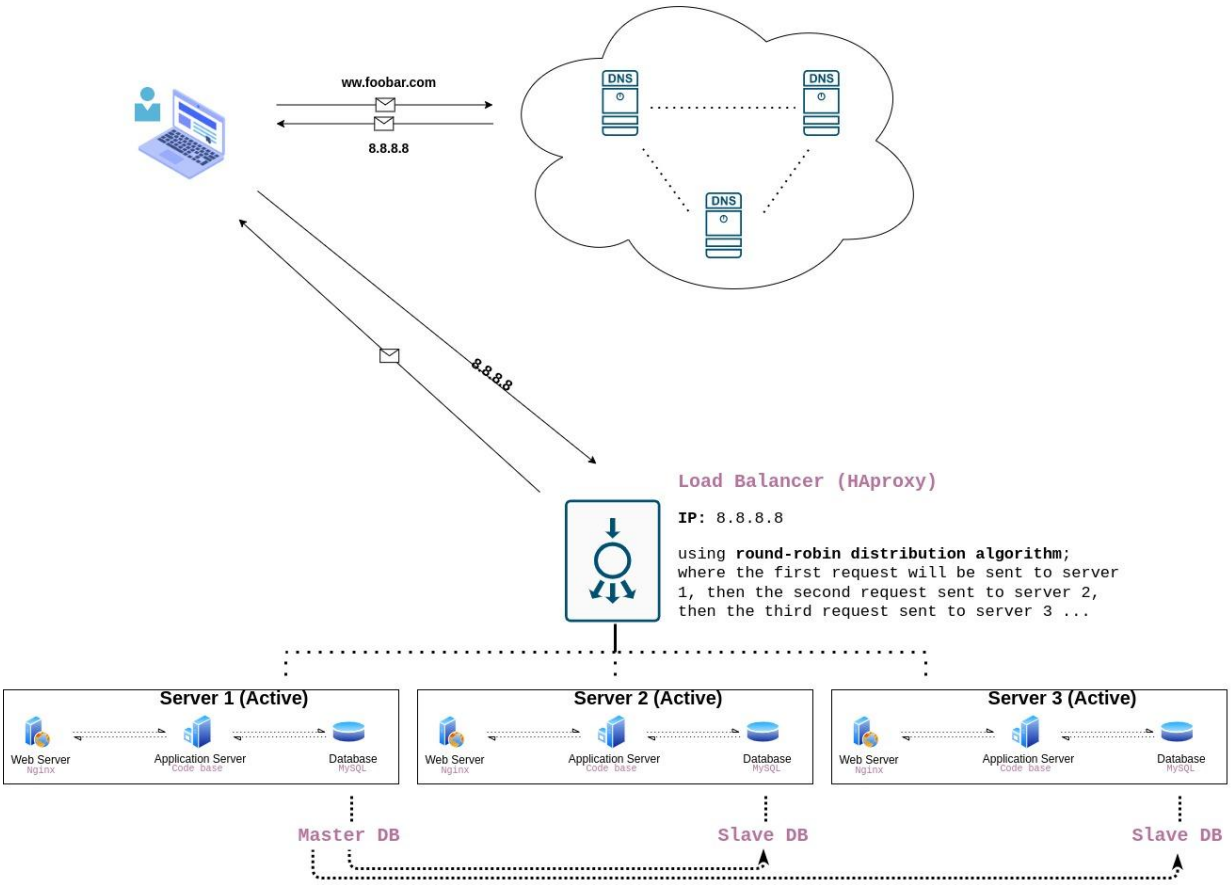

This is a distributed web infrastructure that used to reduce the traffic to the primary server by allocating some of the load to a copy server with the aid of a server responsible for balancing the load between the two servers (primary and replica).

Specifics about This Infrastructure

The HAProxy load balancer is configured with the Round Robin distribution algorithm. This algorithm works by using each server behind the load balancer in turns, according to their weights. It's also possibly the smoothest and most fair algorithm as the servers' processing time stays equally distributed. As a dynamic algorithm, Round Robin allows server weights to be adjusted on the go.

How a database Primary-Replica (Master-Slave) cluster works.

A Primary-Replica setup organizes one server to act as the Primary server and the other server to act as a Replica of the Primary server. However, the Primary server is capable of execution read/write requests whilst the Replica server is only capable of performing read requests. Data is synchronized between the Primary and Replica servers whenever the Primary server executes a write operation.

The difference between the Primary node and the Replica node in regard to the application.

The Primary node is responsible for all the write operations the site needs whilst the Replica node is capable of processing read operations, which decreases the read traffic to the Primary node.

Issues with This Infrastructure

There are multiple SPOF (Single Point of Failure).

For example, if the Primary MySQL database server is down, the entire site would be unable to make changes to the site (including adding or removing users). The server containing the load balancer and the application server connecting to the primary database server are also SPOFs.

Security issues.

The data transmitted over the network isn't encrypted using an SSL certificate so hackers can spy on the network. There is no way of blocking unauthorized IPs since there's no firewall installed on any server.

No monitoring.

We have no way of knowing the status of each server since they're not being monitored.