

Distributed Web Infrastructure 2 server with load balancer

Domain: www.foobar.com

IP: Points to Load Balancer

Components

Component	Purpose
Load Balancer (HAProxy)	Distributes traffic to backend servers
2 Web & App Servers (Nginx + App)	Serve web requests and run application logic
Database (MySQL)	Stores data persistently

Load Balancer Details

- **Why used?** Prevent overloading a single server and improve availability.
- **Algorithm:** Round Robin – rotates requests evenly across servers.
- **Setup Type:** Active-Active – both servers handle traffic simultaneously.

Difference:

- **Active-Active:** All nodes serve traffic.
- **Active-Passive:** One node serves traffic; others on standby.

Database Setup: Primary-Replica (Master-Slave)

Node	Role
Primary	Handles all write operations
Replica	Handles read-only operations

Used to scale read performance and provide backup for failover.

Issues in the Setup

Issue Type	Description
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SPOF	Load balancer and single DB can cause full outage if they fail
Security	No firewall or HTTPS – vulnerable to attacks
No Monitoring	No visibility into performance or failures

Visuals

