Welcome to the Kubernetes Course!

We will start at 09:00

Meanwhile, please mute yourself and make sure that:

1. You have a ssh client installed (mobaxterm, putty, git bash, etc)
2. You have a GitHub account and you can access it
3. You have a DockerHub account and you can access it

Agenda

- Part 01: CI/CD on Kubernetes
- Part 02: Service Mesh

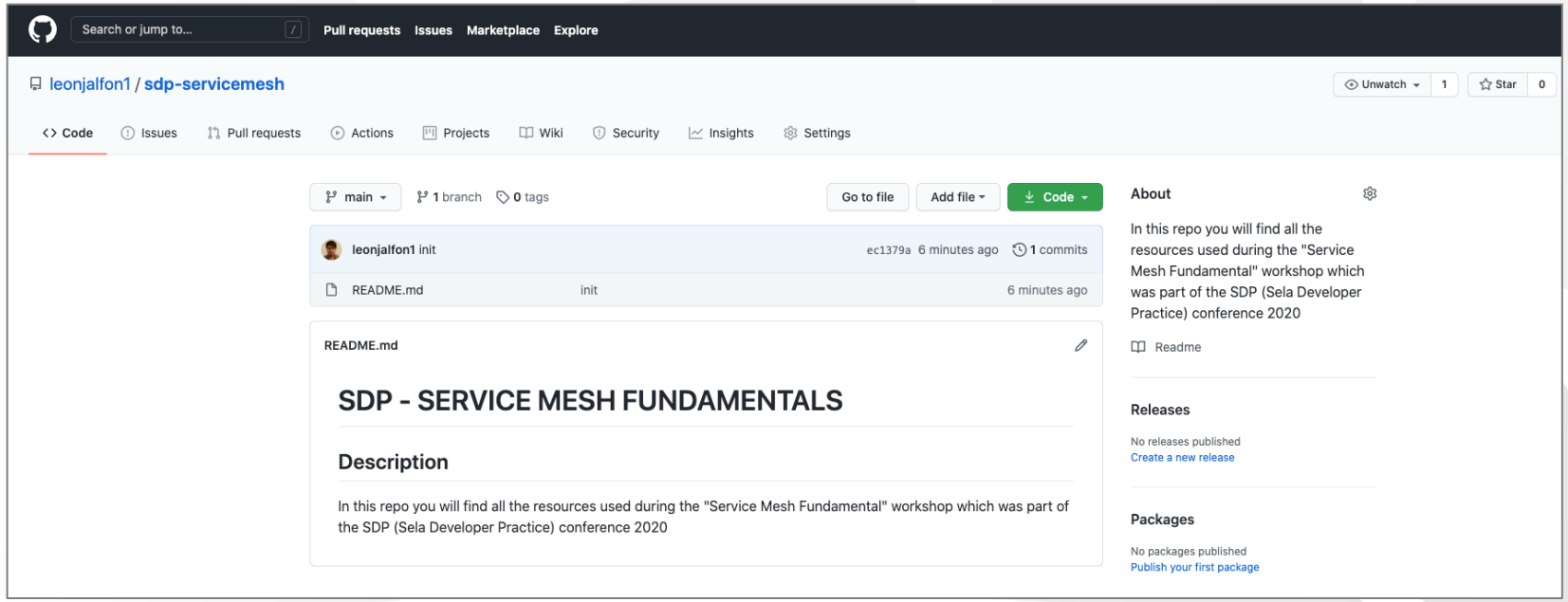
SELA

Part 01: CI/CD on Kubernetes

Using Tekton and ArgoCD

Workshop Resources

- You can find all the resources used during the workshop in my GitHub



https://github.com/leonjalfon1/cicd-tekton-argocd

What was before CI/CD?

