



# JENKINS X

## NEXT GENERATION CLOUD NATIVE CI/CD

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# 你好

Principal Software Engineer @ CloudBees

Author of Jenkins Kubernetes plugin

Long time OSS contributor at Apache Maven, Eclipse,  
Puppet,...

**JENKINS X**



**kubernetes**





Package manager for Kubernetes



# SKAFFOLD

Build Docker images with multiple backends:

- Docker build
- Kaniko
- Google Cloud Build
- Jib (Maven/Gradle)



Generates Dockerfile and Helm charts for your project



# **SERVERLESS JENKINS X**

- Cloud Native, containers everywhere
- YAML pipelines
- Kubernetes Custom Resources



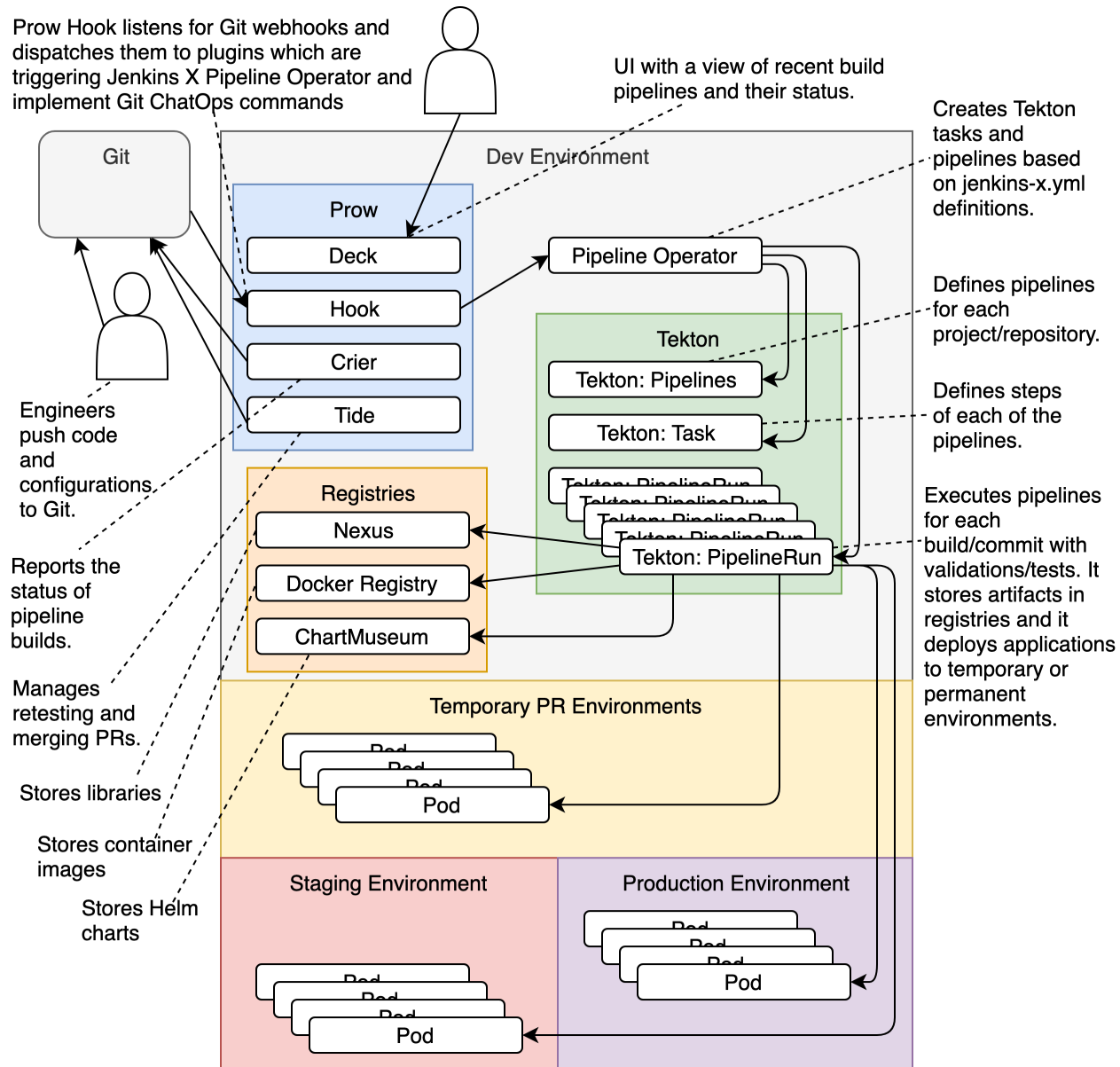
Pipeline engine in Kubernetes

Uses Pods and containers to run the pipeline steps



Implements ChatOps

Handles GitHub webhooks



# BUILDPACKS

[jenkins-x.io/architecture/build-packs](https://jenkins-x.io/architecture/build-packs)

Project templates for multiple languages and stacks

Maven, Spring Boot, NodeJS, Golang,...

# BUILDPACKS

[jenkins-x-buildpacks/jenkins-x-classic](#)

For Kubernetes applications:

[jenkins-x-buildpacks/jenkins-x-kubernetes](#)

# BUILDPACKS

- define containers to run the builds
- list steps in the pipelines
- allow different pipelines for pull requests and releases
- are extensible and steps can be overridden

# jenkins-x.yml

Main file that defines the build pack for my project

Can override configuration from the buildpack

```
buildPack: maven-java11
```



jenkins-x-kubernetes/packs/maven-  
java11/pipeline.yaml

maven-java11 buildpack extends the maven  
buildpack and changes the container that runs the  
builds

```
extends:  
  file: ../maven/pipeline.yaml  
agent:  
  label: jenkins-maven-java11  
  container: maven
```

jenkins-x-

kubernetes/packs/maven/pipeline.yaml

maven Kubernetes buildpack extends the classic  
maven buildpack

```
extends:  
  import: classic  
  file: maven/pipeline.yaml  
  ...
```

# jenkins-x- classic/packs/maven/pipeline.yaml

maven classic buildpack defines the pipeline steps for  
