

Chapter-2 (Linux As Server)

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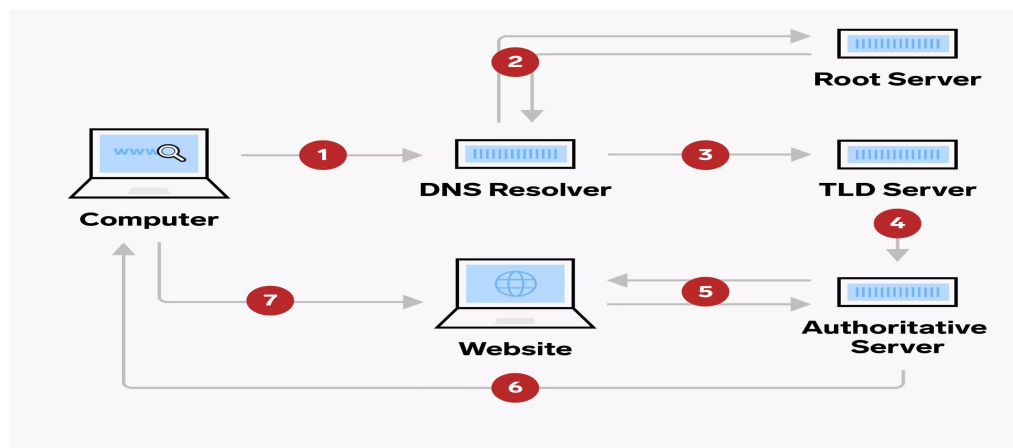
Servers

In computing, a server is a piece of computer hardware or software that provides functionality for other programs or devices, called "clients".

Why Linux is popular to be used as servers?

- **Portable** : Linux OS can perform different types of hardware and the kernel of Linux supports the installation of any type of hardware environment.
- **Open source**: Linux operating system source code is available freely.
- **Multiprogramming**: Linux OS can be defined as a multiprogramming system. It means more than one application can be executed at the same time.
- **Multi-user**: Linux OS can also be defined as a multi-user system where more than one user can use the resources of the system such as **memory or RAM at the same time**.
- **Hierarchical file system**: Linux OS affords a typical file structure where user files or system files are arranged.
- **Security**: Linux OS facilitates user security systems.
- **Shell**: Linux operating system facilitates a unique interpreter program that can be applied to perform various types of tasks such as call application programs and others.

How a client establish connection with a servers?



1. When we ask our **web browser** to load a website, it ask DNS resolver to find the IP address connected to the website we entered.
2. The **DNS resolver**'s first step is to find the website's "Top Level Domain" or "TLD" - in other words, whether it's a .com, .net, .org, or another type of site. It does this by asking the **Root server**, which keeps a list of every website in each TLD.
3. Once the resolver knows the TLD, it goes to the corresponding **TLD nameserver** (for example, the .com nameserver) and asks it to find the right IP address.
4. The **TLD nameserver** finds the IP address and hands it off to the **Authoritative nameserver**, which will figure out if that address is correct.
5. The **Authoritative nameserver** sends a message to the address and waits for a response - if it gets the right response, then it has the right IP address for the website we want.
6. If the IP address is correct, the **Authoritative nameserver** sends it back to our **Web browser**.
7. Once our web browser receives the right IP address, our webpage starts to load.

What is the conclusion?

- A website is a web application software, which is install on a Linux server.
- To establish any type of connection to a Linux server (any other server) correct IP is required.
- In case of website browser act as a client for that website.
- From an engineer perspective we need to install & do maintenance of application software installed on Linux machine.
- An engineer need a special type of client to establish connection with Linux server **Shell** so that installation & maintenance can be done.

- Commonly used client software to establish special connection with Linux server **Shell** are:
 - Putty - Command Line Shells
 - MobaXtrem - Graphical Shells + Command Line Shells
 - WinSCP - Graphical Shells
 - FileZilla - Graphical Shells