

PROGRESSIVE DELIVERY

CONTINUOUS DELIVERY THE RIGHT WAY

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PROGRESSIVE DELIVERY



LaunchDarklyBlog

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Progressive Delivery, a History.... Condensed

By Adam Zimman - August 6, 2018

• 4326



the developer-focused industry analyst firm

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JAMES GOVERNOR'S MONKCHIPS

Towards Progressive Delivery

By [James Governor](#) | [@monkchips](#) | August 6, 2018

Progressive Delivery is a term that includes deployment strategies that try to avoid the pitfalls of all-or-nothing deployment strategies

New versions being deployed do not replace existing versions but run in parallel for an amount of time receiving live production traffic, and are evaluated in terms of correctness and performance before the rollout is considered successful.

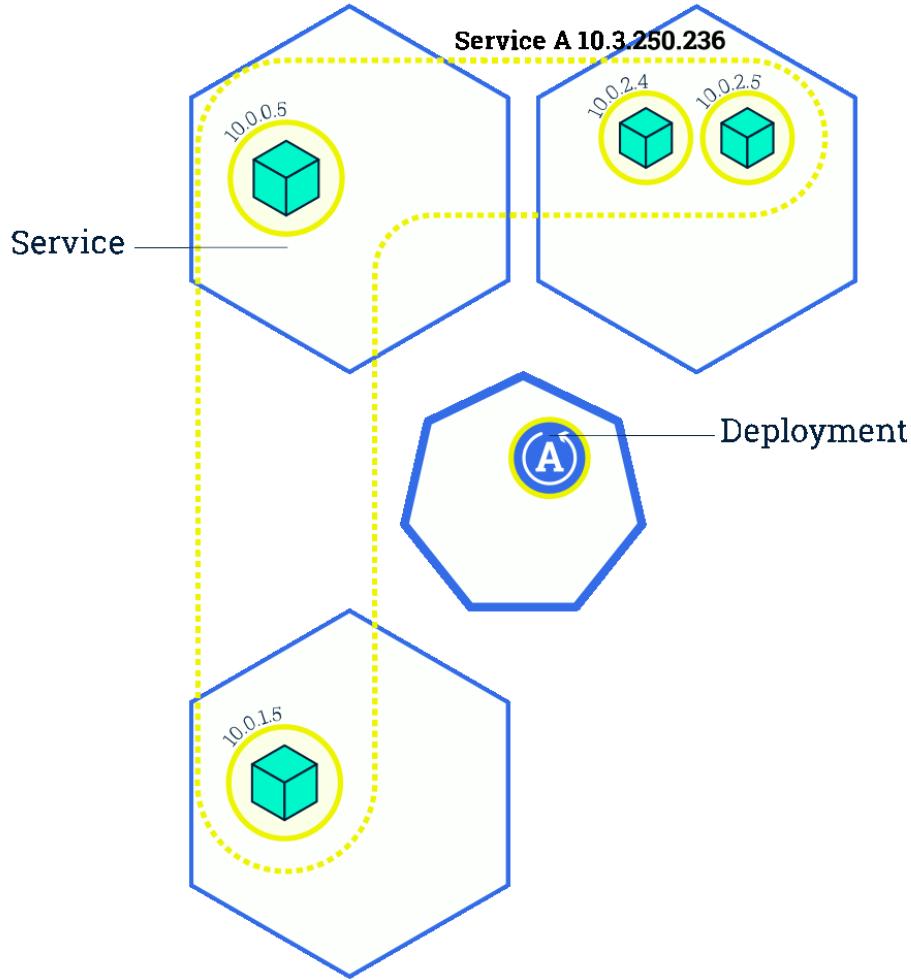
Continuous Delivery is hard

Progressive Delivery makes Continuous Delivery easier
to adopt

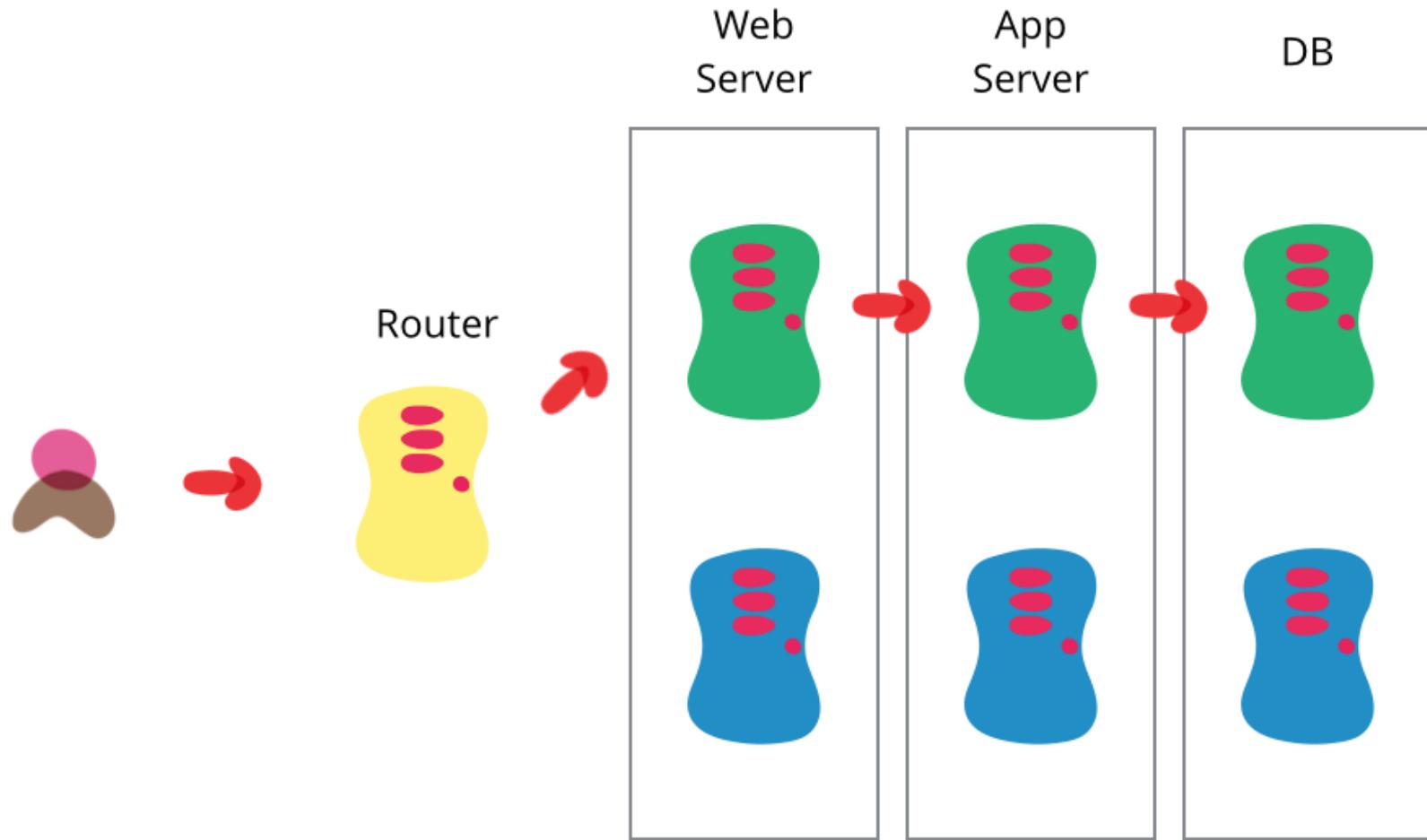
reduces the risk associated with Continuous Delivery

