Name: Joseph Aleman Course: CIS106 Semester: Fall 2024

Deliverable 1

> Tutorial can be found here

Concepts I don't understand

Apache

- **Definition**: a free, open-source web server that's a key component of the internet and is often used on Linux operating systems

Web ports

- **Definition**: a virtual gateway on a server, identified by a unique number, that allows incoming network traffic specifically for web services, like displaying web pages

Firewall

- **Definition**: a software-based security system built into the Linux operating system that monitors and controls incoming and outgoing network traffic

`ufw`

- **Definition**: "Uncomplicated Firewall," which is a user-friendly command-line tool used to manage firewall rules on a system

`systemctl`

- **Definition**: a command-line tool in Linux that manages and monitors the systemd system and service manager

`systemd`

- **Definition**: a software suite that provides an array of system components for Linux operating systems

Init system

- **Definition**: the first process started during booting of the operating system

`chown`

- **Definition**: stands for "change owner" and is a command used to modify the user who owns a specific file or directory

`nano`

- **Definition**: a simple, command-line text editor for Linux that's good for beginners and quick file creation

chmod

- **Definition**: a command that changes the access permissions and special mode flags for files and directories

a2ensite

- **Definition**: a Linux command used to enable a website (virtual host) configuration within the Apache web server, essentially "turning on" a specific site so that it can be accessed by users

a2dissite

- **Definition**: disables an Apache site

apache2ctl

- **Definition**: a front end to the Apache HyperText Transfer Protocol (HTTP) server

SSL

- **Definition**: Secure Sockets Layer, is a security protocol that creates an encrypted connection between a web server and a browser

Server Block

- **Definition**: a section within the server configuration that defines a virtual server, allowing you to host multiple websites on a single machine

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What are some different web server applications?

Some web application frameworks include simple HTTP servers Examples:

Apache

- Apache is a free and open-source web server that delivers web content through the internet

Nginx

- A web server that can also be used as a reverse proxy, load balancer, mail proxy and HTTP cache

Lighttpd

- A secure, fast, compliant, and very flexible web-server that has been optimized for high-performance environments

What is a web server? Hardware and software side

The term web server can refer to hardware or software, or both of them working together.

Hardware Side

- On the hardware side, a web server is a computer that stores web server software and a website's component files (for example, HTML documents, images, CSS stylesheets, and JavaScript files)

Software side

- On the software side, a web server includes several parts that control how web users access hosted files. At a minimum, this is an HTTP server.

What is virtualization?

The technology that allows a single physical computer to act like multiple separate computers by dividing its hardware resources (CPU, memory, storage) into isolated virtual environments

What is virtualbox?

A free, open-source virtualization software that allows users to run multiple operating systems on a single device

What is a virtual machine?

A software-based computer that acts like a physical computer, but uses virtual resources instead of physical components

What is Ubuntu Server?

A specialized version of the Ubuntu operating system designed specifically for running server applications and services, like web hosting, file sharing, databases, and enterprise-level applications

What is a firewall?

A network security device that monitors and controls incoming and outgoing network traffic

What is SSH?

Stands for "Secure Shell," which is a network protocol that allows users to securely access and manage remote computers over an unsecured network, like the internet, by encrypting the communication between devices, enabling secure logins and command execution on those systems