

From Zero to CD with Tekton

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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

- Projects
- Pipeline
 - Triggers
 - Dashboard
 - CLI
 - Catalog, Hub
 - Results
 - Chains
 - Operator

Community
More than 150
Companies
Google, IBM,
RedHat, VMWare

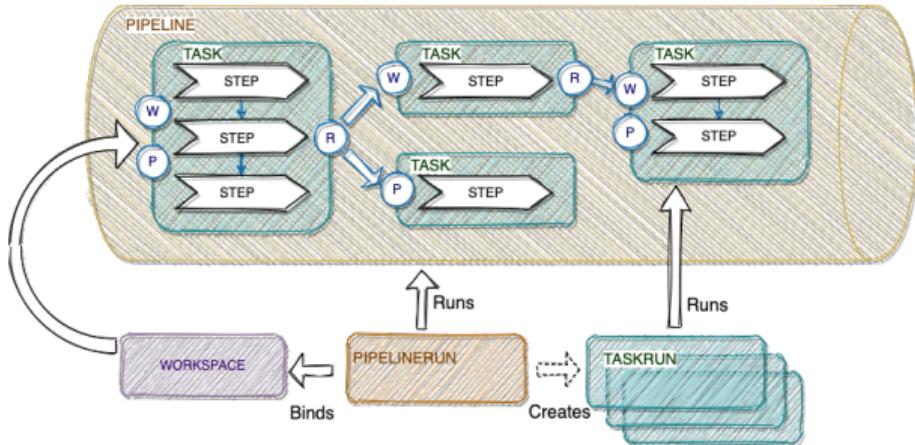


At a Glance



- › Extend the k8s API with CRDs
- › Definitions: Task, Pipeline
- › Execution: TaskRun, PipelineRun
- › Bindings:
Workspaces, Parameters, Results

- › Tekton v1 – Q1 2022
- › Standalone or building block



From 0 to CD
...step by step





Install

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

- Multi-architecture (amd64, s390x, ppc64le, arm64)
- Multi-OS (Workloads can run on Windows/amd64)

- OpenShift Pipelines
- Let's install it!



Authoring

- › Catalog & Hub
- › Tasks & Pipelines
- › Parameters, Results & Workspaces
- › OCI Bundles
- › Signed Tasks and Pipelines (WIP)

- › Let's install some tasks and pipelines



Photo by [Thom Milkovic](#), CC0





Watching

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

Launching

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



Monitoring & Security



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

- Hermetic Builds (Alpha)
- Tekton Chains

Experiments & Dogfooding

- | | |
|--|--|
| ➤ Custom Tasks:
Loops & Iterations
Pipeline in Pipelines Wait, CEL Run | ➤ Using Tekton to CD Tekton
➤ Release, GitOps, CI |
| ➤ Custom Interceptors (GitHub)
➤ DSL, SDK, Notifiers | ➤ From Experiments to Feature
➤ Source of examples
➤ Bug discovery, feature requests |



Roadmap



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
- › Security: Audit and Features
- › User stories, Documentation
- › Dogfooding





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

