

ALX Project

Web infrastructure design

- **What is a server?**

A server is a physical or virtual computer that can provide functionality for other programs or devices called “clients”, and the servers are computers on steroids with faster processing capacity. They are usually stored in data center ranks.

- **What is the role of the domain name?**

Domain name system is considered as a critical aspect of the internet, it is responsible for translating the user domain to the numerical domain.

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

It is a `CNAME`.

- **What is the role of the web server?**

The web server deals with HTTP requests and handling static content. The main role of web server is to store, process and display websites contents, deliver web pages HTML and CSS.

- **What is the role of the application server?**

The application server is the intermediary between browser-based databases and back-end databases and legacy systems.

- **What is the role of the database?**

The role of database is to gather and organize information to be easily accessed, managed, and manipulated. There are several database types, and they are classified based on the mechanism and data management system.

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

The server communicates with client by using HTTP protocol. From the client side (the browser) is the one who always initiates the request to the

server of the data such as the HTML and CSS files, never the other way around. Once the request is received by the server, it serves the documents as requested by the client, so it can finally present the Web Page.

The issues with a simple web infrastructure include the presence of a Single Point of Failure (SPOF), where a component failure can lead to a system collapse without backup support. Maintenance or repairs necessitate system shutdown, affecting client requests during that time. Additionally, the lack of scalability makes the system vulnerable to traffic overload, potentially causing breakdowns and unmet client requests when server capacity is exceeded.