

# Deliverable 1

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Tutorial can be found [here](#)

## Concepts I do not understand:

- **Apache** is a web-server that allows you to run a website. Apache web servers are free and open source.
- **SSL** stands for Secure Sockets Layer and is a protocol for establishing secure links between networked computers.
- **Virtual** Hosting is a method for hosting multiple domain names on a single server.
- **Directives** are an official or authoritative instruction
- **Configuration Block** is a script-like piece of text, containing parameter assignments and configuration statements.

## What is a web server?

The term **web server** can refer hardware, software, or both hardware and software working together.

### Web Server Hardware

Web server hardware refers to a computer that stores web server software and website's component files (for example, HTML documents, images, CSS stylesheets, and JavaScript files.) A physical web server connects to the internet and supports physical data interchange with other devices connected to the web.

### Web Server Software

Web server software has several parts that control how web users access hosted files. For example, HTTP is server software that understands URLs (website addresses) and HTTP (the protocol your browser uses to view webpages). An HTTP server can be accessed through the domain names of the websites it stores, and it delivers the content of these hosted websites to end user's devices.

## What are some different web server applications?

- **Apache HTTP Server** is available on all platforms and has tons of functionality offered through a large collection of modules.
- **MonkeyServer** is available on Linux mainly but is also supported on MacOS. It also works perfectly on Android, Raspberry Pi, and other embedded platforms.
- **Caddy** is HTTP enabled by default and HTTP/2 get primary focus. Embeddable meaning it can be used as a library in other programs.

## What is virtualization?

**Virtualization** is replication of hardware to simulate a virtual machine inside a physical machine.

### Two Types of Virtualization

**Server-side virtualization** software that serves up virtual machines to users. Users need to have either a thick client, thin client, or zero client. **Client-side virtualization** software installed on a computer to manage virtual machines. Each VM has its own operating system installed. For client side virtualization, the computer needs a hypervisor (software that allows the management of virtual machines) and hardware support (capable CPU, RAM, and storage).

## What is virtualbox?

**VirtualBox** is a powerful type 2 virtualization product for enterprise as well as home use. It can run on Windows, Linux, Macintosh, and Solaris.

## What is a virtual machine?

A **virtual machine** is an environment that functions as a computer system with its own CPU, memory, network interface, and storage, created on a physical hardware system. A hypervisor is needed in order to separate the VM resources from the hardware and then provisions them appropriately.

## What is Ubuntu Server?

**Ubuntu Server** is a larger set of Ubuntu products and operating system that are used to facilitate installation on servers. Ubuntu tools are open source software, and are alternatives to various licensed products. Ubuntu Server replaces the graphical user interface with a character-based interface for installation that can be customized by the user. It is compatible with many different platforms like Microsoft Hyper-V and VMware ESX server. It can also be used to setup a simple home network.

## What is a firewall?

a **firewall** is a network security device that monitors network traffic and decides whether to allow or block specific traffic based on a set of security rules. Firewalls have been used in network security for over 25 years. They can be used as a barrier between secure and unsecure networks, such as the internet.

## What is SSH?

**SSH (Secure Shell/Secure Socket Shell)** was created to replace insecure login program with a secure program. SSH supports and secures file transfer, remote device management control, tunneling, and forwarding TCP ports and X11 connections.

# Deliverable 2

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Oracle VM VirtualBox Manager

FileMachineSnapshotHelp

Tools

CIS106\_Ubuntu (Snapshot 6 Lab 6 WR 6 complete)  
Powered Off

UbuntuServer (Server Installed)  
Powered Off

TakeDeleteRestorePropertiesCloneSettingsDiscardStart

Name

Server Installed

Current State

AttributesInformation

Name: Enter a name for the new snapshot...