PROGRESSIVE DELIVERY TECHNIQUES

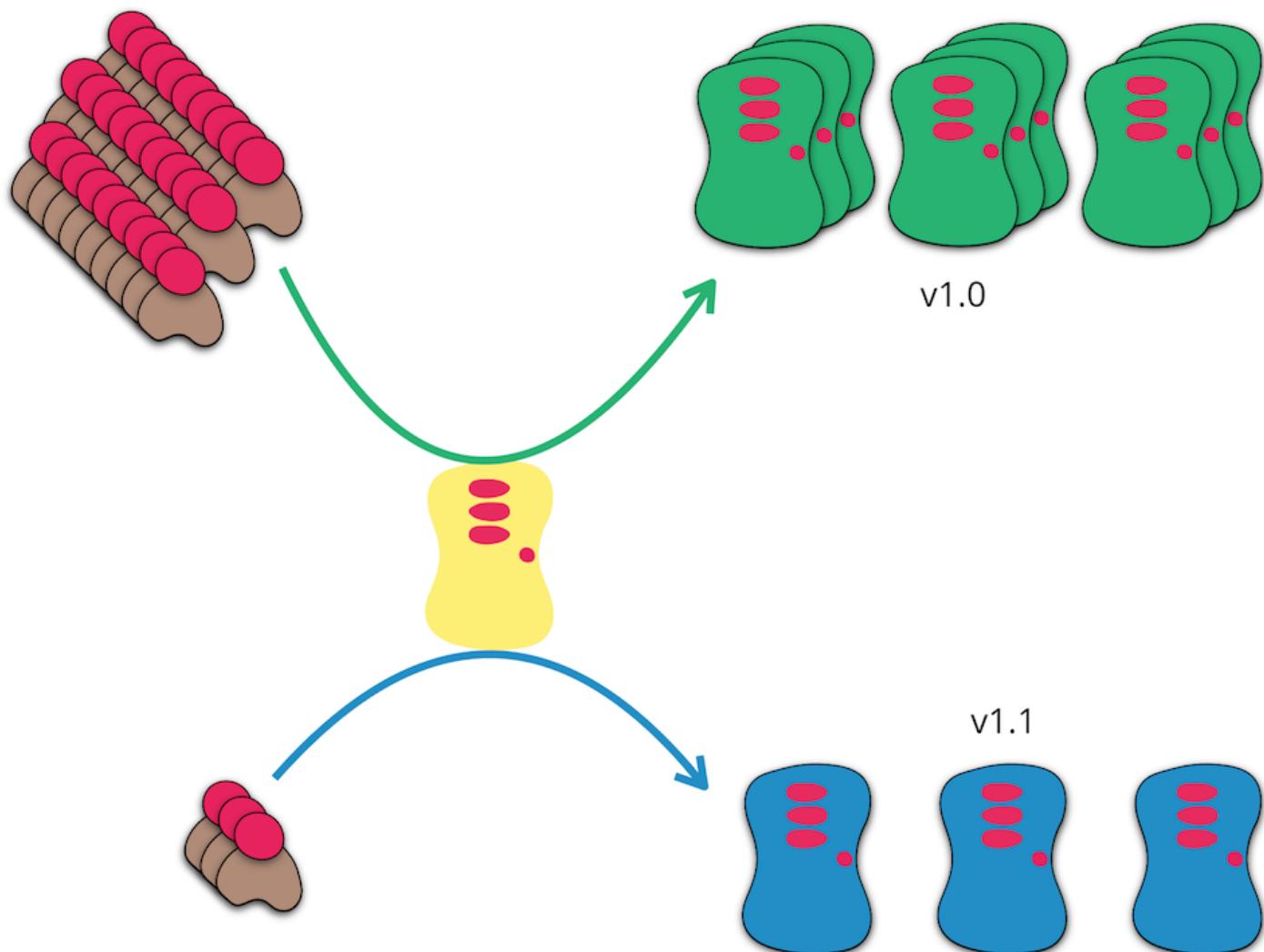
ROLLING UPDATES



BLUE-GREEN DEPLOYMENT



CANARY DEPLOYMENT





MONITORING IS THE NEW TESTING

Know when users are experiencing issues in
production

React to the issues automatically



@DEVOPS_BORAT

DevOps Borat

To make error is human. To propagate
error to all server in automatic way is
#devops.

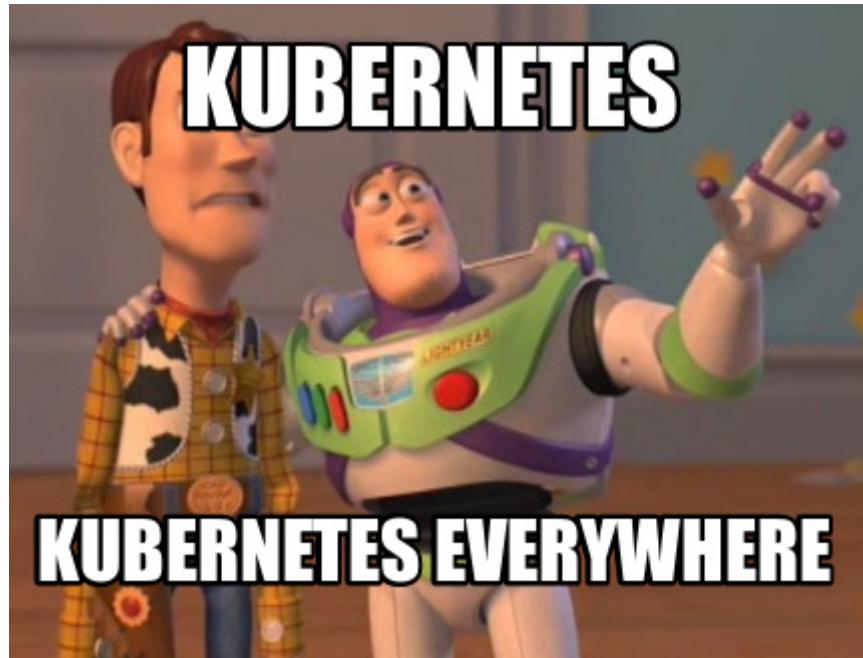
*If you haven't automatically destroyed
something by mistake, you are not
automating enough*

