How to Multiply the Power of Argo Projects By Using Them Together

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Speakers

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Overview

- Who we are
- Project update
- Demo time

Who We Are

KubeCon CloudNativeCon North America 2020 Virtual

Financial products for
- Consumers
- Small businesses
- Self-employed

$7B Revenue, 9000 Employees

intuit turbotax quickbooks mint

Argo Get stuff done with Kubernetes!

The Argo Project is a set of Kubernetes-native tools for deploying and running jobs and applications.

It uses **GitOps** paradigms such as continuous delivery, progressive delivery and enables **MLOps** on Kubernetes.

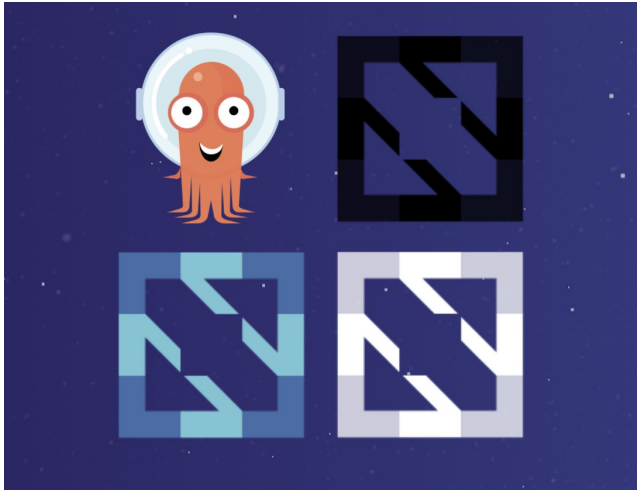
- Argo Workflows - Container-native Workflow Engine
- Argo CD - Declarative GitOps Continuous Delivery
- Argo Rollouts - Declarative Progressive Delivery and Experimentation
- Argo Events - Event-based Dependency Manager

Community

Adevinta
Adobe
Alibaba Cloud
蚂蚁金服 ANT FINANCIAL
ARZ
BLACKROCK
BioBox Analytics
Canva
CapitalOne
Cratejoy
CYRUS BIOTECHNOLOGY
DATADOG
DATASTAX
EDF
END.
equinor
Future
GitHub
Gladly
Google
GMETRI
IBM
Interline
intuit
KARIUS
KintoHub
KompiTech
Lytt
Localytics
Max Kelsen
MIRANTIS
NVIDIA
OpenSaaS STUDIO
optoro
OVH
PELOTON
Preferred Networks
PRUDENTIAL
Quantabio
Red Hat
riskified
SAP
styra
TESLA
threekit
ticketmaster
TWILIO SendGrid
tZERO
Yieldlab
ubio
VOLVO
WAVEFRONT

Community

- https://github.com/argoproj
- CNCF Incubation
- 10,300+ GitHub stars
- 3,600+ Slack members
- 460+ contributors
- 4,600+ commits
- 170+ end user companies
- 250+ releases
- Bootstrap Committee formed by Intuit, BlackRock, Red Hat and Alibaba



Workflows & Events

- Argo Events v1.0.0 🎉
- Memoization: Re-use the remembered output when re-run.
- Mutex: Exclusive access to a non-shareable resource for a step.
- Cron Workflow: Advanced CronJob.
- User Experience - SSO, resource duration, better visualization
- Scaling, Reliability, Performance
- Argo Events User Interface

CD

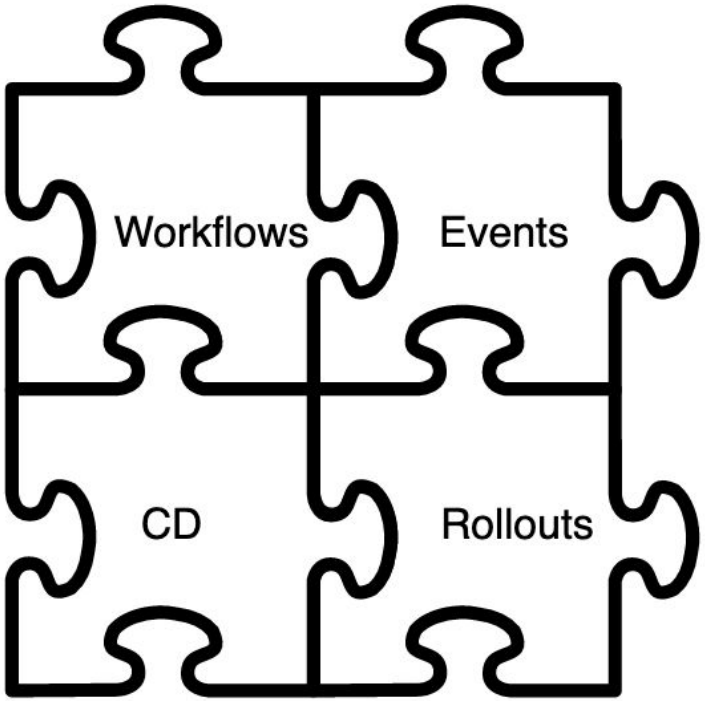
- Performance and scalability
  - 2000+ applications, 100+ clusters, and mono repository support
- ApplicationSet: Application of Applications
- GitOps Engine: a reusable library that implements core GitOps features
- Image Updater: monitor Docker registries and automatically update image
- Notifications: notify users about important changes in the applications state
- GitOps Agent: light-weighted ArgoCD based on the GitOps Engine
- Serviceability: enable administrators to have more insights about system

