Ex. No: 4	Investigation of LAN- HTTP, DNS, DHCP, TELNET
Date	6/02/2024

Aim:

   To design a network topology to perform the initial router configurations required for connectivity by using static IP addresses. To configure DNS and investigate the working of DNS and HTTP. Dynamically obtain IP addresses using DHCP protocol and configure VTY to remotely access the router from the PC using TELNET.

Description:

HTTP- Hypertext transfer protocol is a generic and stateless protocol which can be used for other purposes as well using extensions of its request methods, error codes, and headers. HTTP is a TCP/IP based communication protocol, that is used to deliver data on the World Wide Web.

DNS- Domain name system is the name service for Internet addresses that translates friendly domain names to numeric Internet Protocol (IP) addresses.

DHCP- Dynamic Host Configuration Protocol (DHCP) is a client/server protocol that automatically provides an Internet Protocol (IP) host with its IP address and other related configuration information such as the subnet mask and default gateway.

TELNET- Telnet is a network protocol used to virtually access a computer and to provide a two-way, collaborative and text-based communication channel between two machines. It follows a user command Transmission Control Protocol/Internet Protocol (TCP/IP) networking protocol for creating remote sessions.

Procedure:

DNS:

1. Click Services in Server.
2. Select 'DNS' from the panel.
3. Give a name(www.karunya.edu) and IP address of the server.
4. Click 'add'.
5. Put the DNS address in the IP configuration tab of the end device.
6. To access it, click on "Web browser" on any end device and type the name assigned in the URL.

DHCP:

1. Click 'DHCP' from Services' In Server.
2. Enable it.
3. Give its default gateway.
4. Give the DNS Server address of the DNS server.
5. Give range and click 'add'.
6. To access it, click on any end device.
7. In IP configuration, enable DHCP.

TELNET:

1. In the CLI of the router, give the commands.
2. Assign router password 3. Assign vty
password.
4. Open "command prompt' of the remote end device.
5. Type 'telnet' and gateway address of router.
6. Type the passwords and you can access the router via the remote end device.

Telnet Commands:

