ALX PROJECT

Web Infrastructure Design

Task 2

Explanation of Terms

1. For every additional element, why you are adding it: we added three new components such as a **firewall** for each server to protect th 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: firewall is a division between a private network and an outer network, often the internet that manages traffic passing between the two networks. It is implemented through either hardware or software. Firewall allows, limit and block network traffic based on pre-configured rules in the hardware or software, analyzing data packets that request entry to the network.

3. Why is the traffic served over HTTPS: this is because previously the traffic was passed over the Hypertext Transfer Protocol (**HTTP**) which transfers data in plain text while the secure part (**HTTPS**) is where the data is encrypted using Transfer Layer Security (**TLS**).

4. What monitoring is used for: software monitoring will enable one to watch computer metrics, record them, and emit an alert if something is unusual or that could make the computer not work properly happens. Web stack monitoring is broken into application monitoring and server monitoring.

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. What to do if you want to monitor your web server QPS: ome web server handle 1k queries per second (**QPS**), I would basically monitor it from the network and application level.

Issues

1. 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.

2. Why having only one MySQL server capable of accepting writes is an issue: this is because once it is down it means no data can be added or updated implying that some features of the application won't work.

3. 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 any of the servers the the bug will be valid in the other servers.