ALX Project
Web infrastructure design

Task 0.
Definitions and Explanations.

1. **Server:** A server is a computer or system that is dedicated to managing network resources and providing services to other computers, known as clients, in the network.
2. **Domain Name:** A domain name is a human-readable address that is used to identify a specific location on the internet. It provides a way for users to access websites using a familiar name (e.g., www.example.com) instead of numerical IP addresses.
3. **DNS Record for "www" in www.foobar.com:** The "www" in www.foobar.com typically corresponds to a DNS record known as a CNAME (Canonical Name) record. This record is used to alias one domain to another. In this case, it may point to the same location as the root domain (foobar.com).
4. **Web Server:** A web server is a software application or hardware device that handles the initial request from a user's browser, retrieves the requested web page or resource, and sends it back to the user's browser.
5. **Application Server:** An application server is responsible for executing the application logic of a web application. It manages the business logic, application processes, and data processing.
6. **Database:** A database is a structured collection of data that is organized and stored for efficient retrieval and management.
7. **Communication with the User's Computer:** The server communicates with the user's computer over the internet using the HTTP or HTTPS protocols.

Issues.

SPOF: A single point of failure refers to a component in a system that, if it fails, will cause the entire system to fail.
Downtime During Maintenance: Performing maintenance tasks, such as deploying new code or updates, often requires stopping or restarting certain components of the infrastructure, like the web server. During this time, the service may be temporarily unavailable, causing downtime for users.
Scalability Challenges: If the infrastructure cannot scale to handle increased traffic, it may lead to performance issues or service outages during periods of high demand. Scalability is crucial to ensure that the system can accommodate growing numbers of users and increased workload.