Getting started with TEKTON

Prerequisites:-

1. Install minikube

curl -LO

https://storage.googleapis.com/minikube/releases/latest/minikube-linux-amd64

sudo install minikube-linux-amd64 /usr/local/bin/minikube minikube start

2. Install Kubectl

sudo curl -o kubectl https://s3.us-west-2.amazonaws.com/amazon-eks/1.23.7/2022-06-29/bin/linux/amd64/kubectl

chmod +x ./kubectl

mkdir -p \$HOME/bin && cp ./kubectl \$HOME/bin/kubectl && export PATH=\$PATH:\$HOME/bin

echo 'export PATH=\$PATH:\$HOME/bin' >> ~/.bashrc

Verify if kubectl got installed

kubectl version --short -client

STEPS:-

Step 1: Create a Kubernetes cluster:

minikube start --kubernetes-version v1.24.4

Check cluster info:

kubectl cluster-info

Step 2: Install Tekton pipelines:

kubectl apply --filename \

https://storage.googleapis.com/tektonreleases/pipeline/latest/release.yaml

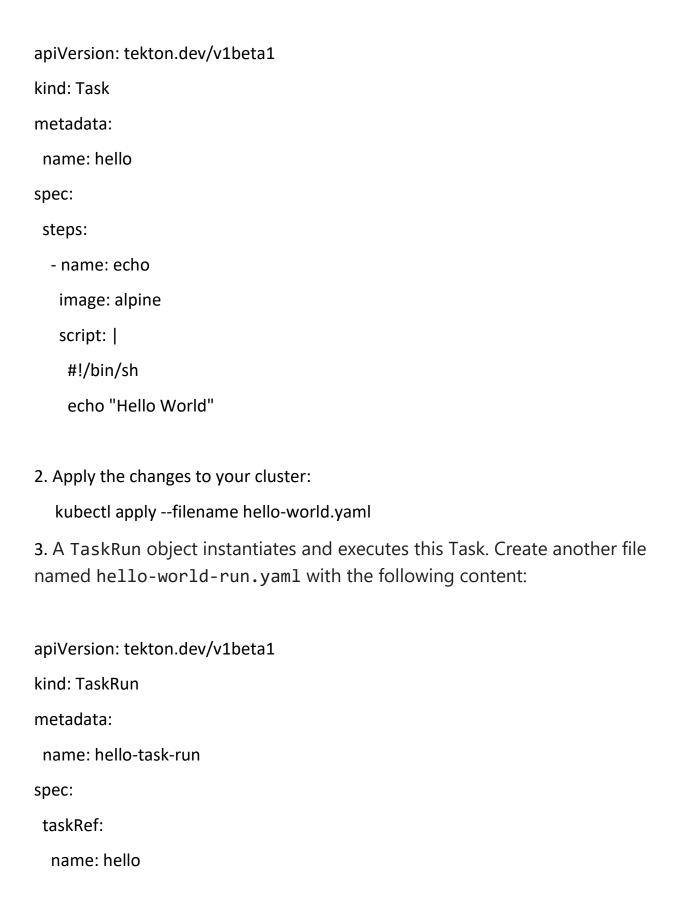
Step 3: Monitor the installation:

kubectl get pods --namespace tekton-pipelines -watch

Create and run basic task in TEKTON

A **Task**, represented in the API as an object of kind Task, defines a series of **Steps** that run sequentially to perform logic that the Task requires. Every Task runs as a pod on the Kubernetes cluster, with each step running in its own container.

1. To create a Task, open your favorite editor and create a file named hello-world.yaml with the following content:



4. Apply the changes to your cluster to launch the Task:

kubectl apply --filename hello-world-run.yaml

5. Verify that everything worked correctly:

kubectl get taskrun hello-task-run

6. Take a look at the logs:

kubectl get taskrun hello-task-run

Getting started with TEKTON Pipelines

Prerequisites:

1. Install tkn ,the TEKTON CLI (Ubuntu or Debian)

```
sudo apt update;
```

sudo apt install -y gnupg

sudo mkdir -p /etc/apt/keyrings/

sudo gpg --no-default-keyring --keyring

/etc/apt/keyrings/tektoncd.gpg --keyserver keyserver.ubuntu.com --recv-keys 3EFE0E0A2F2F60AA

echo "deb [signed-by=/etc/apt/keyrings/tektoncd.gpg] http://ppa.launchpad.net/tektoncd/cli/ubuntu eoan main"|sudo tee /etc/apt/sources.list.d/tektoncd-ubuntu-cli.list

sudo apt update && sudo apt install -y tektoncd-cli

STEPS:

