

Bootstrap your App using Microservices



whoami

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Why Microservices?

- Instant deployment (Who loves to be awake until 9 AM?)
- Tech Stack decoupling
- Easy service replacement
- Easy Scaling

The downside

- Relying on Network I/O
- Configuration
- Transactions
- Tracing
- Gateway cannot fail

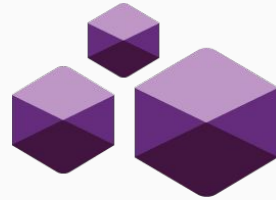
Well Known Micro Services Frameworks



spring
boot



VERT.x



lagom



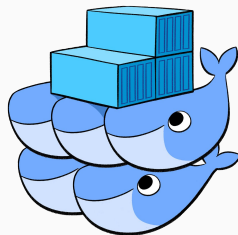
play

Well-Known PaaS

Run your own



kubernetes



CLOUDFOUNDRY

Known Service Providers



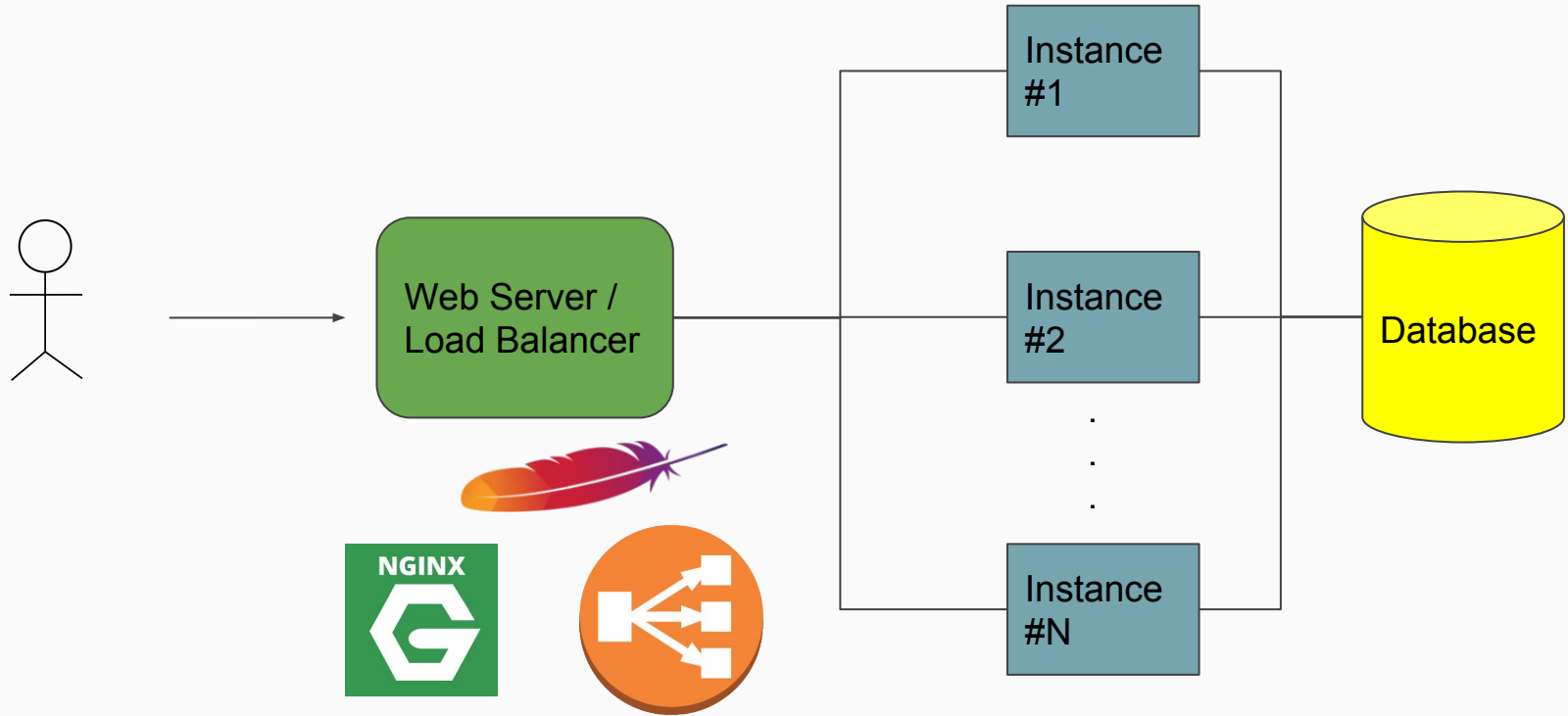
heroku



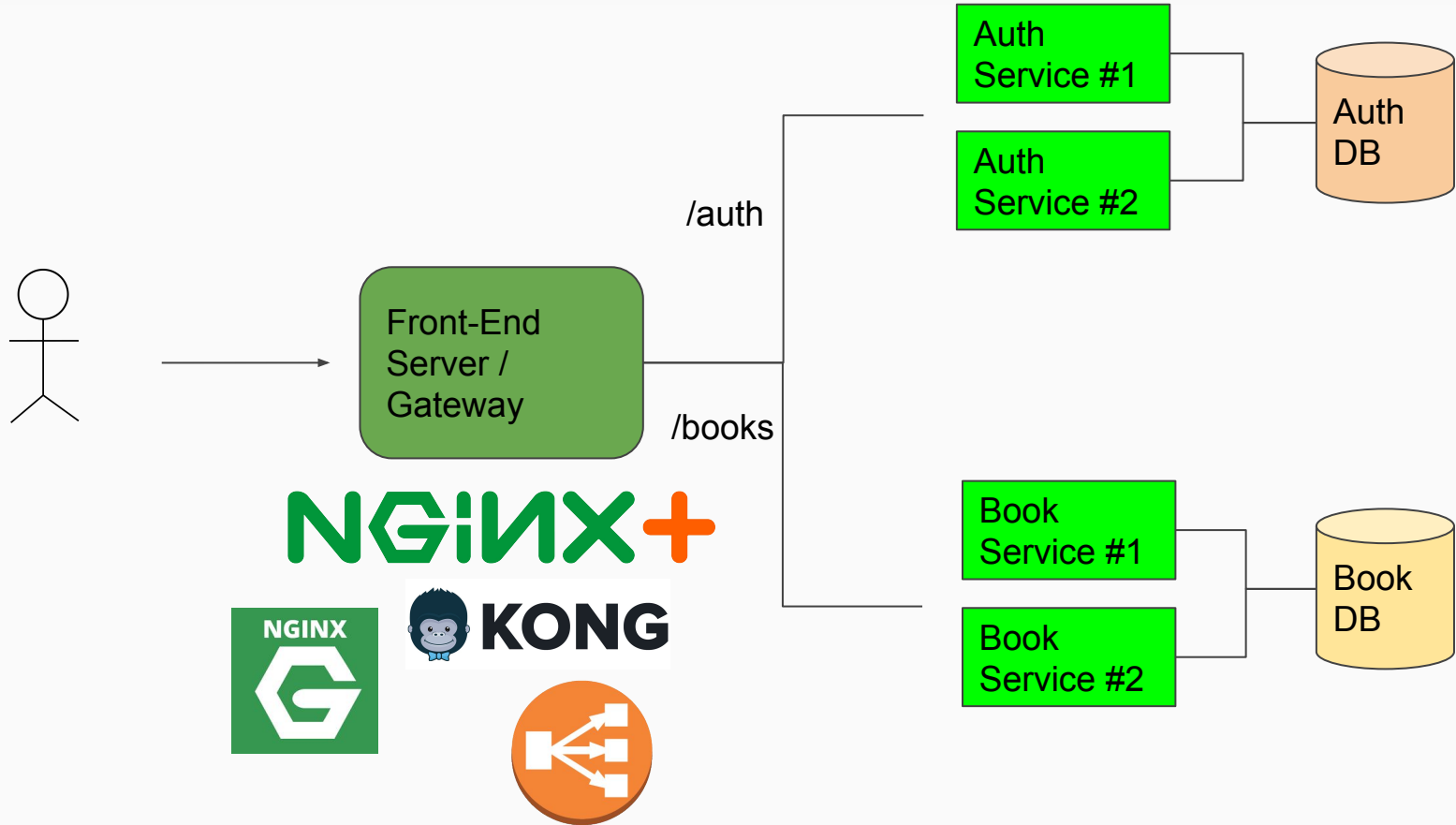
OPENSIFT

Architecture Principles

Monolithic (Old School)



Micro Services (A simple example)



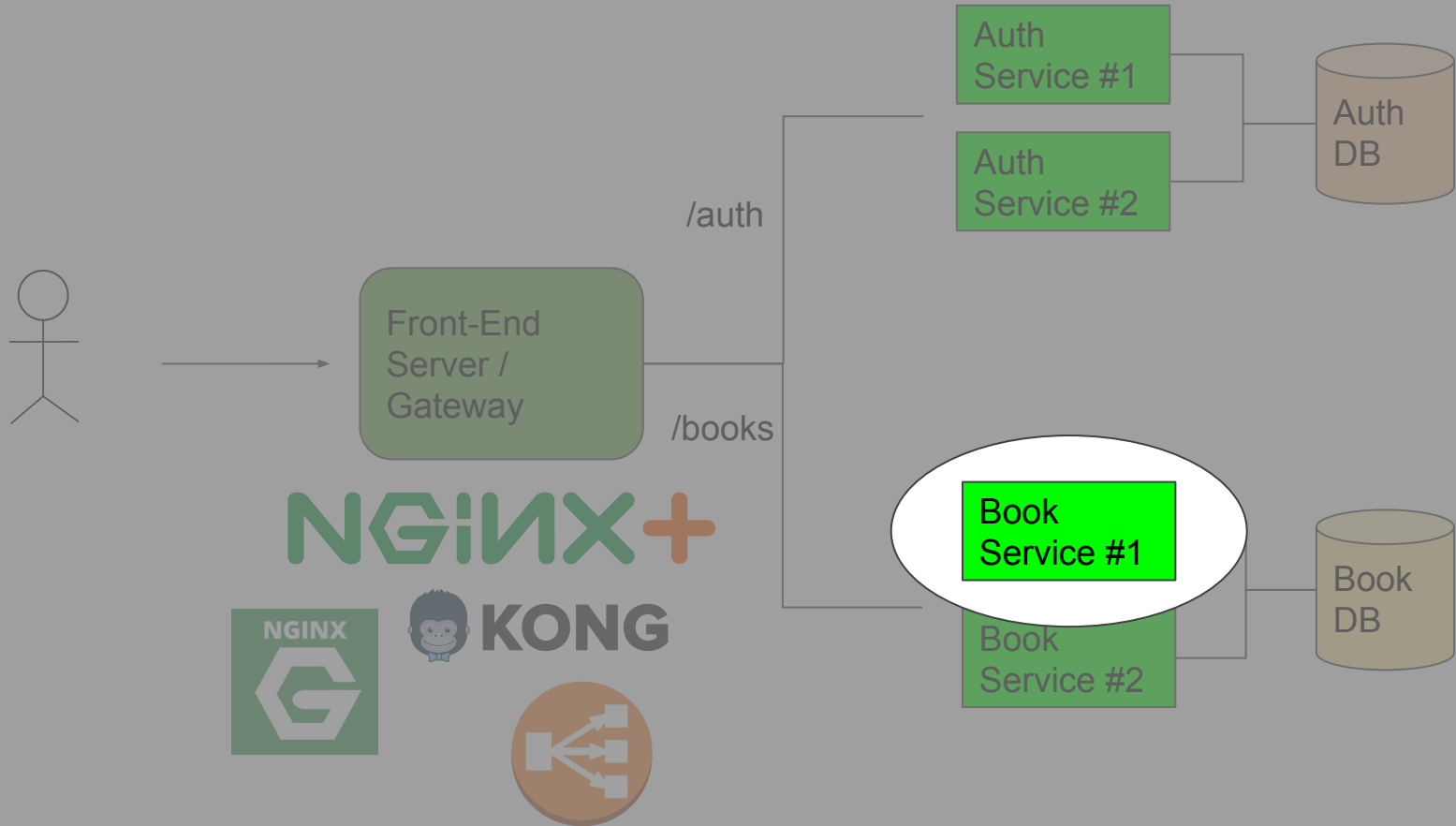
“SOA is dead! Long Live SOA...”

