

Traefik Enterprise Edition & Maesh



Paris Kubernetes Days - Wednesday 25th of September 2019

How To Use These Slides?

- **Browse the slides:** Use the arrows
 - Change chapter: Left/Right arrows
 - Next or previous slide: Top and bottom arrows
- **Overview of the slides:** keyboard's shortcut "o"
- **Speaker mode (and notes):** keyboard's shortcut "s"

Whoami 1/2

Manuel Zapf

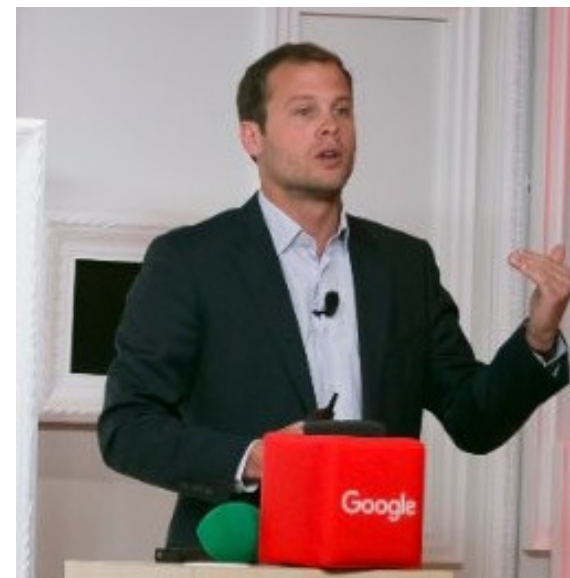
- 🏠 Træfik's Solution Architect 🔨 @ Containous
- 🐦 @mZapfDE
- 🐙 SantoDE



Whoami 2/2

Adrien Martinet

- 📖 Sales @ **Containous**
- 🐦 **@martinet_adrien**
- **in** **adrimartinet**



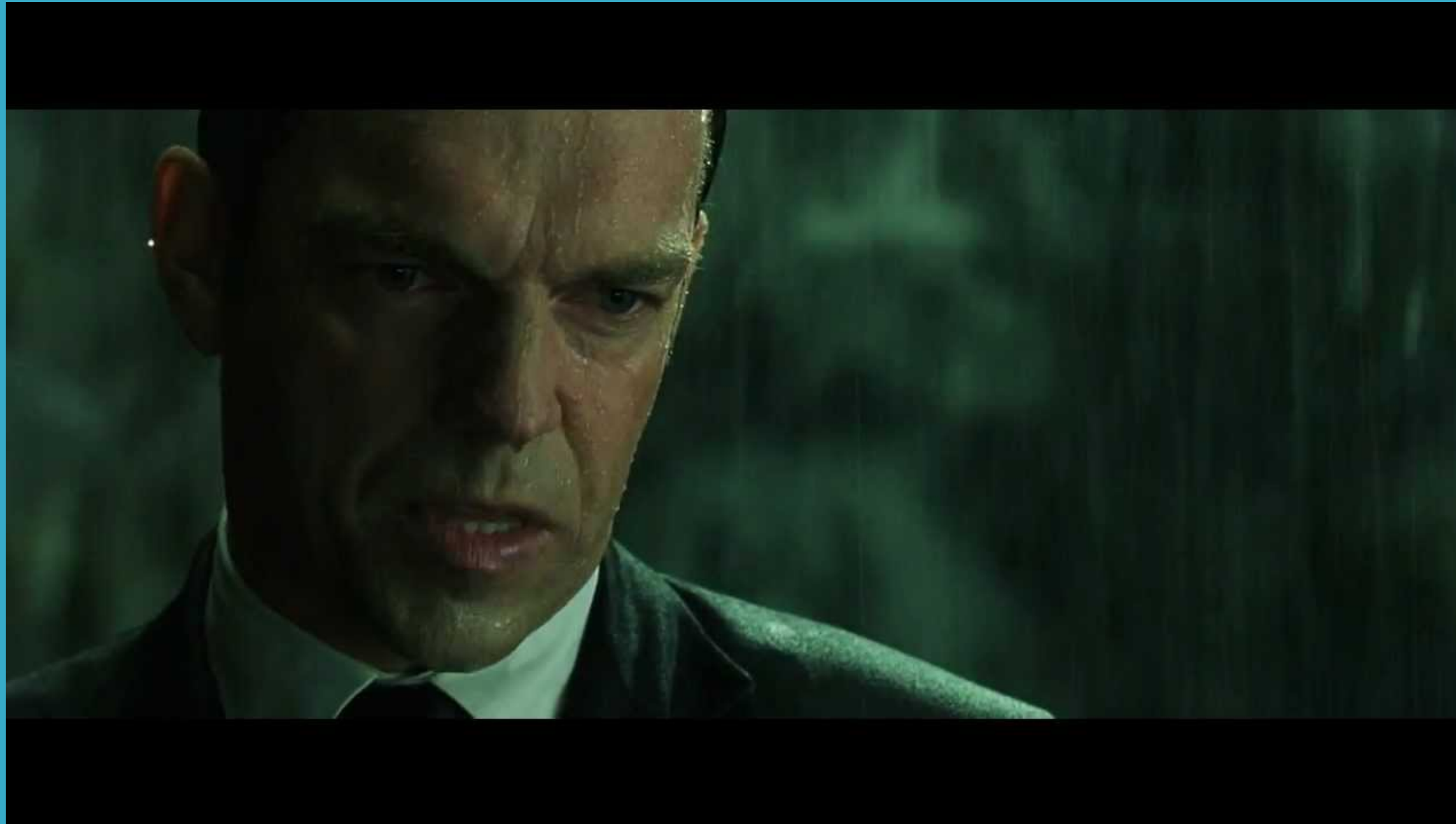
Containous

<https://containo.us>

- We Believe in Open Source
- We Deliver Traefik and Traefik Enterprise Edition
- Commercial Support
- 30 people distributed, 90% tech



Why Traefik?



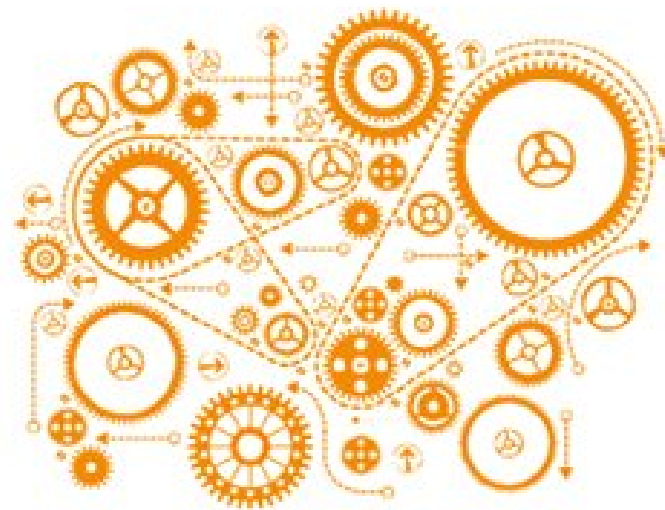
Why, Mr Anderson?