JENKINS X



kubernetes

KUBERNETES





I Am Devloper
@iamdevloper



Heisenberg's Uncertainty Principle for software:

The more you try and understand Kubernetes, the more impossible it becomes to do so.



docker



SKAFFOLD



DRAFT



JENKINS X

Nexus



prow



TEKTON

Pipeline engine in Kubernetes

Uses Pods and containers to run the pipeline steps

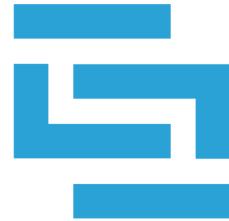


Implements ChatOps

Handles GitHub webhooks



Package manager for Kubernetes



S K A F F O L D

Build Docker images with multiple backends:

- Docker build
- Kaniko
- Google Cloud Build
- Jib (Maven/Gradle)



Generates Dockerfile and Helm charts for your project

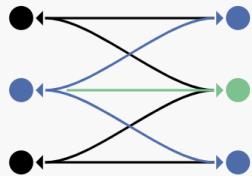
PROGRESSIVE DELIVERY WITH JENKINS X

jenkins-x.io/developing/progressive-delivery



Istio

Connect, secure, control, and observe services.



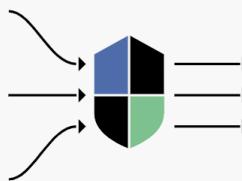
Connect

Intelligently control the flow of traffic and API calls between services, conduct a range of tests, and upgrade gradually with red/black deployments.



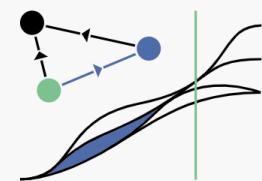
Secure

Automatically secure your services through managed authentication, authorization, and encryption of communication between services.



Control

Apply policies and ensure that they're enforced, and that resources are fairly distributed among consumers.



Observe

See what's happening with rich automatic tracing, monitoring, and logging of all your services.