ENOUGH TALK

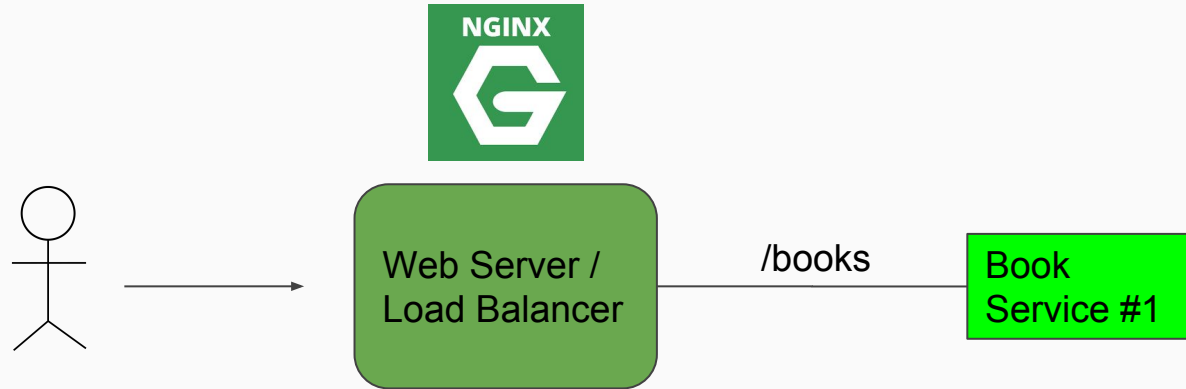
**SHOW US HOW IT
WORKS**

memegenerator.net

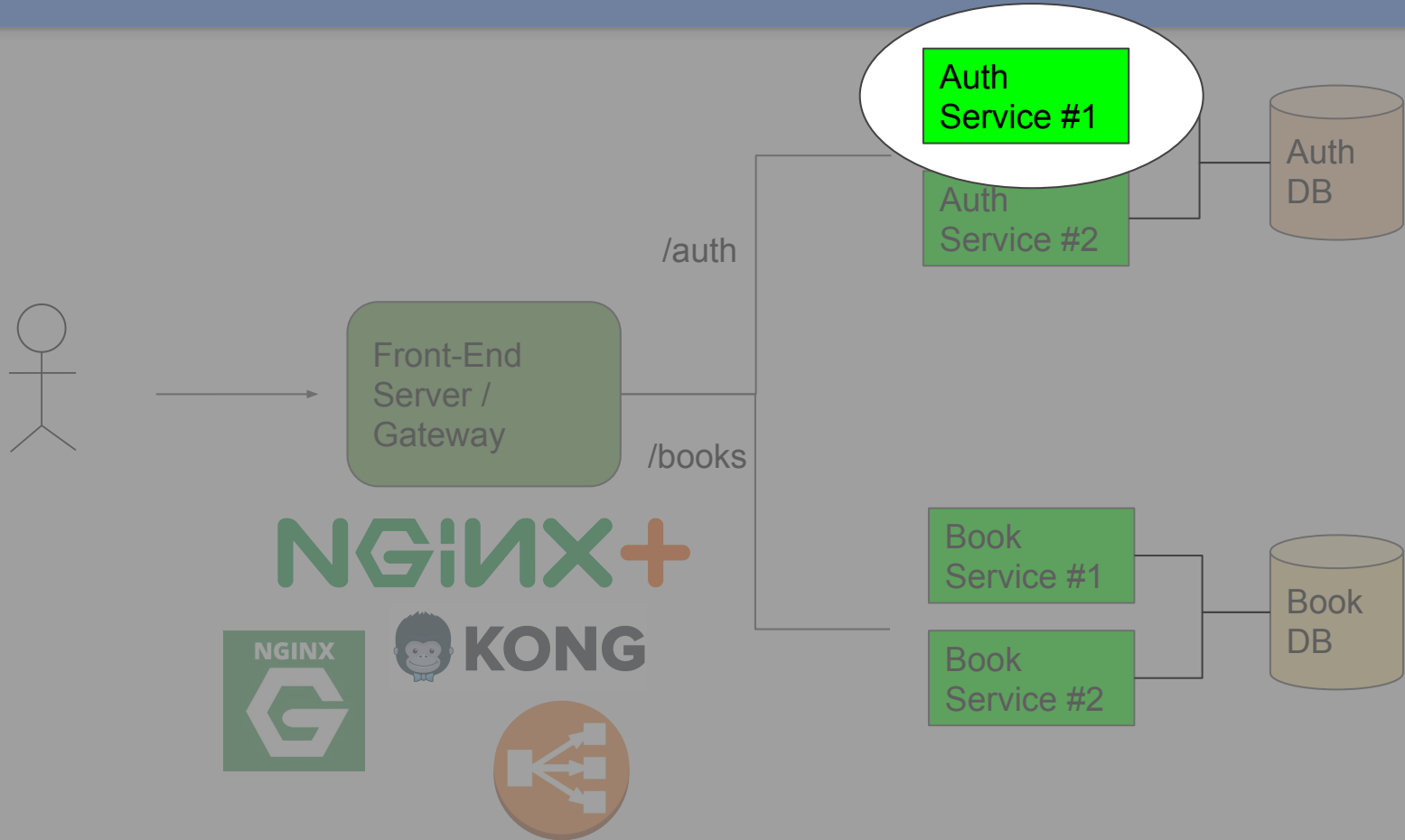
Micro Services (A simple example)