Evolution Of Software Design

1990s and earlier

Coupling

Pre-SOA (monolithic)
Tight coupling



2000s

Traditional SOA
Looser coupling



2010s

Microservices
Decoupled



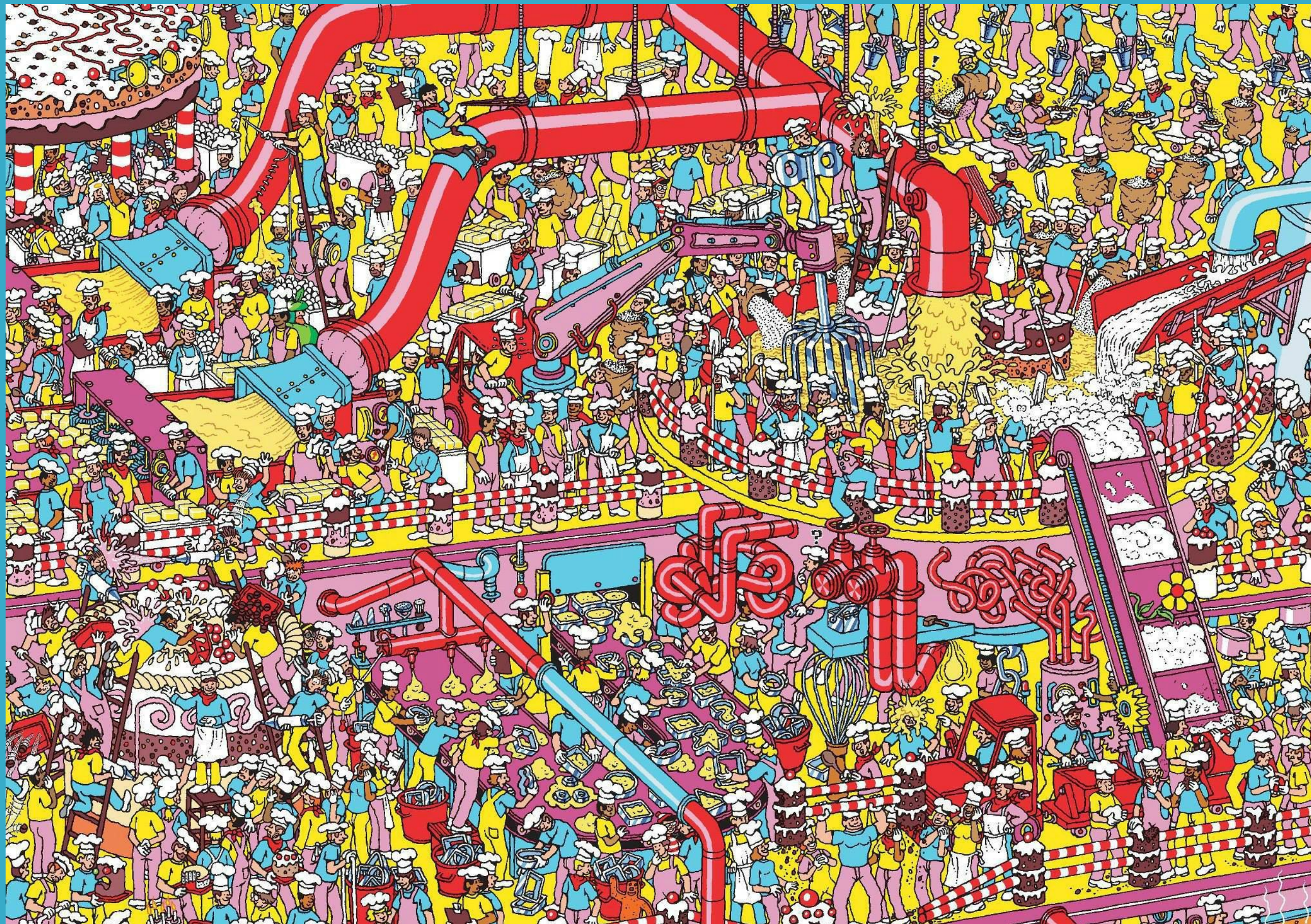
The Premise Of Microservices...



