

OpenFaaS Cloud: Multi-user Serverless driven by GitOps

Open Source Summit EU

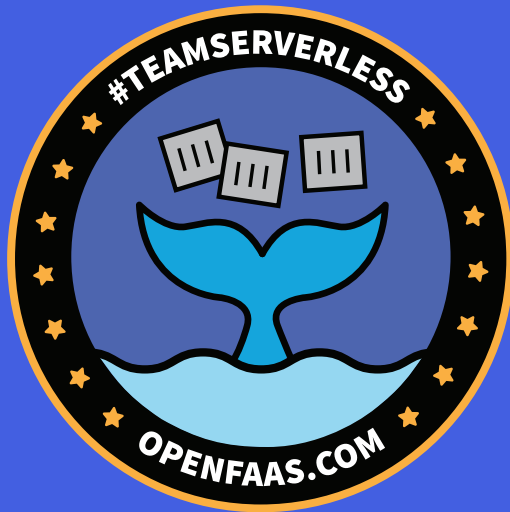
Alex Ellis - Founder - @alexellisuk
Senior Staff Engineer, VMware



OPENFAAS

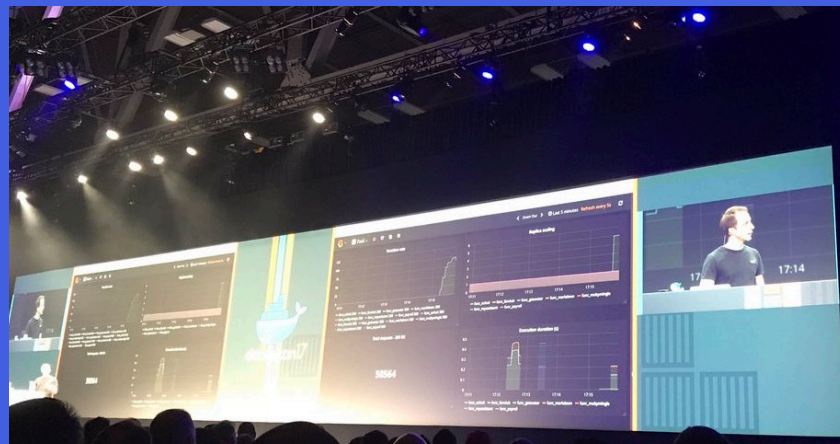
The session

- OpenFaaS
 - Story so far 📖
 - Case-studies
- OpenFaaS Cloud ☁️
 - GitOps
 - Live Demo with Audience! 💰💵
- Get involved 👍



OpenFaaS - Functions as a Service

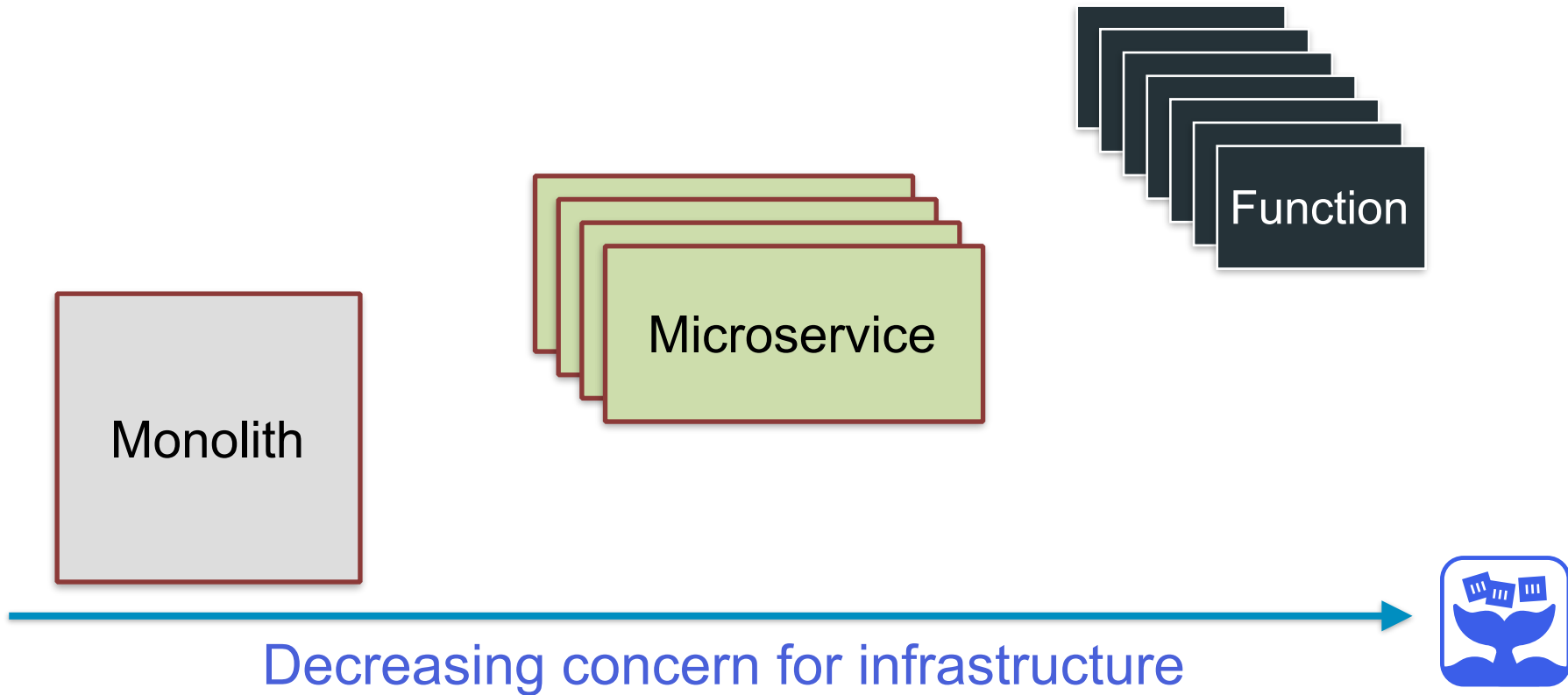
- Started in Nov 2016
- Containers, Alexa, Swarm 🐳
- Full time team @ VMware
- CNCF landscape
- Production users 🖥️
- Bossie award 🏆



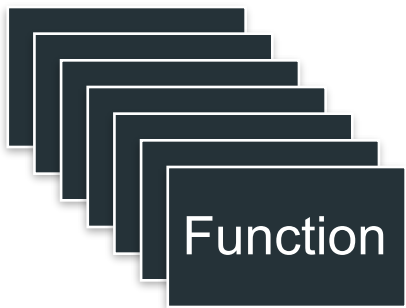
Serverless is an architectural pattern



Application Evolution



What are Functions?