PROMETHEUS

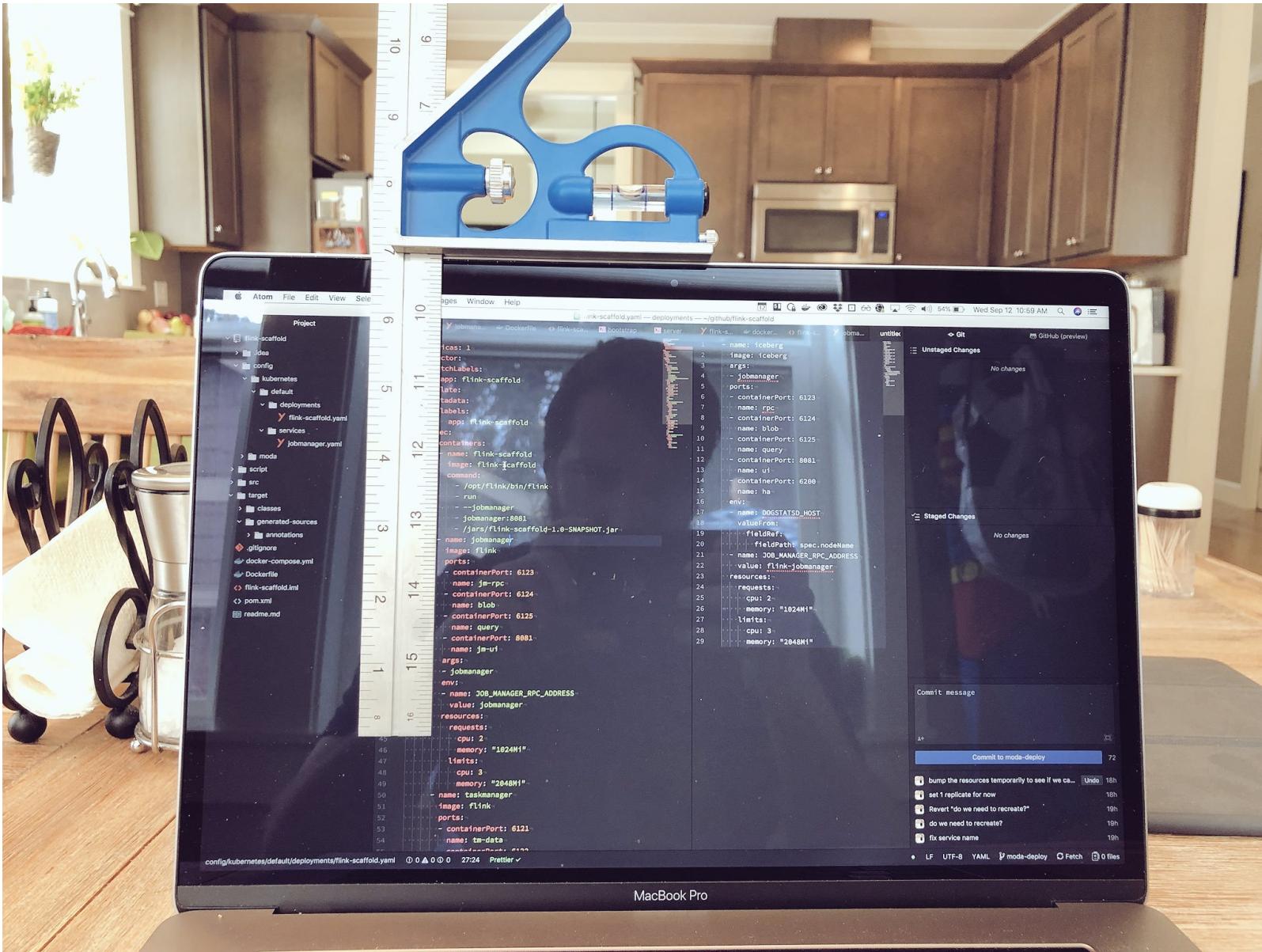


A systems monitoring and alerting toolkit

FLAGGER

[flagger.app](#)

automates the promotion of canary deployments by using Istio's traffic shifting and Prometheus metrics to analyse the application's behaviour during a controlled rollout