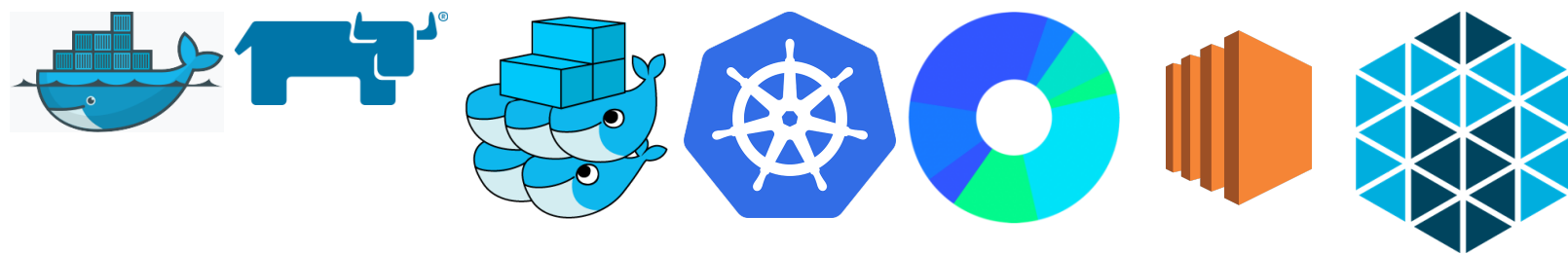
...And What Happens

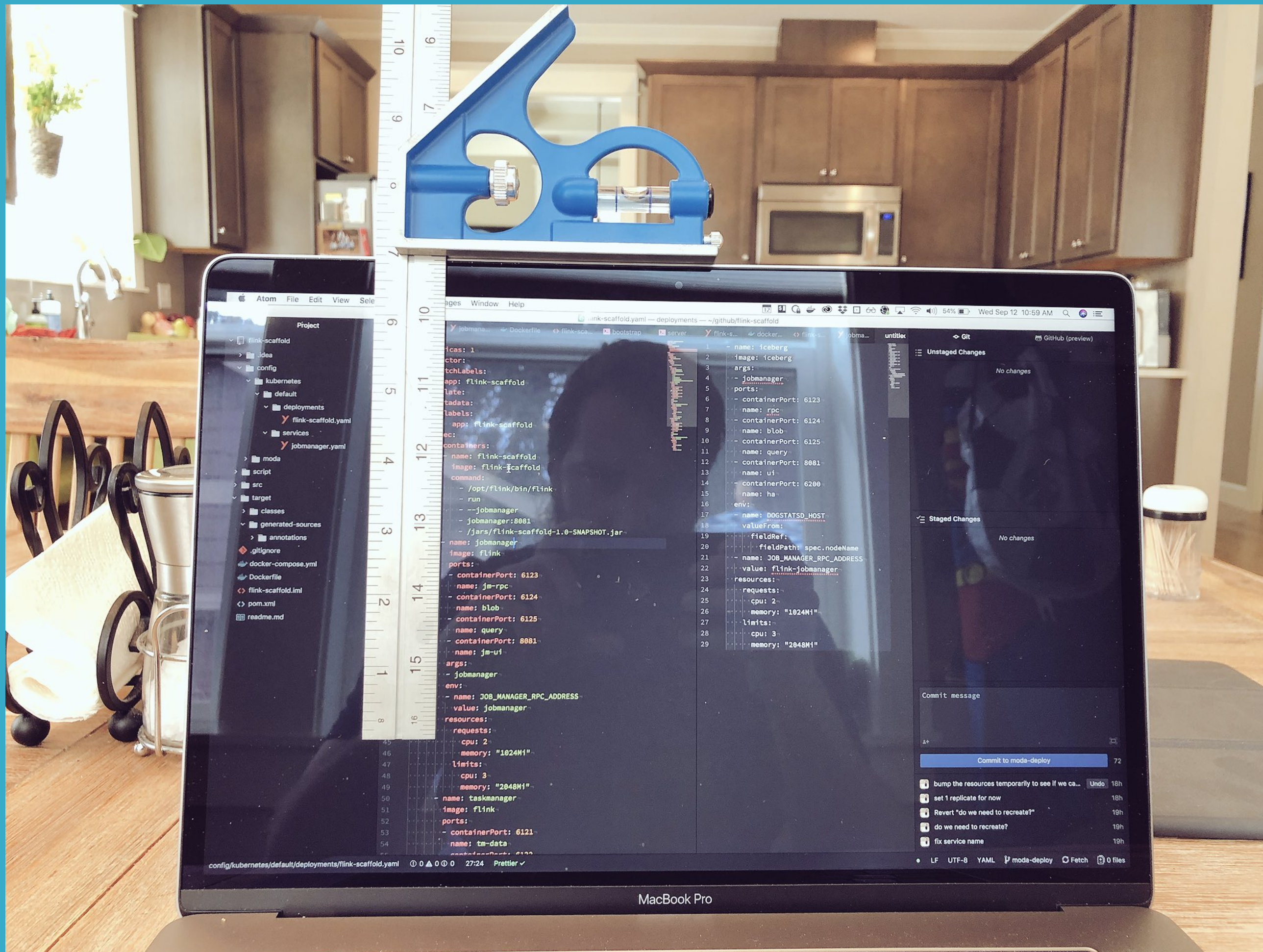


Where's My Service?



Tools Of The Trade





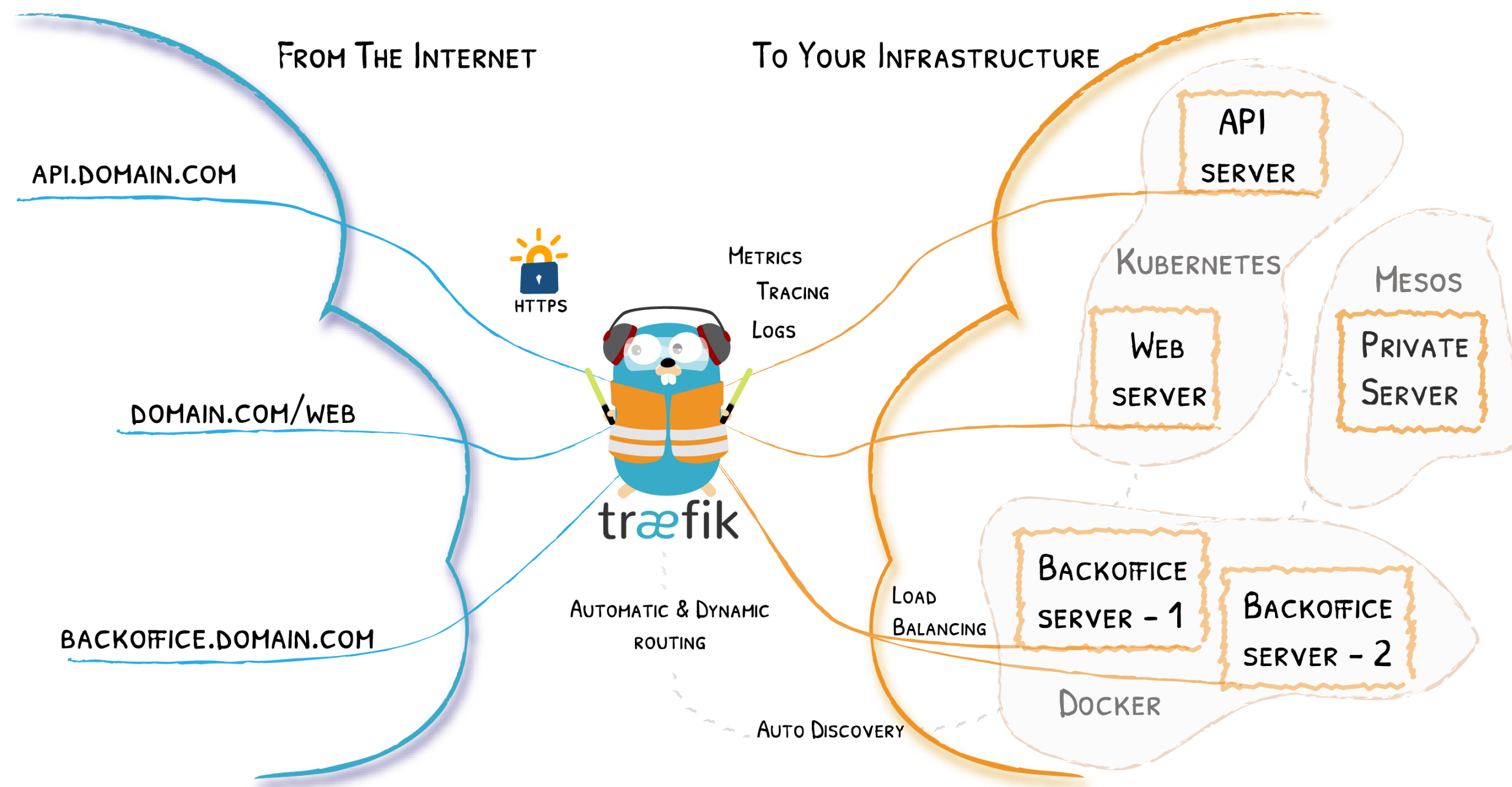
Source: <https://twitter.com/Caged/status/1039937162769096704>

What If I Told You?



