ALX Project

Web infrastructure design

Task 2.

Definitions and Explanations.

1. For every additional element, why are adding it; we have added three new

components; a firewall for each server to protect them from being attacked and exploited,

1 SSL certificate to server www.foobar.com over HTTPS and three monitoring clients

that will collect logs and send them to our data collector Sumologic.

2. What are firewalls for; is a network security system that monitors and controls incoming

and outgoing network traffic based on predetermined security rules. It basically

establishes a barrier between a trusted network and an untrusted network.

3. Why is the traffic served over HTTPS; because previously the traffic was passed over

Hypertext Transfer Protocol (HTTP) which transfers data in plain text while HTTPS is

secure where the data is encrypted 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 collects logs of the application server,

MySQL Database and Nginx web server. A log in a computing context is the

automatically produced and time-stamped documentation of events relevant to a

particular system.

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; it is an issue because

decryption is resource and CPU intensive. Placing the decryption burden on the load

balancer enables the server to spend processing power on application tasks but to be

honest I don’t know see the issue to be honest (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 do 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 because once you have a bug in one of

the components in one of the servers then the bug will be valid in the other servers.