Spring Boot Apps on Kubernetes

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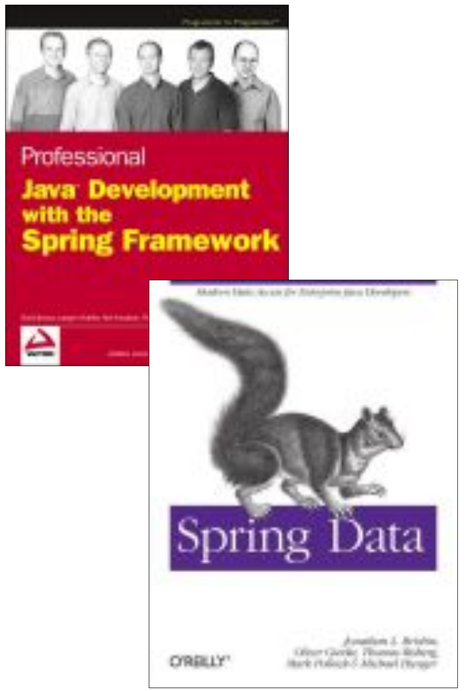
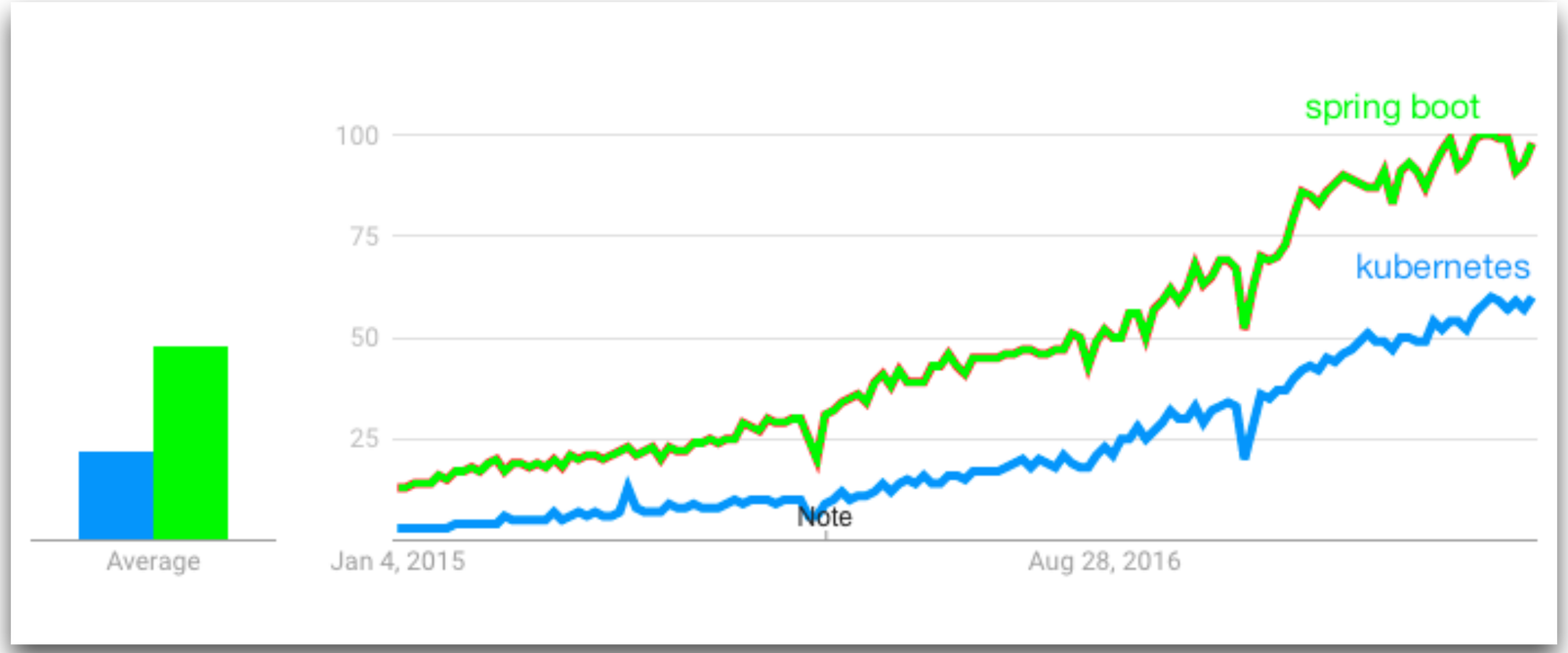
About me

