<u>Task 0.</u>

ALX Project

Web Infrastructure Design

Definitions and Explanations.

1. **What is a server**; A server is a computer program or device that provides a service to another computer program and its user, also known as the client.
2. **What is the role of a domain name**; Domain names serve to identify Internet resources, such as computers, networks, and services, with a text-based label that is easier to memorize than the numerical addresses used in the Internet protocols.
3. **What type of DNS record** www **is in** www.foobar.com; It is a 'cname'.
4. **What is the role of the Web Server**; The primary role of a web server is to store, process, and deliver requested information or webpages to end users.
5. **What is the role of the application server**; The application server is responsible for user authentication and security, processing and serving HTML files and processing and compiling JSP files with help from its servlet/JSP engine, then serving the entire response generated back to the browser.
6. **What is the role of the database**; The role of a database is storage and retrieval of raw data, process raw data to information and provide for decision support.
7. **What is the server using to communicate with the computer of the user requesting the website**; The server communicates through HTTP protocol.

Issues

A. **SPOF (Single Point Of Failure)**; A single point of failure is an environment where one failure can result in the simultaneous loss of both the coupling facility list structure for a log stream and the local storage buffer copy of the data on the system making the connection.
B. **Downtime when maintenance is needed (like deploying a new code web server needs to be restarted)**; The downtime period might be longer than expected because the server is dependent on one code base which at that moment, isn't available. Users will therefore not be able to access the website and its contents which results in a bad user experience and loss of traffic.
C. **Cannot scale if too much incoming traffic**; The domain name points directly at the server hence doesn't contain a load balancer which allows handling increased loads easier. This poses an issue to the volume of users trying to access the website's content and can lead to poor user experience or rather set a limit to the number of users the website will be able to accommodate.