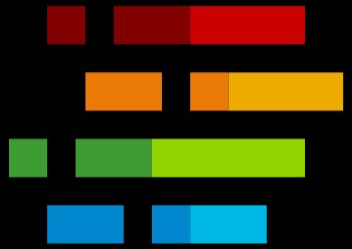


RED HAT®
DEVELOPER

Introduction to Knative

Get software and know-how.
Get started with Red Hat technologies.

Join at **developers.redhat.com**.

Resources

Knative Build

https://blog.openshift.com/knative-building-your-serverless-service/

Knative Serving

https://blog.openshift.com/knative-serving-your-serverless-services/

https://blog.openshift.com/knative-configurations-routes-and-revisions/

https://github.com/redhat-developer-demos/faas-tutorial

https://github.com/workspace7/knative-serving-blogs

https://github.com/workspace7/knative-build-blogs

Serverless

Serverless computing ?

"Serverless computing refers to the concept of building and running applications that do not require server management. It describes a finer-grained deployment model where applications, bundled as one or more functions, are uploaded to a platform and then executed, scaled, and billed in response to the exact demand needed at the moment."

https://www.cncf.io/blog/2018/02/14/cncf-takes-first-step-towards-serverless-computing/

"Serverless data center"

"Serverless data center"

Yes, there are servers.

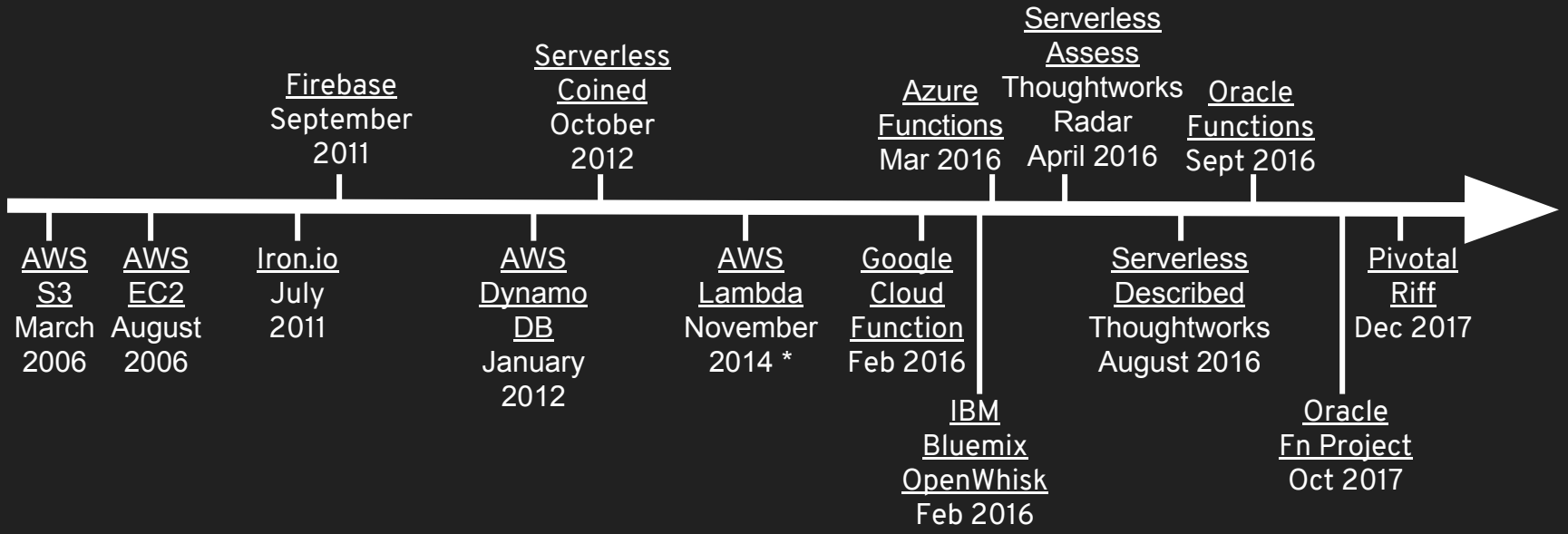
- Physical boxes running operating systems, VMs and containers.

