

Task 1

Definitions and Explanations.

- 1. For every additional element, why are adding it;** Adding another server so we can have the option to add a heap balancer to deal with a lot approaching traffic and furthermore empower us to kill a weak link which could happen by having only one server.
- 2. What distribution algorithm your load balancer is configured with and how it works;** Our heap balancer utilizes the Cooperative calculation which associates all together except if a server is down. Demands are served by the server successively one later another. Subsequent to sending the solicitation to the last server, it begins from the main server once more. This calculation is utilized when servers are of equivalent determination and there are relatively few steady associations.
- 3. Is your load-balancer enabling an Active-Active or Active-Passive setup, explain the difference between both;** The heap balancer empowers a Functioning Dynamic arrangement where the two hubs (servers) are effectively running a similar sort of administration all the while. While in a Functioning Latent arrangement, not all hubs will be dynamic. On account of two hubs, on the off chance that the principal hub is as of now dynamic, the subsequent hub should be latent or on backup. The critical contrast between these two designs is execution. Dynamic groups give you admittance to the assets of every one of your servers during typical activity. In a functioning uninvolved bunch, the reinforcement server just sees activity during failover.
- 4. How a database Primary-Replica (Master-Slave) cluster works;** ace slave replication empowers information from one data set server (the expert) to be recreated to at least one other data set servers (the slaves). The expert logs the updates, which then, at that point, echo through the slaves. In the event that the progressions are made to the expert and slave at a similar time, it is simultaneous. Assuming that changes are lined up and composed later, it is offbeat. It is generally used to spread perused admittance on different servers for adaptability, despite the fact that it can likewise be utilized for different purposes, for example, for failover, or dissecting information on the slave all together not to over-burden the expert.
- 5. What is the difference between the Primary node and the Replica node in regard to the application;** An imitation hub is a duplicate of the essential hub, they give excess duplicates of the application codebase to safeguard against equipment disappointment and increment ability to serve read demands like looking or recovering a report.

Issues

- A. SPOF (Single Point of Failure);** The significant weak link in this foundation is having just a single burden balancer.

B. **Security issues (no firewall, no HTTPS);** Significant security issues include having the application convey over HTTP convention that isn't secure and can permit an aggressor (who might be in the center) to see delicate data (since HTTP moves plain texts) like passwords. Likewise since the application doesn't have a firewall, This can permit an aggressor to play out a refusal of administration attack(DOS or DDOS) that might cause a significant free time in the framework, or permit a malignant assailant to penetrate the framework taking advantage of obscure open ports and perform information exfiltration.

C. **No monitoring;** "You can't fix or further develop what you can't gauge" is a popular saying in the tech business. Observing the server, site, or application by and large, would permit the proprietor to recognize any issues, personal time, or security dangers and resolve them rapidly before they transform into a difficult issue. It will likewise further develop efficiency and perhaps save a few costs on IT support. As well as further develop client experience overall.