Web infrastructure design

* What is a server

- A server is a computer program or a physical computer system that provides services or resources to other computers or devices on a network.

* What is the role of the domain name

- The domain name is a human-readable address that is used to identify and locate a website or a specific computer on the internet.

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

- Use A record typed

* What is the role of the web server

- A web server is a computer program or a physical computer system that stores and delivers web pages and other web-based content to clients over the internet or a local network. Its primary role is to receive incoming requests from web browsers or other clients, retrieve the requested content from the file system or a database, and send it back to the client in the form of an HTTP response.

* What is the role of the application server

- The application server is responsible for hosting and executing applications, providing a platform for developers to build and deploy web-based software.

* What is the role of the database

- The database is a software system that stores, organizes, and manages data, allowing users and applications to retrieve and manipulate information in a structured way.

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

- The server uses the HTTP (Hypertext Transfer Protocol) to communicate with the computer of the user requesting the website.

**Issues are with this infrastructure**

* SPOF

- Single Point of Failure (SPOF) is a component in a system that, if it fails, will cause the entire system to fail. In a web infrastructure with one server and one database, there are several SPOF issues that can arise: for example if the web server is down, the entire site would be down.

* Downtime when maintenance needed (like deploying new code web server needs to be restarted)

- Maintenance or updates to the server or database can result in downtime. During this time, the website or application will be unavailable to users.

* Cannot scale if too much incoming traffic

- In a one server and database web infrastructure, scaling can become an issue if the amount of incoming traffic exceeds the capacity of the server or database. This can cause the website or application to become slow or unresponsive, leading to a poor user experience.