

## **A Simple Web Stack.**

**Explaining some specifics about this infrastructure:**

### **What is a server?**

it is a computer that stores, manages and serves resources to other computers on request.

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

Domain name is the human-readable address that is associated with the IP address of the host server. it is used to access a website.

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

In this case, it is a CNAME (Canonical Name) record, as it points to the origin domain that has an A record in the system.

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

It communicates with the application server, generates the requested resources and, responds with the content of the resource or an Error message.

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

It is responsible for processing dynamic content and application logic. It receives requests from the web server, communicates with the database, generates dynamic content and sends it back to the web server.

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

It stores structured data such as user info, web content etc. In this case, MySql is a relational database, it is interacted with by the application server to retrieve or update data as needed.

### **What is the Server using to communicate with the computer of the user requesting the website?**

The server is in communication with the user's computer via HTTP protocol.

### **Issues with this Infrastructure:**

#### **SPOF (Single Point Of Failure):**

This setup has a single server, By any means (software issue, hardware failure) the server goes down, the website becomes inaccessible. To mitigate this, redundancy implementation using load balancers backup servers.

#### **Downtime when maintenance is needed:**

During maintenance, implementing feature changes that require the web server to be restarted or unavailability of the application code may cause server downtime, resulting in poor user experience and lost traffic.

#### **Scaling Challenges:**

The Infrastructure is not able to handle a surge in traffic with the server capacity being limited to one.