LAB NO: 7

DNS Server Configuration in Cisco Packet Tracer

Objective:

The aim of this experiment is to configure a DNS (Domain Name System) server in Cisco Packet Tracer, allowing the client (PC) to resolve domain names into IP addresses using a switch and DNS server.

Apparatus Devices:

1. **PC** (Client)
2. **DNS Server**
3. **Switch**
4. **Copper Straight-Through cables**

Network Topology:

- **PC** connected to a **Switch**
- **DNS Server** connected to the same **Switch**
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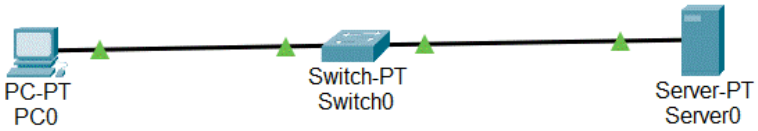
Theory:

A DNS (Domain Name System) server is a fundamental part of the internet's infrastructure. It translates human-readable domain names (like www.example.com) into IP addresses (like 192.0.2.1) that computers use to identify each other on the network.

Steps for DNS Server Configuration:

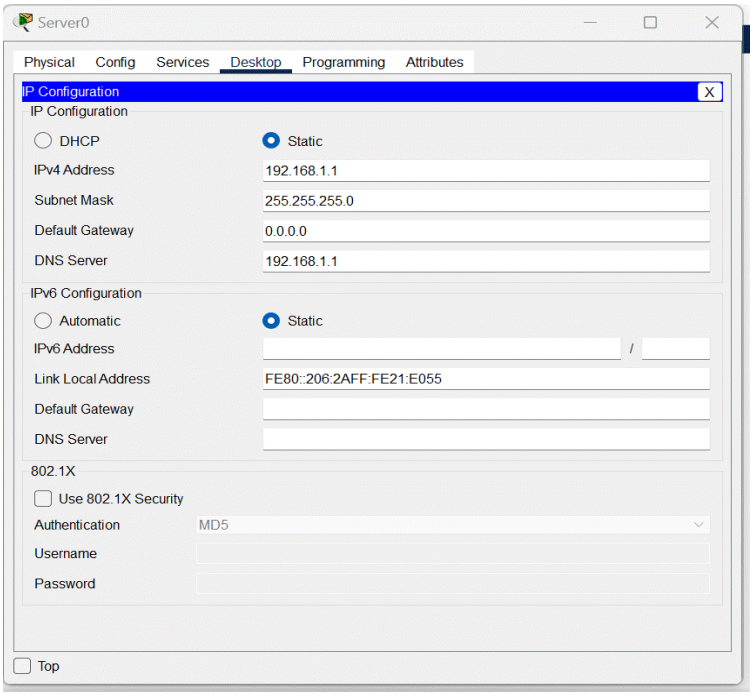
Step 1: Setup Network Topology

1. **Place devices** in the workspace:
    - 1 **PC** (Client)
    - 1 **DNS Server**
    - 1 **Switch**
2. **Connect the devices**:
    - Use Copper Straight-Through cables to connect the **PC** and **DNS Server** to the **Switch**.



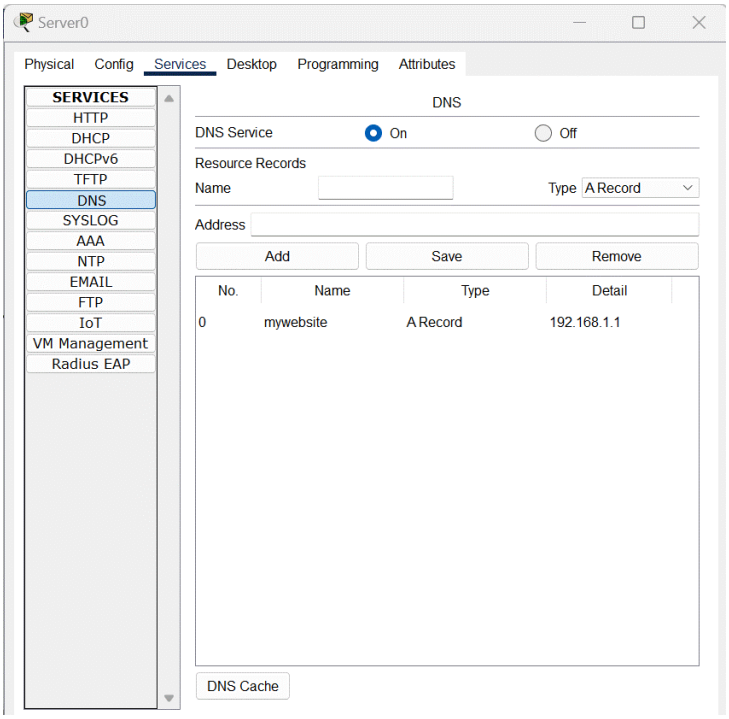
Step 2: Configure the DNS Service on the server

1. **Assign an IP address:** Give the DNS server a static IP address (192.168.1.1) within your network. This IP address will be used by other devices to locate the DNS server.



2. **Access DNS Service**:
    - Click on the server, go to the **Services** tab, and select **DNS** from the list of services on the left.

3. **Enable DNS**:
    - Toggle the **DNS Service** to **On**.
4. **Add DNS Records**:
    - Under **Resource Records**, add the domain name and corresponding IP address.
    - Example:
        - **Name**: mywebsite
        - **Type**: A Record (default)
        - **Address**: 192.168.1.1 (server IP)
    - Click **Add**, then **Save**.