Thomas Risberg (@trisberg)

- Member of the Spring engineering team at Pivotal
- Contributing to *Spring Cloud Data Flow, Spring Cloud Deployer for Kubernetes* projects
- Joined the Spring Framework open source project in 2003 working on JDBC support
- co-author of “Professional Java Development with Spring Framework” from Wrox 2005 and “Spring Data” book from O'Reilly 2012



Two Hot Technologies



Based on: https://trends.google.com/trends/explore?q=kubernetes,spring%20boot

Press/Analysts

RedMonk
the developer-focus

Videos Research Event

CHARTING STACKS

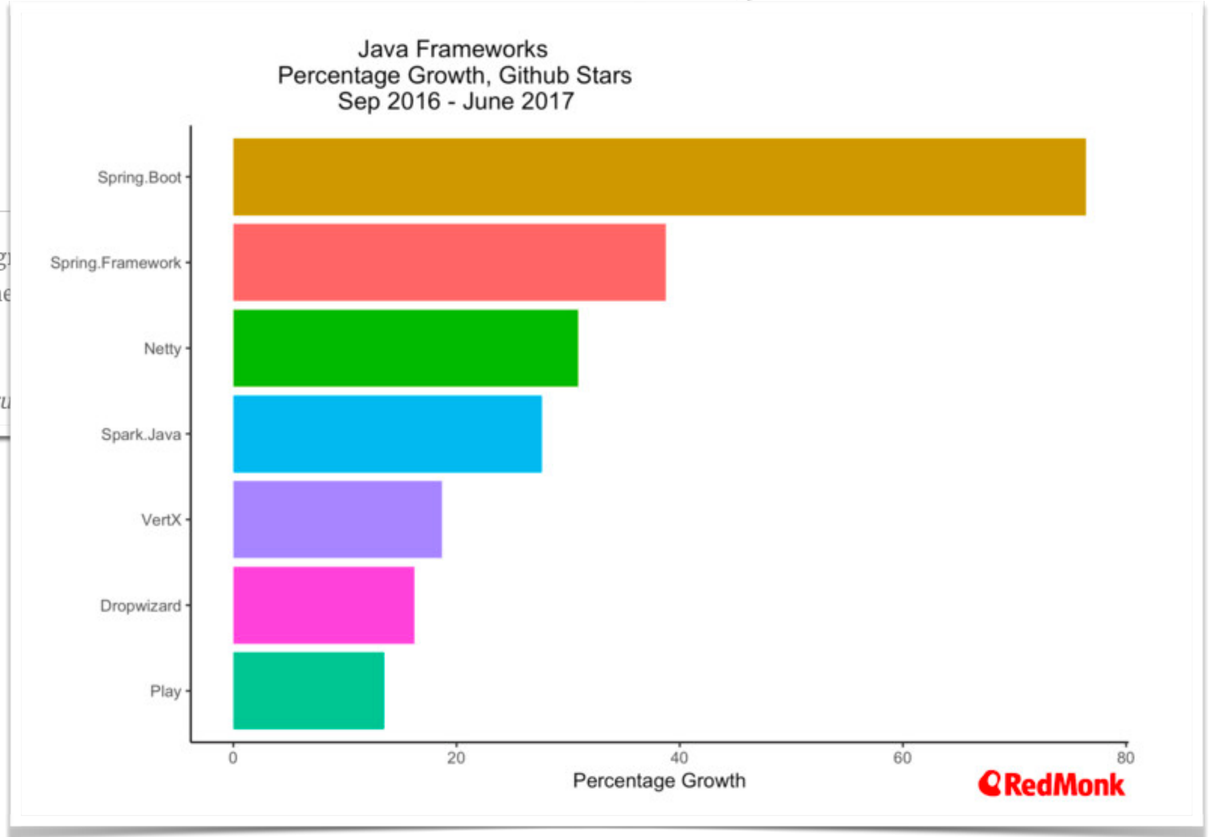
Language Framework Popularity: A Look at Java, June 2017

By fryan | June 22, 2017

TL; DR: Spring Boot is gr
most popular Java Frame
grow strongly

Framework: 'a basic stru

TL; DR: Spring Boot is growing at an exponential rate and is set to become the most popular Java Framework soon. Spring Framework and Netty continue to grow strongly



techcrunch.com

Kubernetes gains momentum as big-name vendors flock to Cloud Native Computing Foundation

Ron Miller

3-4 minutes

Like a train gaining speed as it leaves the station, the Cloud Native Computing Foundation is quickly gathering momentum, attracting some of the biggest names in tech. In the last month and a half alone AWS, Oracle, Microsoft, VMware and Pivotal have all joined.