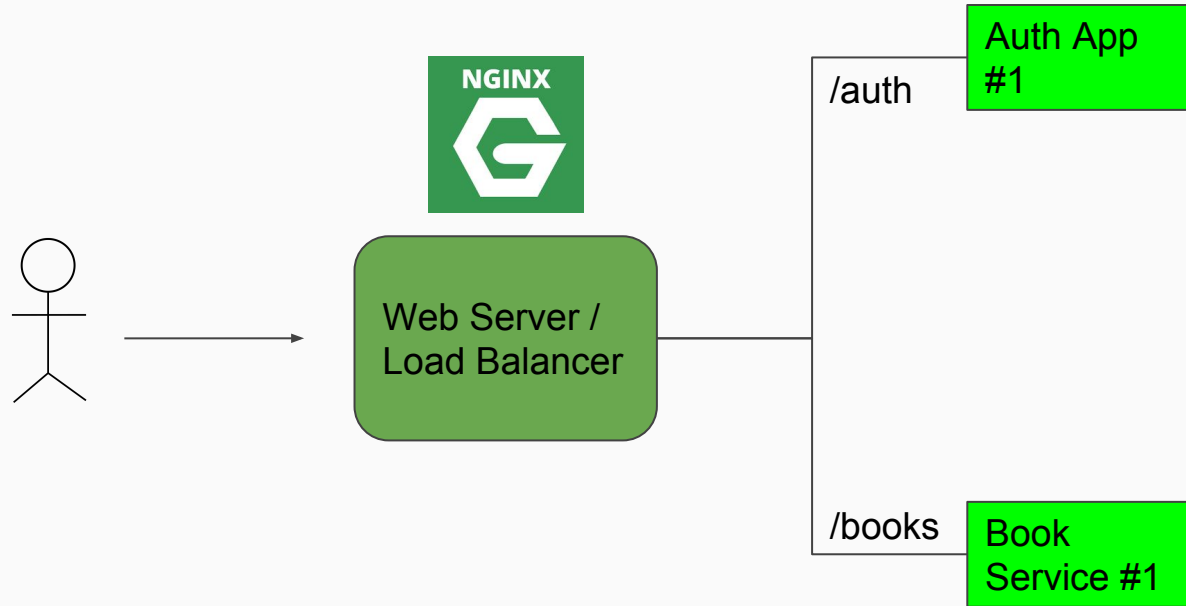
Current Architecture



Micro Services (A simple example)

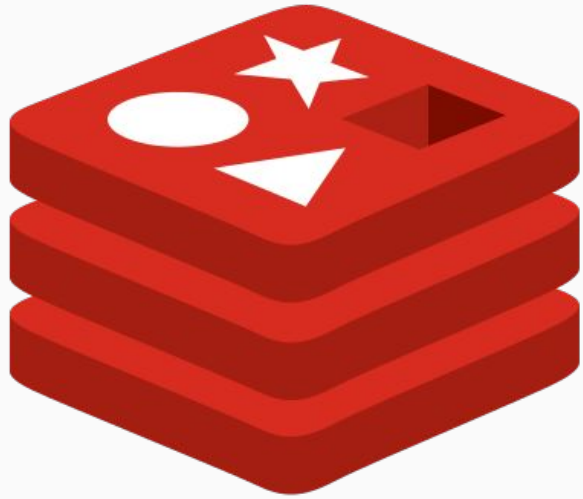


Current Architecture



How to share
user info between
services?

The Solution!