Short-lived
Single-purpose
No state
Auto-scaling



OpenFaaS: Serverless on your terms

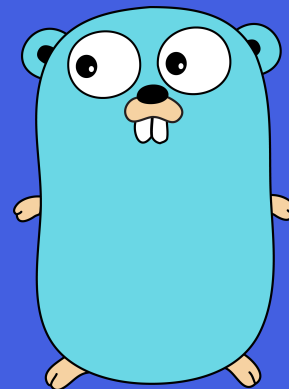
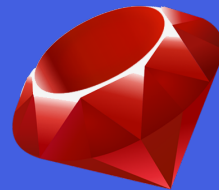
Easy to use

Any code
Anywhere
Any scale

You decide the limits



Demo: Function Store



Write a function

```
$ faas new --lang python http-status
```

```
def handler(req):  
    r = requests.get(req)  
    return str(r.status_code)
```

handler.py

requests

requirements.txt



*Python
Template*



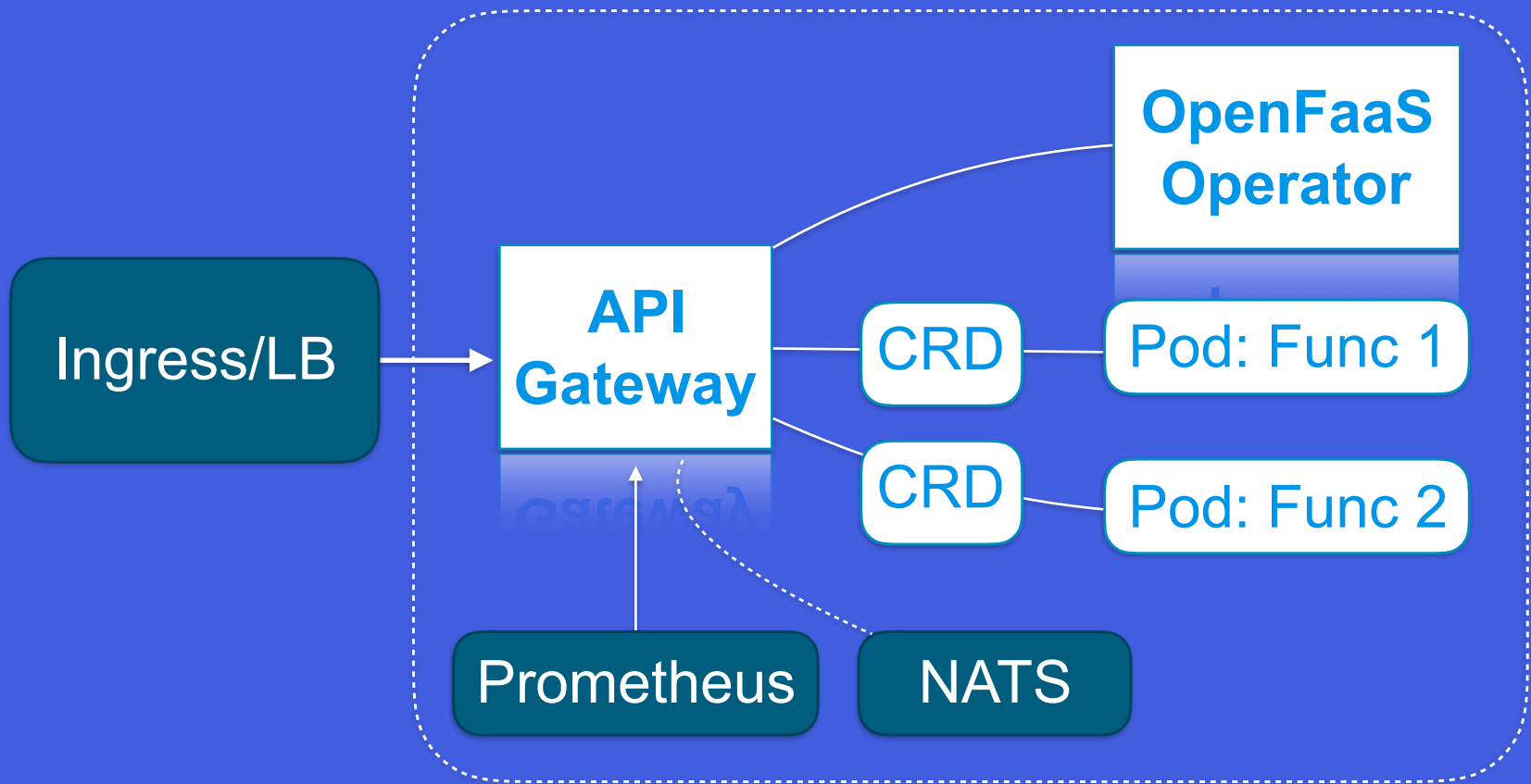
Docker
Image



HARBOR



Architecture: Kubernetes-native



Growth of OpenFaaS

DRIVEN BY CORE VALUES



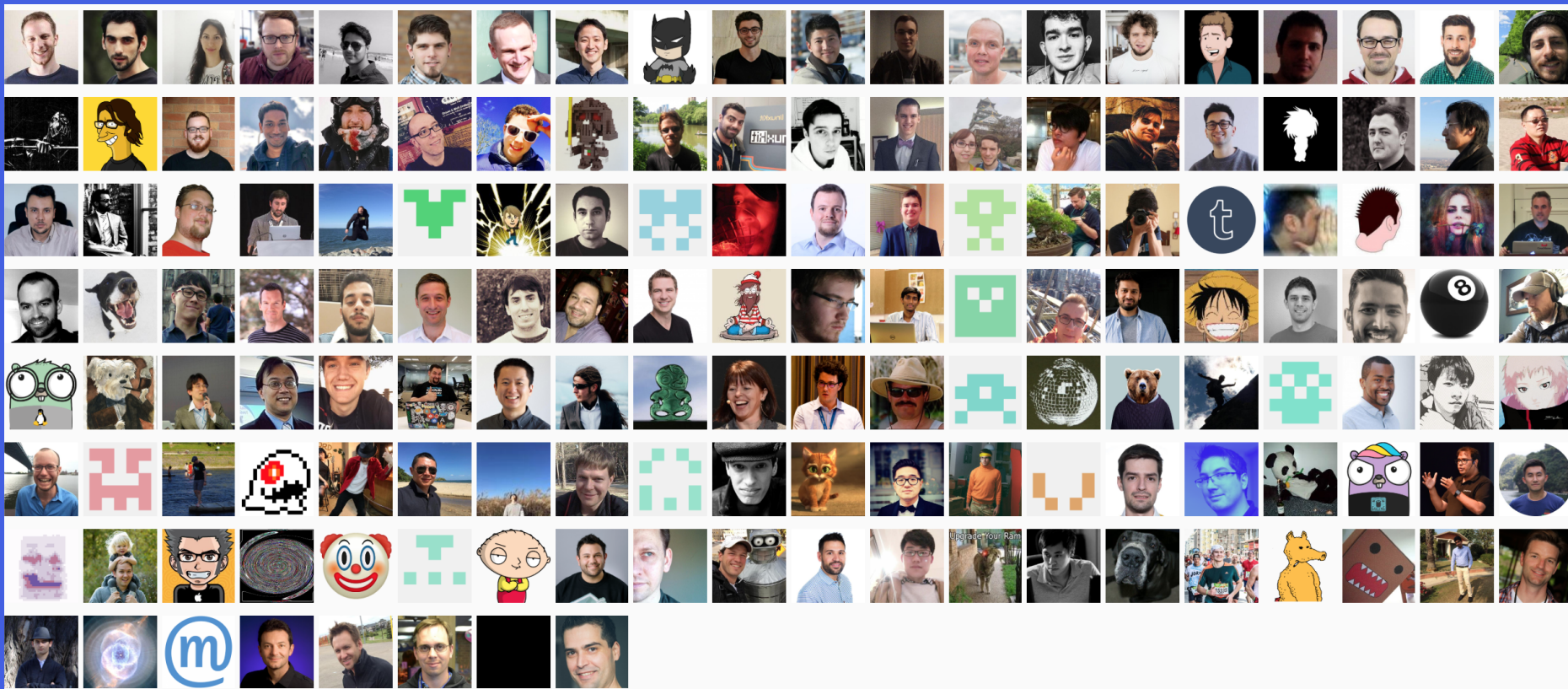
**Developer-
First**

**Operator-
Friendly**

**Community-
Centric**



Our community and contributors (aka #TeamServerless)



End-users & case-studies



Dim Solution.



Case-study 1: Bullet-proof



Bulletproof are using OpenFaaS to build an **on demand and scalable Vulnerability Scanning** (VA) engine.

