Kubeflow Development Environment

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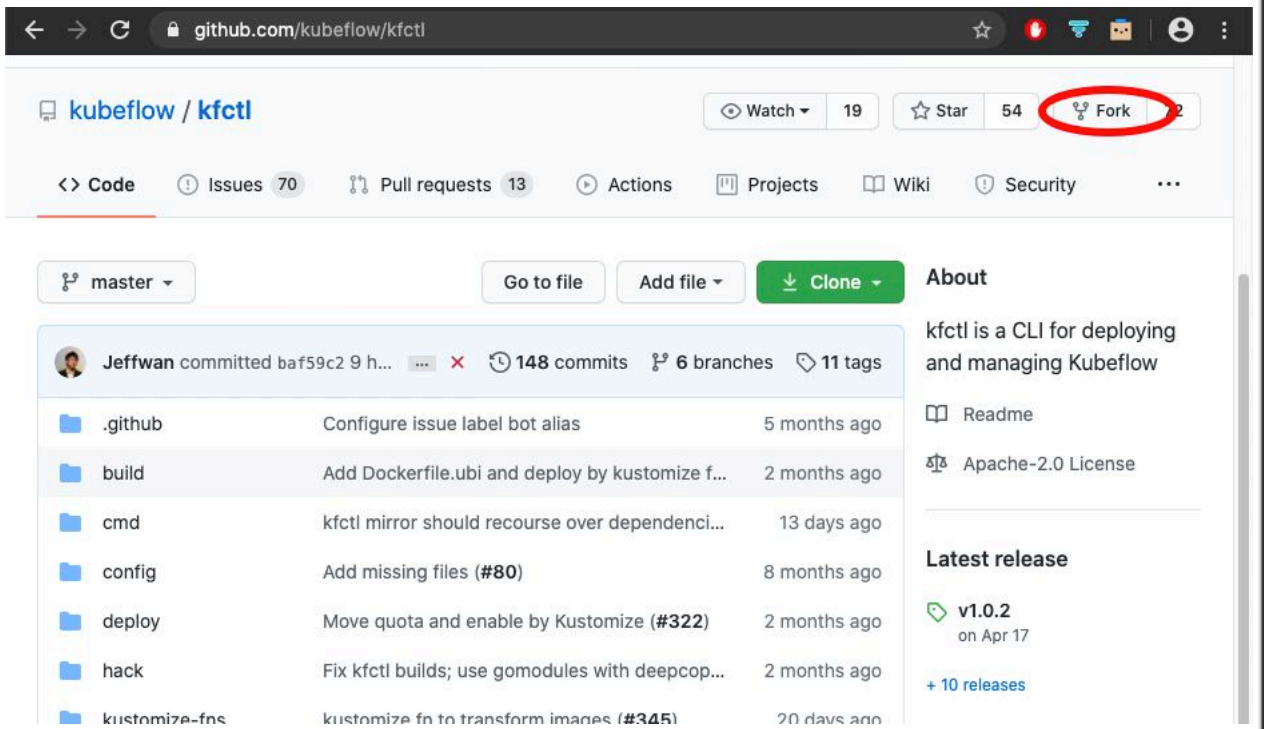
Development environment

- No specifically required OS
  - Linux, MacOS, Windows, etc.
- Source code version control and repository
  - Git and github
- Container image
  - Docker engine
- Languages
  - golang
  - python
- IDE
- Unit tests
- Run/Debug
  - Deployment environment

Git and github

- Install git
  - Follow the instruction
    - On MacOS, run `brew install git`
- Access to github.com
  - Github documentation
  - Create github id if not yet
- Set up git
  - `git config --global user.name "github_id"`
  - `git config --global user.email "email"`
- Fork a repo
- Clone the forked repo and add upstream
  - `mkdir $HOME/go/src/github.com/kubeflow`
  - `cd $HOME/go/src/github.com/kubeflow`
  - `git clone https://github.com/adrian555/kfctl.git`
  - `cd kfctl`
  - `git remote add upstream https://github.com/kubeflow/kfctl.git`



Docker engine

- Install Docker
  - Follow the link
    - On MacOS, Docker Desktop will be installed. If necessary, change the resource configuration.
- Access to container registry
  - For dockerhub, follow the link to create an account
  - For quay.io, follow the link to sign up
  - Others, such as gcr.io or your organization's own
- Build and push a container image
  - `Dockerfile`
  - `docker build -t <registry>/<org>/<image>:<tag>`
  - `docker push <registry>/<org>/<image>:<tag>`

Languages and IDE

- Install Go Tools
  - Follow the instructions
    - On MacOS, run `brew install go`
- Set up GOPATH env
  - `export GOPATH=$HOME/go`
- Install Python with Miniconda3
  - Follow the instructions
  - Create an env, run `conda create -n myenv`
- Install your favorite IDE
  - For Visual Studio Code, follow this link
    - Install extensions: Go, Python, YAML

Cluster

- Minikube
  - Good for local testing, run on VM or laptop
  - Follow the instructions
    - For MacOS, more info is covered in this document
- Cloud cluster
  - For IBM Cloud Kubernetes clusters, follow this link to provision. Details will be covered in the hands on session.
  - Others, such as AWS, GCP, etc.

Demo

- Code and unit test with VSC
- Run and debug