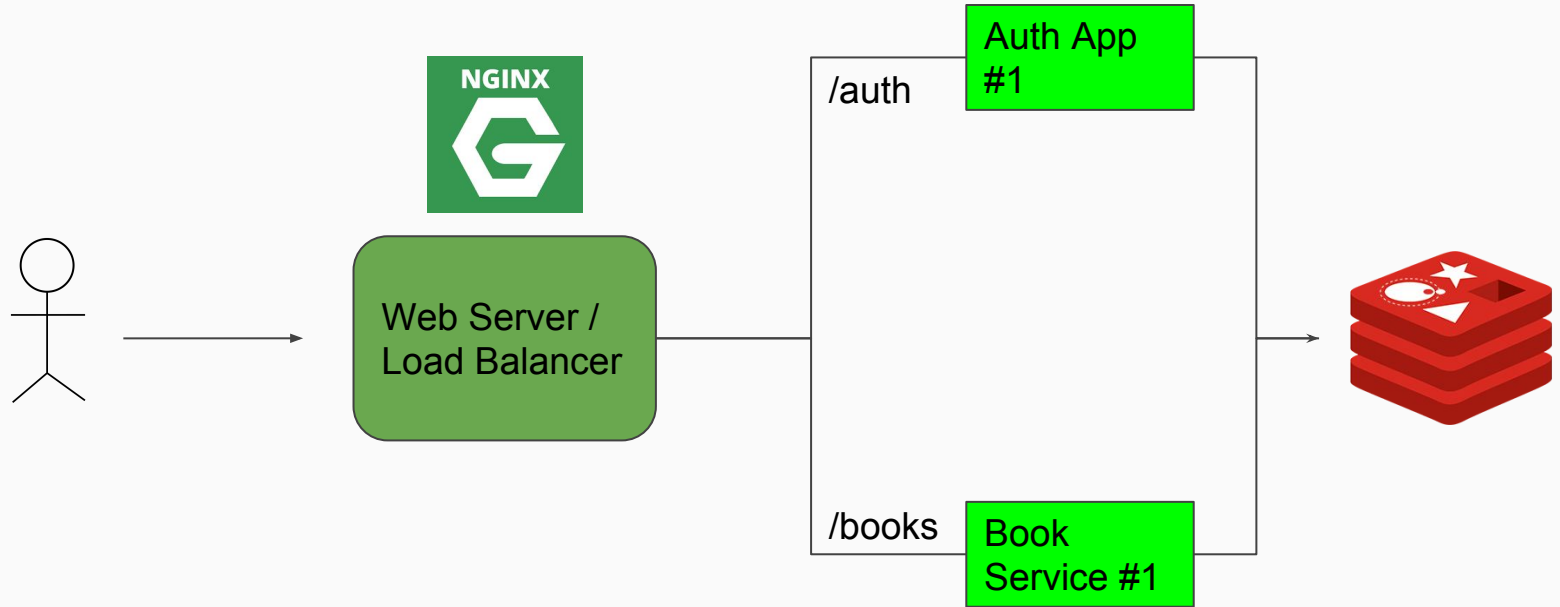


redis

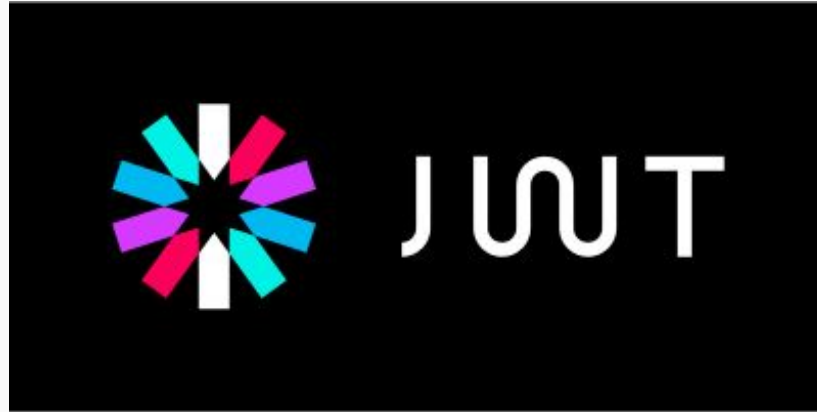
Why Redis?

- Fast and Robust
- Key-Value Store
- Supports TTL
- Pub/Sub (Can act as AMQP)
- Failsafe Mechanism (Resiliency)
- Very active community
- BSD License

