Experiment 3.2

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

1. **Aim:** To configure a DNS (Domain Name System) server within a Cisco Packet Tracer environment and demonstrate accessing web resources using domain names instead of IP addresses.

2. **Requirements(Hardware/Software):**

S/W Requirement :- Packet Tracer
H/W Requirement :-
• Processor – Any suitable Processor e.g. Celeron
• Main Memory - 128 MB RAM
•Hard Disk – minimum 20 GB IDE Hard Disk
• Removable Drives–1.44 MB Floppy Disk Drive
–52X IDE CD-ROM Drive
•PS/2 HCL Keyboard and Mouse

3. **Theory:**

The Domain Name System (DNS) translates human-readable domain names into IP addresses, enabling users to access web resources using familiar names rather than numeric IP addresses. DNS is essential for simplifying network navigation, as it allows users to type domain names (like example.com) instead of IP addresses.

4. Procedure:

1. Setup Devices: Place two PCs, a server, a router, and a switch in Packet Tracer.
2. Connect Devices: Use cables to connect the PCs, server, and router to the switch.
3. Configure DHCP:
   - On the router's CLI, create DHCP pools using `ip dhcp pool` commands for IP assignment.
4. Server Configuration:
   - Set a static IP, enable DNS, and create an A record for a domain (e.g., `example.com`).
5. PC Configuration:
   - Set IP to DHCP or configure a static IP and assign the DNS server's IP.
6. Test DNS Resolution:
   - Open the browser on each PC, enter the domain name, and confirm

5. Output:

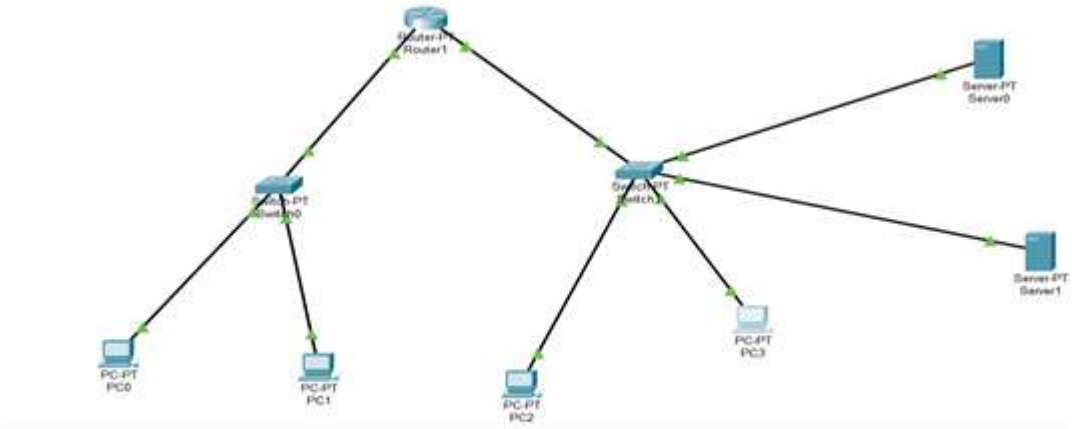

Fig 1: Connections

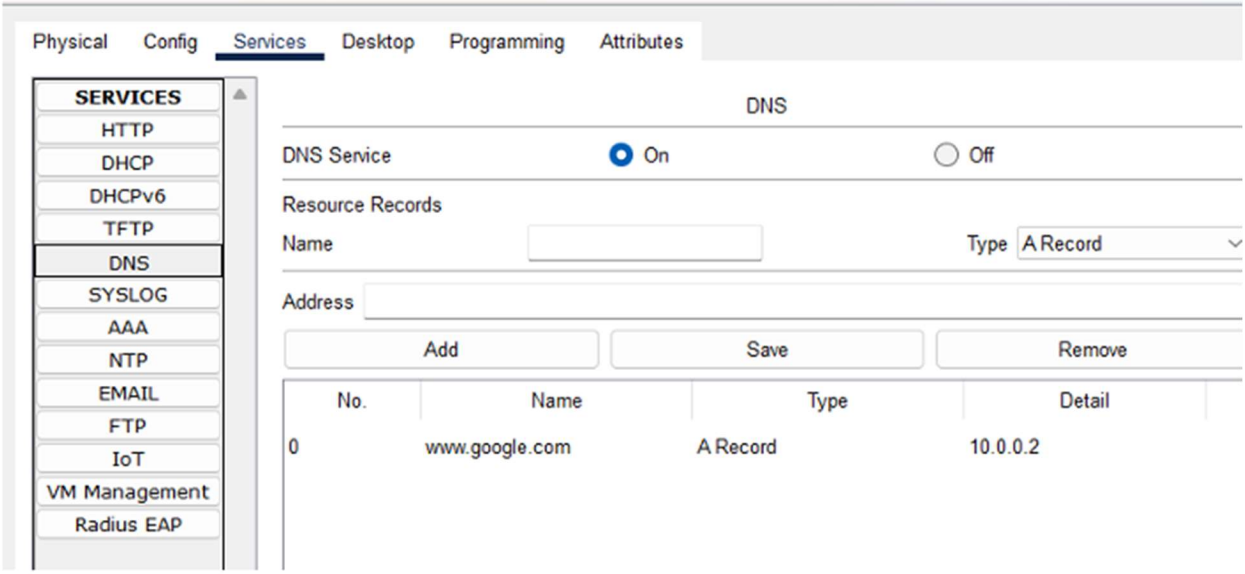

Fig 3: DNS server

6. Learning Outcome:

1. Understand the purpose of DNS in mapping domain names to IP addresses.
2. Configure a DNS server within Packet Tracer to handle name resolution.
3. Create A records to link domain names to specific IPs.
4. Set up client PCs to use a DNS server for domain resolution.
5. Access web resources using domain names, improving user-friendliness in network navigation.