

ALX Project

Web infrastructure design

Task 0

Definitions and explanations

1. **What is a server;** A server is a dedicated computer or software system that provides different services, data or resources to other computers called clients on a network.
2. **What is the role of a domain name;** A domain name is an easy-to-remember text based label that identifies internet resources like other networks, computers.
3. **What type of DNS record `www` is in `www.foobar.com`;** It is a 'CNAME'
4. **What is the role of web server;** The role of a web server is to respond to http requests from web browsers, delivering web pages, images, videos and other web content
5. **What is the role of an application server?** The role of an application server is to generate dynamic content by executing server-side code such as ASP, PHP, etc
6. **What is the role of a database?;** The role of a database is to store and manage data systematically for future retrieval, processing and evaluation
7. **What is the server using to communicate with the computer of the user requesting the website?;** The server mainly uses HTTP(Hypertext Transfer Protocol) or HTTPS(Hypertext Transfer Control Protocol Secure)

Issues

Single Point of Failure(SPOF); The single point of failure for a simple web stack is a single server hosting the entire system. If the server goes down then the system as a whole will be unavailable.

Downtime when maintenance is needed; The downtime for a simple web stack will be longer because of the availability of only one codebase. This would mean that once the server is offline the whole website and its content will be unavailable to users which will result in a bad user experience and huge loss of traffic.

Cannot scale if too much traffic is incoming; Since the domain name is pointing directly to the server, and there is no load balancer to efficiently manage sudden influxes of users accessing the site's content at once, this might impact the user experience. Alternatively imposing a limit on the amount of users having shared access to the site's content is a viable option.