Reverse proxy

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Our roles in the project

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Hmmm, what is it?

A reverse proxy is a server that sits between client devices and one or more backend servers.

The reverse proxy receives requests from clients and forwards them to the appropriate backend server, then returns the server's response to the client.

Tell me more

Several reasons why you might want to use a reverse proxy in a web application architecture:

- Load Balancing
- Caching
- Service Aggregation
- Security

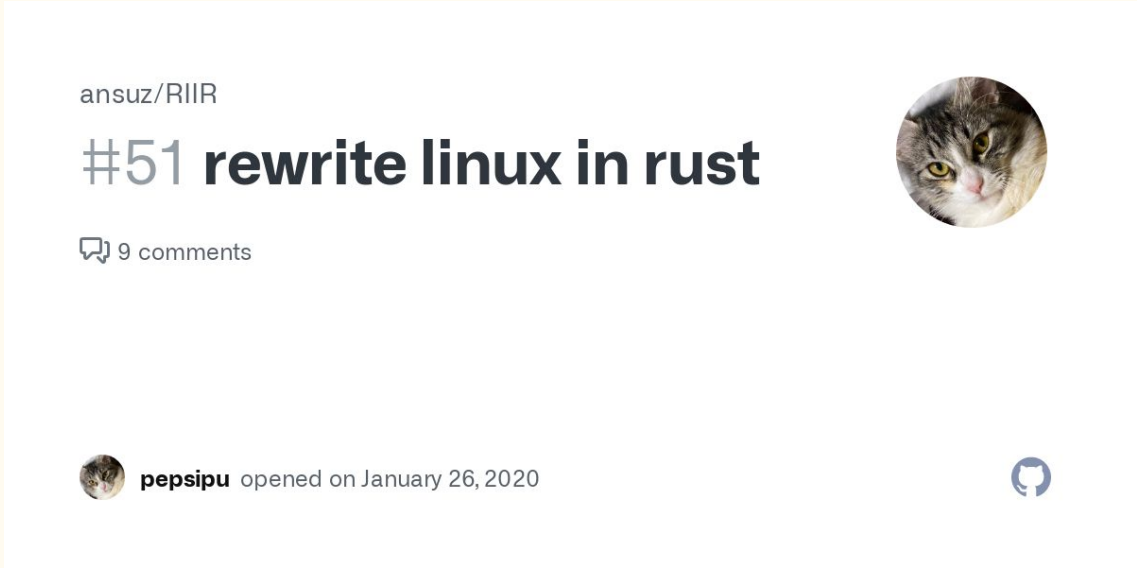
This is how we’re doing it

Some stages and features of our development

- Designing what we will do
- Doing CI/CD
- Doing main functionality of the reverse proxy
- Doing caching
- Doing load balancing
- Doing that presentation :)

This is why we're doing it

- Improving understanding of the reverse proxy concept
- **Golang** blazingly fast implementation
- Fun

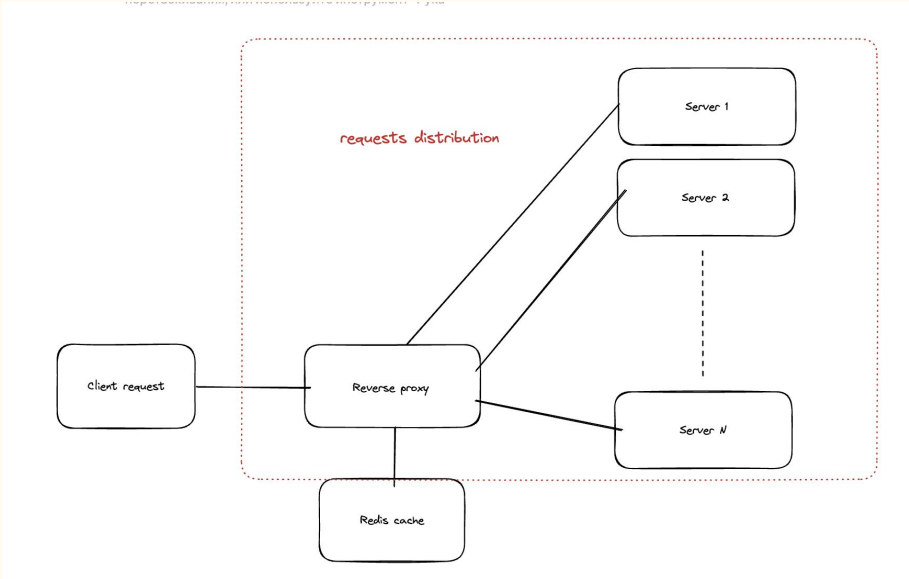


Load balancing

Load balancing is the process of distributing incoming client requests among multiple backend servers. The goal is to optimize performance and availability by avoiding overloading any one server and providing redundancy in case of server failures.