Using OpenFaaS allows us to use **compute resource efficiently** yet maintain the ability to grow to meet **customer scanning demands**.

We also like the ability to use **pure docker containers** to **compose multiple scanning tools** with different technologies into a **single, coherent interface**. This has **reduced the time** need to add new tools to the platform.



Penetration Testing



Vulnerability
Assessments



Managed SIEM



Case-study 2: Vision Banco, Paraguay



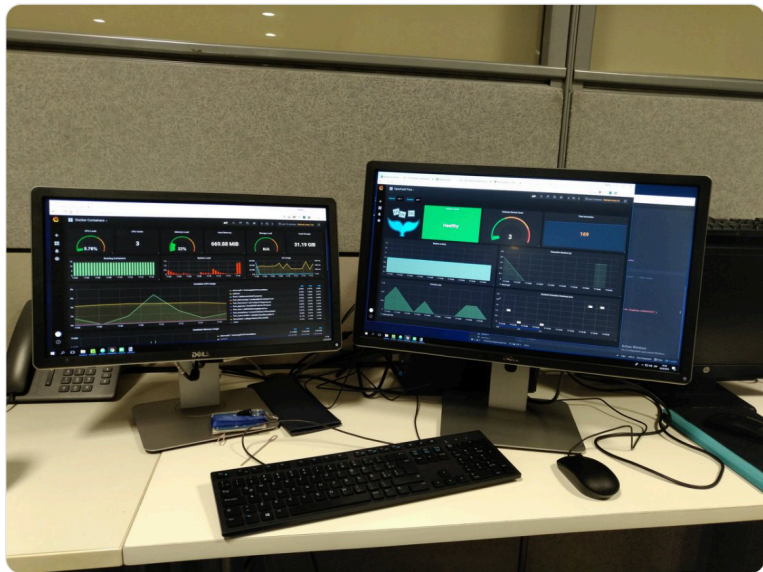
Pato Díaz

@padiazg

Following



Just switched to production one of our functions, the first one. Monitoring how it performs. [@alexellisuk](#) [#FaaSFriday](#)
twitter.com/padiazg/status...



9:25 PM - 22 Jun 2018



- Digital Transformation
- OpenFaaS in production with HomeServe
- KubeCon talk @ Seattle
- Completely on-prem with GitLab