Yes, there are servers.

- Processes listening on a TCP socket waiting for requests.

...but **the platform** takes care of provisioning, scaling, dispatching, monitoring all of those.

Short History of Serverless



* Only supports JavaScript
Only for stateless, short-lived, simple applications

Why do we need serverless ?

***Agility** of the cloud on any environment*

- ➔ *On-premise*
- ➔ *Multi-cloud*
- ➔ *Hybrid*

*Enable **event driven** cloud-native applications but also **integrate** with classic applications*

*Focus on business differentiation, abstract & delegate infrastructure to **platform** & **services***

*Consistent and scalable **operations** across multiple applications*

Resource optimization & cost savings

Architectural evolution

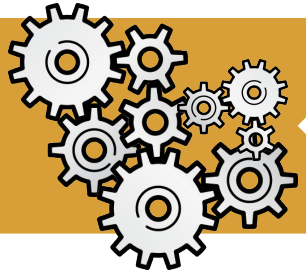
> Autonomous
> Loosely-coupled

> Single Purpose
> Stateless
> Independently Scalable
> Automated

> Single Action
> Ephemeral

Architectural evolution

Service



> Autonomous
> Loosely-coupled

Microservice

> Single Purpose
> Stateless
> Independently Scalable
> Automated

Function

> Single Action
> Ephemeral

Control & High complexity

Productivity & Low Control

PORTABILITY

Good and Bad about Serverless

- Automatic Scalability
- Automatic Cost Reduction
- Quicker and Easier Development
- Better Capacity Utilization
- Delivery speed

- Debugging
- Deployment and Architectural complexity
- Learning curve
- Vendor Lock-in
- Monitoring

https://hackernoon.com/serverless-survey-77-delivery-speed-4-dev-workdays-mo-saved-26-aws-monthly-bill-d99174f70663

Get the feel

SERVICE

Knative Announced July 24

What is Knative?

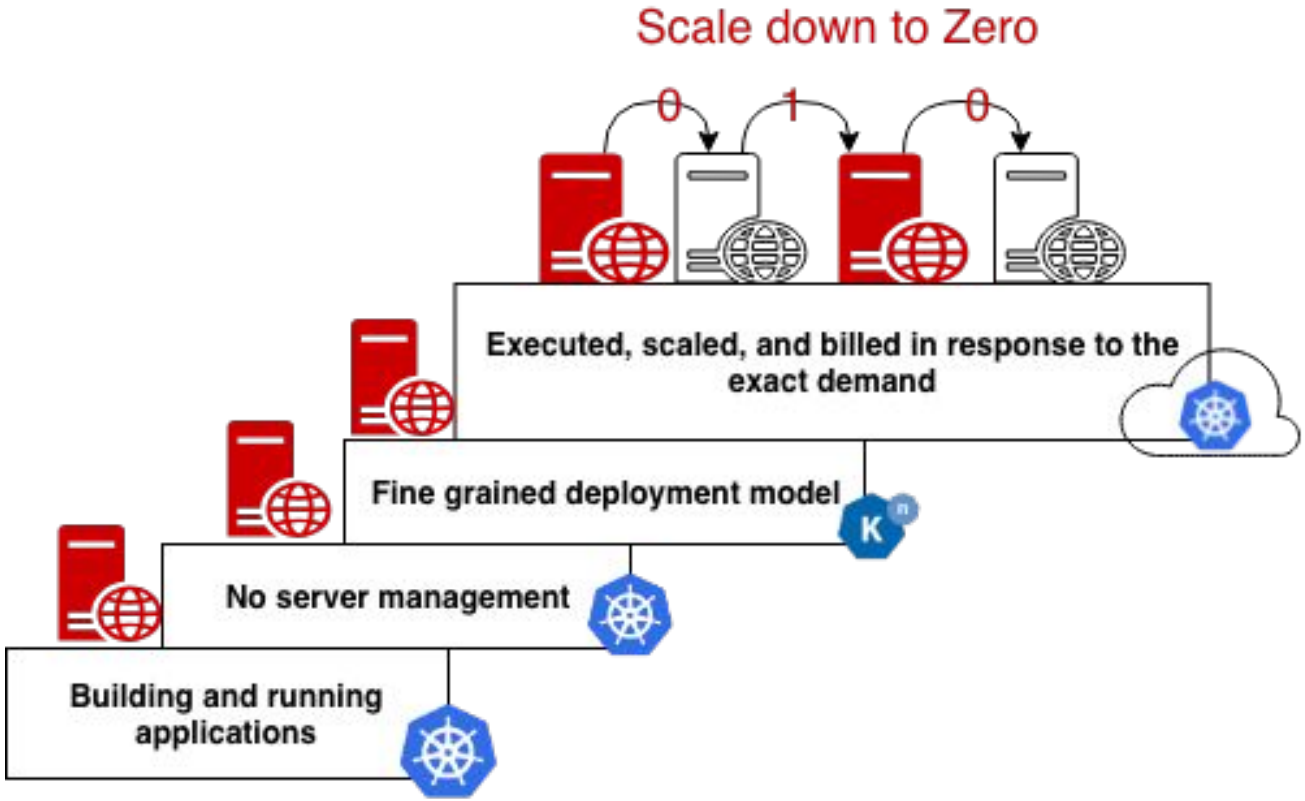
"Kubernetes-based platform to build, deploy, and manage modern serverless workloads."