pull requests

```
extends:
  file: ../pipeline.yaml
agent:
  label: jenkins-maven
  container: maven
pipelines:
  pullRequest:
    build:
      steps:
        - sh: mvn versions:set -DnewVersion=$PREVIEW_VERSION
          name: set-version
        - sh: mvn install
          name: mvn-install
```

## and for releases

```
release:
  setVersion:
    steps:
      - sh: echo \$(jx-release-version) > VERSION
        name: next-version
        comment: so we can retrieve the version in later steps
      - sh: mvn versions:set -DnewVersion=\$(cat VERSION)
        name: set-version
      - sh: jx step tag --version \$(cat VERSION)
        name: tag-version
  build:
    steps:
      - sh: mvn clean deploy
        name: mvn-deploy
```

# CUSTOMIZING THE PIPELINES

To add a new step into a pipeline lifecycle you can use  
`jx create step`

A terminal window with a title bar containing three window control buttons and the text "11. jxrocks (bash)". The terminal content shows a prompt "jstrachan (master):/workspace/jenkins-x-awesome/jxrocks/\$" followed by a cursor. The terminal is otherwise empty.

```
11. jxrocks (bash)
jstrachan (master):/workspace/jenkins-x-awesome/jxrocks/$
```

You can also add or override an environment variable  
in your pipeline with `jx create variable`

Or edit the yaml directly in VS Code and IDEA with  
smart completion and validation

Both worlds can coexist!

- Static Jenkins masters
- Serverless Jenkins X pipelines in containers

 [carlossg/croc-hunter-jenkinsx](https://github.com/carlossg/croc-hunter-jenkinsx)

 [carlossg/croc-hunter-java](https://github.com/carlossg/croc-hunter-java)







# QUARKUS

[quarkus.io](https://quarkus.io)

A Kubernetes Native Java stack tailored for GraalVM & OpenJDK HotSpot, crafted from the best of breed Java libraries and standards

# 谢谢

[csanchez.org](http://csanchez.org)

 [csanchez](https://twitter.com/csanchez)

 [carlossg](https://github.com/carlossg)



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