Case-study 3: IconScout



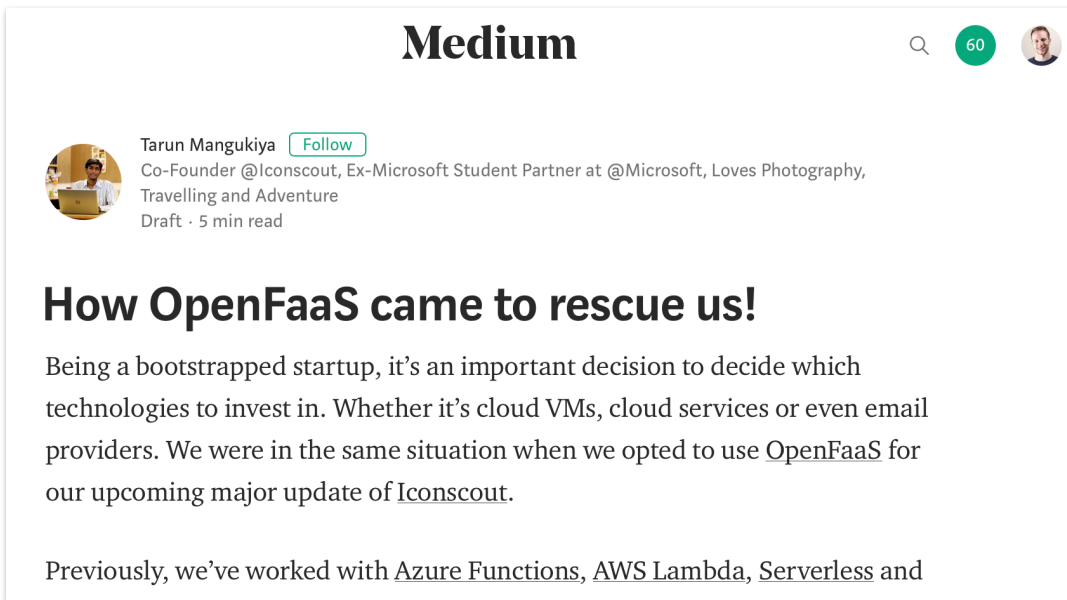
Tarun Mangukiya
Co-founder



Icons, stock
photography &
illustrations

Custom sizing

3x speed increase



A common theme

- Early adopters
 - support less technical teams
 - build bespoke CI/CD solutions
 - collaboration & feedback

We applied software engineering
best practices

**We wanted
to make it
seamless.**



Ivan Pedrazas

@ipedrazas

Following



When you git push, our CI builds, deploys your code and returns an endpoint.

This, in essence, is what serverless is about. Serverless is more than just lambda.

9:13 AM - 12 Jun 2018

1 Retweet 13 Likes



 **GitHub** 
@github

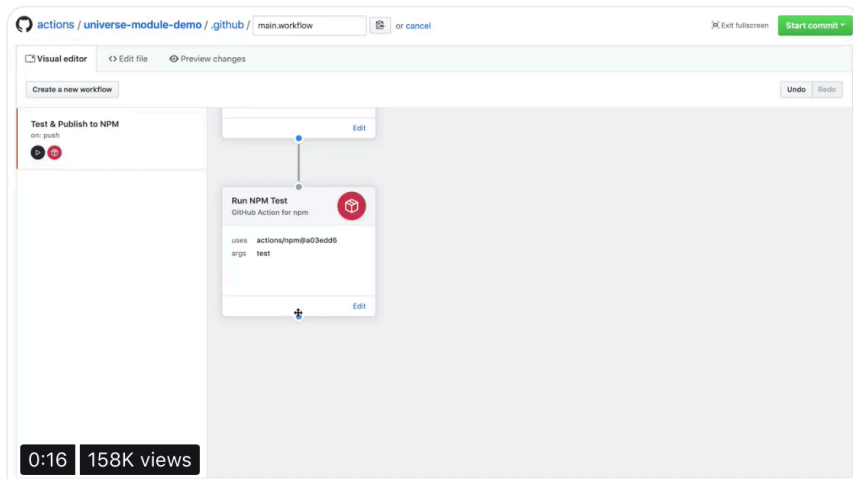
Follow



Automate your workflow.

Meet GitHub Actions 🙌
It might just change the way you work.

[github.com/features/actio...](https://github.com/features/actions)



GitHub Actions

GitHub Actions applies open source principles to workflow automation, weaving together the tools you use from idea to production into one complete workflow.



Alexis Richardson

@monadic

Follow



mega update on GitOps and why
Kubernetes is so important for it >>>

Weaveworks @weaveworks

Have you wondered what's the difference between infrastructure as code, Continuous Delivery and #GitOps? @monadic discusses developer experience and its role in production velocity bit.ly/2MJgwVm