That You Don't Have to Write This Configuration File...?

Here Comes Traefik!



Traefik Project

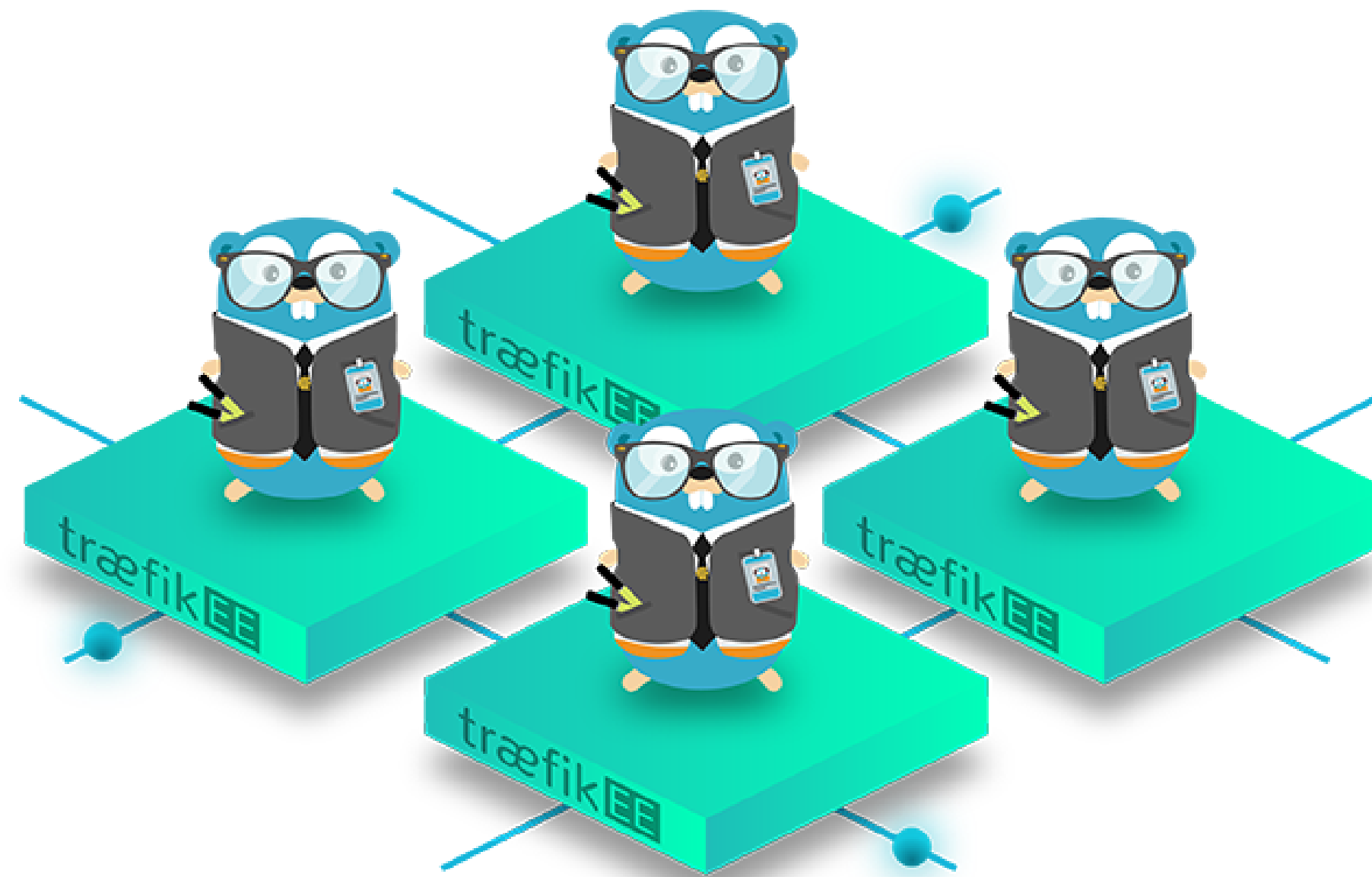
-  <https://github.com/containous/traefik>
- MIT License
- Written in Go
- 24,000+  1B+  400+ 
- Created in 2015, 4Y 
- Current stable branch: v2.0

The Herd



You came to the wrong neighbour

Traefik Comes In Herd



Value Proposition

- Community Driven Edge Router
- Cloud Native & Agnostic
- Configuration Auto-Discovery
- Native Observability & Tracing
- Deploy Easily and Operate at Scale
- Security : Encryption & Separation of Concern
- High Availability

