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 incomingand 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 andapplication 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 behonest 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 no data can be added or updated meaning somefeatures 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 ofthe components in one of the servers then the bug will be valid in the other servers.