12:49 PM - 21 Aug 2018

25 Retweets 66 Likes



3



25



66

GitOps + Functions



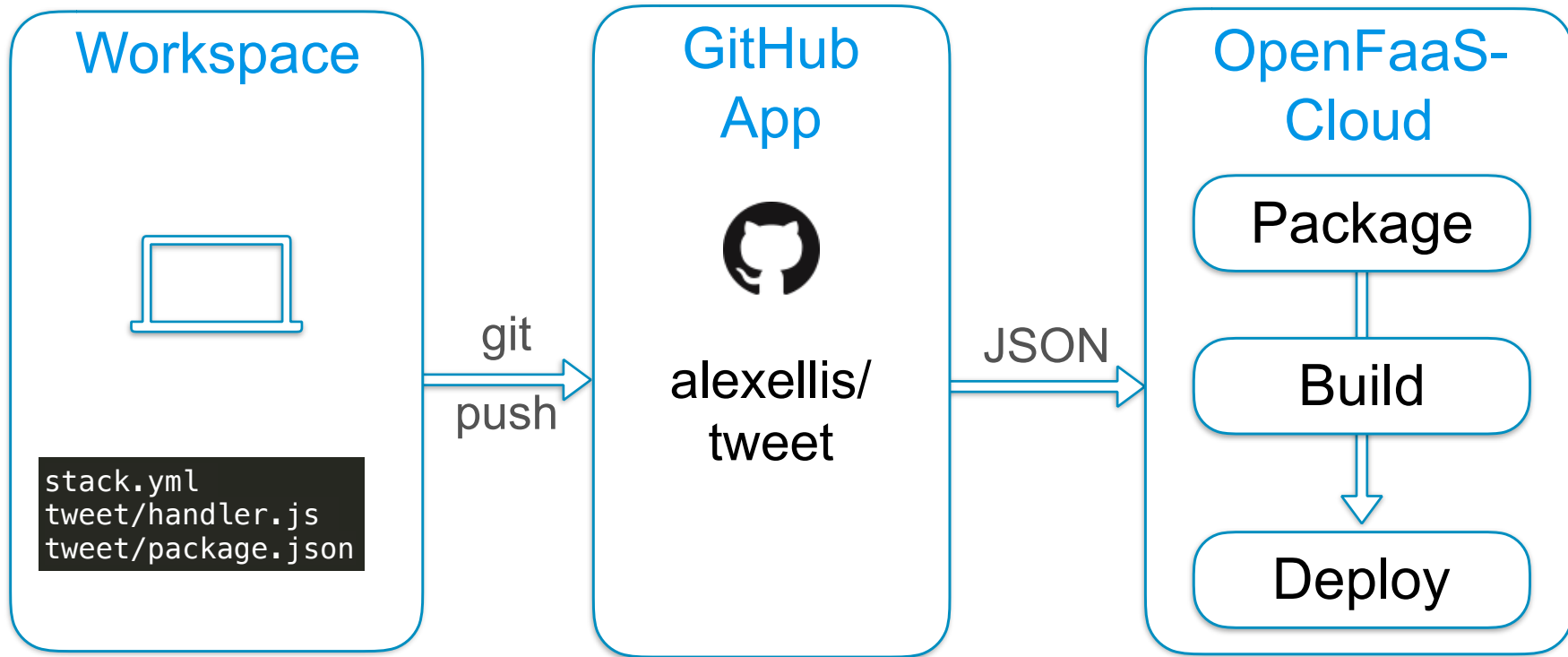
OpenFaaS Cloud ☁️



- Managed
- Multi-user
- Personal dashboard
- CI/CD (GitOps)
- Feedback via *GitHub*

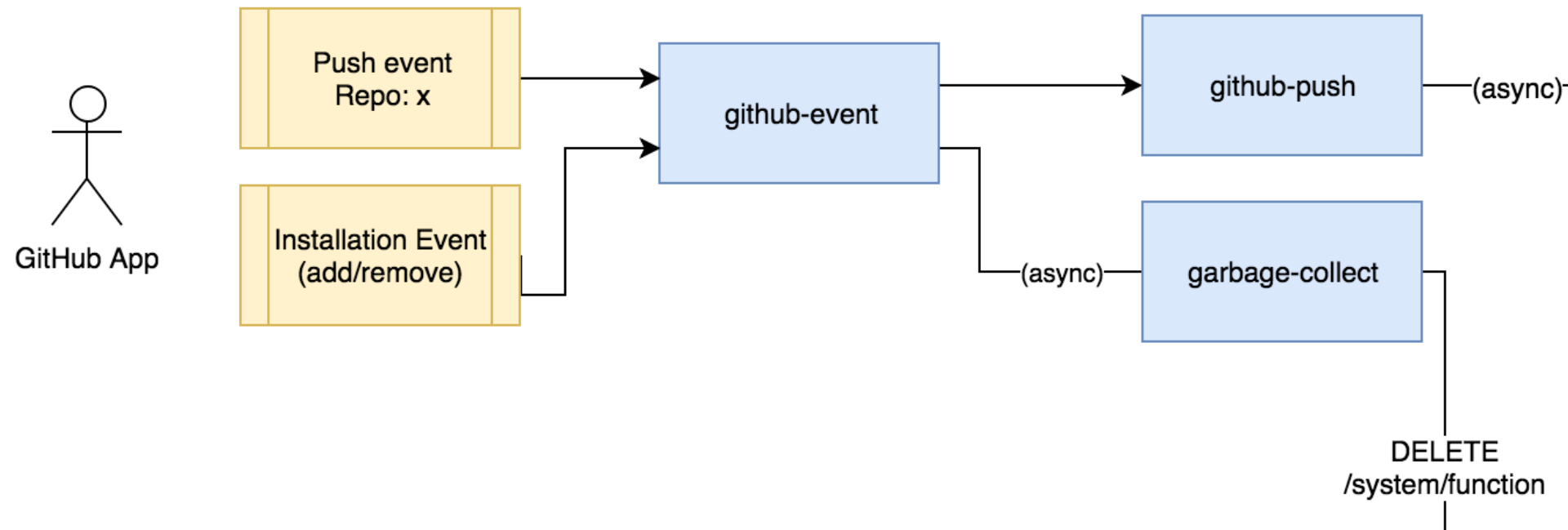
Free Community Cluster*

Conceptual workflow (CI/CD)