"Essential base primitives for all"

"Knative provides a set of middleware components that are essential to build modern, source-centric, and container-based applications that can run anywhere: on premises, in the cloud, or even in a third-party data center"

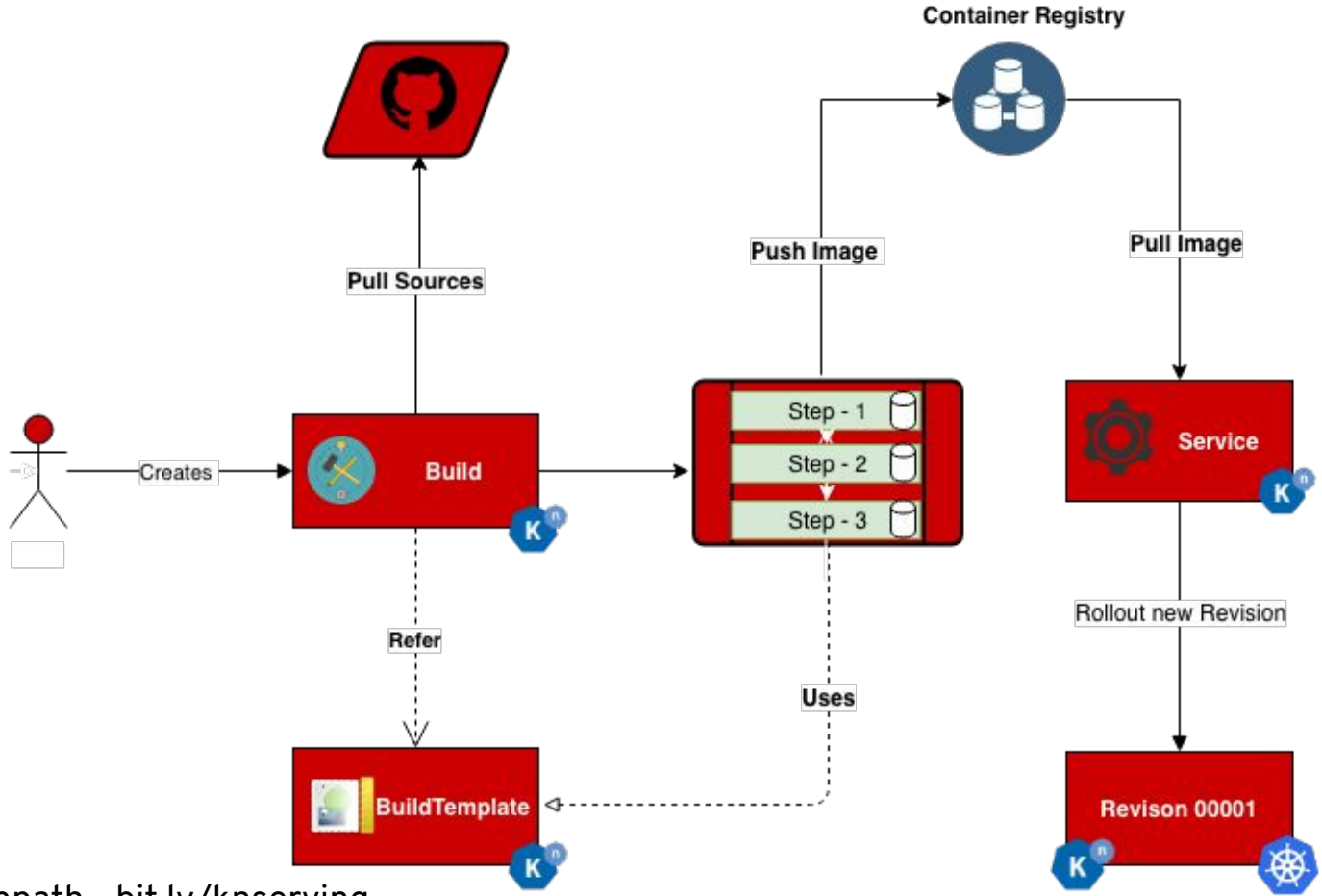
Serving

