WEB INFRASTRUCTURE- ALX 0.

Simple web stack

What is a server?

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

What is the role of the domain name?

To provide a simple and memorable way to identify and locate a website or other Internet resource. It can serve various purposes, such as simple identification of hostnames and hosts, addressing in networking contexts, and establishing a brand or online identity.

What type of DNS record is www is in www.foobar.com?

The DNS server is an A record because it maps a domain name or subdomain to an IP address, enabling users to reach the website's content.

What is the role of the web server?

To serve web pages and other resources, such as images, videos, and stylesheets, to clients, authenticate users and restrict access to certain resources based on user permissions, and also distribute incoming requests across multiple servers to improve performance and reliability.

What is the role of the application server?

It acts as a middleware layer between the client tier and the database tier. It handles requests from clients, processes business logic, manages stateful sessions, and integrates with various services and infrastructure components. By offloading these tasks from the client and database tiers, application servers improve the scalability, security, and maintainability of applications

What is the role of the database?

The database provides a reliable and efficient way to store, manage, and retrieve data. By ensuring data integrity, security, consistency, and scalability, databases enable organizations to make informed decisions, streamline operations, and provide better services to their customers.

What is the server using to communicate with the computer of the user requesting the website?

The server uses the Hypertext Transfer Protocol (HTTP) to communicate with the user's computer

Explain what the issues are with this infrastructure:

A. SPOF
(Single point of failure) the web server is a single point of failure, meaning that if the web server goes down, the entire website will be unavailable
B. Downtime when maintenance is needed (like deploying new code web server needs to be restarted)
If the web server needs to be restarted for maintenance or to deploy new code, the website will be unavailable during that time

C. Cannot scale if too much incoming traffic
If the website experiences a sudden surge in traffic, the web server may become overwhelmed and unable to handle all the incoming requests. This can result in slow response times, timeouts, or even crashes.