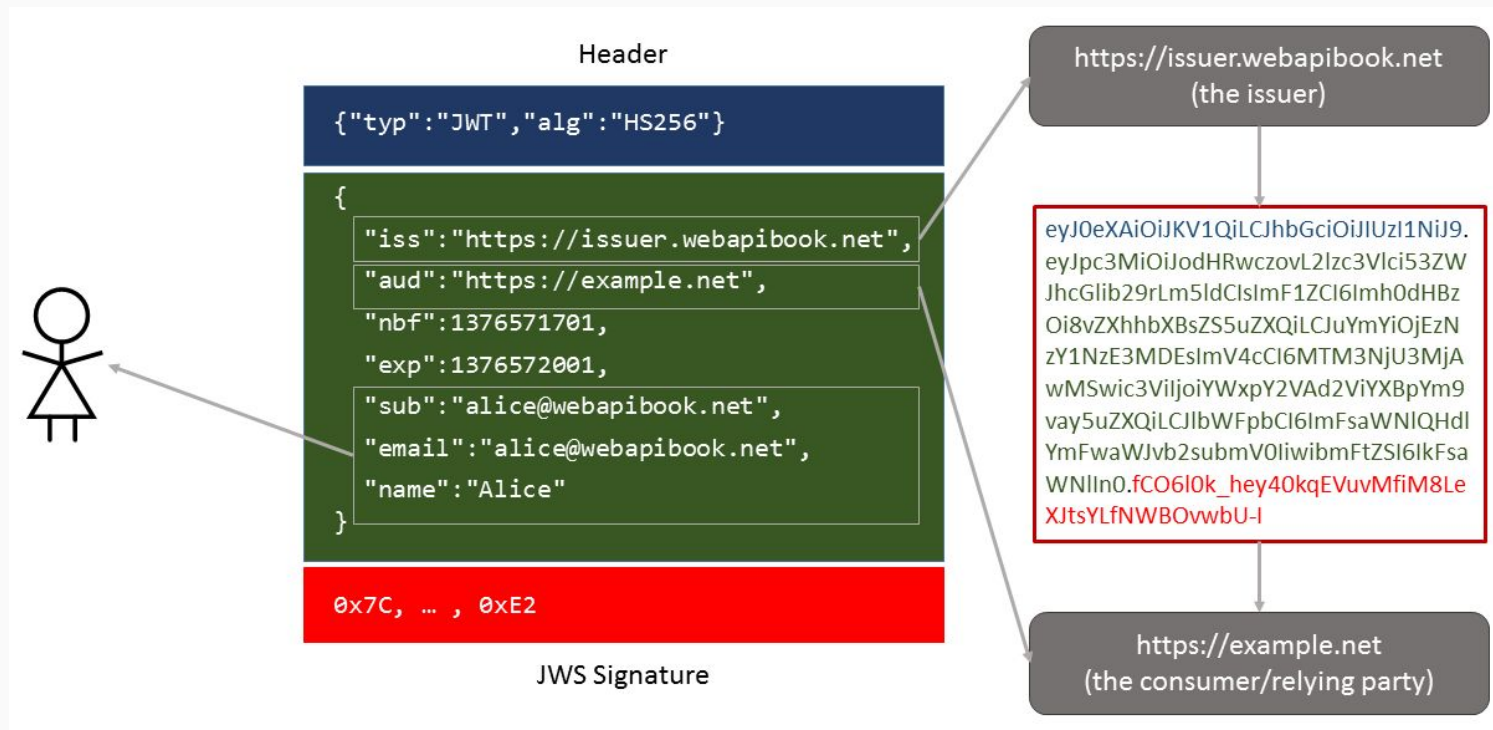
Architecture



But wait...! Isn't that going to overload Redis with requests?