Router (config)#enable password cisco

Router(config)#exit

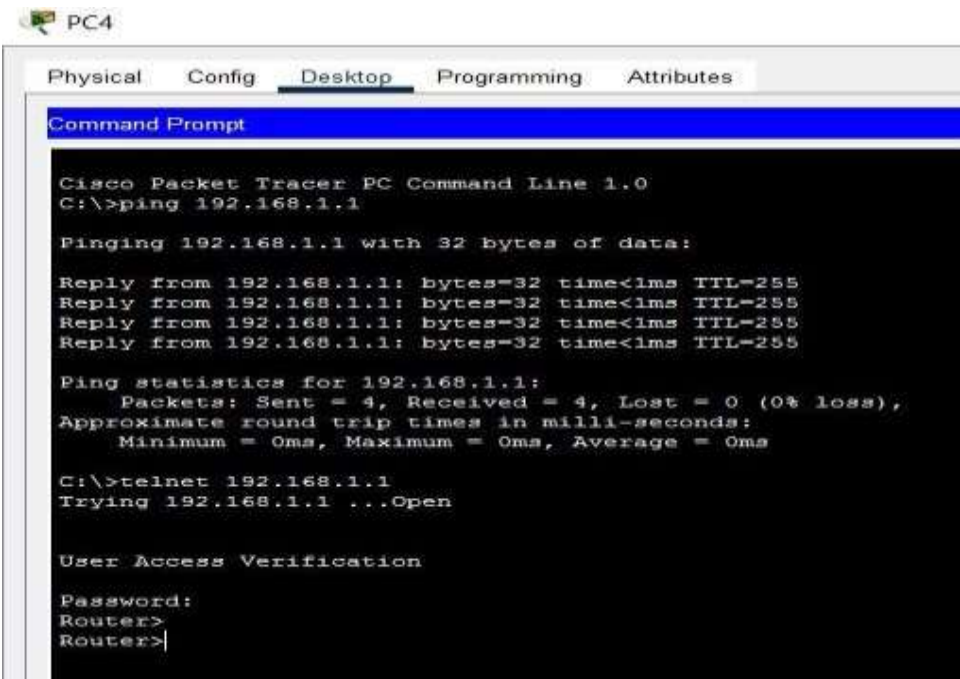Router(config)# line vty 0 5

Router(config-line)#password cisco

Router (config)#/login

Topology Diagram:
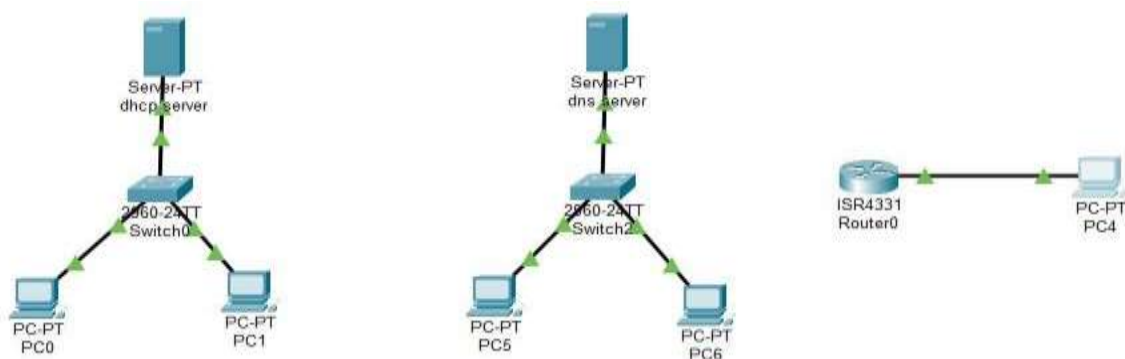
Topology Diagram:

Device	Interface	IP Address	Subnet Mask	Default Gateway
DNS Server	NIC	10.0.0.1	255.0.0.0	192.168.0.1
PC5	NIC	192.168.0.3	255.255.255.0	192.168.0.1
PC6	NIC	192.168.0.4	255.255.255.0	192.168.0.1
DHCP Server	NIC	192.168.1.1	255.255.255.0	192.168.1.0
PC0	NIC	192.168.1.2	255.255.255.0	192.168.1.0
PC1	NIC	192.168.1.3	255.255.255.0	192.168.1.0
R0	Gig0/0/0	192.168.1.1	255.255.255.0	NA
PC4	NIC	192.168.1.2	255.255.255.0	192.168.1.1

Outputs:

Screenshot of TELNET Protocol:

Screenshot of DHCP IP address for any PC:
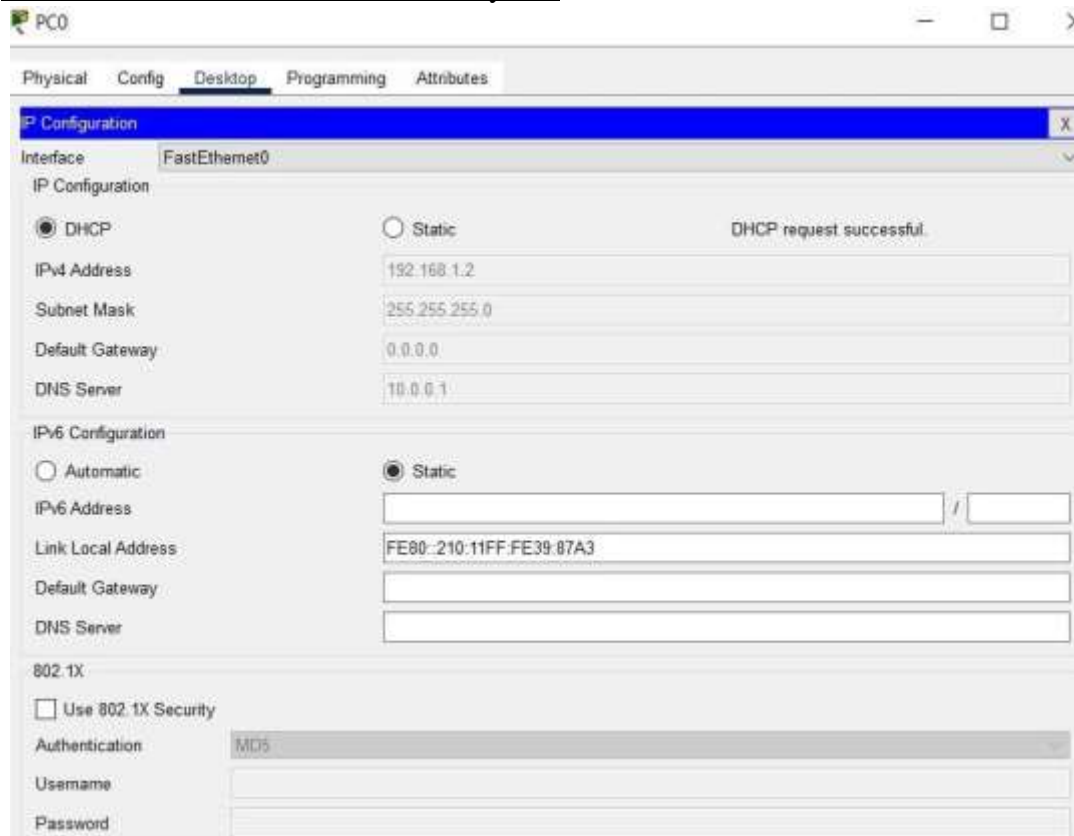
Screenshot of DNS Server(Access to web server) :

Result:

   The protocols were executed successfully and the systems were able to communicate with each other.