HIGH AVAILABILITY

træfik ENTERPRISE EDITION

SECURITY

træfik ENTERPRISE EDITION

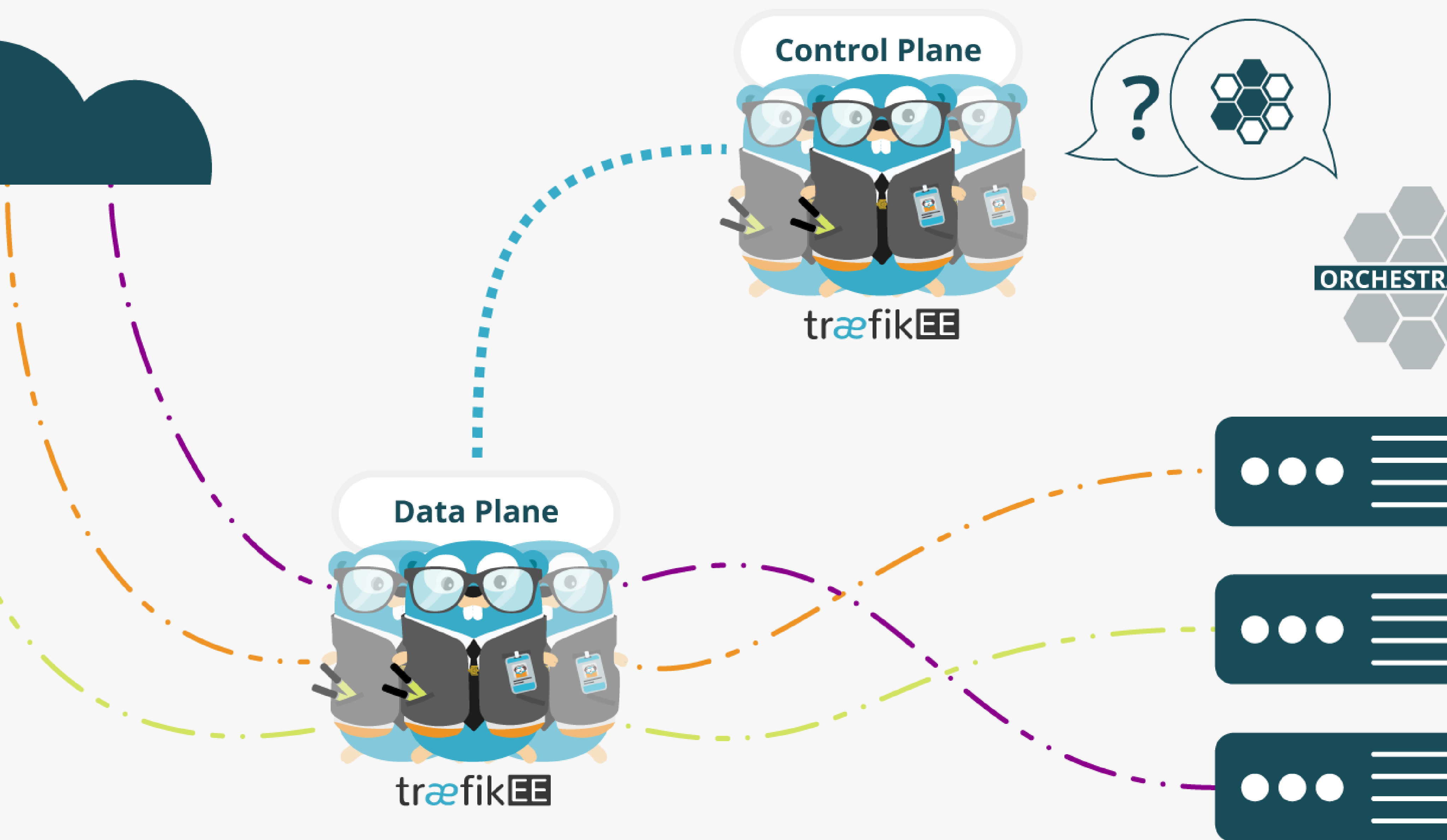


SCALABILITY

traefik ENTERPRISE EDITION

INTERNET

TO YOUR INFRA



As Simple As Traefik

- Install it:

```
# Cluster Installation
traefikeectl install \
  --licensekey="SuperSecretLicence" \
  --dashboard \
  --kubernetes # Or --swarm
```

- Configure it:

```
# Routing Configuration, same as Traefik's
traefikeectl deploy \
  --acme.email=ssl-admin@mycompany.org
  --acme.tlsChallenge
  ...
```

Free Trial

<https://containo.us/traefikee>

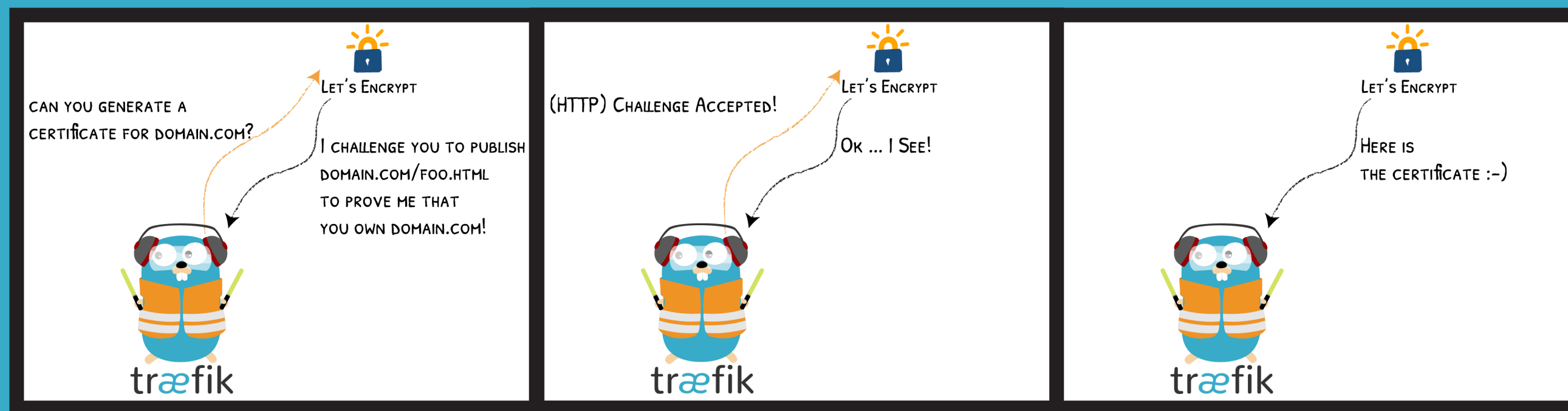
Show Me The Configuration!

Keep It Simple

- With 🐳:

```
entrypoint:
  image: traefik:v1.7
  command:
    - "--docker"
    - "--docker.domain=mycompany.org"
    - "--acme.email=ssl-admin@mycompany.org"
    - "--acme.httpChallenge.entryPoint=http"
    # Or you could use a TOML file with "--configFile=/etc/traefik/traefik.toml"
volumes:
  - /var/run/docker.sock:/var/run/docker.sock
```

HTTPS For Everyone With Let's Encrypt



- TLS, DNS and HTTP challenges supported

With : Simple Backend

```
# https://www.mycompany.org -> http://webserver:80/
webserver:
  image: nginx:alpine
  labels:
    - "traefik.frontend.rule=Host:www.mycompany.org"
```


With : Context

```
# https://mycompany.org/jenkins -> http://jenkins:8080/jenkins
jenkins:
  image: jenkins/jenkins:lts
  labels:
    - "traefik.frontend.rule=PathPrefix:/jenkins"
    - "traefik.port=8080" # Because 50000 is also exposed
  environment:
    - JENKINS_OPTS=--prefix=/jenkins
```

With : Rewrites

```
# https://mycompany.org/gitserver -> http://gitserver:3000/  
gitserver:  
  image: gitea/gitea:1.5  
  labels:  
    - "traefik.frontend.rule=PathPrefixStrip:/gitserver"  
    - "traefik.port=3000" # Because 22 is also exposed
```

With : Websockets

```
# https://mycompany.org/webterminal -> http://webterminal:7681/  
webterminal:  
  image: ts10922/ttyd  
  labels:  
    - "traefik.frontend.rule=PathPrefixStrip:/webterminal"  
  expose:  
    - "7681"
```