What is Spring Boot?

Pair-programming with Spring Team

What is Kubernetes?

Running Apps on Minikube

- Build Docker image

```
eval $(minikube docker-env)
docker build -t trisberg/hello:0.0.1 .
```

- Using `kubectl` command line - run app

```
kubectl run hello --image trisberg/hello:0.0.1 --port=8080
```

- Expose the app port

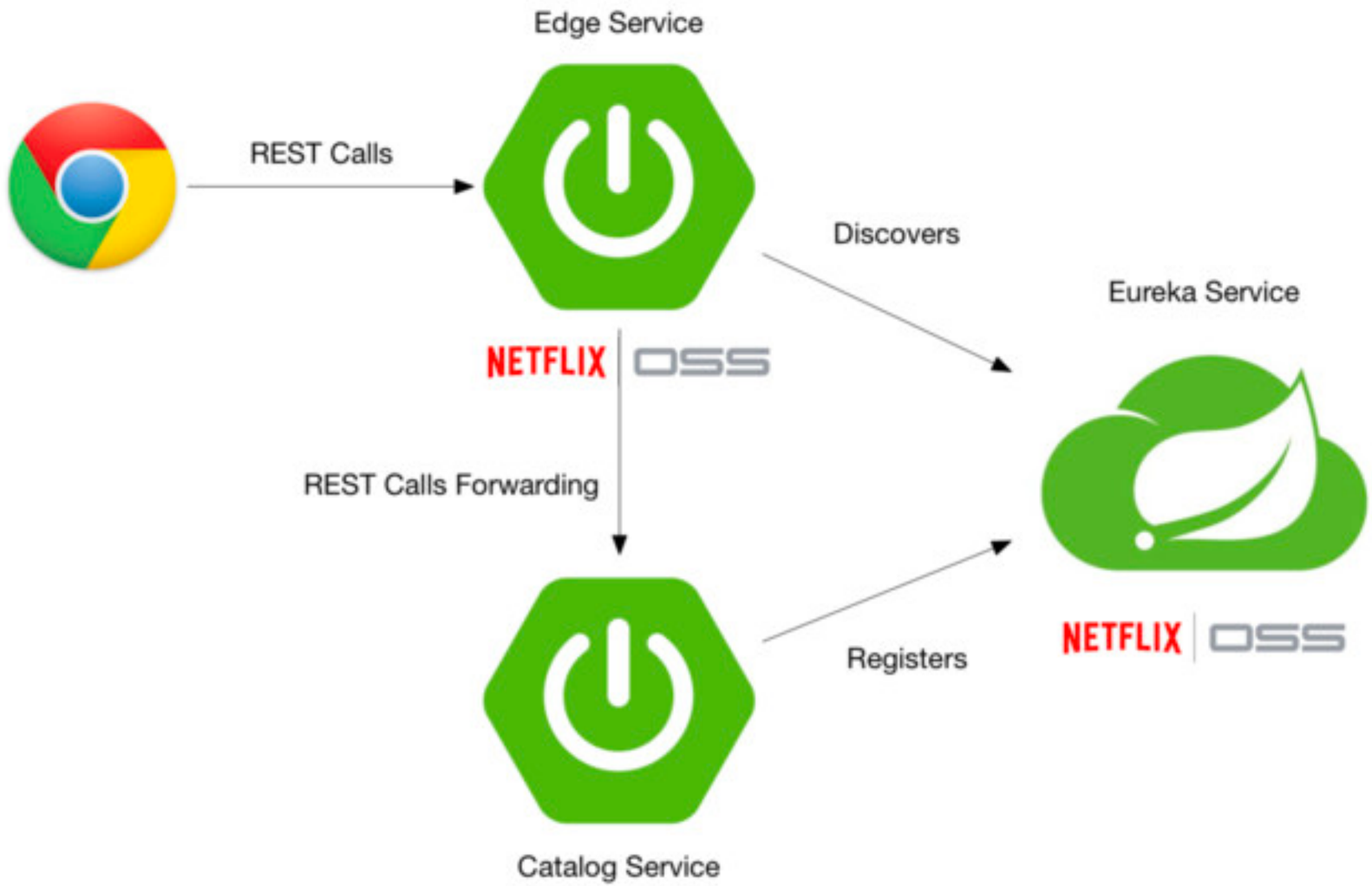
```
kubectl expose deployment hello --type=NodePort
```