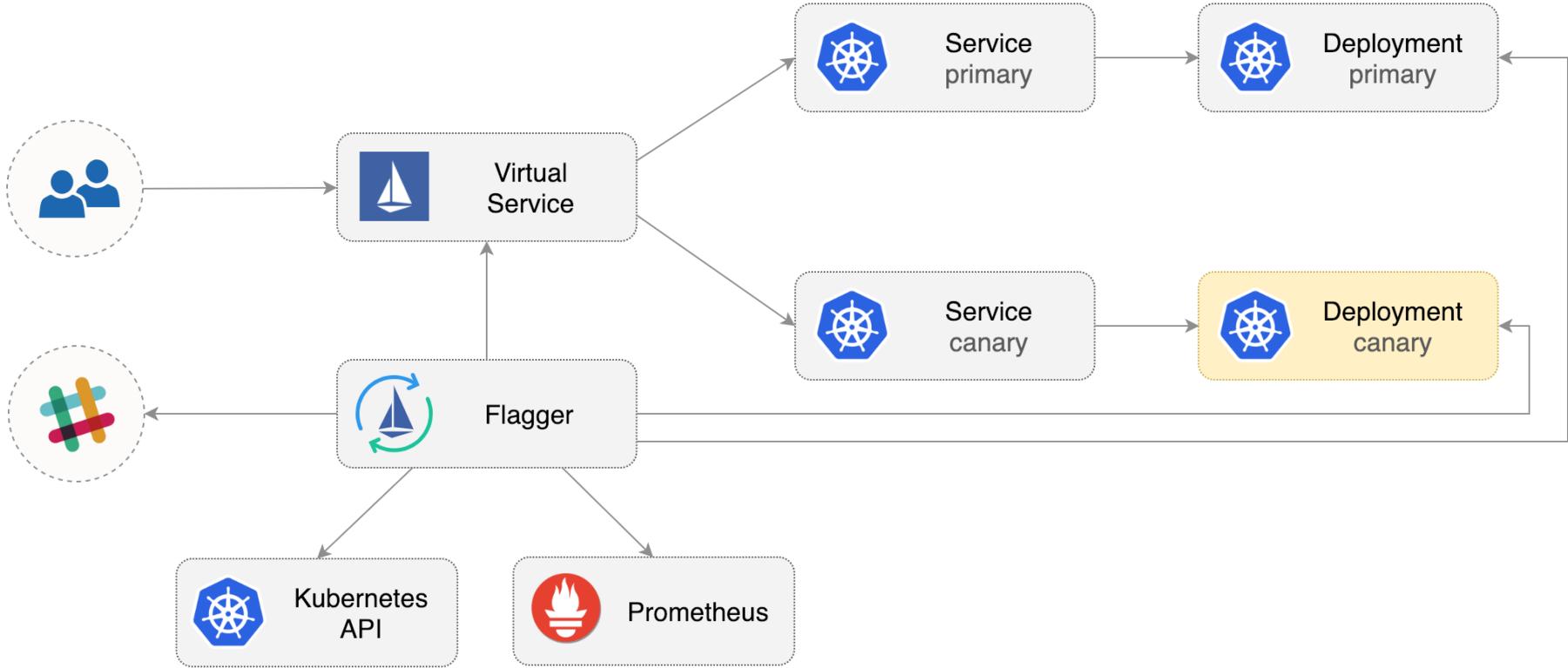
Add the canary section to our application Helm chart values.yaml

```
...
canary:
  enable: true
  service:
    hosts:
      - croc-hunter.istio.us.g.csanchez.org
    gateways:
      - jx-gateway.istio-system.svc.cluster.local
  canaryAnalysis:
    interval: 60s
    threshold: 5
    maxWeight: 50
    stepWeight: 10
```

```
metrics:
- name: request-success-rate
  # minimum req success rate (non 5xx responses)
  # percentage (0-100)
  threshold: 99
  interval: 60s
- name: request-duration
  # maximum req duration P99
  # milliseconds
  threshold: 500
  interval: 60s
```

PROFIT!

```
jx promote croc-hunter-java \  
  --version 0.0.130 \  
  --env production
```



