

Final Project Submission

Student: Mohammed Assaf semester: Fall 24 Assignment: Final Project Part #1

1. What is a web server? (Hardware and Software Side)

- A web server is a system that delivers content, such as websites and web applications, to users over the internet. It consists of both hardware and software components:

Hardware: This refers to the physical machine that hosts the server, including the CPU, memory, storage, and network interfaces, which handle the incoming requests and data transmission.

Software: The software component of a web server is the application that listens for and responds to HTTP requests. Popular examples include Apache, Nginx, and Microsoft IIS.

2. What are some different web server applications?

- There are several types of web server applications, including:
 - Apache HTTP Server: One of the most widely used open-source web servers.
 - Nginx: A high-performance, open-source web server that also serves as a reverse proxy and load balancer.
 - Microsoft IIS: A web server for Windows Server operating systems.
 - LiteSpeed: A commercial web server with performance-oriented features.
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3. What is virtualization?

- Virtualization is the process of creating virtual versions of resources, such as operating systems, servers, or storage devices, that are normally tied to physical hardware. This allows multiple virtual instances to run on a single physical machine, increasing efficiency and resource utilization.
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4. What is VirtualBox?

- VirtualBox is a free, open-source software used for virtualization. It allows users to create and manage virtual machines (VMs) on a host computer, enabling multiple operating systems to run concurrently on the same machine. It is commonly used for testing, development, and educational purposes.
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5. What is a virtual machine?

- A virtual machine (VM) is a software-based emulation of a physical computer that runs its own operating system and applications as if it were a physical computer. VMs are created using virtualization software like VirtualBox, and they share the physical resources of the host machine, such as CPU and memory.
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6. What is Ubuntu Server?

- Ubuntu Server is a version of the Ubuntu operating system designed specifically for server environments. It is a popular open-source Linux distribution known for its stability, security, and ease of use in managing web servers, databases, and other server-side applications.
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7. What is a firewall?

- A firewall is a security system that monitors and controls incoming and outgoing network traffic based on predetermined security rules. It can be implemented as hardware or software and is used to protect networks and systems from unauthorized access and threats.
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8. What is SSH?

- SSH (Secure Shell) is a cryptographic network protocol used for securely accessing remote systems over an unsecured network. It allows administrators to remotely manage servers and execute commands on remote machines securely through encrypted communication.
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