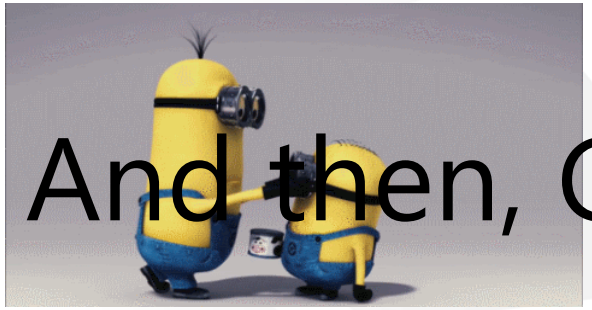
Developers wrote code

Stopping the development and causing upset teams

The code was integrated once a month for testing

And obviously the code didn't work without correcting bugs

After a lot of work the team get a stable version



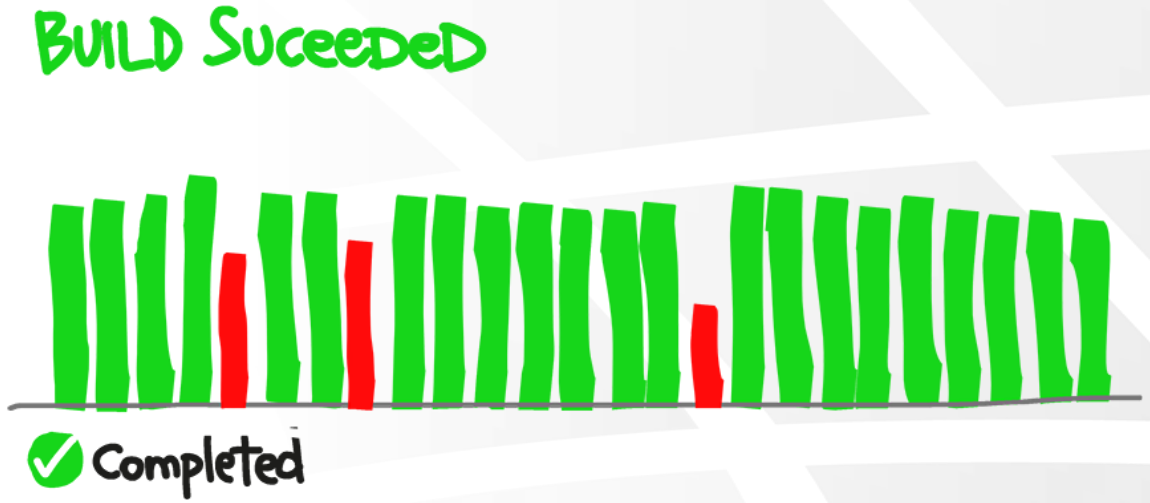
And then they spent a lot of time releasing it manually

however once in production it was already less competitive

And then, CI/CD came to the rescue!

Continuous Integration (CI)