Step 3: Configure HTTP Service on the Server

1. **Enable HTTP Service**:
    - On the server, navigate to the **Services** tab and select **HTTP**.
    - Ensure the **HTTP service** is turned **On**.
2. **Edit the Default HTML Page**:

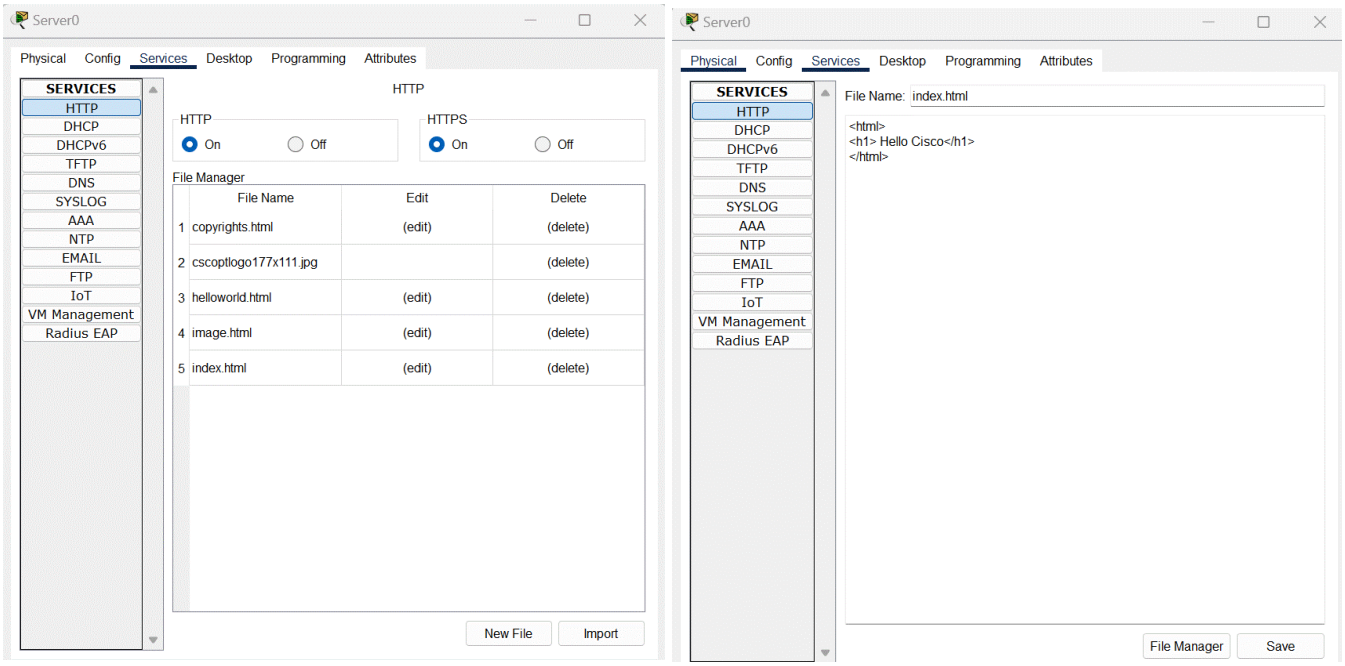
- In the **HTML** section, you can edit the webpage that will be displayed when the domain is accessed.

  For example, modify the HTML to include a simple message:

  <html>

  <h1> Hello Cisco </h1>

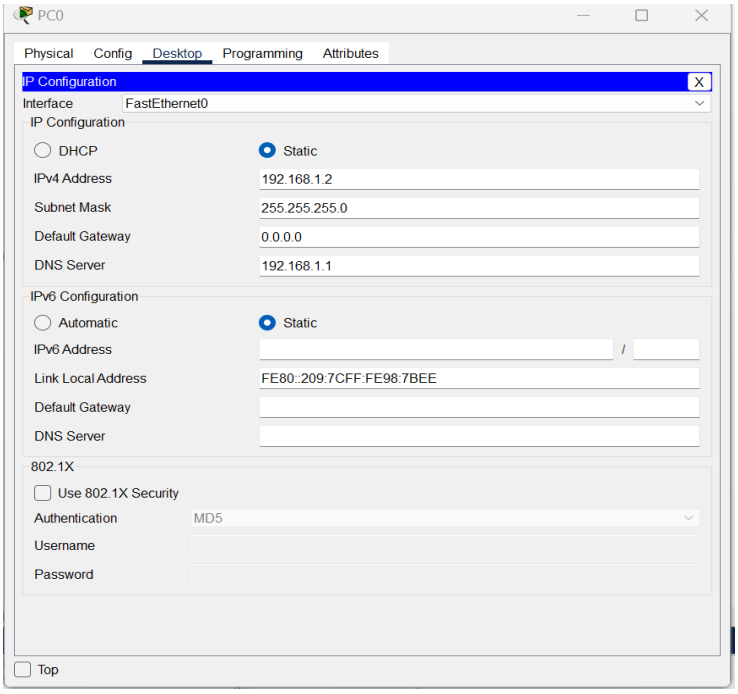
  </html>



After editing, click **Save** to store the changes.

Step 4: Configure PC Clients

- **Assign IP addresses:** Provide each PC with a static IP address within the same network as the DNS server.
- **Configure DNS server address:** In the PC's network settings, specify the IP address of the DNS server you created in Step 2. This tells the PC where to send DNS queries.



Step 5: Verify DNS Configuration

1. **Test the Configuration from the PC:**
    - On the PC, go to the Desktop tab and open Command Prompt.
    - Type ping ‘mywebsite’ and press enter.
    - The DNS should resolve ‘mywebsite’ to the server's IP address (192.168.1.1), and the ping should succeed if the DNS resolution is correct.
2. **Web Browser Test:**
    - From the client PC, open the **Web Browser**. Type ‘mywebsite’ in the address bar. You should see the updated webpage, which reflects the HTML content you saved.