Serverless in Kubernetes

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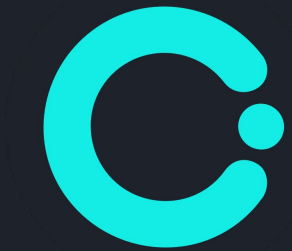
Hey everyone!

- Co-founder of Okteto.
- Former architect @ Atlassian, Software Engineer @ Azure.
- @rberrelleza in most places.

Okteto

- Created by @pchico83, @rberelleza and @rlamana
- Development platform for Cloud Native Applications
- Deploy ephemeral development environments directly in Kubernetes.
- Develop in the cluster, while keeping as much of the local experience as you want.



Why Serverless?

Why Serverless?

- On-demand computing
- Focus on functionality, not infrastructure
- Don't hog resources, scale on demand
- Run anywhere

Why Kubernetes?

Why Kubernetes?

- The API of the Cloud
- Resource orchestration and scaling "for free"
- Built with modern deployment patterns in mind

Serverless + Kubernetes!

OpenFaaS

- Created by Alex Ellis, maintained by OpenFaaS Ltd.
- Write functions in any language.
- Runs on Kubernetes, Docker Swarm and Containerd
- Ease of use through UI portal, CLI and one-click install.
- https://openfaas.com

Kubeless

- Created by Bitnami
- CLI-compatible with AWS Lambda
- Runs on any Kubernetes instance using CRDs
- Integrates with serverless framework
- https://kubeless.io

Knative

- Created by Google
- Focused on running workloads + routing
- Runs on Kubernetes instance.
- Integrates with serverless framework
- https://knative.dev

OpenFaas

OpenFaaS

Serverless Functions Made Simple

London, UK https://www.openfaas.com support@openfaas.com

Sponsor

Repositories 24 Packages People 8 Projects

Pinned repositories

faas
OpenFaaS - Serverless Functions Made Simple
Go 17.9k 1.5k

faasd
faasd - lightweight OSS serverless
Go 401 28

openfaas-cloud
Managed OpenFaaS for teams
Go 628 213

faas-netes
Serverless Kubernetes with OpenFaaS (Functions as a Service)
Go 1.6k 306

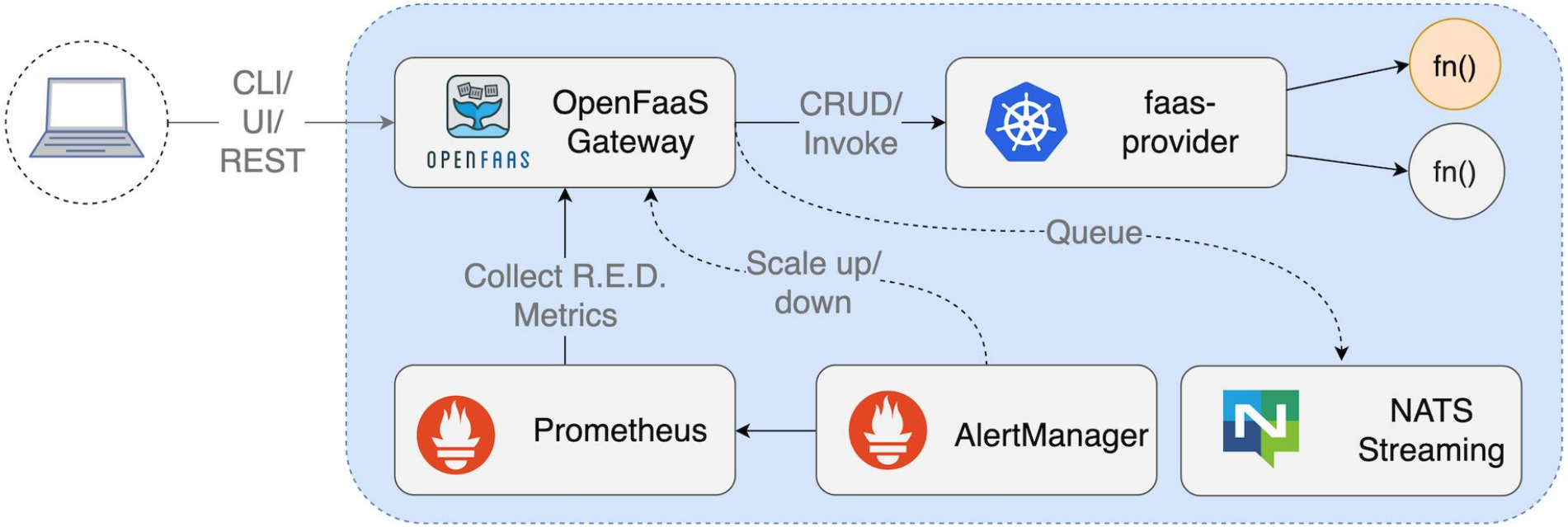
faas-cli
Official CLI for OpenFaaS
Go 546 175

workshop
Learn Serverless for Kubernetes with OpenFaaS
Python 706 232

Find a repository... Type: All Language: All

faas

Top languages


CLI/
UI/
REST
OPENFAAS
OpenFaaS
Gateway
CRUD/
Invoke
faas-
provider
fn()
fn()
Queue
Collect R.E.D.
Metrics
Scale up/
down
Prometheus
AlertManager
NATS
Streaming