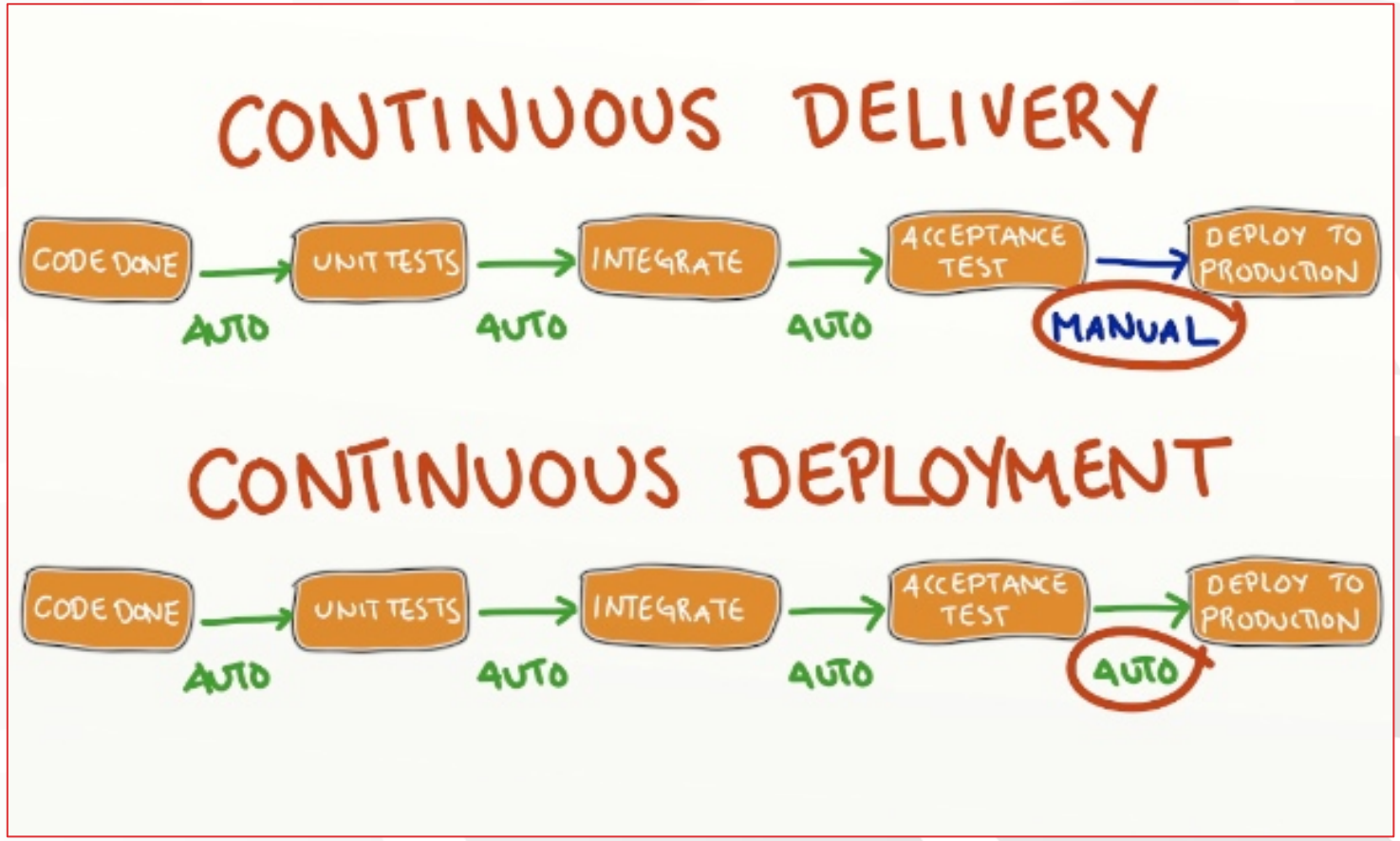
- Continuous integration is a practice where you integrate the code very often to find the issues in the earlier stages.



Continuous Integration Practices

- Keep everything under version control
- Automate the build and run unit tests
- Commit early and often
- Fix build errors immediately
- Keep the build fast
- Make it easy to get the latest build results
- Ensure that the build process is transparent to everyone

