

# Deliverable 1 Submission






## Basic Terminology

What is a web server?

A web server is both **hardware** and **software** that uses HTTP (Hypertext Transfer Protocol) and other protocols to respond to client requests made over the World Wide Web.

- On the **hardware** side, it is a computer that stores web server software and a website’s component files.
- On the **software** side, it includes the server operating system and web server software such as Apache, Nginx, or IIS, which handles requests and delivers web content.

What are some different web server applications?

| Logo  | Application Name | License                            | Project's Website                                   |
|---|------------------|------------------------------------|---|
|    | Apache HTTP      | Apache License 2.0                 | <a href="httpd.apache.org">httpd.apache.org</a>     |
|  | Nginx            | BSD-like license                   | <a href="nginx.org">nginx.org</a>                   |
|  | LiteSpeed        | Proprietary/Free for OpenLiteSpeed | <a href="litespeedtech.com">litespeedtech.com</a>   |
|  | Microsoft IIS    | Proprietary (Microsoft)            | <a href="docs.microsoft.com">docs.microsoft.com</a> |
|  | Caddy            | Apache License 2.0                 | <a href="caddyserver.com">caddyserver.com</a>       |

What is virtualization?

Virtualization is a technology that allows you to create multiple simulated environments or dedicated resources from a single physical hardware system. This allows for more efficient use of physical hardware and isolation between different operating systems.

What is VirtualBox?

VirtualBox is a free and open-source hosted hypervisor developed by Oracle. It enables users to run multiple operating systems on a single physical machine using virtual machines.

What is a virtual machine?

A virtual machine (VM) is a software emulation of a physical computer. It runs an operating system and applications just like a physical machine, but it is managed by a hypervisor on the host machine.

## What is Ubuntu Server?

Ubuntu Server is a server operating system, developed by Canonical, based on Debian Linux. It is designed for server use and lacks a graphical user interface by default, providing a lightweight and efficient platform for web hosting, file serving, and other server roles.

### Example Ubuntu Server Logo



## What is a firewall?

A firewall is a network security device or software that monitors and controls incoming and outgoing network traffic based on predetermined security rules. It establishes a barrier between a trusted internal network and untrusted external networks.

## What is SSH?

SSH, or Secure Shell, is a cryptographic network protocol used to securely connect to remote systems over an unsecured network. It provides strong authentication and encrypted data communications between two computers.

## Other Relevant Concepts

- **Systemd:** A system and service manager for Linux operating systems. It is the default init system for many distributions.
- **Systemctl:** The command-line tool used to interact with systemd services (start, stop, enable, etc.).
- **Virtual hosts:** Virtual hosts allow a single web server to host multiple domains or websites.
- **Log file:** A file that records events and messages related to system or software operations.