

## **TASK 3.**

### **Definitions and Explanation**

1. **For every additional element, why you are adding it:** The decision to incorporate an additional server and load balancer into the infrastructure stems from the imperative to enhance system resilience, scalability, and fault tolerance. By introducing a new server, each essential component—namely, the web server (Nginx), application server (code base), and database (MySQL)—is segregated into dedicated environments, fostering optimal resource utilization and performance isolation. Furthermore, the presence of an extra server housing all components serves as a failsafe mechanism, ensuring continuity of service in the event of component or server failure. Each server is meticulously monitored, with robust firewall configurations in place to fortify network security and preempt potential cyber threats. Additionally, the deployment of an additional load balancer augments the infrastructure's capacity to handle increased traffic demands, facilitating seamless scalability and enhanced user experience across the entire ecosystem.