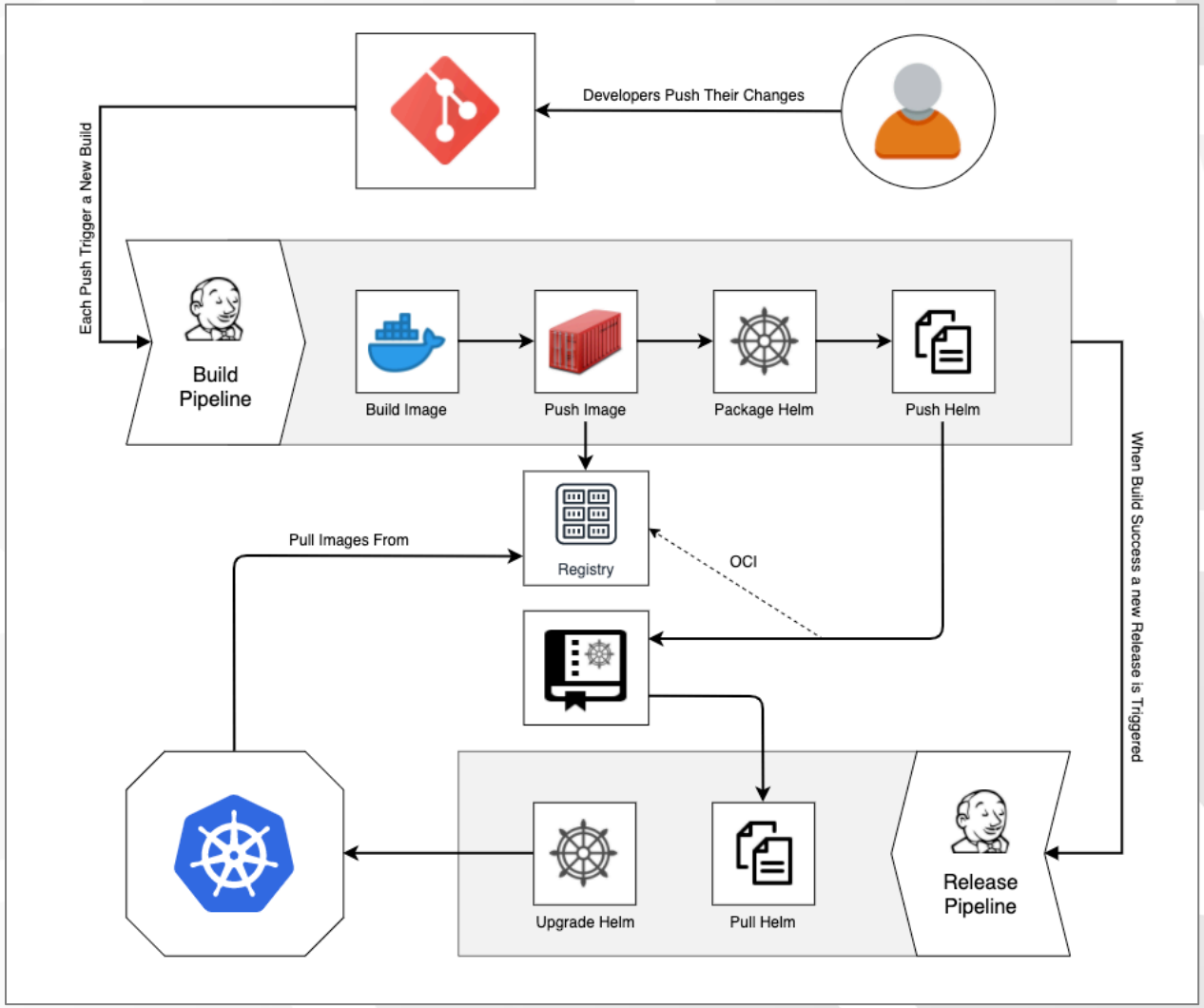
Continuous Delivery Vs Continuous Deployment



CI/CD Benefits

- Change occurs in smaller units
- Building the Right Product
- Improved Productivity and Efficiency
- Respond to marketing conditions more quickly
- Automated testing means more testing (better quality)
- Deliver software with fewer bugs and lower risk
- Increased automation, fewer mistakes

What's Different with Kubernetes?



