

# ALX PROJECT

## 0X09. Web infrastructure design

### Definitions and Explanations :

#### 1- What is a server :

A server is a piece of computer hardware that provides functionality for other programs or devices.

#### 2- what is the role of a domain name :

A domain name is a human readable address that specifies a certain location on the web.

#### 3- What type of DNS record 'www' is in '[www.foobar.com](http://www.foobar.com)':

[www.foobar.com](http://www.foobar.com) is an alias of « foobar.com »\_so the DNS record used in here is CNAME.

#### 4- What is the role of a web server :

A web is a piece of software that processes and manages an HTTP request and it provides a static content back to the browser.

#### 5- What is the role of an application server :

An application server is a piece of software that receives a request from the web server the nit translates it to a program which will return a dynamic content back to the browser.

#### 6- What is the role of a database

The role of a database in a server is crucial for managing and storing structured data that is used to power dynamic web sites and web applications.

#### 7- What is the server using to communicate with the computer of the user requesting the website :

Its the web server.

### Issues :

### **A- SPOF (single point of failure) :**

There are a lot of SPOFs in this infrastructure starting from having only one server that contains only one web server, one application server and one database.

A SPOF is any non-redundant part of a system that, if dysfunctional, would cause the entire system to fail.

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

The downtime period might be longer than expected because the server is dependant on only one code base which wouldnt be available in that time. Users will not be able to access to the website and its content which results in a bad user experience and loss of traffic.

### **C- Cannot scale if too much incoming traffic :**

The domain name points directly to a server hence doesnt contain a load balancer. 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.