

Modernizando CI/CD com Openshift Pipelines

Bruno Andrade

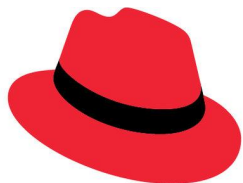
Quality Engineer @ Red Hat

Mauricio Magnani

Software Engineer @ Red Hat



THE
DEVELOPER'S
CONFERENCE



Red Hat



TEKTON



**Red Hat
OpenShift**



CD.FOUNDATION

Cloud-Native CI/CD



Containers

Criado para aplicações baseadas em containers e executadas em Kubernetes

Serverless

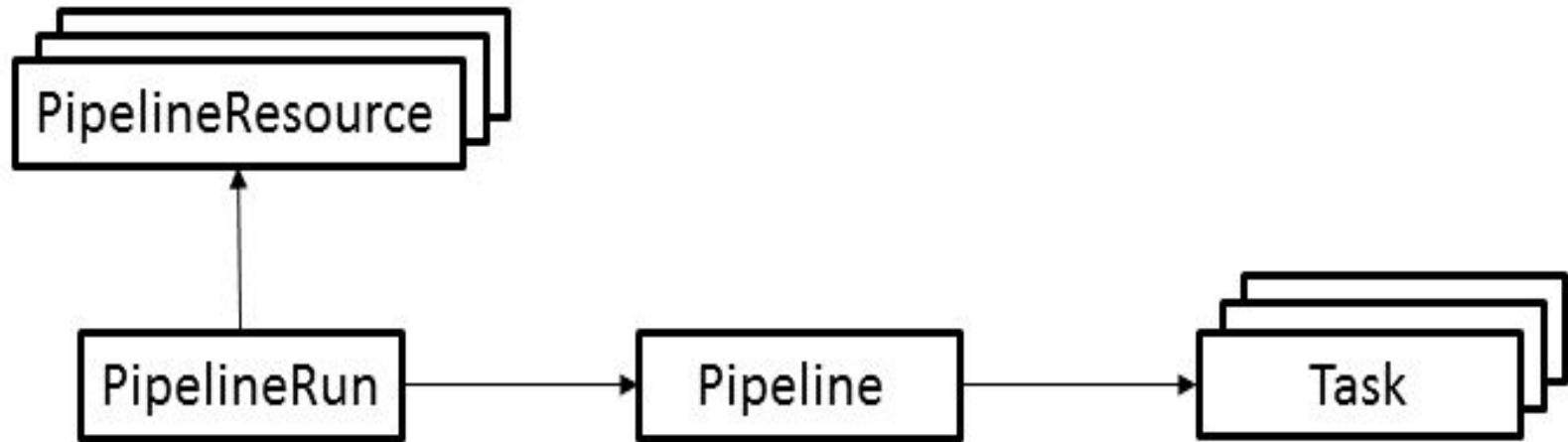
Executar em serverless sem nenhuma Engine CI/CD para gerenciar e manter

DevOps

Projetado para trabalhar com microservices e equipes distribuídas

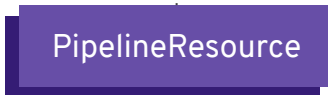
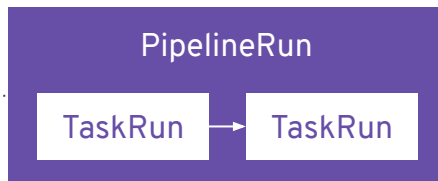
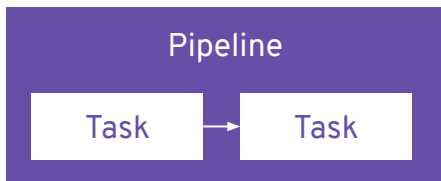
Como Isso funciona?

Conceito (Custom Resources)

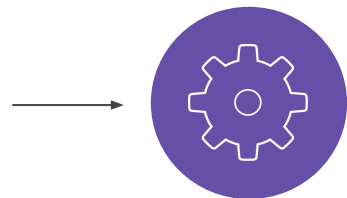


Conceito (Custom Resources)

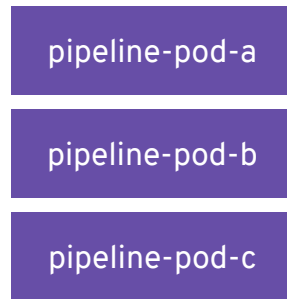
Definição do pipeline



Execução dos pipelines



Pipeline Controllers
(Tekton, ext, ...)