staging github

production github

grafana



Namespace

test ▾

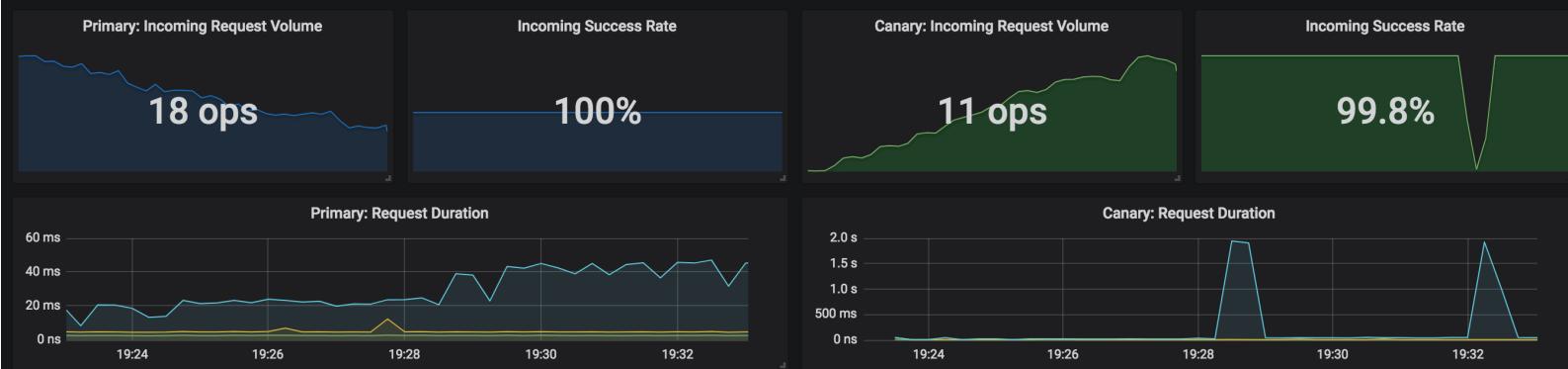
Primary

podinfo-primary ▾

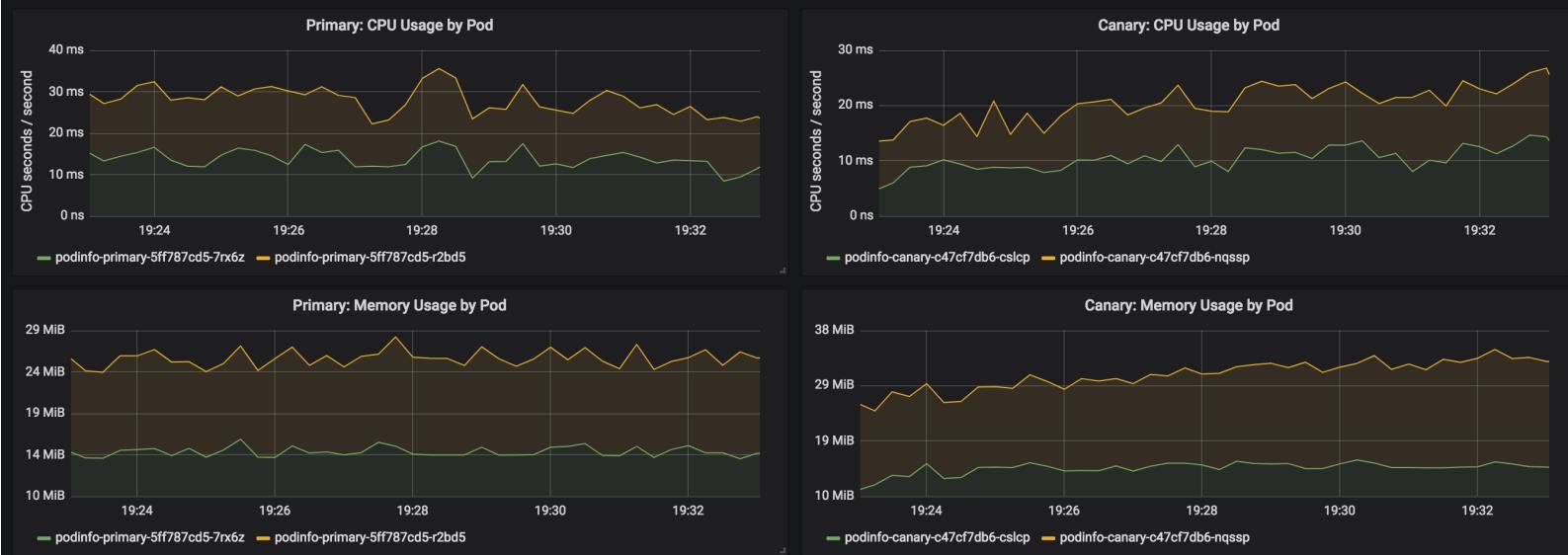
Canary

podinfo-canary ▾

RED: podinfo-primary.test



USE: podinfo-primary.test





flagger APP 3:30 PM

podinfo.test

New revision detected, starting canary analysis.

Target

Deployment/podinfo.test

Traffic routing

Weight step: 5 max: 50

Failed checks threshold

10

Progress deadline

60s

podinfo.test

Canary analysis completed successfully, promotion finished.



flagger APP 12:12 PM

podinfo.test

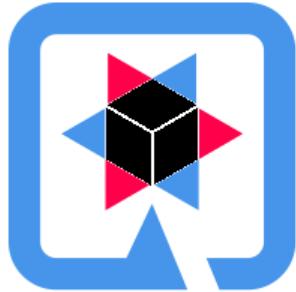
Progress deadline exceeded deployment does not have minimum availability for more than 60s



flagger APP 12:18 PM

podinfo.test

Failed checks threshold reached 10



QUARKUS

quarkus.io

A Kubernetes Native Java stack tailored for GraalVM & OpenJDK HotSpot, crafted from the best of breed Java libraries and standards

THE DEVOPS 2.6 TOOLKIT



Jenkins X

Viktor Farcic

CLOUD-NATIVE
KUBERNETES-FIRST
CONTINUOUS DELIVERY

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