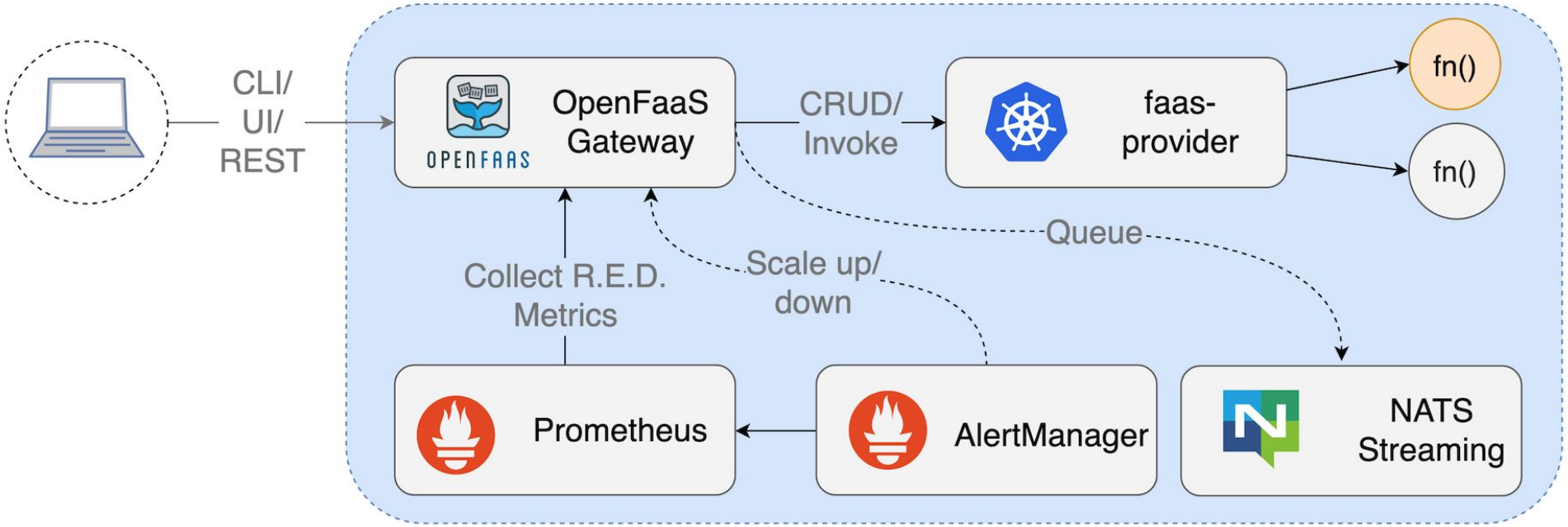
Demo time!

Demo Script

1. Helm Install OpenFaaS
2. Browse to gateway
3. Deploy function from store
4. Download faas-cli
5. Login to gateway
6. Show templates
7. Create go function
8. Build and deploy function

1. Show prometheus metrics
2. Show autoscaling (call it, see how it scales)
3. Show scale to zero
4. Show okteto for development

