP config  $\rightarrow$  DHCP

Verify IP using IP config (Should get 192.168.0.x)

#### \* Internet cloud:

Add required modules (PT-Cloud-NM-LCK, PT-Cloud-NM-ICE)

Configure connection: coaxial  $\rightarrow$  Ethernet, Provider = cable.

\* cisco.com Server:

DHCP Settings:

pool name : DHCP pool

Gateway : 208.67.220.220

DNS: 208.67.220.220

Start IP: 208.67.220.1

MAX Users: 50

DNS Setting:

Name: cisco.com Address : 208.67.220.220

Interface Settings:

IP: 208.67.220.220 | 255.255.255.0

Gateway : 208.67.220.1

Part 3 : Verify connectivity.

on PC : IP config / release

IP config / renew

Ping cisco.com

4 replier confirm successful internet connection.

Student observation:

- 1) wireless Your provider wifi and DHCP for IP configuration.
- 2) DHCP simplifies configuration by assigning IP's automatically.
- 3) Internetwork can also be designed using Router Switch and ethernet cables for wired setup.

Result: Internetwork with wireless router, DHCP server and internet cloud successfully configured and verified.

RESULT:

Therefore the networking implementation using routers in Cisco packet tracer is completed.

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