

Why add a load balancer (HAproxy)?

Adding a load balancer helps us handle more website visitors and reduces the risk of the entire system going down if one server fails. It spreads the incoming requests across multiple servers, making sure no single server gets overwhelmed.

Load balancer distribution algorithm and how it works?

Our load balancer uses a simple round-robin algorithm. It's like taking turns—each server gets a chance to handle a request in order. This way, all servers share the workload equally, keeping things running smoothly.

Active-Active vs. Active-Passive setup?

Our setup is Active-Active, meaning all servers are actively serving traffic. Unlike Active-Passive setups where some servers are on standby, our setup maximizes efficiency and scalability by keeping all servers busy.

How does a database Primary-Replica (Master-Slave) cluster work?

Think of it like teamwork—the primary node takes care of writing data, while replica nodes help out by copying that data for reading. If the primary node needs a break or fails, one of the replicas steps up to take its place, ensuring smooth operation.

Difference between Primary node and Replica node in regard to the application?

The primary node handles the heavy lifting, managing all the new data coming in. Meanwhile, the replica nodes assist by handling requests to read data. It's like teamwork—the primary focuses on creating while the replicas help share the load by reading.

Issues with this infrastructure:

Single Point of Failure (SPOF): If our primary node fails, the whole system could grind to a halt until we get it back up and running, causing downtime for users.

Security issues (no firewall, no HTTPS): Without a firewall or HTTPS, our system is vulnerable to attacks, risking the safety of our data and users' privacy.

No monitoring: We lack systems to keep an eye on things, meaning problems might go unnoticed until they cause serious issues. It's like driving without a dashboard—we need to know what's happening under the hood to keep things running smoothly.