https://github.com/knative/docs/tree/master/serving



Build

https://github.com/knative/docs/tree/master/build

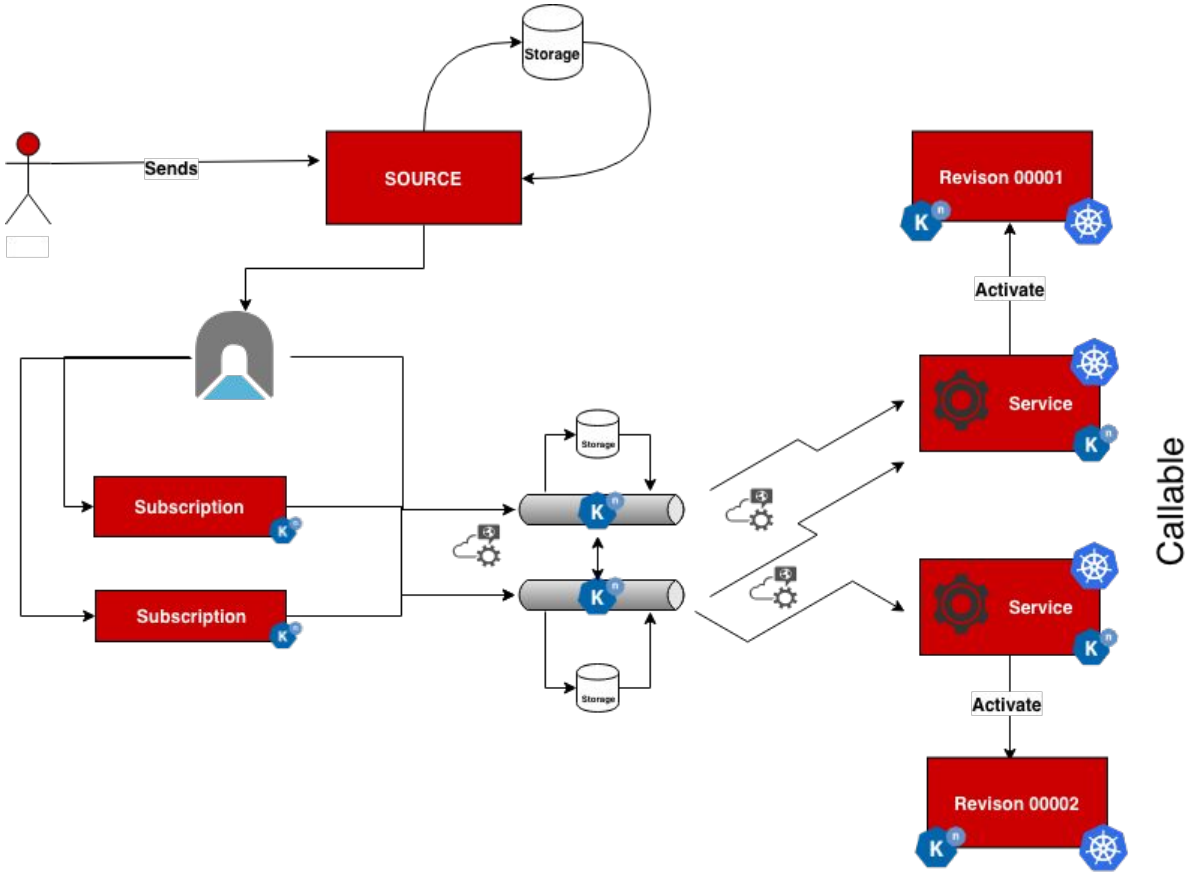


Demo

CNCF, CloudEvents and Serverless

Eventing

- https://github.com/knative/docs/tree/master/eventing
- https://github.com/knative/eventing-sources



Demo

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Kamesh Sampath

