Explanation

Load Balancer (HAproxy):

The load balancer is in charge of dividing incoming traffic between the two servers (using the round-robin algorithm). It offers load balancing as well as high availability.

Web Server (Nginx):

A web server that handles static content and acts as a reverse proxy to transmit dynamic requests to the application server.

Application Server:

The application server is responsible for running the application code and handling dynamic content requests.

Database (MySQL):

MySQL is used as the database to store and manage the data on the website.

Specifics Explained:

Load Balancer Algorithm:

Round Robin (RR) is a method of evenly distributing requests between two servers.

Active-Active Setup:

All servers are managing traffic constantly, providing redundancy and load balancing.

Primary-Replica Cluster:

The Primary node handles write operations, while Replica nodes replicate data for read operations, ensuring data consistency and high availability.

Difference between Primary and Replica:

The Primary node handles write operations, while the Replica nodes serve read requests. In the case of Primary failure, a Replica can be promoted.

Issues with the Infrastructure:

Single Point of Failure (SPOF):

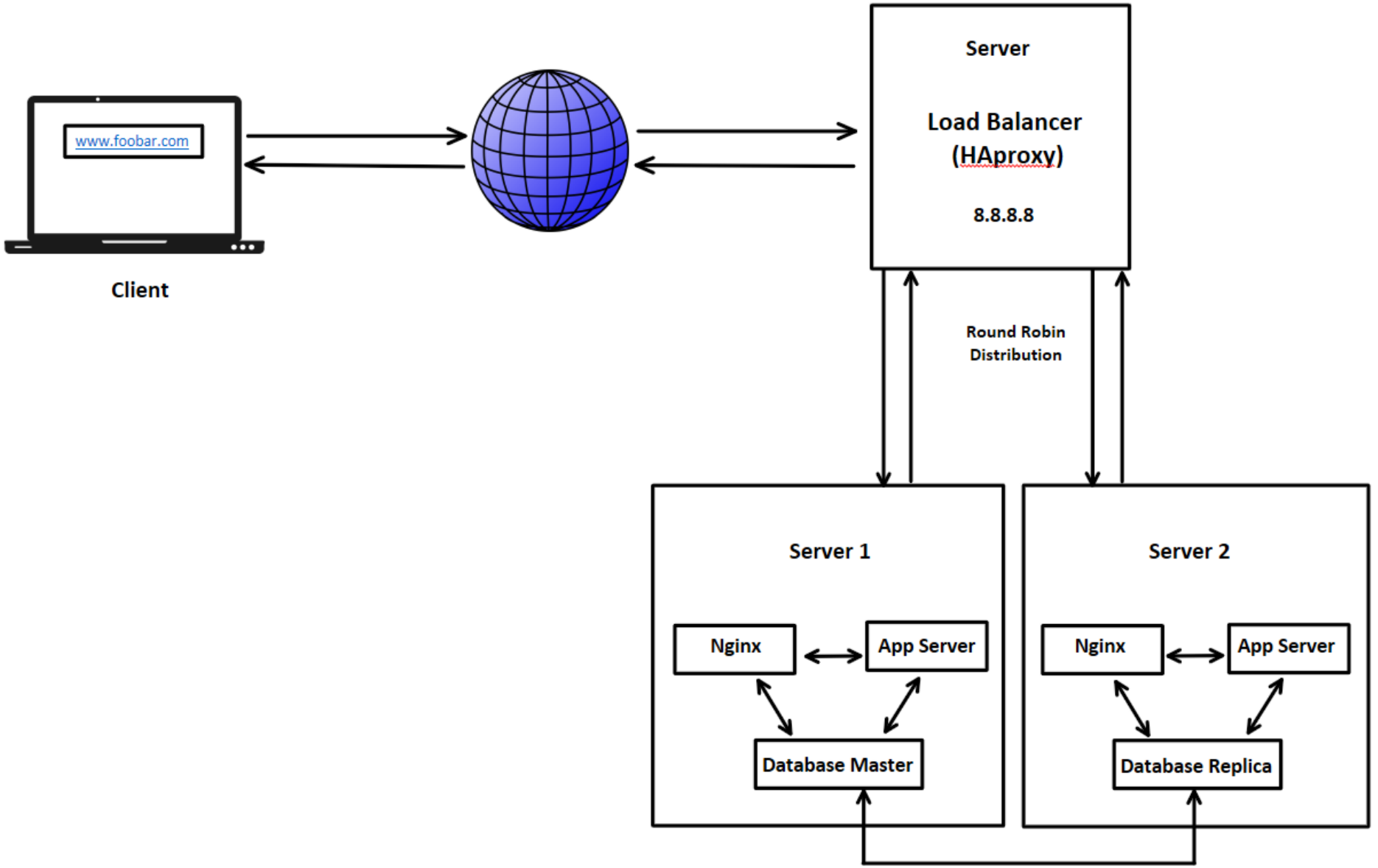
Load Balancers can be SPOFs. If it fails, it affects all incoming traffic distribution. If the primary node fails, a lack of redundancy in the database architecture might result in a SPOF.

Security Issues:

No firewall was mentioned, potentially exposing servers to unauthorized access. Lack of HTTPS could compromise data in transit.

No Monitoring:

The lack of monitoring tools means there is no real-time visibility, making it difficult to identify and handle issues quickly.


www.foobar.com
Client
Server
Load Balancer
(HAproxy)
8.8.8.8
Round Robin
Distribution
Server 1
Nginx
App Server
Database Master
Server 2
Nginx
App Server
Database Replica