

You must be able to explain some specifics about this infrastructure:

- a) **For every additional element, why you are adding it?** Firewalls are for extra security, SSL certificates is for data security in transit, monitoring clients is to ensure issue detection and performance analysis.
- b) **What are firewalls for?** They control and monitor incoming and outgoing network traffic. They enhance security by allowing or blocking traffic based on some rules.
- c) **Why is the traffic served over HTTPS?** It encrypts data in transit therefor providing secure connection between client's browser and we server.
- d) **What monitoring is used for?** it is used to keep track of performance, availability and security in the web infrastructure. It help identify any potential issues, track resource utilization and ensure optimal operation.
- e) **How the monitoring tool is collecting data?** They do so by deploying collectors in each of the servers.
- f) **Explain what to do if you want to monitor your web server QPS?** Set up monitoring tools to track incoming HTTP requests and calculate the rate at which queries are process. This data can be analyzed and ensure server is handling the expected load.

You must be able to explain what the issues are with this infrastructure:

- a) **Why terminating SSL at the load balancer level is an issue?** The data is decrypted just before reaching the web servers hence putting a security risk.
- b) **Why having only one MySQL server capable of accepting writes is an issue?** It created a single point of failure for write operations.
- c) **Why having servers with all the same components (database, web server and application server) might be a problem?** May lead to lack of diversity, which makes the entire infrastructure susceptible to common mode of failure.