Experiment 9

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Subject Name: Computer Networks **Subject Code:** 22CSH-312

1. **Aim**: Configuring DNS Server and accessing web Resources by Domain name.

2. **Objectives:**
   To configure a DNS (Domain Name System) server and access web resources using domain names instead of IP addresses. This process involves setting up a DNS server, creating DNS records, and testing the resolution of domain names to access web resources efficiently.

3. **Apparatus used:** Cisco Packet tracer

4. **Theory:**
   Introduction to Domain Name Service :

   Domain Name System (DNS) is a hostname used for IP address translation services. DNS is a distributed database implemented in a hierarchy of name servers. It is an application layer protocol for message exchange between clients and servers. It is required for the functioning of the Internet.

   Types of Domains:

   1. **Generic Domains:** .com(commercial), .edu(educational), .mil(military), .org(nonprofit organization), .net(similar to commercial) all these are generic domains.

   2. **Country Domain:** .in (India) .us .uk

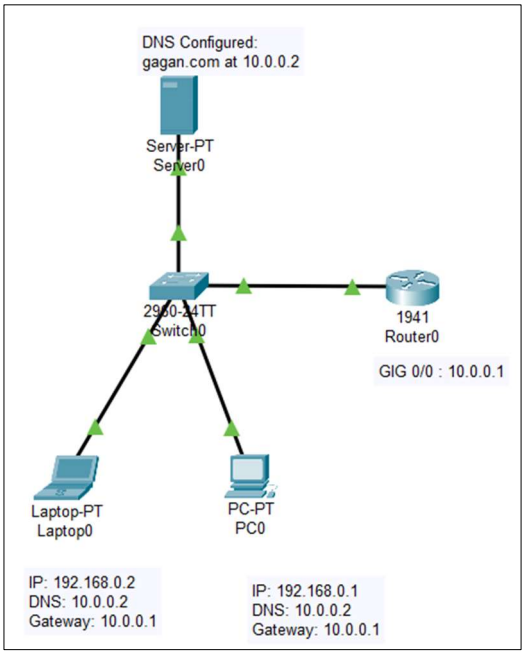
   3. **Inverse Domain:** if we want to know what is the domain name of the website. IP to domain name mapping. So DNS can provide both the mapping for example to find the IP addresses of google.com then we have to type nslookup www.google.com

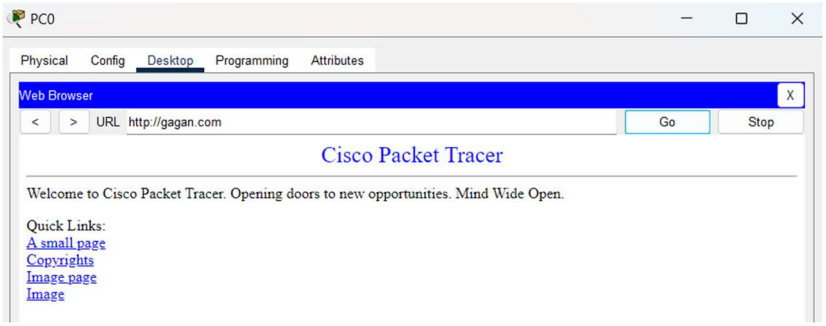
5. **Implementation:**
   1. Launch cisco packet tracer on your system.
   2. Place a server, PCs, a switch and a router for handling network requests onto the

workspace.

3. Use cables to arrange the network topology as follows.
4. Assign static IPs to the server (e.g., 192.168.0.1) and PCs (e.g., 192.168.1.2, 192.168.0.2).
5. Enable service DNS on the server and configure your choice of domain with suitable DNS.
6. Configure the same gateway and DNS on the client PCs.
7. Finally, connect the router and the network by configuring the input of the router for server gateway.
8. Ensure DNS functionality by accessing the hosted domain from client PCs.

6. Output:





7. Learning Outcome:

- Configuring Server-client architecture
- Explain the purpose of DNS in resolving domain names to IP addresses.
- Set up a DNS server on a router or dedicated server in Packet Tracer.
- Add records for hostnames to resolve to specific IP addresses.
- Set up client PCs to use the DNS server for name resolution.
- Successfully access web resources using domain names.