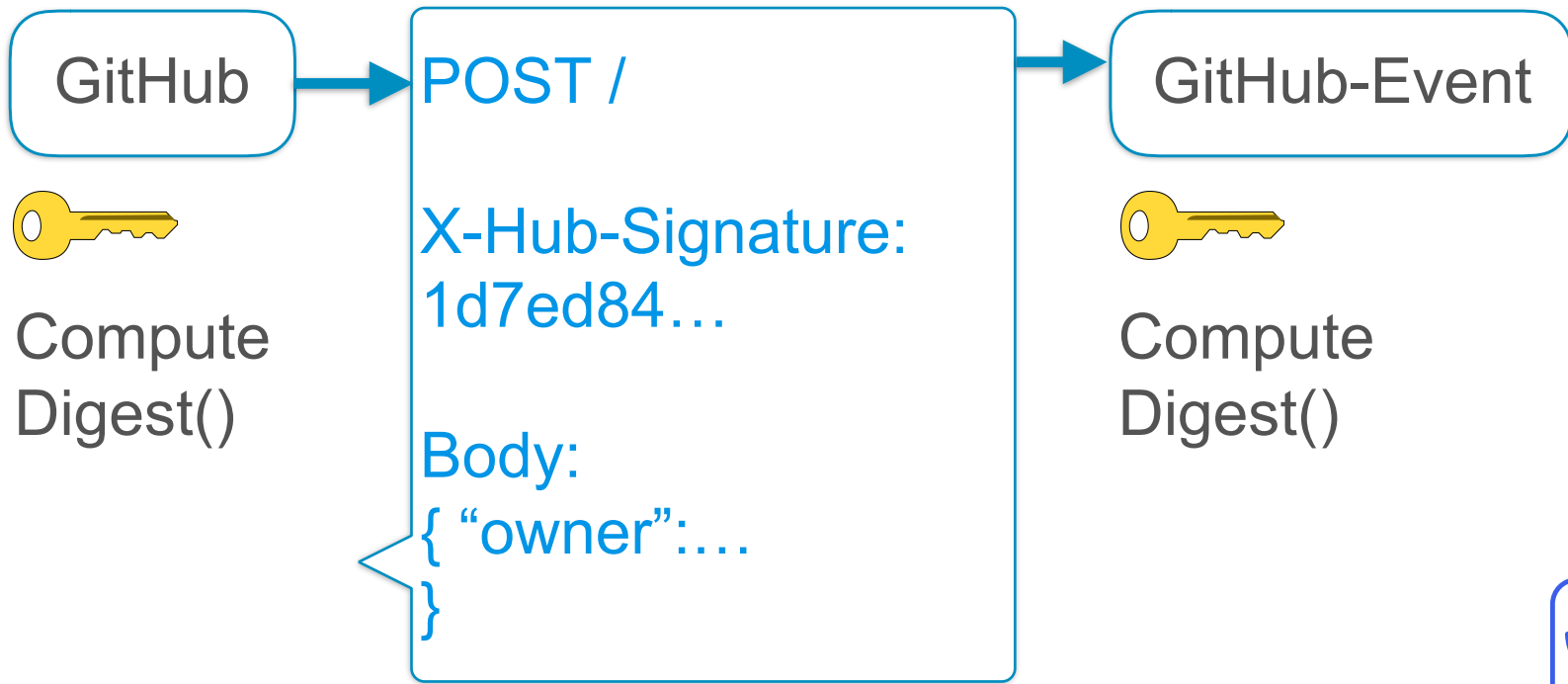


Endpoint: <https://alexellis.o6s.io/tweet>

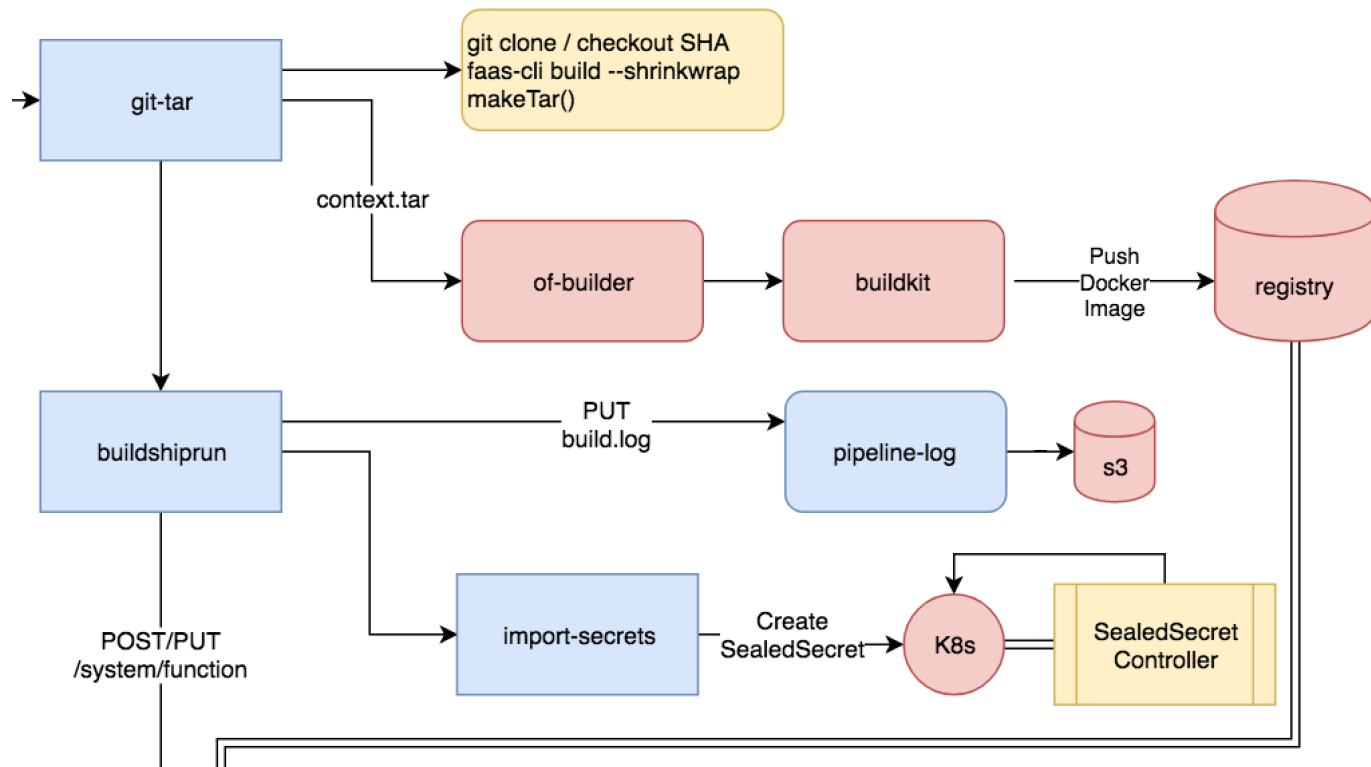
Event integration



Trust & signing (HMAC)



CI & CD



<> Code

Issues 0

Pull requests 0

Projects 0

Wiki

Insights

Settings

Branch: master

Commits on Oct 17, 2018

Validate empty login



alexellis committed 18 hours ago ✓

Update README.md



alexellis committed 18 hours ago ✓

Remove S3 config



alexellis committed 18 hours ago ✓

Reinstate conflict error



alexellis committed 19 hours ago ✓

Move connStr up

All checks have passed

4 successful checks



move-money — Build move-money

[Details](#)



pot-total — Build pot-total

[Details](#)



register-user — Build register-user

[Details](#)




stack-deploy — Deploy to OpenFaaS


[Details](#)

[Pull requests](#)[Issues](#)[Marketplace](#)[Explore](#)[alexellis / pledge-fn](#) Private[Code](#)[Issues](#) **0**[Pull requests](#) **0**[Projects](#) **0**[Wiki](#)[Insights](#)[Settings](#)[1d7ed84](#) — Validate empty login

▼

 **OFC Mini****Succeeded** — 18 hours ago✓ **move-money**✓ [pot-total](#)✓ [register-user](#)✓ [stack-deploy](#)

move-money

✓ **Success** ran **18 hours ago** in **less than 5 seconds** [1d7ed84](#) by [@alexellis](#) [master](#)

Build move-money

[deployed: alexellis-move-money](#)