Demo

- Simple Hello Spring Boot/Kubernetes app deployment
- https://github.com/trisberg/boot-k8s/blob/master/demo-hello.adoc

Spring Boot + Kubernetes

Spring Cloud / Netflix OSS



Spring Cloud for Kubernetes

- Fabric8 team created some integration libs

  `spring-cloud-kubernetes`

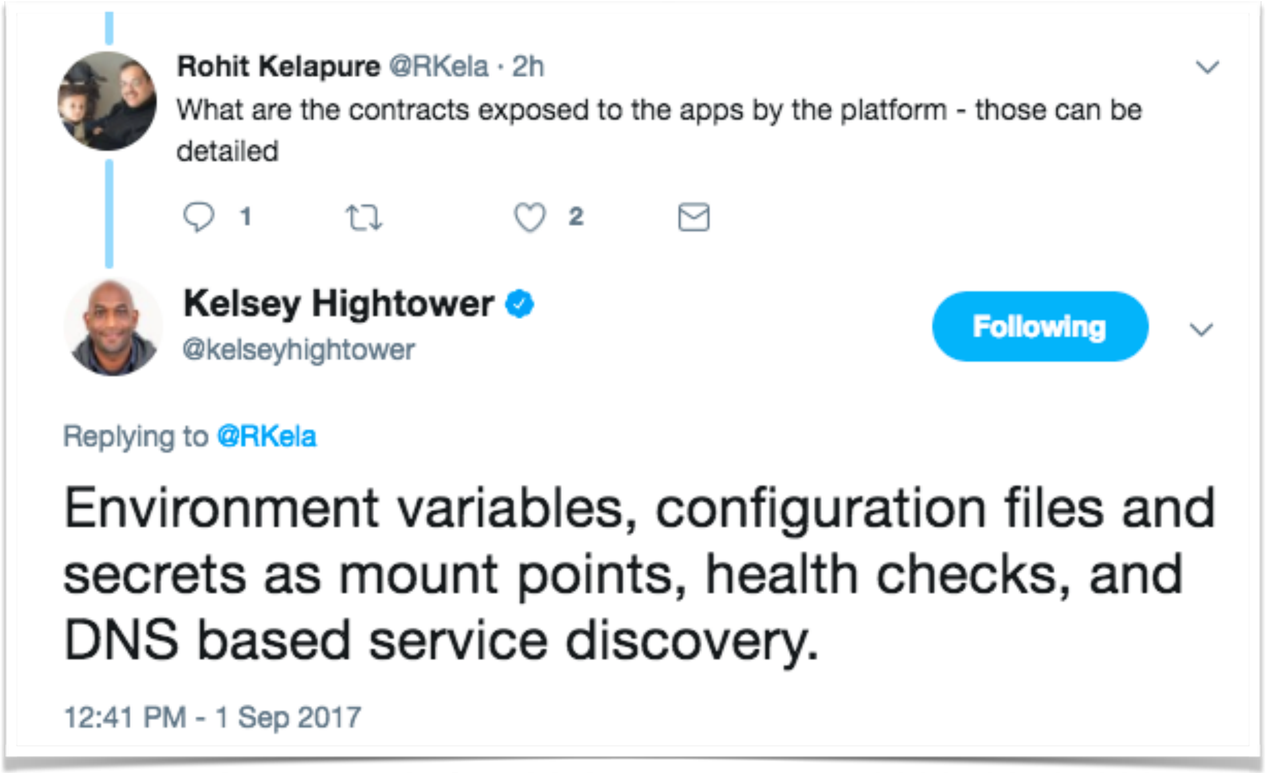
- Now available in `spring-cloud-incubator` on GitHub

Building Apps for Kubernetes

https://twitter.com/kelseyhightower/status/903640408613306369

Contracts exposed to the apps by the platform

- Environment variables
- Configuration files
- Secrets as mount points
- Health checks
- DNS based service discovery



https://twitter.com/kelseyhightower/status/903643916599046145