Director of Developer Experience at Red Hat

- Active Open Source Contributor
  - Knative
  - Camel-K
- Creator vert.x-maven-plugin → https://vmp.fabric8.io/

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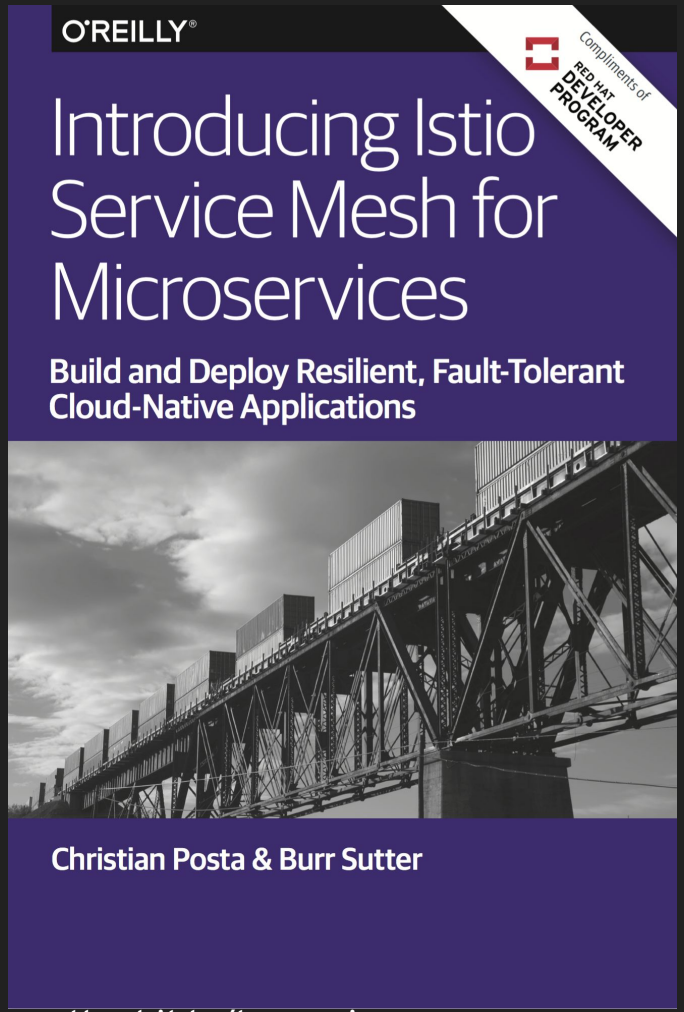
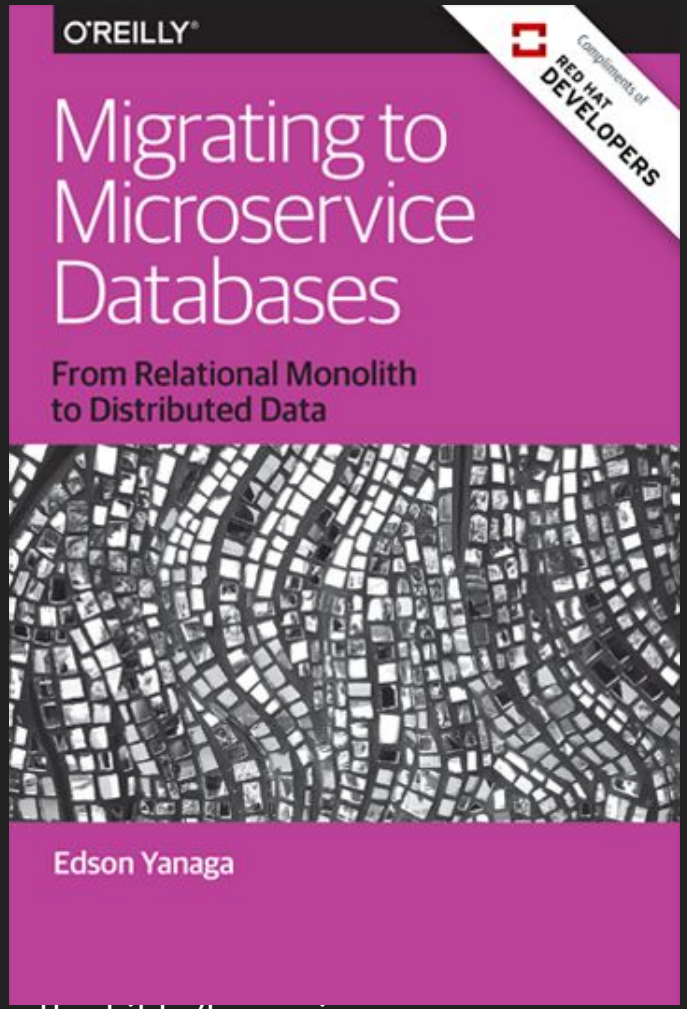


