

ALX Project

Web infrastructure design

Task 2.

Definitions and Explanations.

1. ***For every additional element, why are adding it;*** Three new components have been added: one SSL certificate for the server www.foobar.com over HTTPS, a firewall for each server to prevent attacks and exploits, and three monitoring clients that will gather logs and send them to our data collector Sumologic.
2. ***What are firewalls for;*** is a type of network security system that keeps track of and regulates network traffic on the basis of pre-set security rules. In essence, it creates a barrier between trusted and untrusted networks.
3. ***Why is the traffic served over HTTPS;*** Previously, traffic was routed using HTTP, which transfers data in plain text, as opposed to HTTPS, which is secure and encrypts data using Transfer Layer Security (TLS).
4. ***What monitoring is used for;*** it provides the capability to detect and diagnose any web application performance issues proactively.
5. ***How the monitoring tool is collecting data;*** It gathers the MySQL database, Nginx web server, and application server logs. A log is the automatically created and time-stamped documentation of events important to a specific system in a computing context.
6. ***Explain what to do if you want to monitor your web server QPS;*** one web server handles 1K queries per second (QPS), I would basically monitor it from the network and application level.

Issues

- A. ***Why terminating SSL at the load balancer level is an issue;*** Decryption requires a lot of resources and CPU power, so it is a problem. The server can focus its processing power on application tasks by shifting the decryption burden to the load balancer, but to be completely honest, I don't see the problem (I will update this).
- B. ***Why having only one MySQL server capable of accepting writes is an issue;*** because once it is down it means no data can be added or updated meaning some features of the application won't work.
- C. ***Why having servers with all the same components (database, web server and application server) might be a problem;*** this is due to the fact that if one server has a bug in one of its components, the bug will also exist in the other servers.