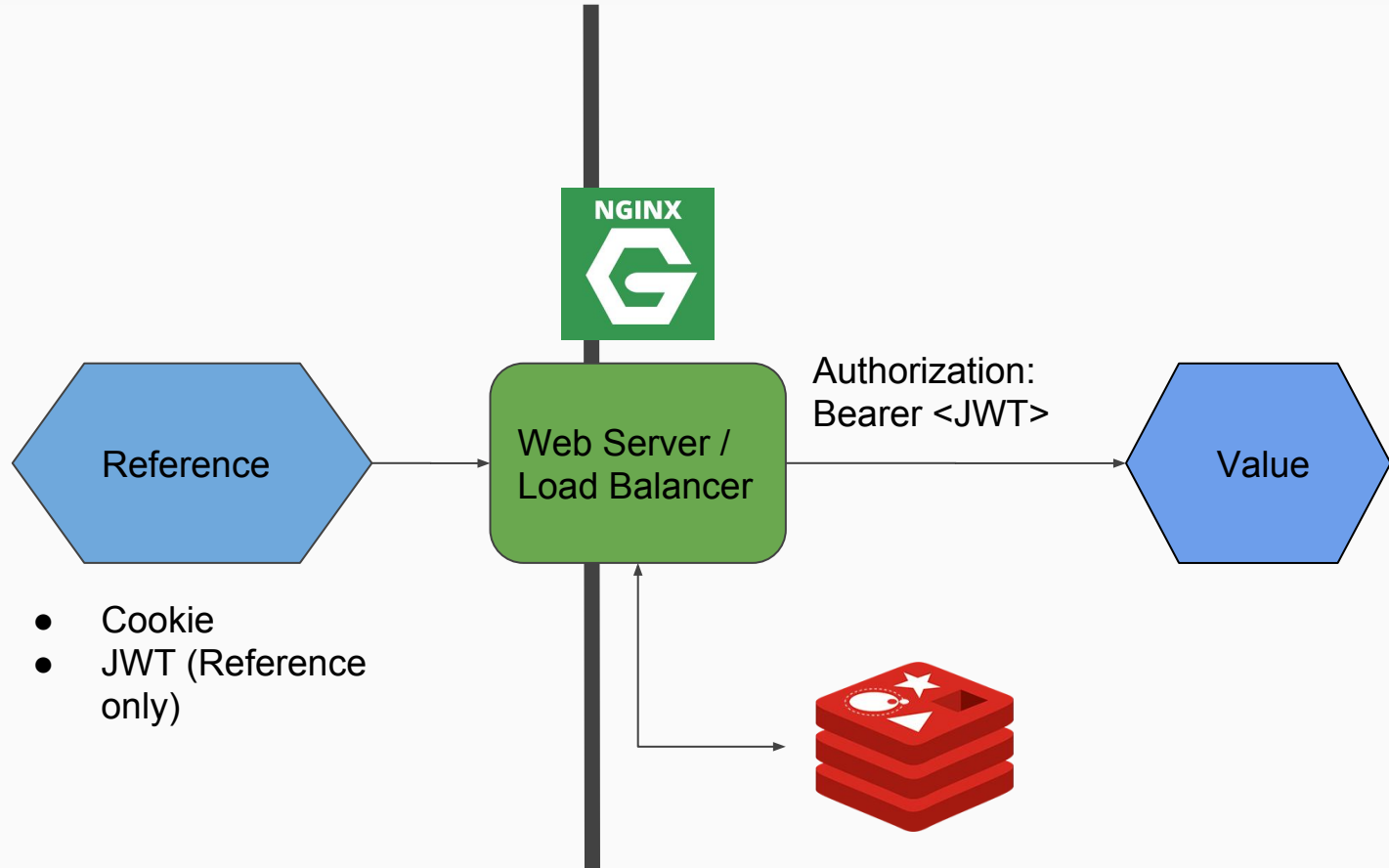


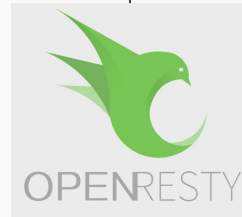
JSON Web Token Example



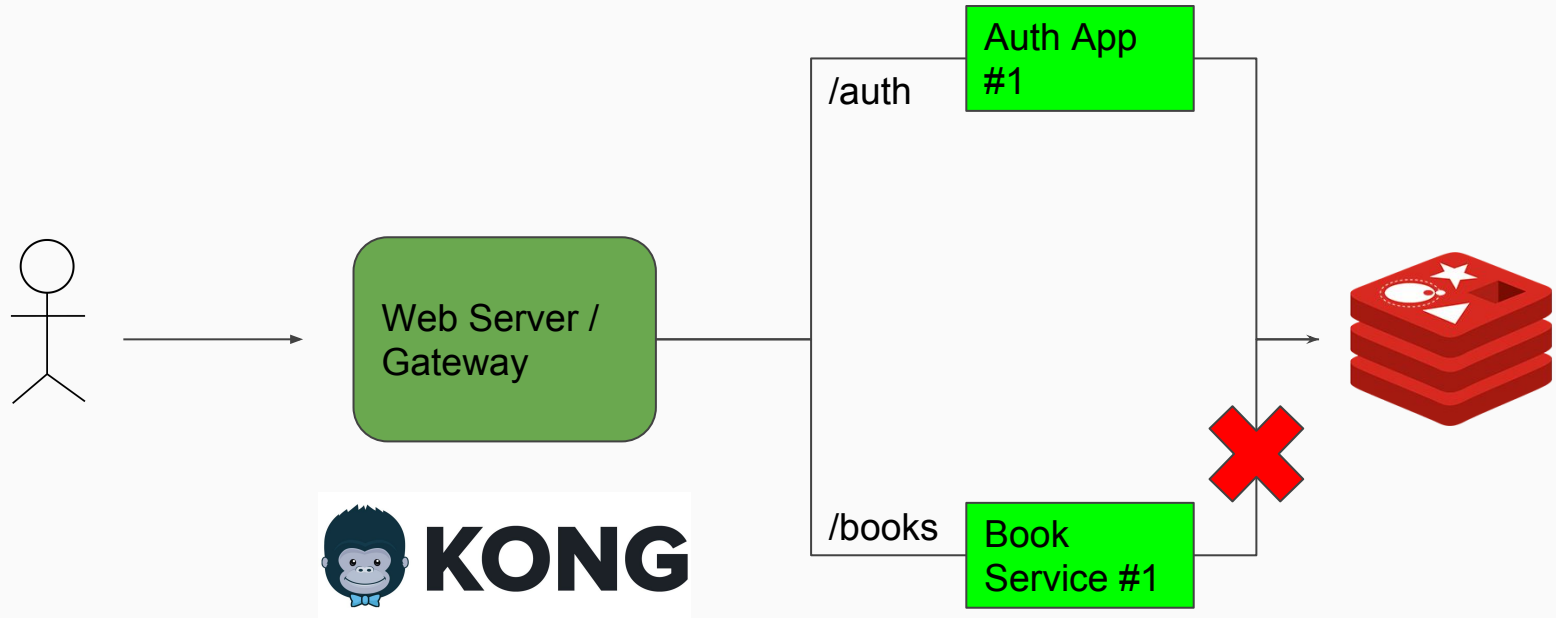
Credits to @pmhsfelix
for the image

JSON Web Token (Best Practices) - HTTP Request

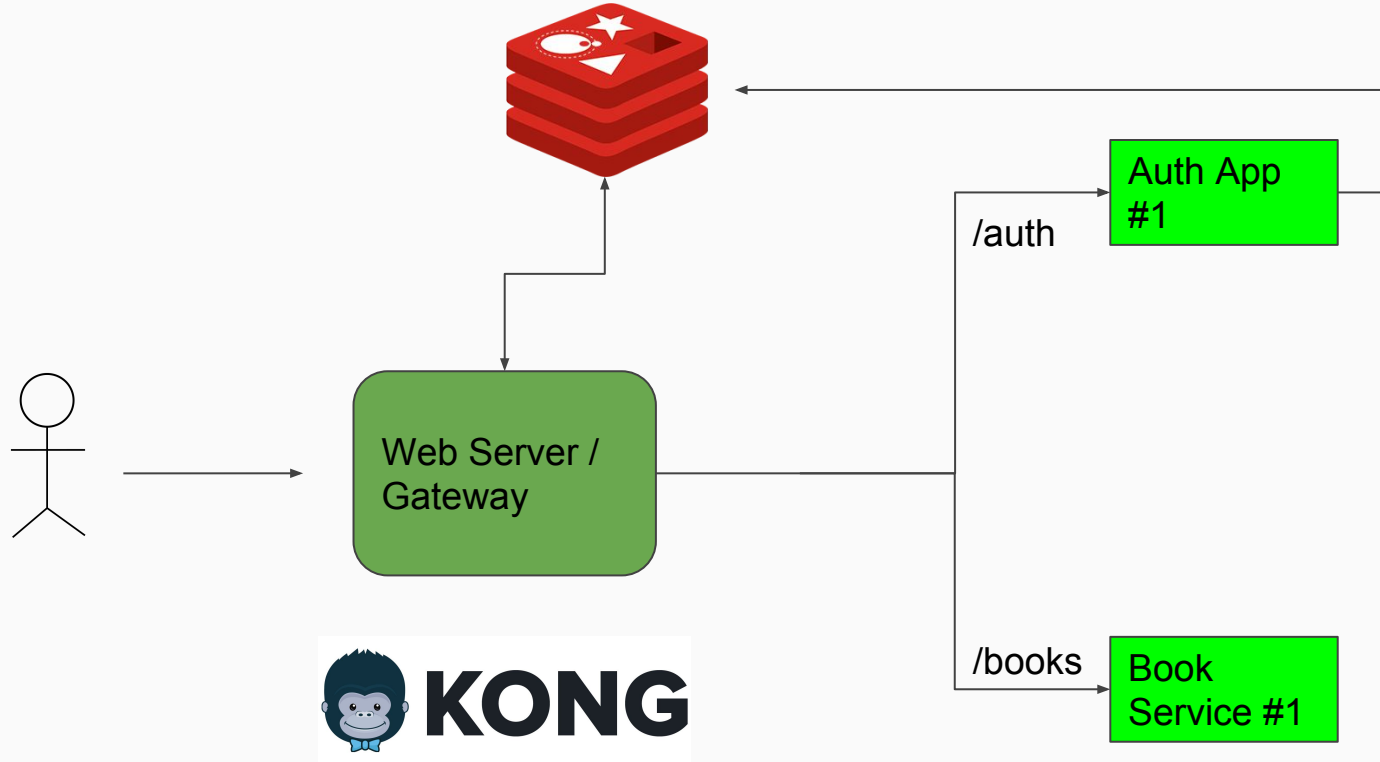




Architecture



Architecture



How to Scale and Load Balance Services?

The Solution



The Solution



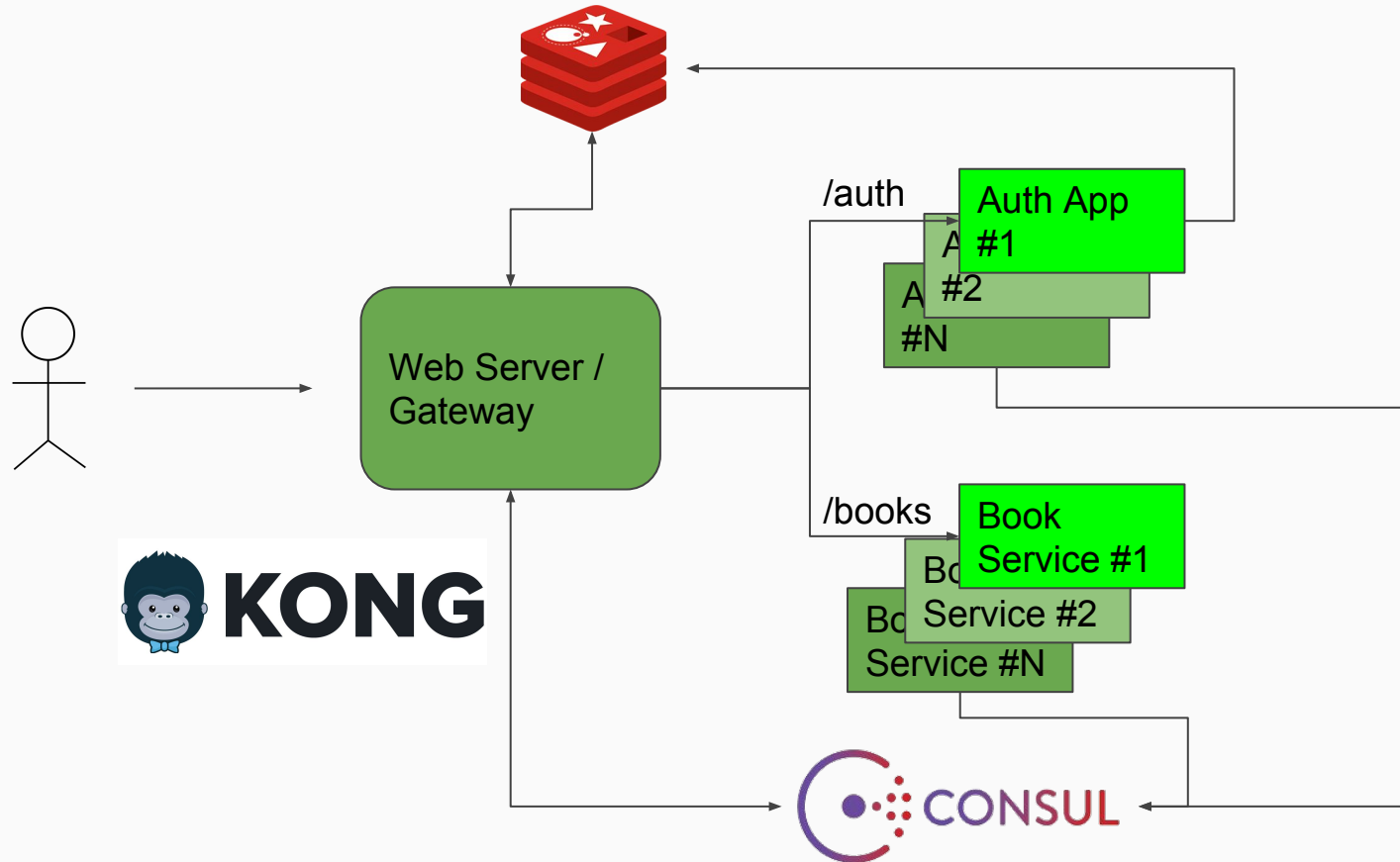
NETFLIX | OSS



Why Consul?

- Web UI out-of-the-box (Yes, i'm lazy!)
- Integrated DNS/HTTP Service for Discovery
- Data-center Concept
- Health Checks
- Configurable TTL

Final Architecture



Tips

- Avoid using Ubuntu Image. Use Alpine image
- “Do one thing and do it well” philosophy
- Don’t install OpenSSH on Containers
- If you’re sharing databases, make sure you use different schemas
- Use Kubernetes or Amazon ECS for Production
- Use Swagger for Service Definition

Questions?

Get the Source Code here



<https://github.com/driverpt/pixelscamp-bootstrap-microservices>

YOU GET A THANK YOU!

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**AND YOU GET A THANK
YOU!**

**AND YOU GET A THANK
YOU!**

EVERYONE GETS A THANK YOU!