Most Used CI/CD Tools

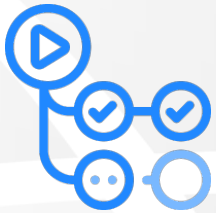
Jenkins

circleci

Azure Pipelines

Travis CI

Drone



GitHub Actions

GitLab

CODESHIP

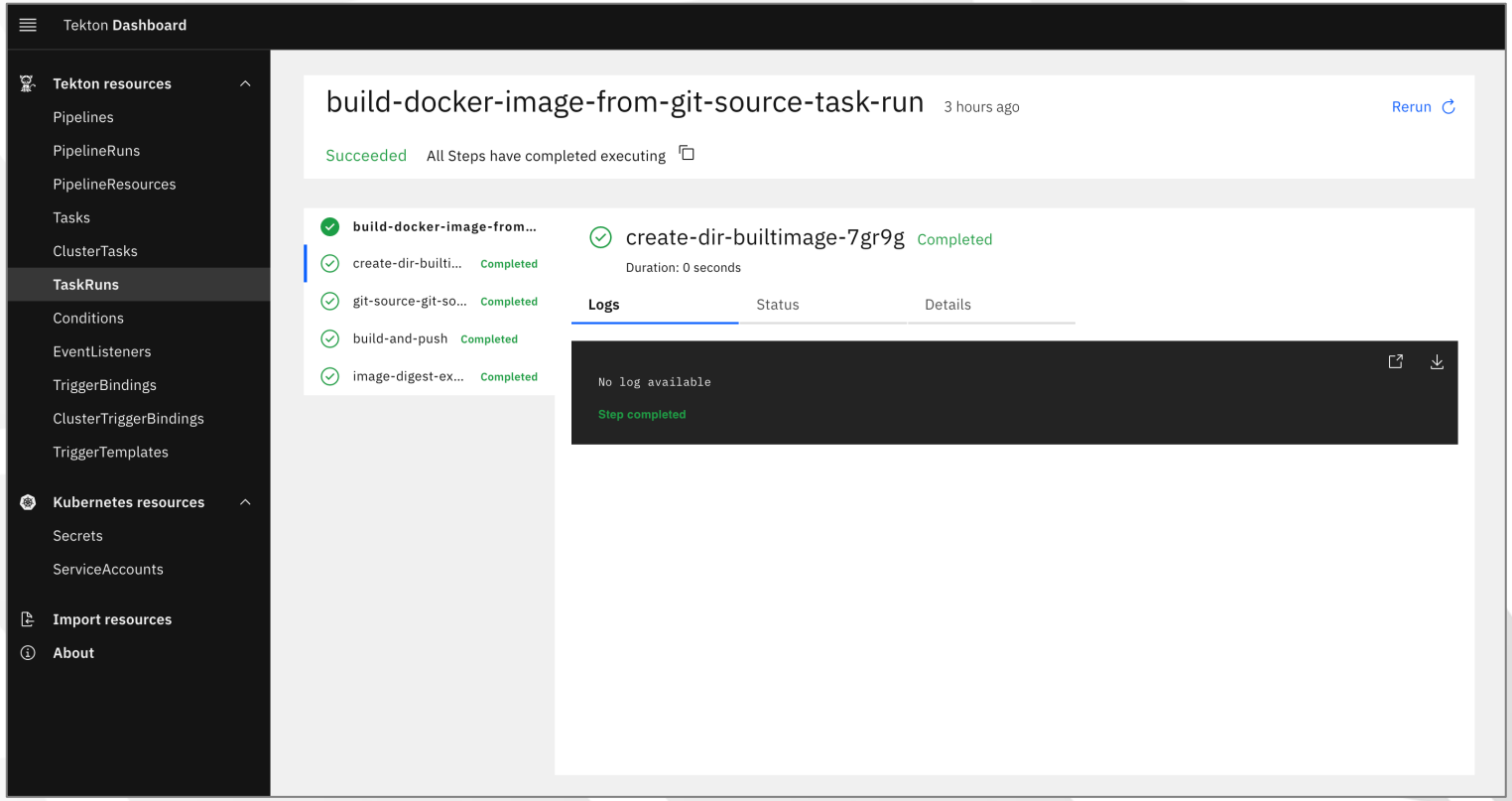
Our Choice

- Continuous Integration
- Continuous Delivery/Deployment

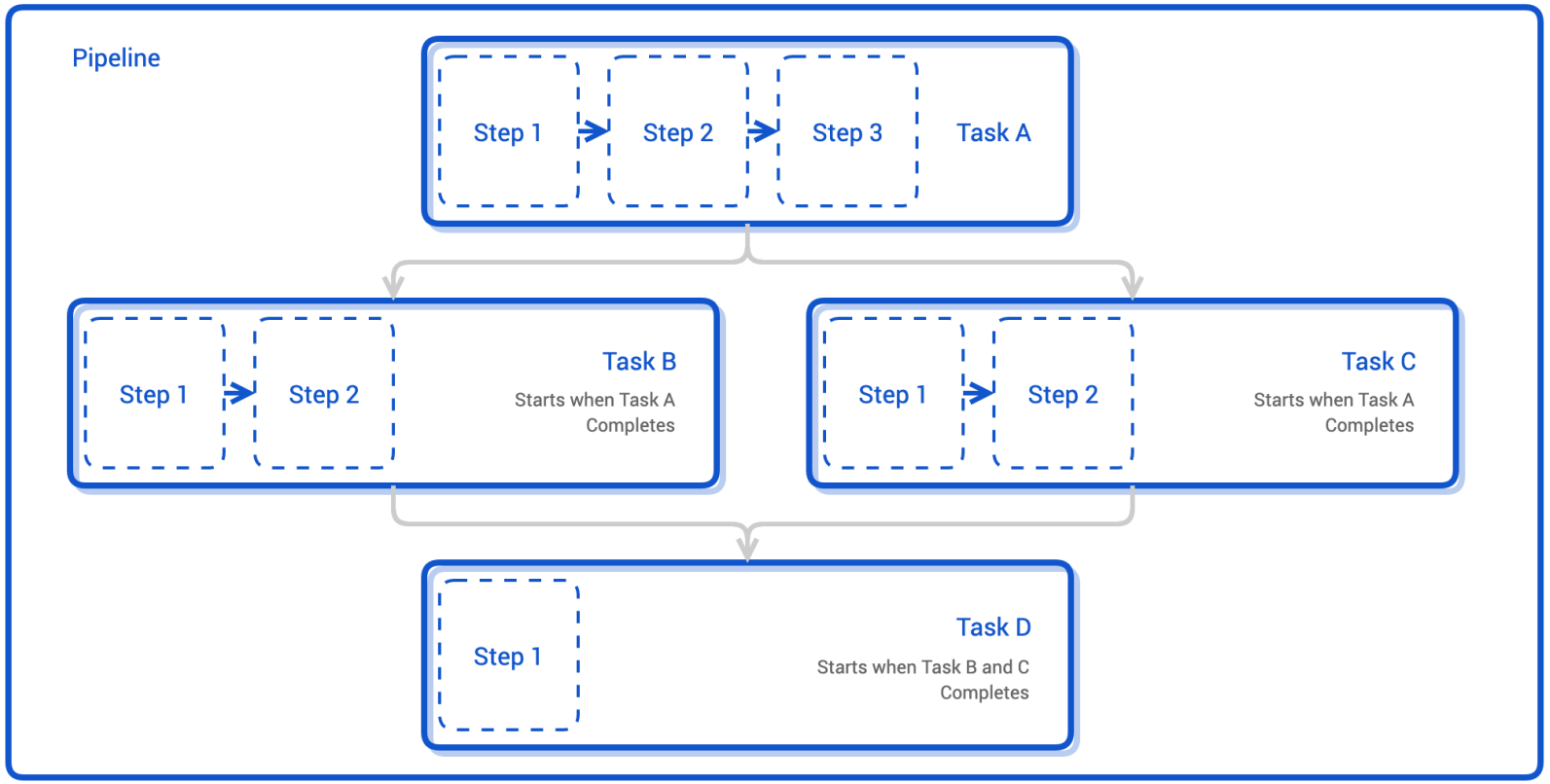
CLOUD NATIVE
