Class: Sem VI **Subject Code: ECL 602**

Subject Name: Computer Communication Network Laboratory

Experiment No. 8

Aim: Installation & Configuration of DNS server.

Learning Objectives:

- To make the students aware of concept of DNS Server.
- To enable them to understand functioning of DNS server and Web server.

Learning Outcomes:

After successful completion of the experiment students will be able to:

- Explain concept of DNS Server.
- Configure DNS server and Web server.

Theory:

The Domain Name System (DNS) is called the phone book of the Internet. When a user types a domain name or website address into the address bar of the browser, the DNS server is responsible for translating the domain name to a specific IP address, driving it to the correct website.

A DNS server is a server that manages the domain name system or DNS protocols, matching Internet domain names and IP addresses. The DNS server may also manage domain resolution services. In the traditional client/server Internet model, DNS servers are built on specific hardware and run specialized DNS software to accomplish these goals.

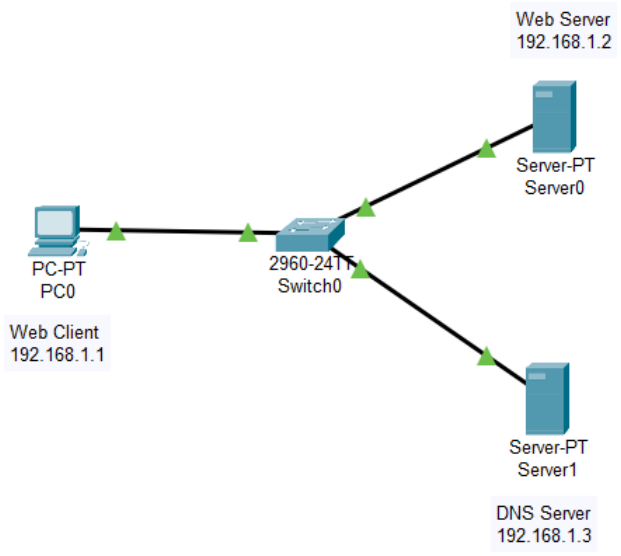
In the DNS server, there is a database of domain names, host information, DNS records, and network data. The DNS server will search records to return a result. This process allows DNS clients to access the DNS server through a web browser. A process of DNS caching can make this type of work more effectively by removing the load of repetitive queries: A DNS cache system will keep a local copy of a DNS lookup so that an operating system (OS) or browser can retrieve it more quickly, and a website's URL can be resolved to a proper IP address more efficiently.

As DNS server designs have evolved, not all DNS servers are still run on individual on-premises hardware pieces. DNS servers can be run through the use of virtual machines in a logically partitioned network. The versatility of virtualization has ushered in new models for how to achieve the DNS processes that have always been part of Internet data transfer protocols. In a general sense, virtualization and logical partitioning are making the requirement of isolated server function practically obsolete and allowing stakeholders to consolidate these and other kinds of processes through large mainframe computers in modern data centers.

USES OF DNS:

- Resolving names of World Wide Web (WWW) sites
- Routing messages to email servers and webmail services
- Connecting app servers, databases, and middleware within a web application
- Virtual Private Networks (VPN)
- Peer-to-peer sharing programs
- Multiplayer games
- Instant messaging and online meeting services
- Communication between IoT devices, gateways, and servers

Configuration Diagram:

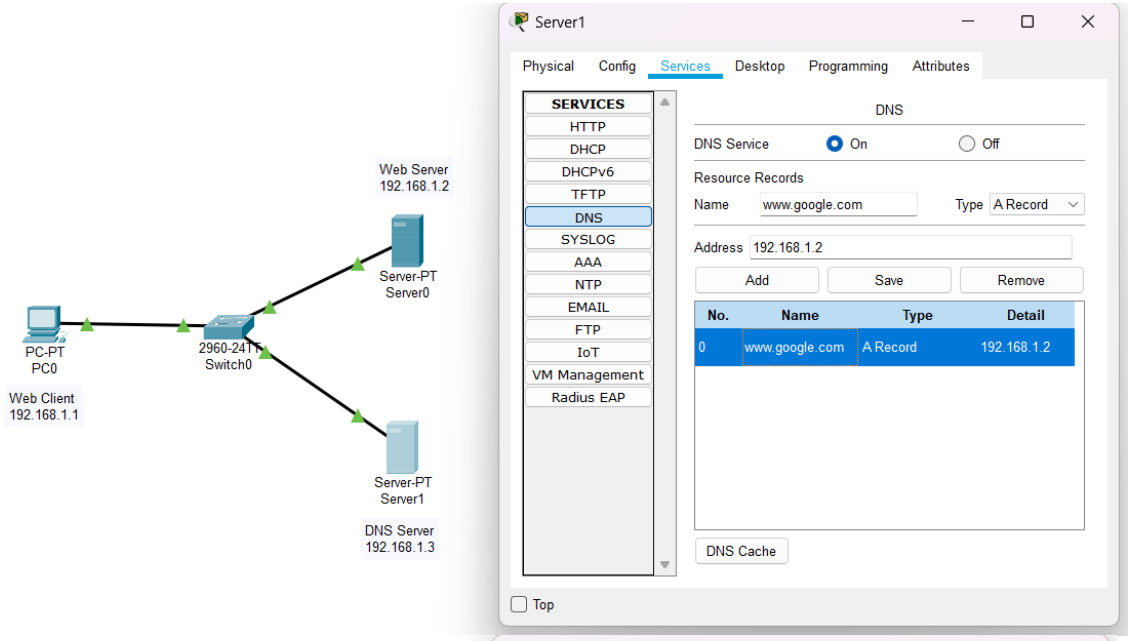


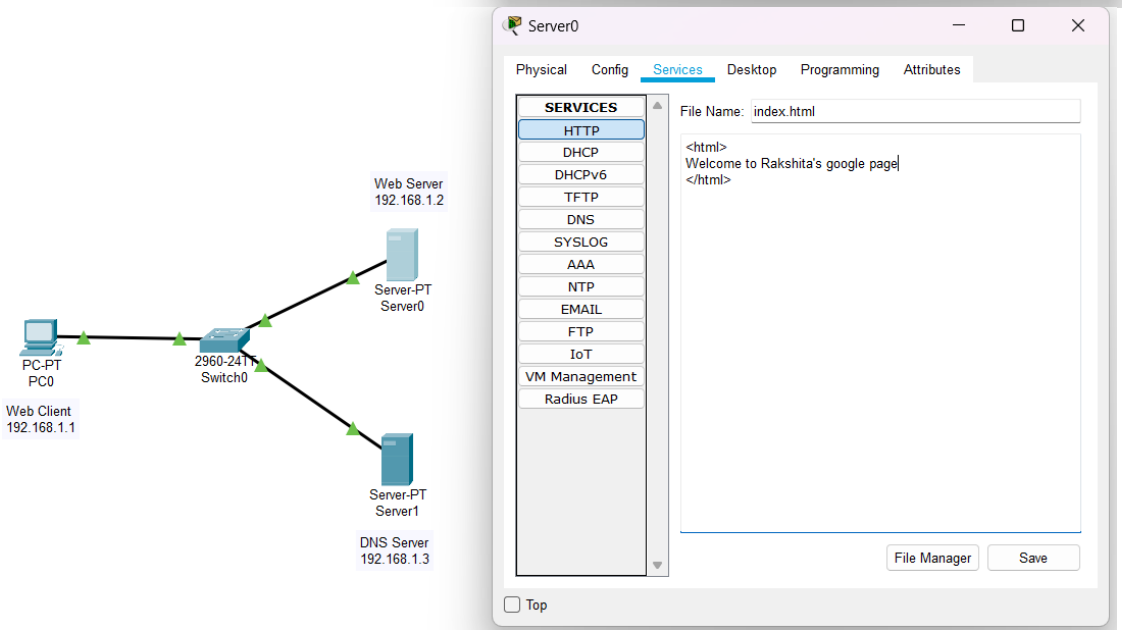
Steps:

