What is a DNS?

Contents

DNS definition

DNS or **Domain Name System** is a hierarchical and decentralized naming system for computers, services, or other resources connected to the Internet or a private network. Each device, connected to the internet have unique IP address, like 192.168.1.1 (IPv4) or 2001:db8:3333:4444:5555:6666:7777:8888 (IPv6), which help to identify device on a network. For humans is hard to memorize all these sequences of numbers and in this case helps DNS, which translates human readable webpage names, e.g., google.com, to computer friendly IP addresses.

How it works

Like showed in given example, there are 4 DNS servers involved in a loading of a webpage. Once end user gives webpage address to a browser **DNS recursor** receive query and start giving request to others DNS servers to bring back webpage. A **root server** is responsible for looking a specific name server and last portion of a host name (in this example “com”). A **name server** is responsible to provide a DNS address for a **DNS recursor**, once request from it was made. Once **website server** gets command from **DNS recursor** it translate human readable host name to a machine understandable IP address and it bring back to machine.

How to set DNS on computer

Windows

If you want to change DNS to custom, please, follow these steps:

- Go to **Control Panel;**
- Click on **Network and Internet;**
- Go to "Network and Sharing Center" and press on **Change adapter settings**;
- In a new window select your current network, press on it right mouse button (or double click

it) and select press on **Properties**;
- Click on **Internet protocol Version 4 (TCP/IPv4)** and select **Properties;**
- If **Obtain DNS server adress automativally** is enabled, click on the **Use the followings DNS server addressess:**

- Enter the DNS you want to use
- Click **OK** and close.

Linux (Ubuntu)

If you want to change DNS to custom, please, follow these steps:

- Press on the top right corner on network symbol;
- Click on **Settings**;
- Press a cogwheel in your network line;
- Navigate to I**Pv4**;
- Click on "**Automatic**" to disable it and in **DNS** line add your adress;

- Click **Apply** and close window.

MacOS

If you want to change DNS to custom, please, follow these steps:

- Press on **System Preferences**;
- Navigate to **Internet & Wireless** and press **Network**;
- Depending on how to connect to internet choose **WiFi** or **Ethernet**;
- Click **Advanced** and navigate to **DNS**;

- Press "**+**", add DNS adress and save.

Most common DNS

If you for some reasons do not want to use ISP provided DNS address, there could be used third party DNS addresses. Most popular are these:

- Google public DNS: **8.8.8.8** (secondary: **8.8.4.4**);
- Cloudflare DNS: **1.1.1.1** (secondary: **1.0.0.1**);
- Quad9 DNS: **9.9.9.9** (secondary: **149.112.112.112**);
- OpenDNS: **208.67.222.222** (secondary: **208.67.220.220**);
- Alternate DNS: **76.76.19.19** (secondary: **76.223.122.150**);

- AdGuard: **94.140.14.14** (secondary: **94.140.15.15**).

NOTE:DNS speed in different country may be vary. If you feel, that internet speed with with new DNS is slower than normally, please try out different DNS address.

Useful links

Google DNS home page

Cloudflare DNS home page

Quad9 DNS home page

OpenDNS home page

Alternate DNS home page

AdGuard DNS home page