Description:

TakeReset

Type here to search

31°F

10:32 PM  
12/21/2022

Oracle VM VirtualBox Manager

FileMachineHelp

Tools

CIS106\_Ubuntu (Snapshot 6 Lab 6 WR 6 complete)  
Powered Off

UbuntuServer (Server Installed)  
Powered Off

General

Preview

Name: UbuntuServer  
Operating System: Ubuntu (64-bit)

System

Base Memory: 2048 MB  
Boot Order: Floppy, Optical, Hard Disk  
Acceleration: VT-x/AMD-V, Nested Paging, KVM Paravirtualization

Display

Video Memory: 16 MB  
Graphics Controller: VMSVGA  
Remote Desktop Server: Disabled  
Recording: Disabled

Storage

Controller: IDE  
IDE Secondary Device 0: [Optical Drive] Empty  
Controller: SATA  
SATA Port 0: UbuntuServer.vdi (Normal, 25.00 GB)

Audio

Host Driver: Windows DirectSound  
Controller: ICH AC97

Network

Adapter 1: Intel PRO/1000 MT Desktop (NAT)

USB

USB Controller: OHCI, EHCI  
Device Filters: 0 (0 active)

Shared folders

None

Description

Hostname: webserver  
Username: webmaster  
password: pccc

10:32 PM

Oracle VM VirtualBox Manager

File Machine Snapshot Help

Tools

**CIS106\_Ubuntu** (Snapshot 7 s...)   
 Running

**UbuntuServer** (SnapS...)   
 Running

Name	Taken
Server Installed	12/21/2022 10:31 PM (1 hour ago)
Server Installed	12/21/2022 10:38 PM (1 hour ago)
Snapshot 2 Apache Installed	12/21/2022 10:48 PM (1 hour ago)
Snapshot 3 ssh setup	12/21/2022 11:10 PM (38 minutes ago)
Snapshot 4 enabled virtual hosts	12/21/2022 11:36 PM (12 minutes ago)
<b>SnapShot 5 website running</b>	
<b>Current State (changed)</b>	

Activities Terminal

Dec 21 23:42

Grayscale - Free One Page ... Grayscale - Start Bootstrap ... New Tab

192.168.1.157

Start Bootstrap

Menu

GRAYSCALE

A free, responsive, one page Bootstrap theme created by Start Bootstrap.

GET STARTED

```

Preparing to unpack .../unzip_6.0-26ubuntu3.1_and64.deb ...
Unpacking unzip (6.0-26ubuntu3.1) ...
Setting up unzip (6.0-26ubuntu3.1) ...
Processing triggers for mailcap (3.70+nmu1ubuntu1) ...
Processing triggers for man-db (2.10.2-1) ...
Scanning processes...
Scanning linux images...

Running kernel seems to be up-to-date.

No services need to be restarted.

No containers need to be restarted.

No user sessions are running outdated binaries.

No VM guests are running outdated hypervisor (qemu) binaries on this host.
webmaster@webserver:~$ ls
gh-pages.zip
webmaster@webserver:~$ unzip gh-pages.zip
Archive:  gh-pages.zip
24c2a473685f0340cf7e6d5af52bd7d44d5edc6f
  creating: startbootstrap-grayscale-gh-pages/
  creating: startbootstrap-grayscale-gh-pages/assets/
  inflating: startbootstrap-grayscale-gh-pages/assets/favicon.ico
  creating: startbootstrap-grayscale-gh-pages/assets/img/
  inflating: startbootstrap-grayscale-gh-pages/assets/img/bg-masthead.jpg
  inflating: startbootstrap-grayscale-gh-pages/assets/img/bg-signup.jpg
  inflating: startbootstrap-grayscale-gh-pages/assets/img/demo-image-01.jpg
  inflating: startbootstrap-grayscale-gh-pages/assets/img/demo-image-02.jpg
  inflating: startbootstrap-grayscale-gh-pages/assets/img/tpad.png
  creating: startbootstrap-grayscale-gh-pages/css/
  inflating: startbootstrap-grayscale-gh-pages/css/styles.css
  inflating: startbootstrap-grayscale-gh-pages/index.html
  creating: startbootstrap-grayscale-gh-pages/js/
  inflating: startbootstrap-grayscale-gh-pages/js/scripts.js
webmaster@webserver:~$ ls
gh-pages.zip  startbootstrap-grayscale-gh-pages
webmaster@webserver:~$ cd startbootstrap-grayscale-gh-pages/
webmaster@webserver:~/startbootstrap-grayscale-gh-pages$ sudo cp * /var/www/website/ -r
webmaster@webserver:~/startbootstrap-grayscale-gh-pages$
  
```