

- **For every additional element, why you are adding it**
Firewall: firewalls protect the user from cyber attacks by shielding the network from malicious or unnecessary traffic.
SSL CERTIFICATE: Websites need SSL certificates to keep user data secure, verify ownership of the website, prevent attackers from creating a fake version of the site, and convey trust to users.
MONITORING: Software monitoring will watch computer metrics record them and emit alert if something is unused or that could make the computer not work properly.
- **Why is the traffic served over HTTPS**
 HTTPS uses the SSL/TLS protocol to encrypt communications so that attackers can't steal data. SSL/TLS also confirms that a website server is who it says it is, preventing impersonations.
- **How the monitoring tool is collecting data**
 Server monitoring tool does this in a simple process of tracking log files for information. The log files contain user activity, errors, and security events, all useful for analysis.
- **Explain what to do if you want to monitor your web server QPS**
 You can also monitor the web server locally with the access_log file, and sift the data it contains to create modules with useful information such as the QPS
- **Why terminating SSL at the load balancer level is an issue**
 SSL termination at the Load Balancer also poses a security risk because the data that are passing across the network from the load balancer to the App Server are now unencrypted, and that will leave applications vulnerable to Man-in-the-Middle Attack.
- **Why having only one MySQL server capable of accepting writes is an issue**
- -It is not very reliable because of the asynchronous replication. This means that some transactions committed on the master may not be available on the slave if the master fails.
- -Write requests can hardly be scaled up. The only option to scale write requests is to increase the computational capacity (RAM and CPU) of the master node.

- -The failover process is manual in a general case. You have to take care of the promotion from the replica node to the master node
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- **Why having servers with all the same components (database, web server and application server) might be a problem**
- The security concern is that if the single machine is compromised, **both webserver and database** are vulnerable.
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