COMPUTING FOUNDATION

Tekton

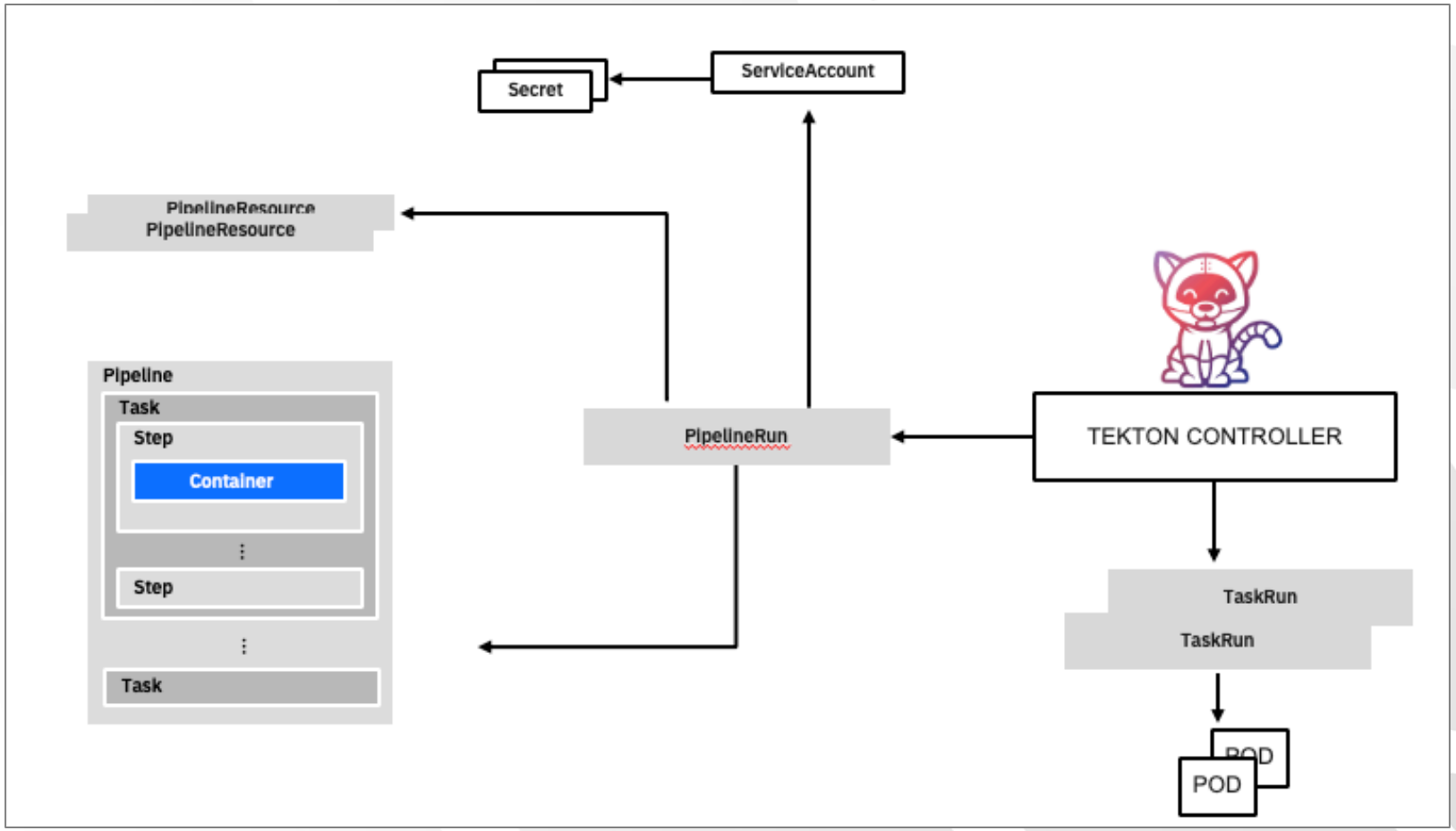
- Declarative
- Open-Source
- CNCF Project
- Cloud Native
- Agent-Less
- Low maintenance
- Fast



