How to Configure DNS on macOS

Configuring DNS (Domain Name System) is essential for ensuring that your macOS device can resolve domain names to their corresponding IP addresses efficiently. This is crucial for network connectivity and accessing websites and services on the internet. While DNS configuration is often associated with Windows environments, macOS provides robust tools and methods to manage DNS settings effectively. This article will guide you through the steps to configure DNS on your macOS device using both the graphical user interface (GUI) and the command line.

Examples:

Using System Preferences (GUI)

1. **Open System Preferences:**

   - Click on the Apple menu in the top-left corner of your screen.
   - Select "System Preferences."

2. **Navigate to Network Settings:**

   - Click on "Network."
   - Select the network interface you are using (e.g., Wi-Fi or Ethernet) from the list on the left.

3. **Configure DNS Servers:**

   - Click on the "Advanced" button in the bottom-right corner.
   - Go to the "DNS" tab.
   - Click the "+" button under the "DNS Servers" section to add a new DNS server.
   - Enter the IP address of the DNS server you want to use (e.g., 8.8.8.8 for Google DNS).
   - Click "OK" and then "Apply" to save the changes.

Using Terminal (Command Line)

For users who prefer the command line, macOS provides the networksetup utility to configure DNS settings.

1. **Open Terminal:**

   - You can find Terminal in the Applications > Utilities folder or by searching for it using Spotlight.

2. **List Network Services:**

   - Run the following command to list all network services:

     ```
     networksetup -listallnetworkservices
     ```

   - Note the name of the network service you want to configure (e.g., Wi-Fi).

3. **Set DNS Servers:**

   - Use the following command to set the DNS servers for your chosen network service:

     ```
     sudo networksetup -setdnsservers "Wi-Fi" 8.8.8.8 8.8.4.4
     ```

   - Replace "Wi-Fi" with the name of your network service and the IP addresses with your preferred DNS servers.

4. **Verify DNS Configuration:**

   - To verify that the DNS servers have been set correctly, use the following command:

     ```
     networksetup -getdnsservers "Wi-Fi"
     ```

   - This should display the DNS servers you configured.

Using scutil Command

For more advanced users, the scutil command can be used to manipulate the system configuration database directly.

1. **Open Terminal:**

   - Launch Terminal from Applications > Utilities or via Spotlight.

2. **Set DNS Configuration:**

   - Use the following commands to set DNS servers:

     ```
     sudo scutil --set DNS 8.8.8.8 8.8.4.4
     ```

   - This command sets the DNS servers system-wide.

3. **Verify DNS Configuration:**

- To check the current DNS configuration, use:

  ```
  scutil --dns
  ```

- This will display detailed DNS configuration information.