DETAILS










```
v: 2018-10-17T18:01:46Z local:///dockerfile (Dockerfile)
v: 2018-10-17T18:01:46Z local:///context (.dockerignore)
s: 2018-10-17T18:01:46Z transferring dockerfile: 0
s: 2018-10-17T18:01:46Z transferring dockerfile: 36
s: 2018-10-17T18:01:46Z transferring dockerfile: 1227
s: 2018-10-17T18:01:46Z transferring context: 0
v: 2018-10-17T18:01:46Z local:///dockerfile (Dockerfile) 0.04s
s: 2018-10-17T18:01:46Z transferring context: 0
```


Dashboard

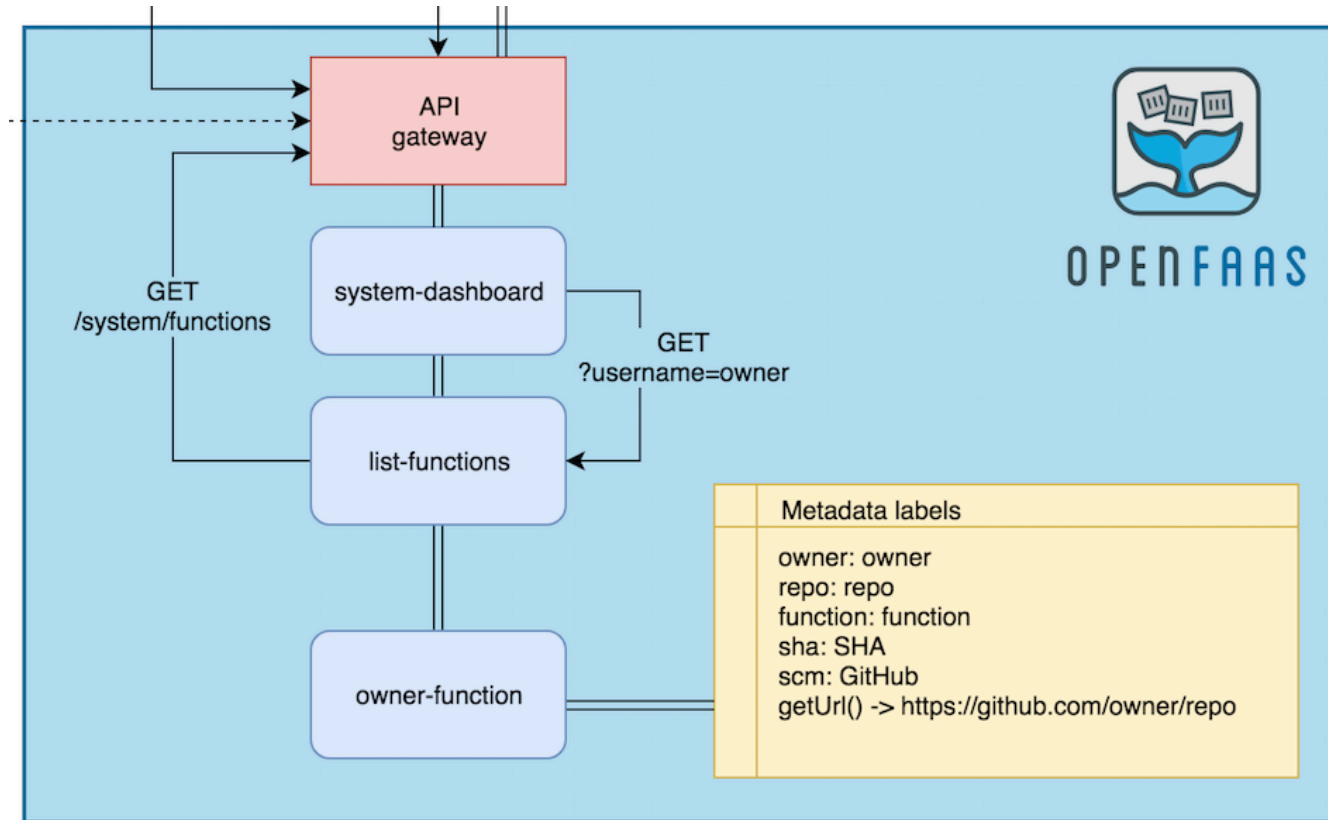
alexellis

Functions for alexellis

Welcome to the OpenFaaS Cloud Dashboard! Click on a function for more details.

Name		Repository		SHA	Deployed	Invocations	Replicas	
move-money		pledge-fn		1d7ed84	18 hours ago	87	<div><div></div></div> 1/4	
register-user		pledge-fn		1d7ed84	18 hours ago	315	<div><div></div></div> 1/4	
pot-total		pledge-fn		1d7ed84	18 hours ago	646	<div><div></div></div> 1/4	

Serving functions





Are you in?