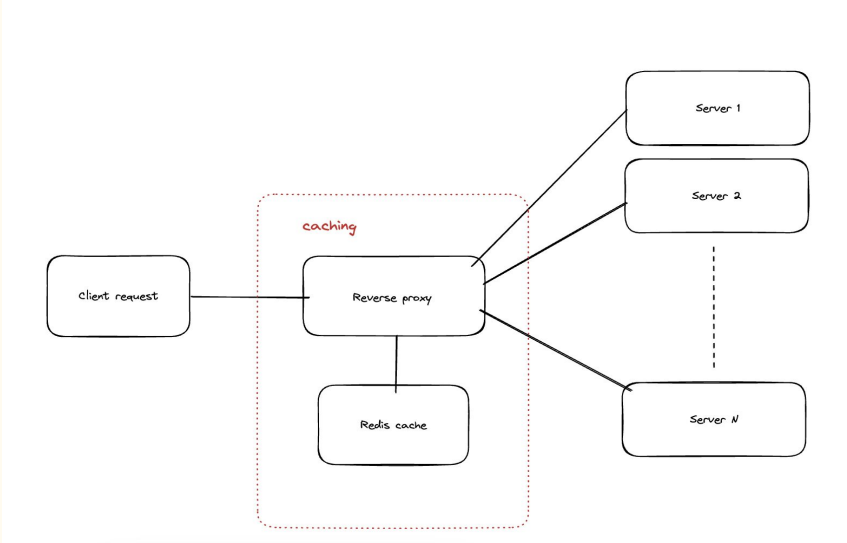
LB algorithms:

- Round-Robin
- Least connection
- Resource based



Caching

Caching is a technique used in computing to store frequently accessed data or content in a faster and more easily accessible location, such as memory or disk, to improve performance and reduce the need to retrieve the data from the original source every time it is requested.



Metrics

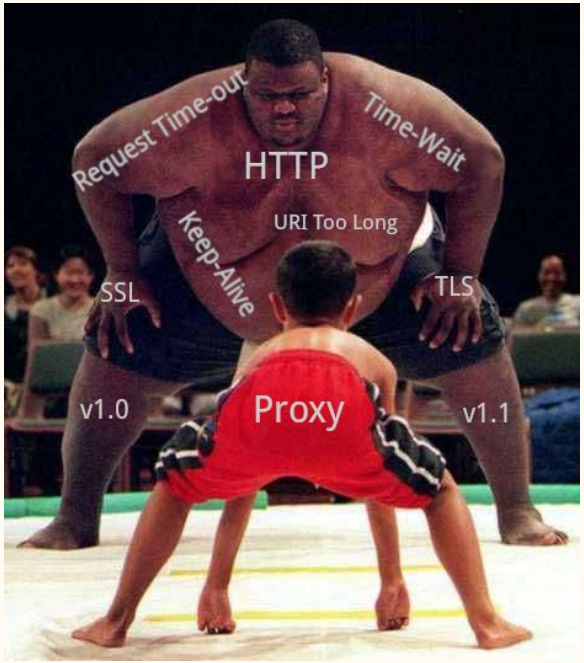
Metrics are also an important aspect of using a reverse proxy. By monitoring and analyzing metrics, you can gain insights into the performance, availability, and security of your web application.

A reverse proxy can generate metrics related to the traffic it handles, such as the number of requests, response times, and errors. These metrics can be used to identify performance issues and optimize the configuration of the reverse proxy.

Perspectives

- **Docker**ized app – easy to use, lightweight image
- Custom requirements
- Highly optimized – low memory and CPU usage
- Security of your content
- Easily expandable

Not always... :)



What is in the industry?

Most popular:

- Nginx
- Traefik
- Envoy (Istio service mesh)

Thanks for your attention!