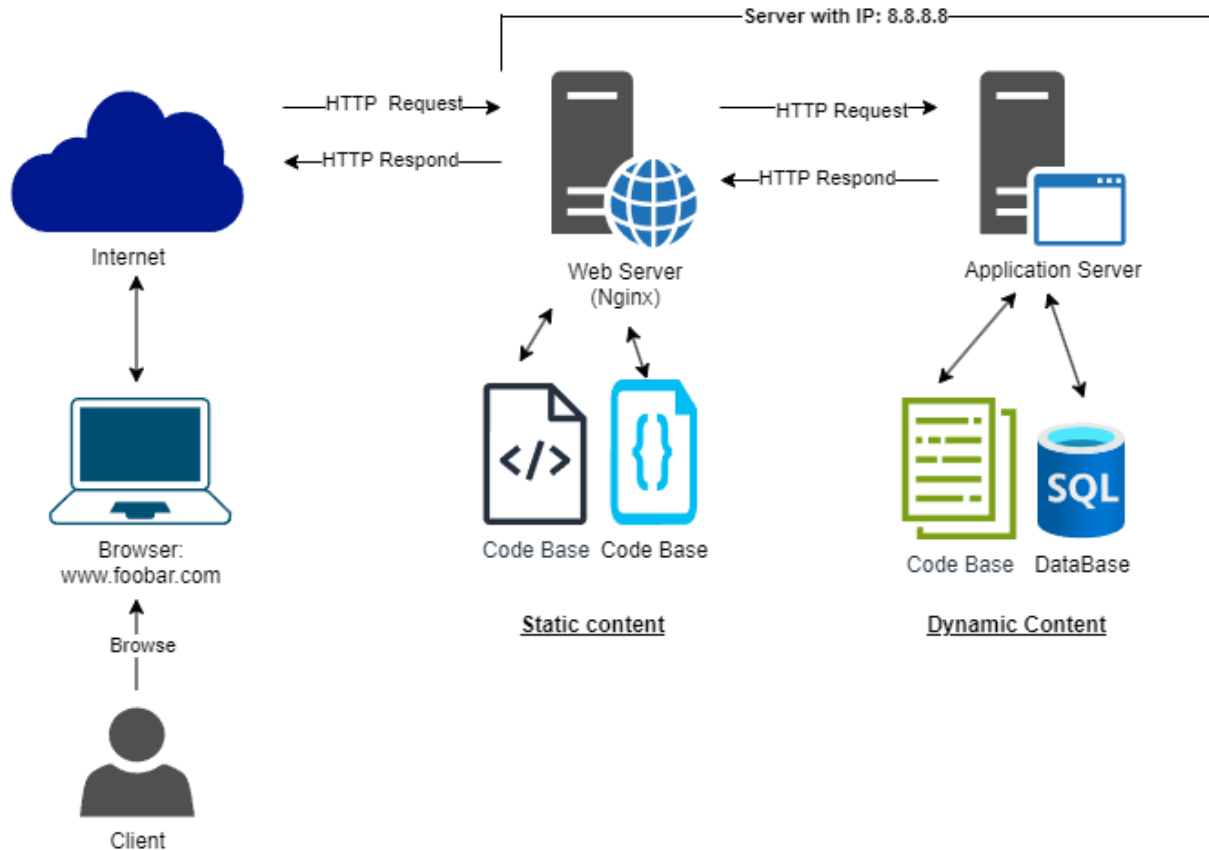


Task 0: Simple Web Stack

Whiteboard Diagram



Explanation

Scenario:

A user wants to access the website www.foobar.com.

Infrastructure Components:

1. Server (8.8.8.8):

- Physical or virtual machine hosting the entire web infrastructure.

2. Domain Name:

- foobar.com is the domain name.
- www record points to the server IP (8.8.8.8).

3. DNS Record:

- The DNS record for www.foobar.com is of type A (Address) and points to the server IP.

4. Web Server (Nginx):

- Handles HTTP requests from users.
- Serves static content and forwards dynamic content requests to the application server.

5. Application Server:

- Executes the application logic.
- Communicates with the database server to retrieve or update data.

6. Application Files (Code Base):

- The source code and files that constitute the website's application.

7. Database (MySQL):

- Stores and manages website data.
- Application server communicates with the database for data retrieval or updates.

8.Communication:

The server communicates with the user's computer through HTTP/HTTPS protocols.

Issues with the Infrastructure:

1. Single Point of Failure (SPOF):

- The entire infrastructure depends on a single server; if it fails, the website becomes inaccessible.

2. Downtime during Maintenance:

- When deploying new code, the web server needs to be restarted, causing downtime.

3. Scalability Issues:

- Cannot efficiently handle a large volume of incoming traffic.