Traefik With

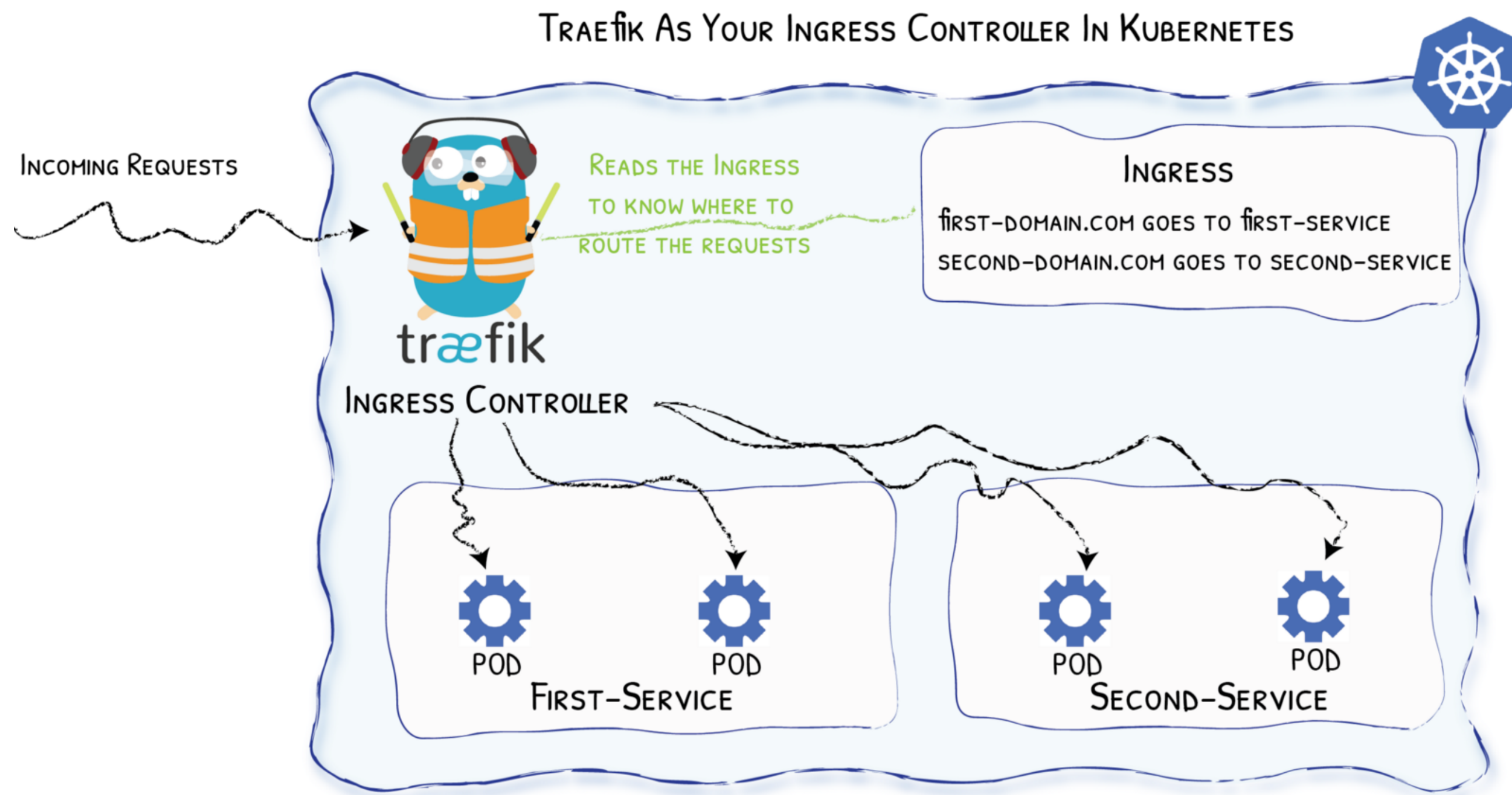


Diagram from <https://medium.com/@geraldcroes>

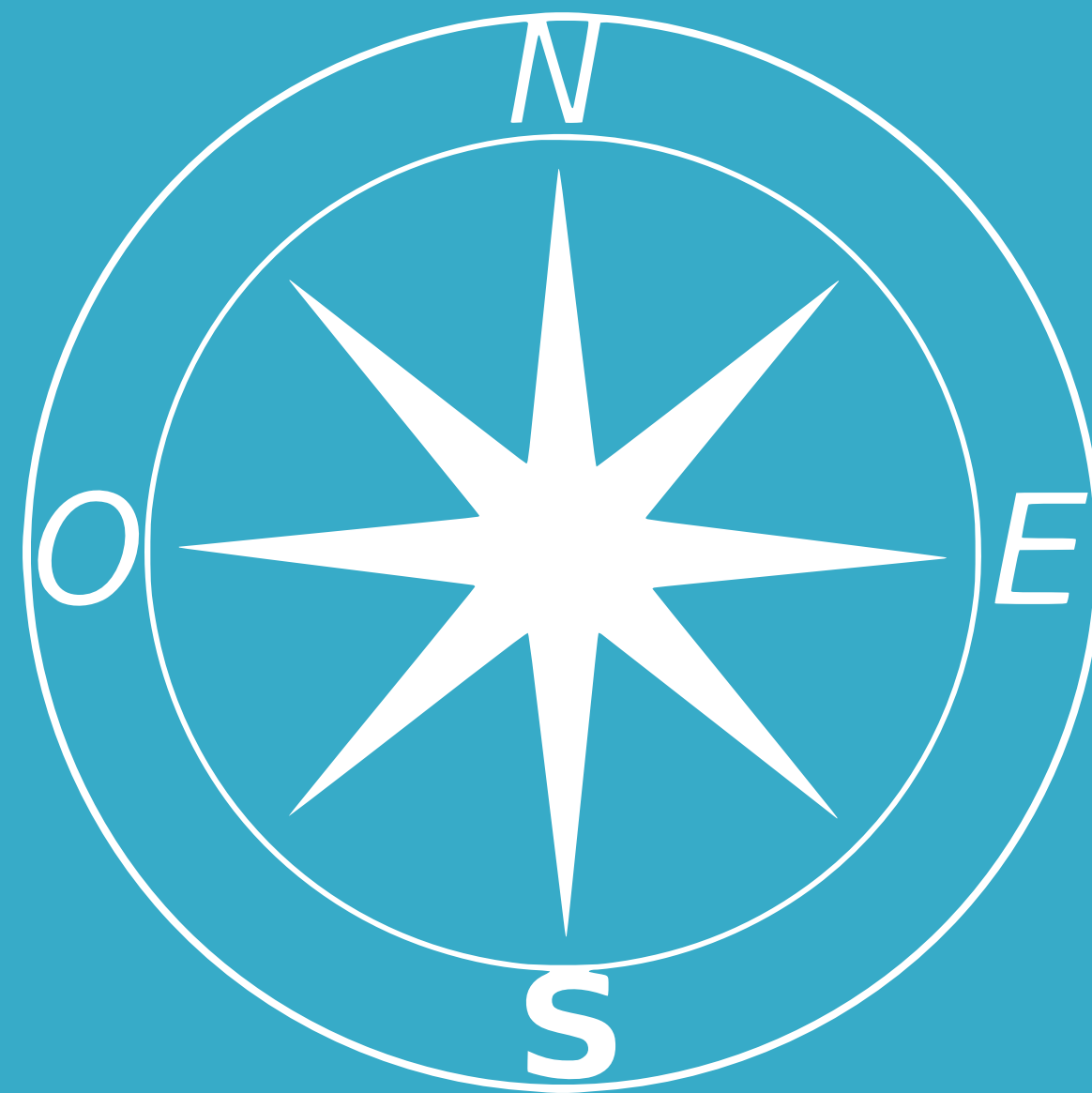
Did You Say YAML?

```
apiVersion: extensions/v1beta1
kind: Ingress
metadata:
  annotations:
    # kubernetes.io/ingress.class: 'nginx'
    kubernetes.io/ingress.class: 'traefik'
spec:
  rules:
  - host: mycompany.org
    http:
      paths:
      - path: "/whoami"
        backend:
          serviceName: whoami
          servicePort: 80
```