OpenShift Pipelines Operator



THE
DEVELOPER'S
CONFERENCE

Developer
Tools

Dev Console

Tekton CLI

CodeReady Workspaces
(Eclipse Che)

Visual Studio Code

CI/CD
Core

Operator

Extensions

Integrations

Tasks

Tekton Core

Kubernetes

OpenShift

Implementação

Pré Requisitos



1. Instalação do Tekton ou Openshift Pipelines Operator
2. Qual a plataforma da sua aplicação ? O Tekton possui um Catalogo de Image Builders-
<https://cloud.google.com/cloud-build/docs/cloud-builders>
3. Tekton CLI: <https://github.com/tektoncd/cli>

Primeiro Passo: Secrets

Definir a forma de acesso aos recursos: Código Fonte e Container registry.

```
apiVersion: v1
kind: Secret
metadata:
  name: basic-user-git
annotations:
  tekton.dev/git-0: https://github.com
type: kubernetes.io/basic-auth
stringData:
  username: myuser
  password: mypassword
```

```
apiVersion: v1
kind: Secret
metadata:
  name: basic-user-registry
annotations:
  tekton.dev/docker-0: index.docker.io
type: kubernetes.io/basic-auth
stringData:
  username: myuser
  password: mypassword
```

Segundo Passo: Service Account



Definir um “service account” para ligar os “secrets” criados anteriormente.

```
apiVersion: v1
kind: ServiceAccount
metadata:
  name: pipeline
  namespace: tekton-pipelines
secrets:
  - name: basic-user-registry
  - name: basic-user-git
```



Terceiro Passo: Pipeline Resource

Definir a localização dos recursos: Código Fonte e Container registry.

```
apiVersion: tekton.dev/v1alpha1
kind: PipelineResource
metadata:
  name: git-source
spec:
  type: git
  params:
    - name: revision
      value: master
    - name: url
      value: https://github.com/myuser/awesome-java-app.git
```

Terceiro Passo: Pipeline Resource



```
apiVersion: tekton.dev/v1alpha1
kind: PipelineResource
metadata:
  name: java-image
spec:
  type: image
  params:
    - name: url
      value: registry.hub.docker.com/myuser/awesome-java-app:1.0
```

Quarto Passo: Tasks

Definir os parâmetros, os passos e como o pipeline será executado.

```
apiVersion: tekton.dev/v1alpha1
kind: Task
spec:
  inputs:
    params:
      [...] parametros de entrada  [...]
  outputs:
    [...] parametros de saída  [...]
  steps:
    - name: build-and-push
      image: gcr.io/cloud-builders/mvn
      command:
        - mvn
        - compile
```

Quinto Passo: Pipeline

Conjunto de tasks que serão executadas no Pipeline

```
apiVersion: tekton.dev/v1alpha1
kind: Pipeline
metadata:
  name: tdc-piple
spec:
  resources: [... PipelineResources ...]
  tasks:[... PipelineResources ...]
  resources:
    inputs: [...] parametros de entrada [...]
    outputs: [...] parametros de saída [...]
```

Sexto Passo: Pipeline Run



THE
DEVELOPER'S
CONFERENCE

```
apiVersion: tekton.dev/v1alpha1
kind: PipelineRun
metadata:
  name: tdc-pipeline-run
spec:
  pipelineRef:
    name: tdc-pipeline
  serviceAccount: pipeline
  resources:
    - name: src
      resourceRef:
        name: git-source
    - name: java-image
      resourceRef:
        name: java-image-res
```

Demo!

Referências



- <https://github.com/tektoncd>
- <https://cd.foundation/>
- <https://github.com/openshift/tektoncd-pipeline-operator>
- <https://github.com/redhat-developer/vscode-tekton>

Dúvidas



Obrigado!



- <https://www.linkedin.com/in/mauriciomagnanijr/>
- <https://www.linkedin.com/in/brunobalintdeandrade>