Tekton

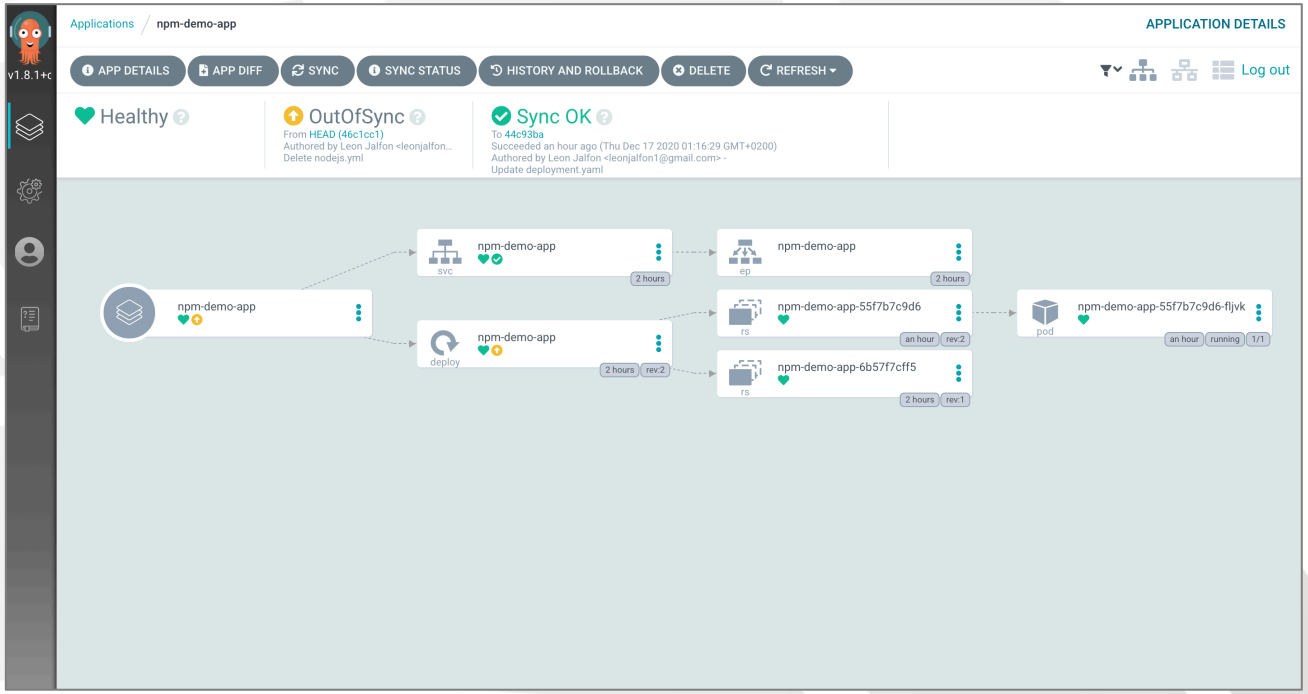


Tekton



Argo CD

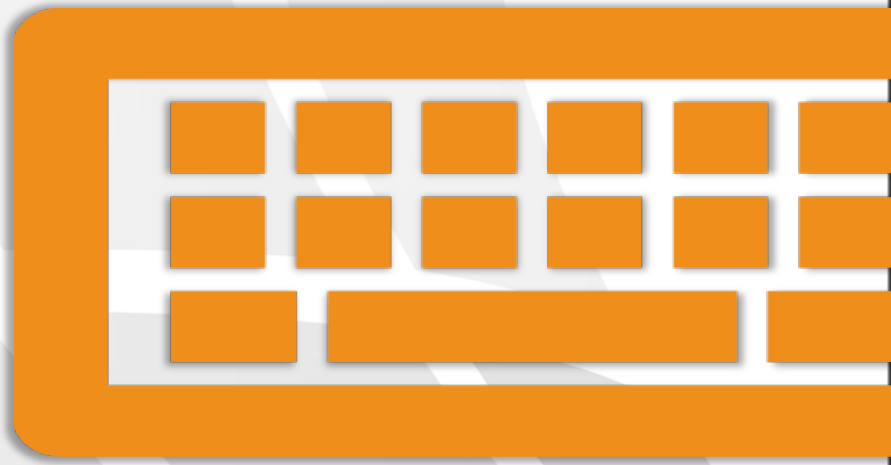
- GitOps Oriented
- Declarative
- Open-Source
- CNCF Project
- Automated Deployments
- Cloud Native
- Support Helm/Kustomize



Questions

Let's learn with a hands-on!

Lab



https://github.com/leonjalfon1/cicd-tekton-argocd/README.md