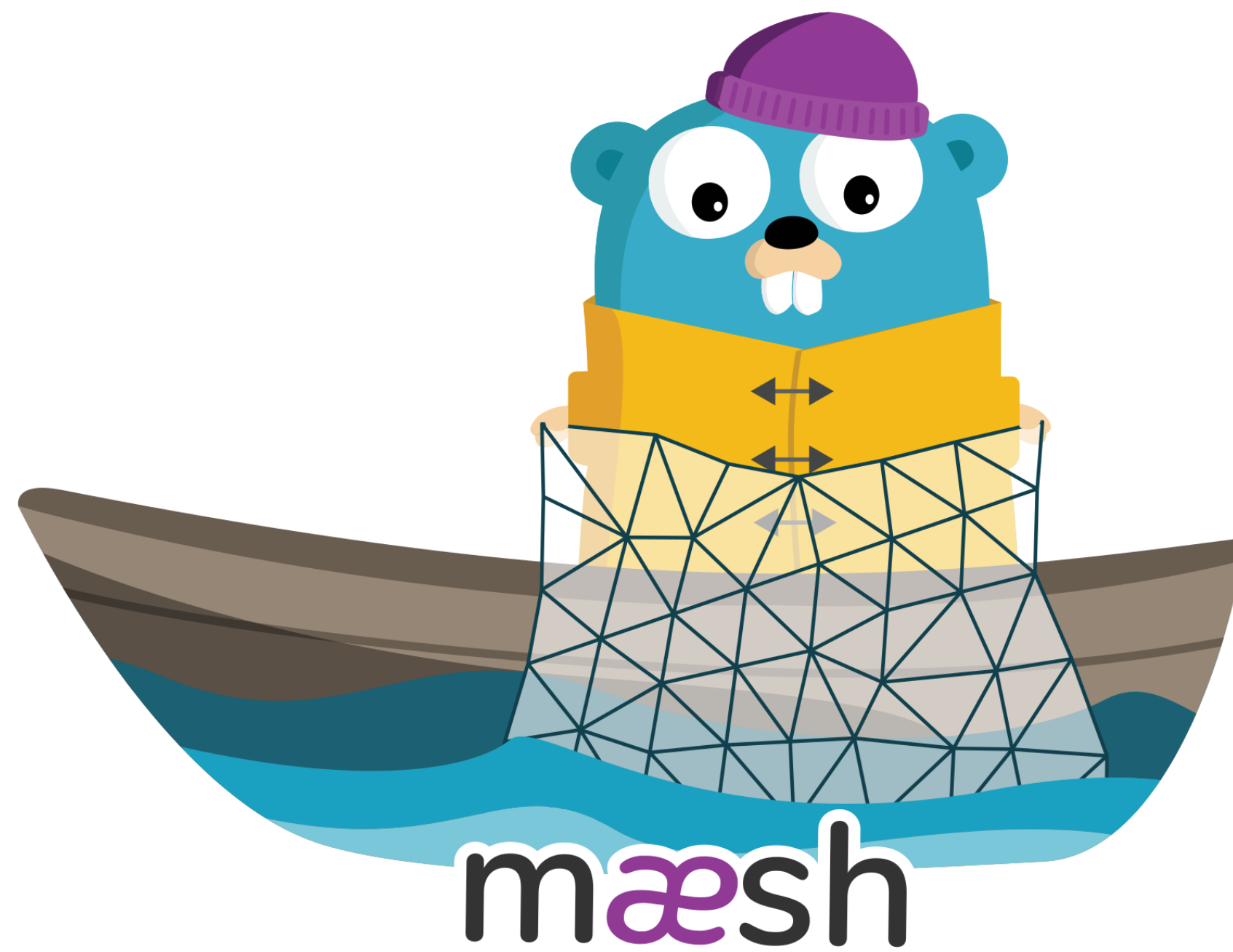
We Missed Talking About ...