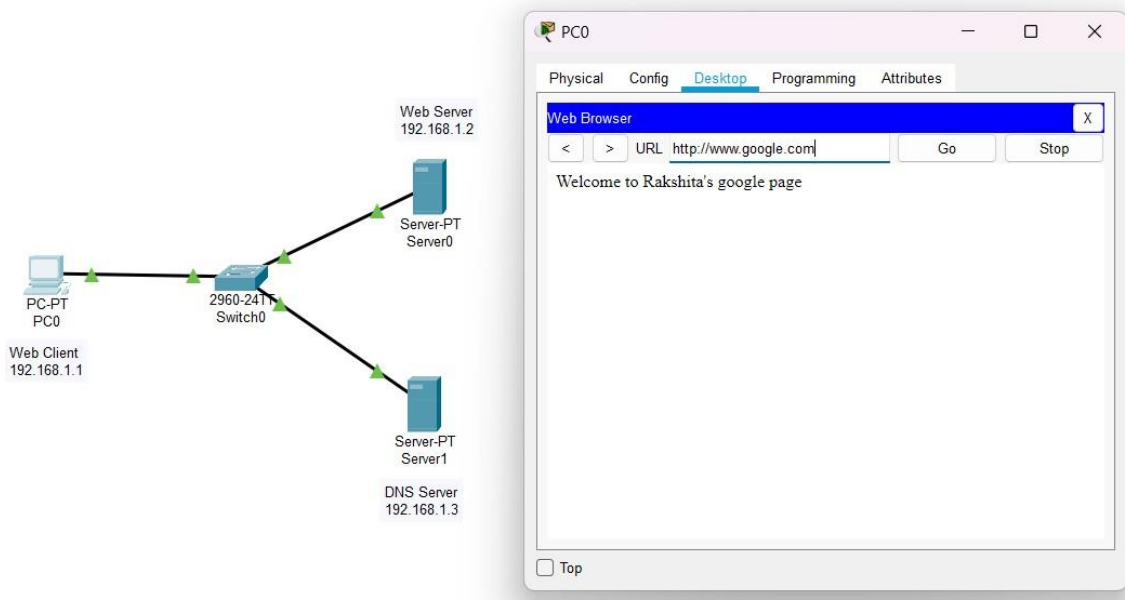
- Connect the devices as shown in configuration diagram.
- Configure Web Client, Web Server and DNS server with IP address.
- DNS server- click on Services-DNS.
- Turn On Port.
- Write in the field Name: www.google.com & Address: IP address of Web server then click ADD.
- Go to Web Server- click on Services-DNS.

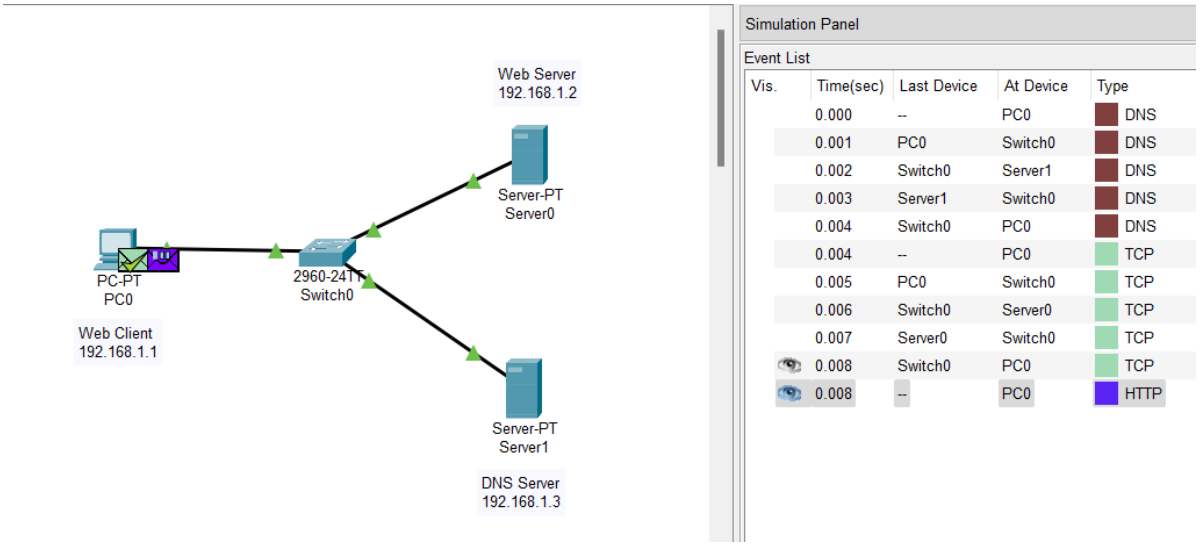
- Turn ON Port.
- Click on HTTP Tab- Index page. You can edit the data (HTML code) which you want to display on Web page. Then Save it.
- Go to Wen Client system-Web Server tab-write URL Name (www.google.com). And click go.
- You can observe web page content.
- Observe simulation as well.

Result:









Conclusion:

- How to enable and understand the functioning of Web server and DNS server was seen.
- We learned the concept of DNS server.