Knative makes Developers Incredible on Serverless

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About Me

Daniel Oh

- DevOps Evangelist at Red Hat
  - Cloud Native App Development
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- CNCF Ambassador
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Look forward to discovering this?

- Serverless
- FaaS(Function as a Service)
- Serverless Computing
- Serverless Platform
7 Open Source Platforms to Get Started with Serverless Computing: opensource.com/article/18/11/ … (A pretty elementary introduction.)
How does enterprise developers imagine the serverless computing?
AWS Lambda

Run code without thinking about servers. Pay only for the compute time you consume.

Get started with AWS Lambda

TECH TALK
Accelerate Serverless Development Using AWS SAM - January 31
Compose nested applications using the AWS SAM, SAM CLI, and the AWS Serverless Application Repository.

AWS Lambda lets you run code without provisioning or managing servers. You pay only for the compute time you consume - there is no charge when your code is not running.

With Lambda, you can run code for virtually any type of application or backend service - all with zero administration. Just upload your code and Lambda takes care of everything required to run and scale your code with high availability. You can set up your code to automatically trigger from other AWS services or call it directly from any web or mobile app.
Principles

- No worries about Infrastructure
- Auto scaling
- Pay as you go
Developer Experiences

Events

Services

Functions
Developer Journey - Monolith

Application
Developer Journey - Microservices
Developer Journey - Distributed Microservices
Developer Journey - Multiple Data and Entries
function main() {
    return {payload: 'Hello world'};
}
Serverless challenges by Managed service

Multi Cloud
Unable to run functions across private cloud, public cloud, and on-premise

Dependencies
Limited runtimes, languages, and frameworks
Managing by yourself

- Containers
- Kubernetes
- Istio Service Mesh
- APIs as a Service
13+

Serverless or FaaS open sources projects based Kubernetes

https://landscape.cncf.io/format=serverless
But...

Kubernetes is not easy for developers
Meet Knative

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

Building blocks to create serverless experiences for developers on top of Kubernetes

github.com/knative
Primary Components

- Build
- Serving
- Eventing
Demo

https://github.com/redhat-developer-demos/knative-tutorial
Serving

Scale down to Zero

Executed, scaled, and billed in response to the exact demand

Fine grained deployment model

No server management

Building and running applications

Kubernetes

K

Cloud

Cloud

Cloud
Developer Experiences with Knative

FaaS platforms
(Apache OpenWhisk, OpenFaaS, Kubeless...)

Knative

Kubernetes

Developers

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Resources

https://opensource.com/article/18/11/open-source-serverless-platforms
https://opensource.com/article/18/11/developing-functions-service-apache-openwhisk
https://blog.openshift.com/knative-serving-your-serverless-services/
https://blog.openshift.com/knative-building-your-serverless-service/
https://blog.openshift.com/knative-configurations-routes-and-revisions/
https://github.com/redhat-developer-demos/knative-tutorial
THANK YOU & QUESTION?

Following me: @danieloh30