East / West Traefik



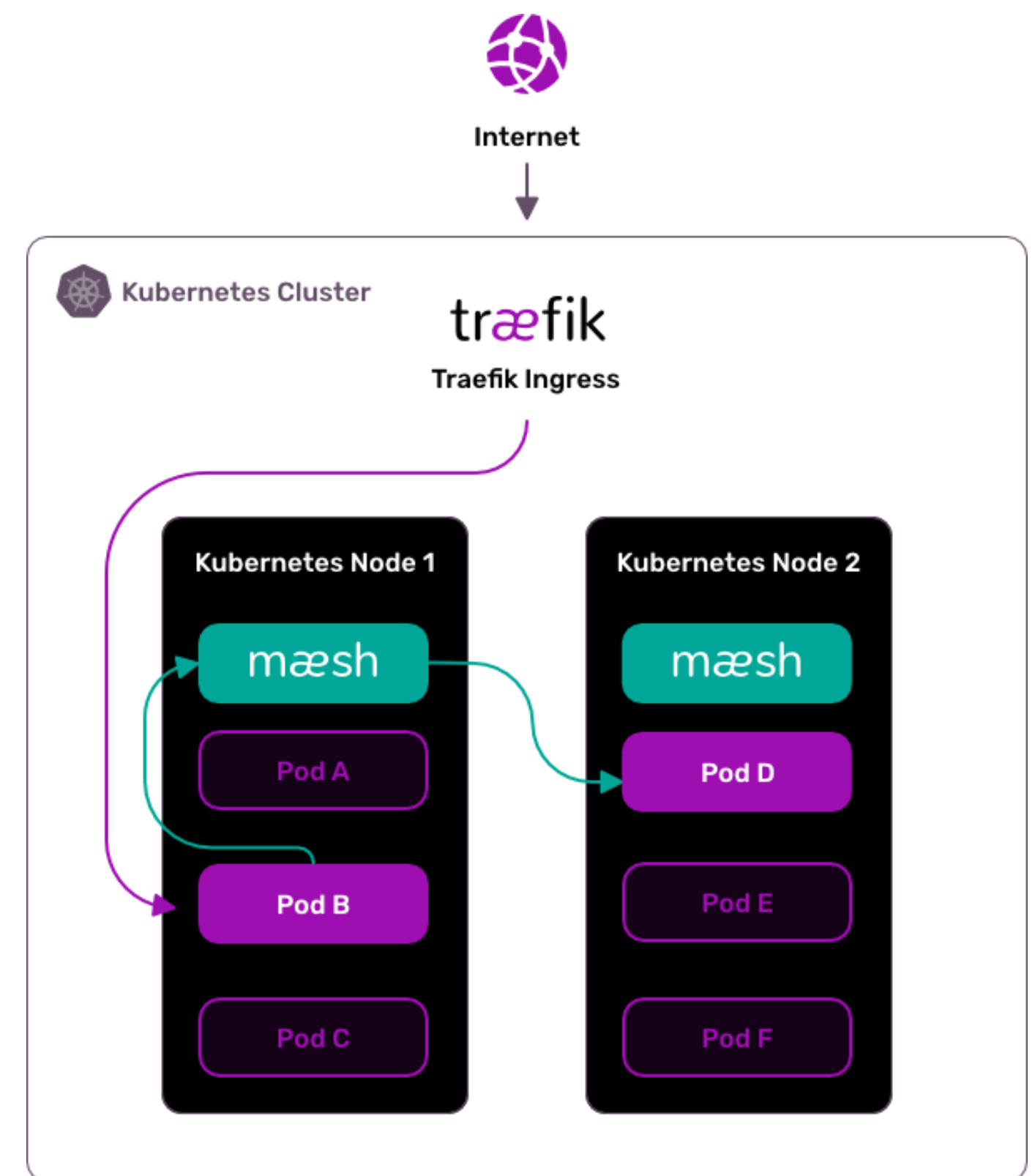
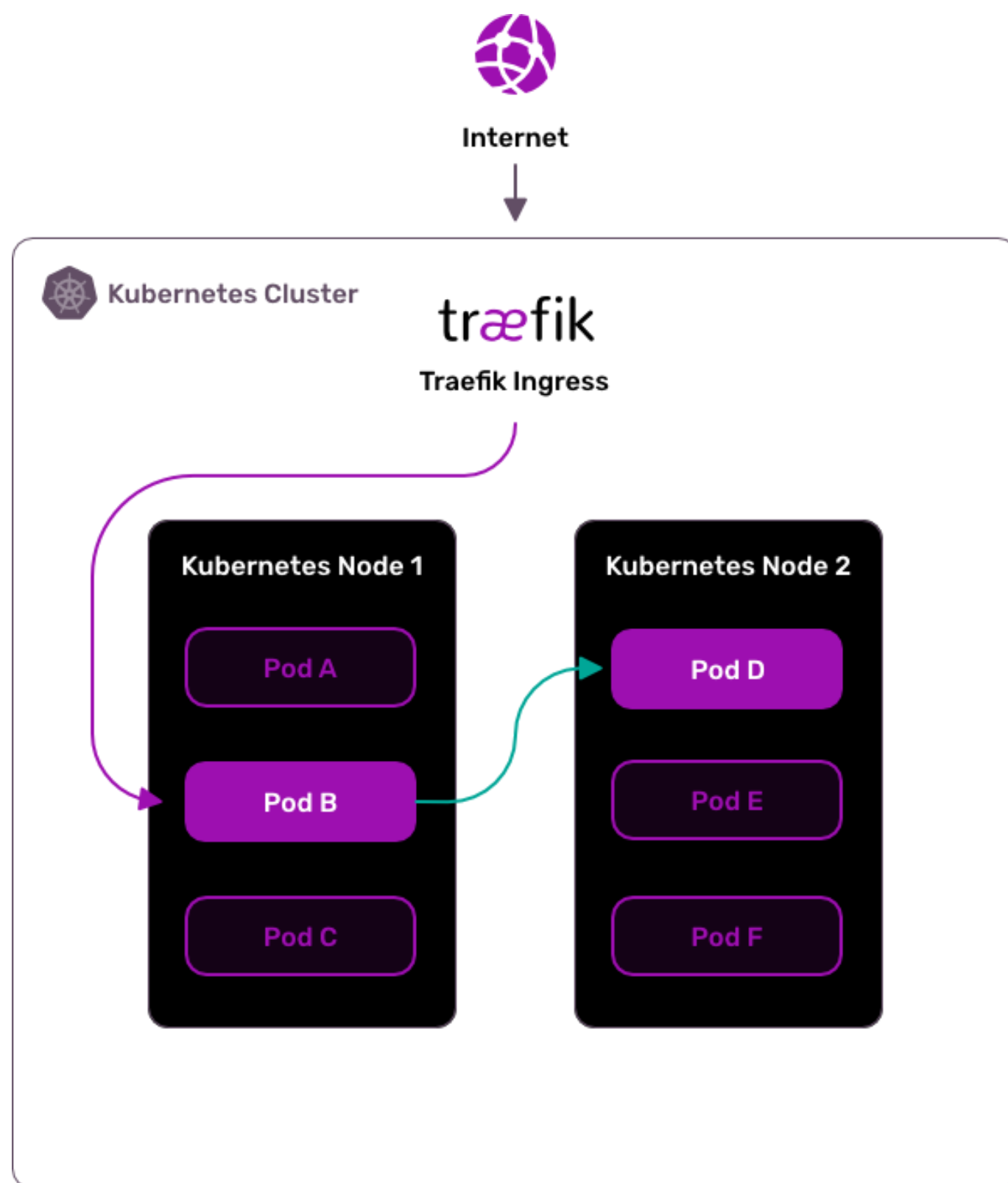
Say Hello To Maesh



What Is Maesh?

Maesh is a lightweight, easy to configure, and non-invasive service mesh that allows visibility and management of the traffic flows inside any Kubernetes cluster.

Maesh Architecture



More On Maesh

- Built on top of Traefik,
- SMI (Service Mesh Interface specification) compliant,
- Opt-in by default.

[Maesh Website](#)

Demo



That's All Folks!



We Have
Stickers!

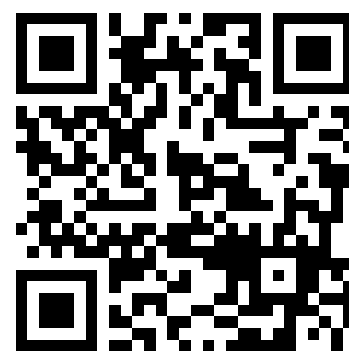
We Are Hiring!



```
docker run -it containous/jobs
```


Thank You!

-  @mZapfDE
-  @martinet_adrien
-  SantoDE
-  adrimartinet



- Slides (HTML): <https://containous.github.io/slides/paris-kubernetes-days>
- Slides (PDF): <https://containous.github.io/slides/paris-kubernetes-days/slides.pdf>
- Source on : <https://github.com/containous/slides/tree/paris-kubernetes-days>