bit.ly/istio-book



bit.ly/mono2microdb

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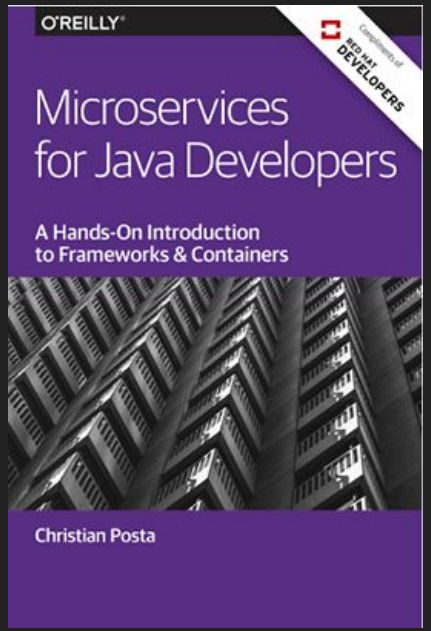
bit.ly/javamicroservicesbook



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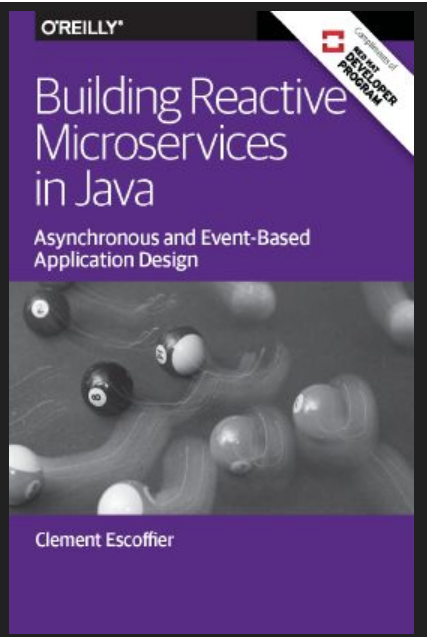
Slides: bit.ly/microservicesdeepdive
Video Training: bit.ly/microservicesvideo
Kubernetes for Java Developers
9 Steps to Awesome with Kubernetes

Advanced Materials

bit.ly/reactivemicroservicesbook



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Thank you

bit.ly/knserving

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