- Create two Tasks.
- Create a Pipeline containing your Tasks.
- Use PipelineRun to instantiate and run the Pipeline containing your Tasks.
- 1. Create 1st task using above commands.
- 2.Create and run second task. Create a new file named goodbyeworld.yaml and add the following content:

```
apiVersion: tekton.dev/v1beta1
kind: Task
metadata:
 name: goodbye
spec:
 params:
 - name: username
  type: string
 steps:
  - name: goodbye
   image: ubuntu
   script: |
    #!/bin/bash
    echo "Goodbye $(params.username)!"
```

NOTE: This Task takes one parameter, username. Whenever this Task is used a value for that parameter must be passed to the Task.

3. Apply the task file

kubectl apply --filename goodbye-world.yaml

Note: When a Task is part of a Pipeline, Tekton creates a TaskRun object for every task in the Pipeline.

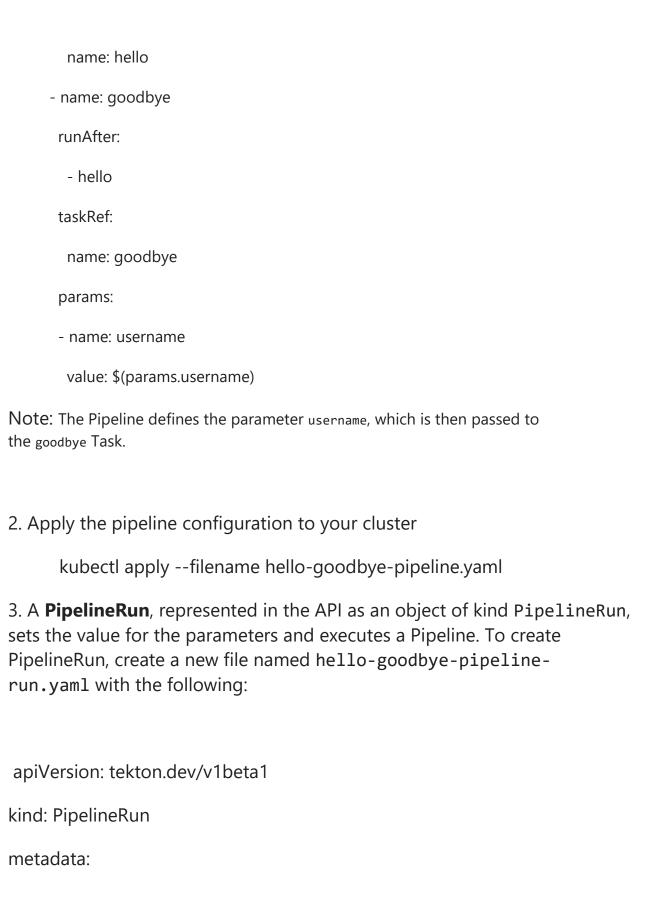
4. Create and run a pipeline

A **Pipeline** defines an ordered series of Tasks arranged in a specific execution order as part of the CI/CD workflow.

In this section you are going to create your first Pipeline, that will include both the "Hello World!" and "Goodbye!" Tasks.

1. Create a new file named hello-goodbye-pipeline.yaml and add the following content:

```
apiVersion: tekton.dev/v1beta1
kind: Pipeline
metadata:
name: hello-goodbye
spec:
params:
- name: username
type: string
tasks:
- name: hello
taskRef:
```



name: hello-goodbye-run

spec:

pipelineRef:

name: hello-goodbye

params:

- name: username

value: "Tekton"

Note: This sets the actual value for the username parameter: "Tekton".

4. Start the Pipeline by applying the PipelineRun configuration to your cluster:

kubectl apply --filename hello-goodbye-pipeline-run.yaml

5. To see the logs of PipelineRun

tkn pipelinerun logs hello-goodbye-run -f -n default

OUTPUT

[hello : hello] Hello World!

[goodbye : goodbye] Goodbye Tekton!