

From Zero to CD with Tekton



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

IBM Cloud Native Day

An IBM Community Virtual Conference



Agenda



Introduction

From 0 to CD

Roadmap

Q&A



Introduction



Photo by Mike Benna, CC0



Tekton is an open-source framework for creating CI/CD systems

Cloud Native
Serverless,
Scalable
Pipelines



Standardization
Built In Best
Practices
Maximum
Flexibility

Core Projects
➤ Pipeline
➤ Triggers
Tooling:
➤ CLI *tkn*
➤ Dashboard
➤ Operator

Discovery:
➤ Catalog
➤ Hub
Adds-on:
➤ Results
➤ Chain
➤ Experiments

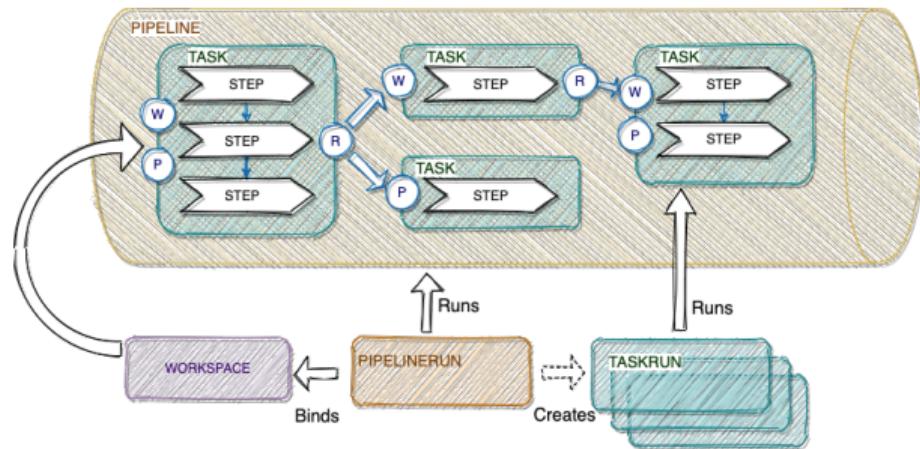


A bit of history

- › From Knative Built, to Pipeline
- › Extend the k8s API with CRDs
- › Tekton and the CDF



- › Definitions: Step, Task, Pipeline
- › Bindings: Workspaces, Parameters, Results
- › Execution: TaskRun, PipelineRun



From 0 to CD
...step by step





Install

- One-liner (almost)
- Tekton Operator ([OperatorHub](#))
- Nightly Build (Operator too)
- Helm (by CDF)

- Multi-architecture (amd64, s390x, ppc64le, arm64)



Authoring

- › Catalog & Hub
- › Tasks & Pipelines
- › Parameters, Results & Workspaces
- › OCI Bundles



8/17





Watching

- › Running Tasks & Pipelines
- › Tekton Dashboard
- › tkn, kubectl
- › Pods, Volumes & Events

Launching

- › Tekton Triggers
- › Setting up a Webhook
- › Filtering with Interceptors
- › Filtering with When Expressions



Monitoring & Cleanup



- Unattended Execution
- Events, CloudEvents
- Notifications:
GitHub, Slack and more
- Monitoring & Measuring

- Tekton Results
- Resource Cleanups (WIP)

Experiments & Dogfooding

- | | |
|--|--|
| <ul style="list-style-type: none">➤ Custom Tasks:
Loops & Iterations
Pipeline in Pipelines Wait, CEL Run | <ul style="list-style-type: none">➤ Using Tekton to CD Tekton➤ Release, GitOps, CI |
| <ul style="list-style-type: none">➤ Custom Interceptors (GitHub)➤ DSL, SDK, Notifiers | <ul style="list-style-type: none">➤ From Experiments to Feature➤ Source of examples➤ Bug discovery, feature requests |



Roadmap



Photo by Ray Bilcliff, CC0



Roadmap & Vision

Mission:

- › Be the industry-standard, cloud-native CI/CD platform components and ecosystems

Vision:

- › A rich catalog of high quality, reusable Tasks which work with Tekton conformant systems

Vision:

- › Tekton API conformance across as many CI/CD platforms as possible

Roadmap 2021:

- › Towards GA
- › LTS Policies
- › User stories, Documentation
- › Dogfooding



TEP (optional)

- › Design principles
- › TEP process
- › TEP table



A photograph of a fast-moving stream flowing through a dense forest. The water is blurred, indicating motion, and the surrounding trees are bare, suggesting a winter or early spring setting. Mossy rocks are visible in the water.

Thank You! Questions?

References

- › Come and Join Us at Tekton!
- › Tekton community: github.com/tektoncd/community
- › Slides: github.com/afrittoli/zero_to_tekton
- › Tekton: tekton.dev
- › Tekton Docs: tekton.dev/docs
- › Tekton on GitHub: github.com/tektoncd
- › Tekton Hub: hub.tekton.dev
- › Tekton on Operator Hub:
<https://operatorhub.io/operator/tektoncd-operator>
- › Tekton Results: github.com/tektoncd/results
- › Tekton Enhancement Proposals (TEPs):
github.com/tektoncd/community/tree/main/teps