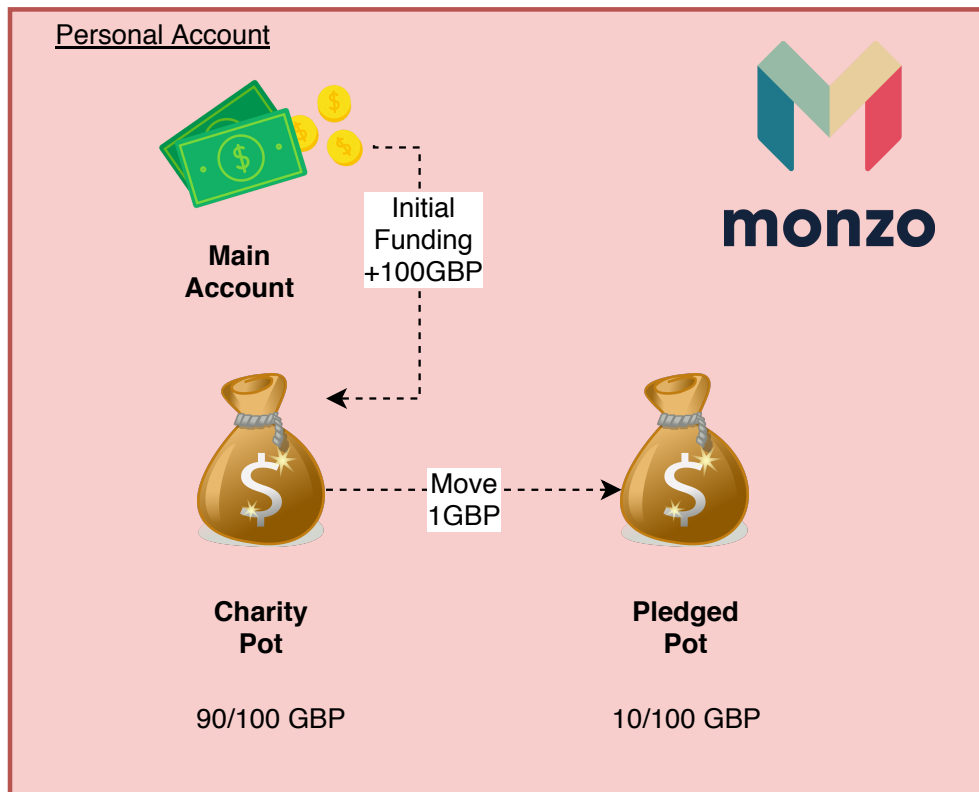
The bank of the future

This isn't banking as you know it.
Monzo is a bank for everyone,
that works with you, for you.

Join today for your own UK
current account.



Working with my bank's API



You register with the App and I'll pledge

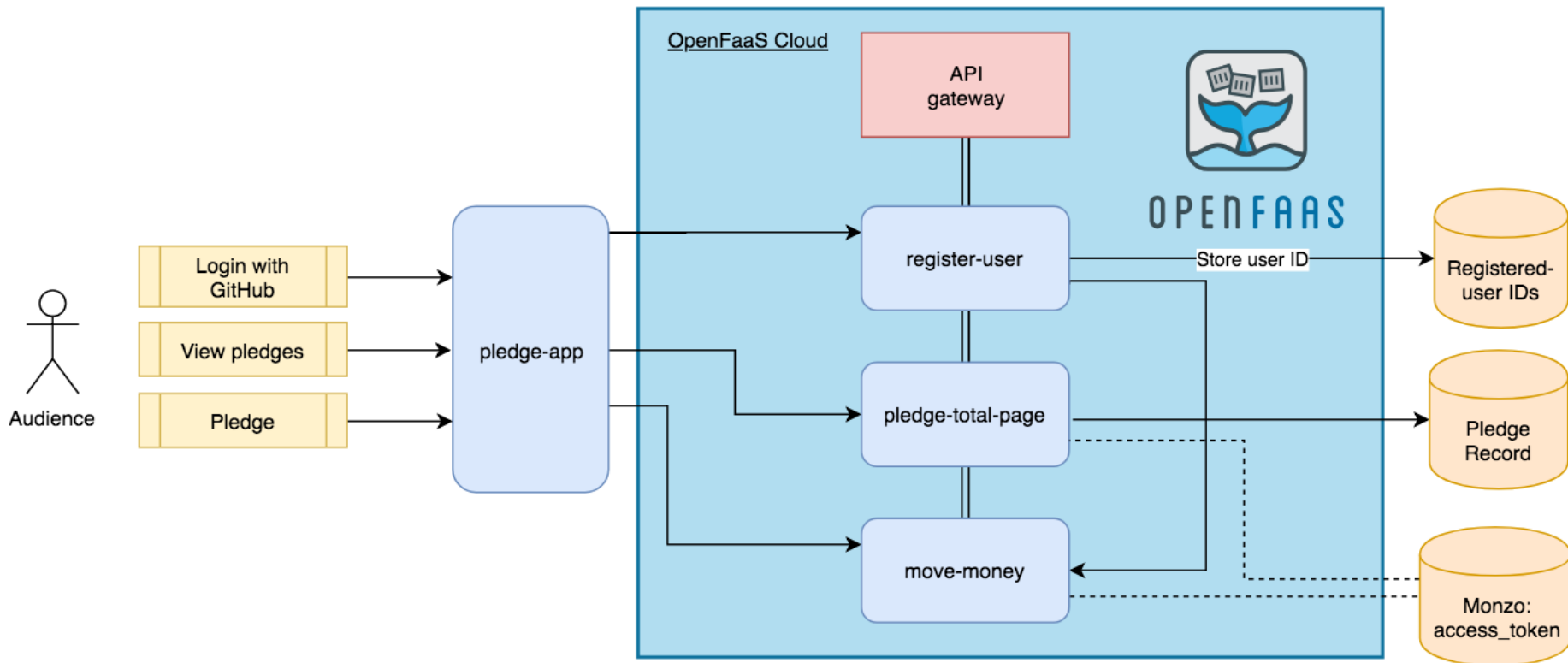


<https://echcharity.org>

Pledge via this URL:

<https://...>

How it works



Summing up

OpenFaaS Cloud brings:

- Portable multi-user Serverless
- Developer-native workflow (GitOps)
- Rapid iteration from concept to production



Roadmap

- OpenFaaS Cloud
 - Teams & organisations
 - GitLab => 100% on-prem
 - Staging endpoints
- OpenFaaS
 - Fall t-shirt coming soon!
 - API extensions: logs & secrets



Get involved

1. Join Slack 🙌

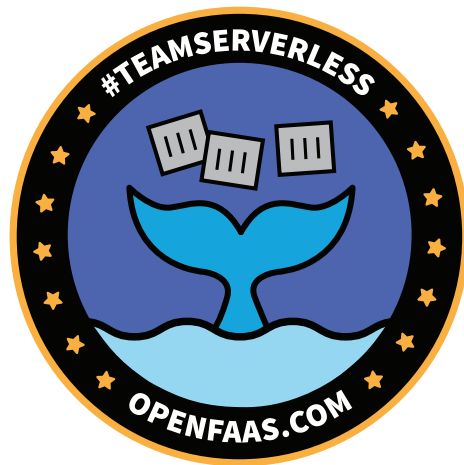
<https://docs.openfaas.com/community>

2. Try the workshop! 💻

<https://github.com/openfaas/workshop>

3. Hacktoberfest - submit a PR

<https://github.com/openfaas>



Meet-us here:

- VMware booth all week
- Docker Meetup on Istio



OPENFAAS

Thank you!

www.openfaas.com