Deliverable 1

Question 1

Concepts Not Understood

- <u>Apache</u> = web server software that is responsible for accepting HTTP requests from visitors and sending them back the requested information in the form of web pages.

- <u>Firewall</u> = helps protect web applications by filtering and monitoring HTTP traffic between a web application and the Internet.

- <u>UFW firewall</u> = program for managing a netfilter firewall designed to be easy to use. It uses a command-line interface consisting of a small number of simple commands, and uses iptables for configuration.

- <u>systemd</u> = systemd is a system and service manager for Linux operating systems

- <u>systemctl</u> = provides a means to check the status of any systemd service running on dedicated server hosting. By issuing the status command, you can gather information about a particular service, including its current state and details on why it may not be running, such as unintentional stopping.

- <u>a2ensite</u> = a script that configures apache2 to enable the provided site. It accomplishes this by generating symlinks in /etc/apache2/sites-enabled. Every request that does not match any actual directive is forwarded to the first virtual host enabled by Apache

- <u>000-default.conf</u> = the file that controls the default Apache sample website and is enough for the case that we need our Apache to serve a single site

Question 2

- **What is a web server? Hardware and software side.** A web server stores and delivers the content for a website such as text, images, video, and application data to clients that request it. A web server communicates with a web browser using the Hypertext Transfer Protocol and cancan help to communicate between web clients and servers in local area networks such as a company's internet. Hardware side it helps store web server software and a website's component files Web server software are used both for viewing webpages and for web hosting, which hosts the data for websites and web application.

- **What are some different web server applications?**

Application Name	License	Project Website
NGINX	Nginx: BSD-2-Clause License; Nginx Plus: Proprietary software	https://www.nginx.com/
Apache HTTP Server	Apache 2.0 License	https://httpd.apache.org/

Application Name	License	Project Website
OpenResty	FreeBSD license	https://openresty.org/en/

- **What is virtualization?** It process of creating a virtual version of something like computer hardware it uses specialized software to create a virtual or software-created version of a computing resource rather than the actual version of the same resource.

- **What is virtualbox?** VirtualBox is open-source software for virtualizing the x86 computing architecture. It acts as a hypervisor, creating a virtual machine where the user can run another operating system. The operating system where VirtualBox runs is called the "host" operating system.

- **What is a virtual machine?** A Virtual Machine is a compute resource that uses software instead of a physical computer to run programs and runs apps. One or more virtual "guest" machines run on a physical "host" machine. Each virtual machine runs its own operating system and functions separately from the other virtual machines, even when they are all running on the same host.

- **What is Ubuntu Server?** Ubuntu server is a Linux distribution that provides a complete operating system package with a user-friendly interface and a range of pre-installed software.

- **What is a firewall?** a protective barrier between your computer and the internet, allowing only the network traffic you permit.

- **What is SSH?** The Secure Shell (SSH) protocol is a method for securely sending commands to a computer over an unsecured network.You use a program on your computer (ssh client), to connect to our service (server) and transfer the data to/from our storage using either a graphical user interface or command line.