How does it work?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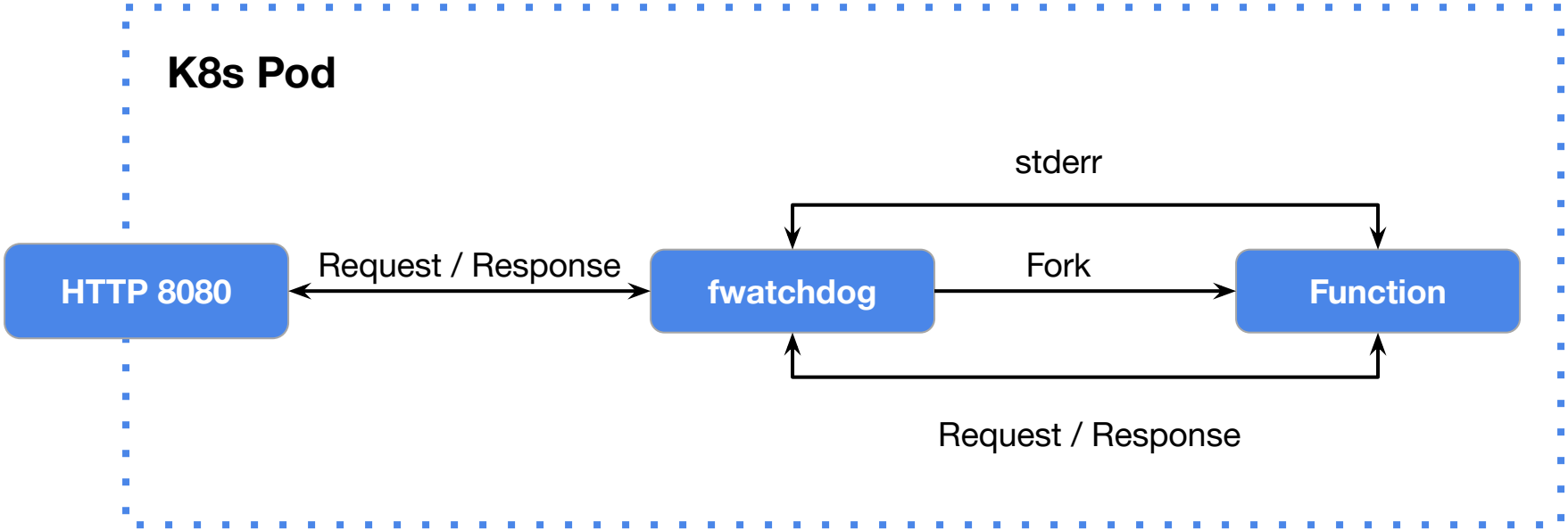
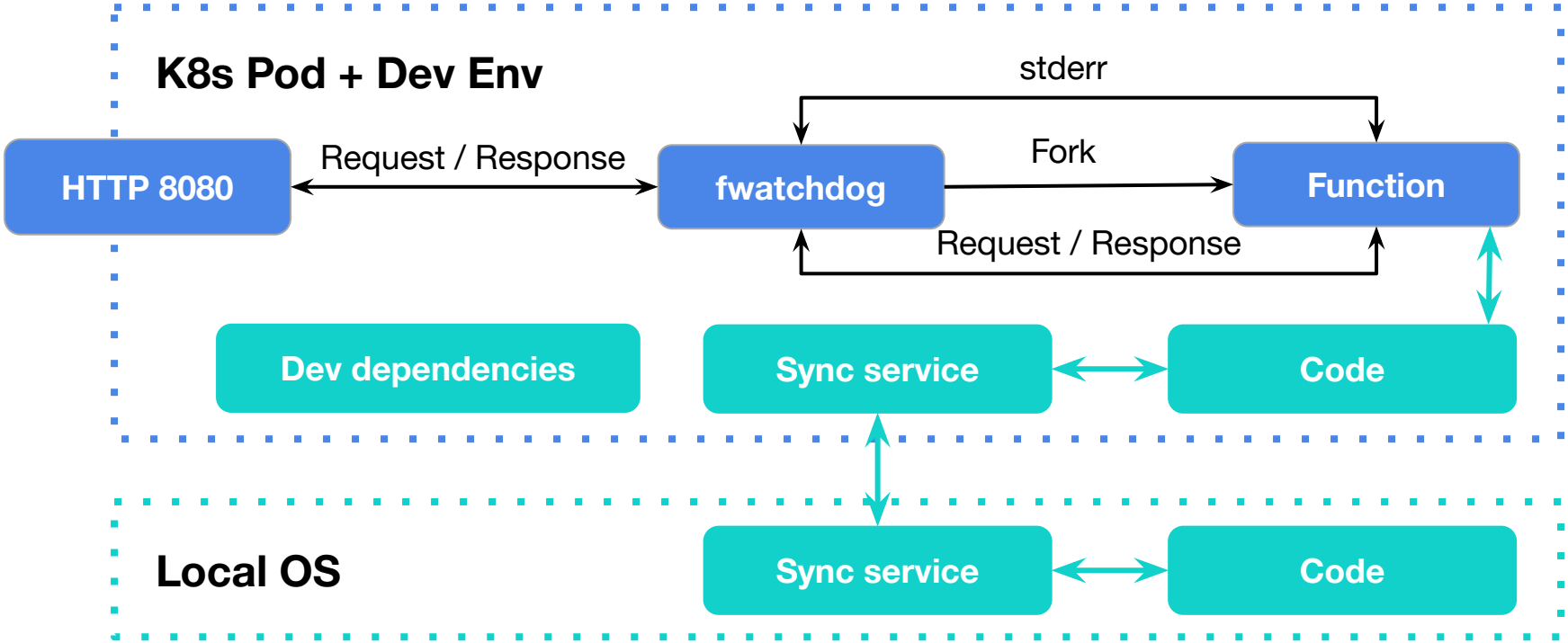

K8s Pod
stderr
HTTP 8080
Request / Response
fwatchdog
Fork
Function
Request / Response

okteto + OPENFAAS



Links!

- https://github.com/openfaas/faas
- https://github.com/okteto/okteto
- https://github.com/rberrelleza/painless-serverless-development-with-kubernetes
- https://twitter.com/rberrelleza

Q&A

Thank you!

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