Tekton 101

—

Andrea Frittoli
Open Source Developer Advocate
andrea.frittoli@uk.ibm.com

@blackchip76

—

KubeCon and CloudNativeCon
North America 2019

November 19th 2019

A Bit of History

Knative Build

- – Beginning of 2018...
- – Knative:
  - – Build
  - – Eventing
  - – Serving
- – Setpt 2018...
- – Knative Pipelines

- – OpenSource
- – Contributors:
  Google, RedHat, IBM
  Cloudbees, Pivotal
  ...and others

From Knative to Tekton

- Tekton pipelines (March 2019)
- Focus on CI/CD
- @CD Foundation (March 2019)
- Deploy "anywhere"
- Replaces Knative Build (June 2019)
- Bootstrap governance
- Build deprecated in Knative

Tekton
Pipelines

Tekton in a nutshell

Standard Kubernetes-style pipelines
Declarative pipelines with standard Kubernetes custom resources (CRDs) based on Tekton*

Run pipelines in containers
Scale pipeline executions on-demand with containers on Kubernetes

Build images with Kubernetes tools
Use tools of your choice (source-to-image, buildah, kaniko, jib, etc) for building container images
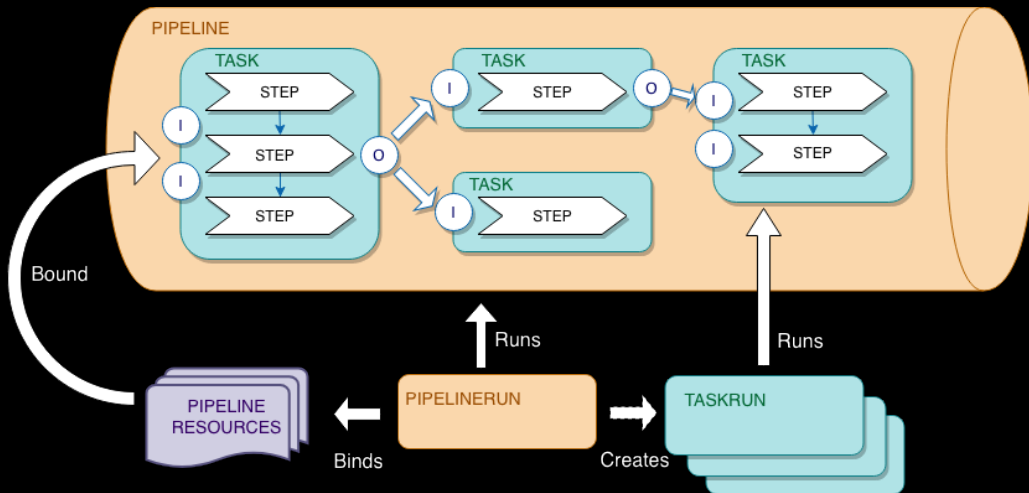
Deploy to multiple platforms
Deploy applications to multiple platforms like serverless, virtual machines and Kubernetes
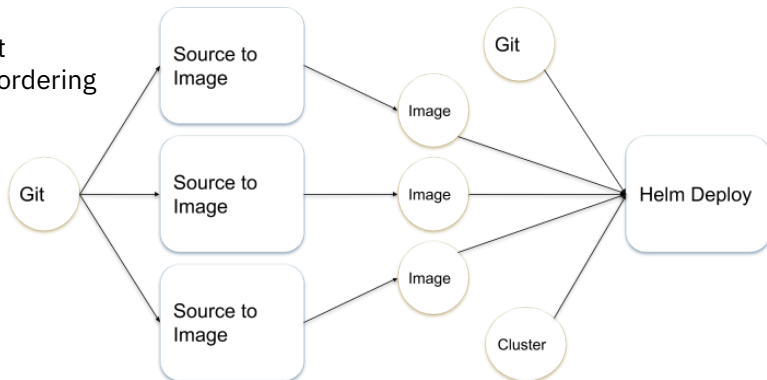
Powerful command-line tool
Run and manage pipelines with an interactive command-line tool

Cloud Native Pipelines

Sample pipeline

- Steps are sequential
- Tasks are a Directed Acyclic Graph
- Order defined by:
    - *from*: input / output
    - *runAfter*: enforced ordering

Tekton
Projects

Tekton projects

- tektoncd/pipeline — core
- tektoncd/catalog — shareable task definition
- tektoncd/cli — command-line to interact with pipeline
- tektoncd/triggers — create tekton resources in reaction of events
- tektoncd/operator — install/upgrade you tekton
- tektoncd/dashboard — web ui for tekton

- Plumbing, Community, Website (https://tekton.dev/), Friends

Thank You!

References

- This Talk:
  https://github.com/afrittoli//github.com/afrittoli/tekton101/tree/kubecon-na-2019
- Tekton Links:§
  - https://tekton.dev/, https://cd.foundation/
  - https://github.com/tektoncd/pipeline
  - https://github.com/tektoncd/pipeline/blob/master/roadmap-2019.md
- IBM Cloud: https://cloud.ibm.com

Q&A