Rollouts

- Update strategies
  - Blue-Green (aka red-black)
  - Canary
- Fine-grained, weighted traffic shifting
  - Ingress controller and Service Mesh integrations
- Rich metric provider integrations: Prometheus, Wavefront, Datadog, NewRelic, Web, Kubernetes Jobs
- ADP, Spotify, Intuit and many other companies have adopted it!

Application Delivery Platform

argo



Demo

We are going to:

- Build a scalable and resilient system that serves real use-case
- Use existing open-source projects
- Use Argoproj to glue everything together
- And won't write a single line of code*

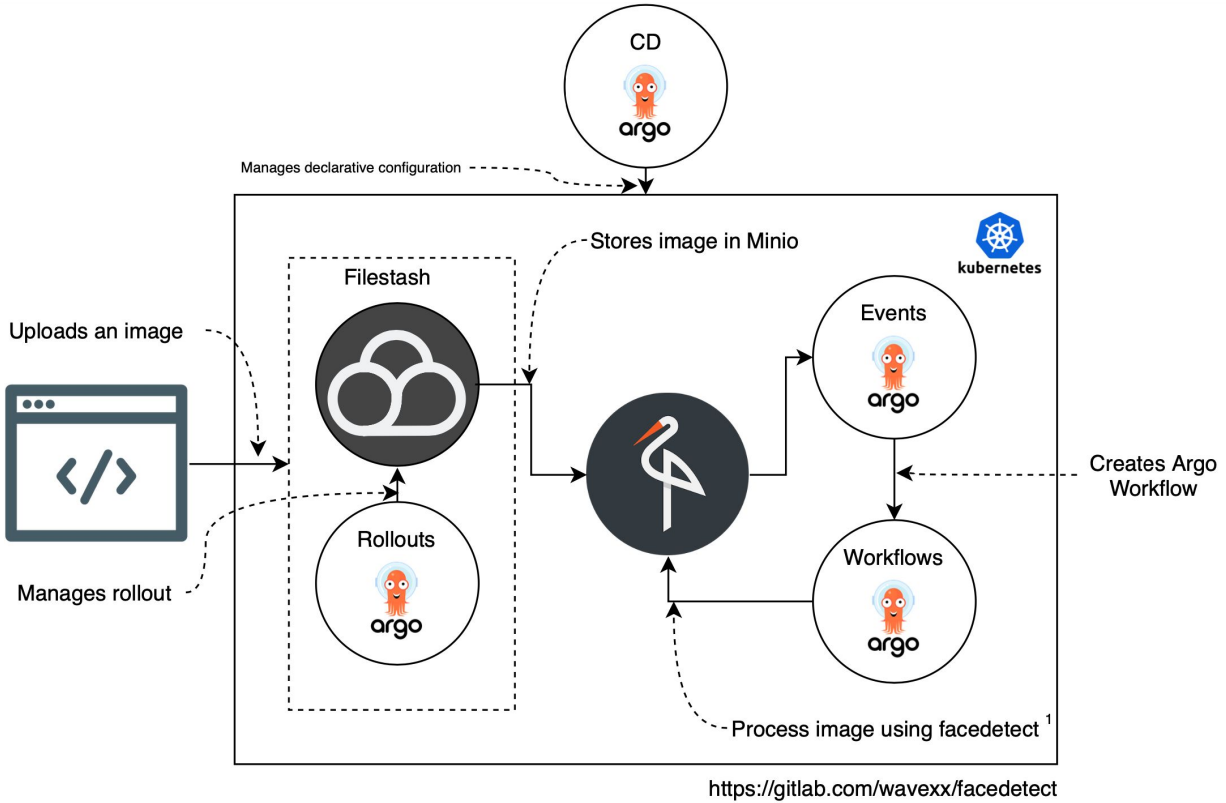
* just a couple of hundreds of lines of YAML :)

Demo

https://github.com/alexmt/kubecon-2020-demo

Web service

- Allow to view and upload images
- Persist images in S3 compatible storage
- Run ML job that detects faces when new image uploaded
- Upload image with detected faces back to S3



GitOps Engine

What Is GitOps Engine?
https://github.com/argoproj/gitops-engine

- A library that implements core GitOps features
- Includes advanced features like sync hooks and sync waves
- Powers Argo CD

argo

Welcome New Consumer! GitLab
https://gitlab.com/gitlab-org/cluster-integration/gitlab-agent/

- An active in-cluster component for solving any GitLab<->Kubernetes integration tasks.
- Powered by GitOps Engine

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