

Introducing Jenkins X

a CI/CD solution for modern cloud applications on Kubernetes

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I am failed....

But want to share my experience

What is 'Jenkins X'?

- <https://jenkins.io/blog/2018/03/19/introducing-jenkins-x/>
- <http://jenkins-x.io>

What is 'Jenkins X'?

- Jenkins X is a project which rethinks how developers should interact with **CI/CD in the cloud** with a focus on making development teams productive through automation, tooling and **DevOps best practices**

What is 'Jenkins X'?

- Jenkins X is as a developer you can type one command **jx**
create or **jx import** and get your source code, git repository and application created, automatically built and deployed to **Kubernetes** on each Pull Request or git push with full CI/CD complete with Environments and Promotion **via**
GitOps!

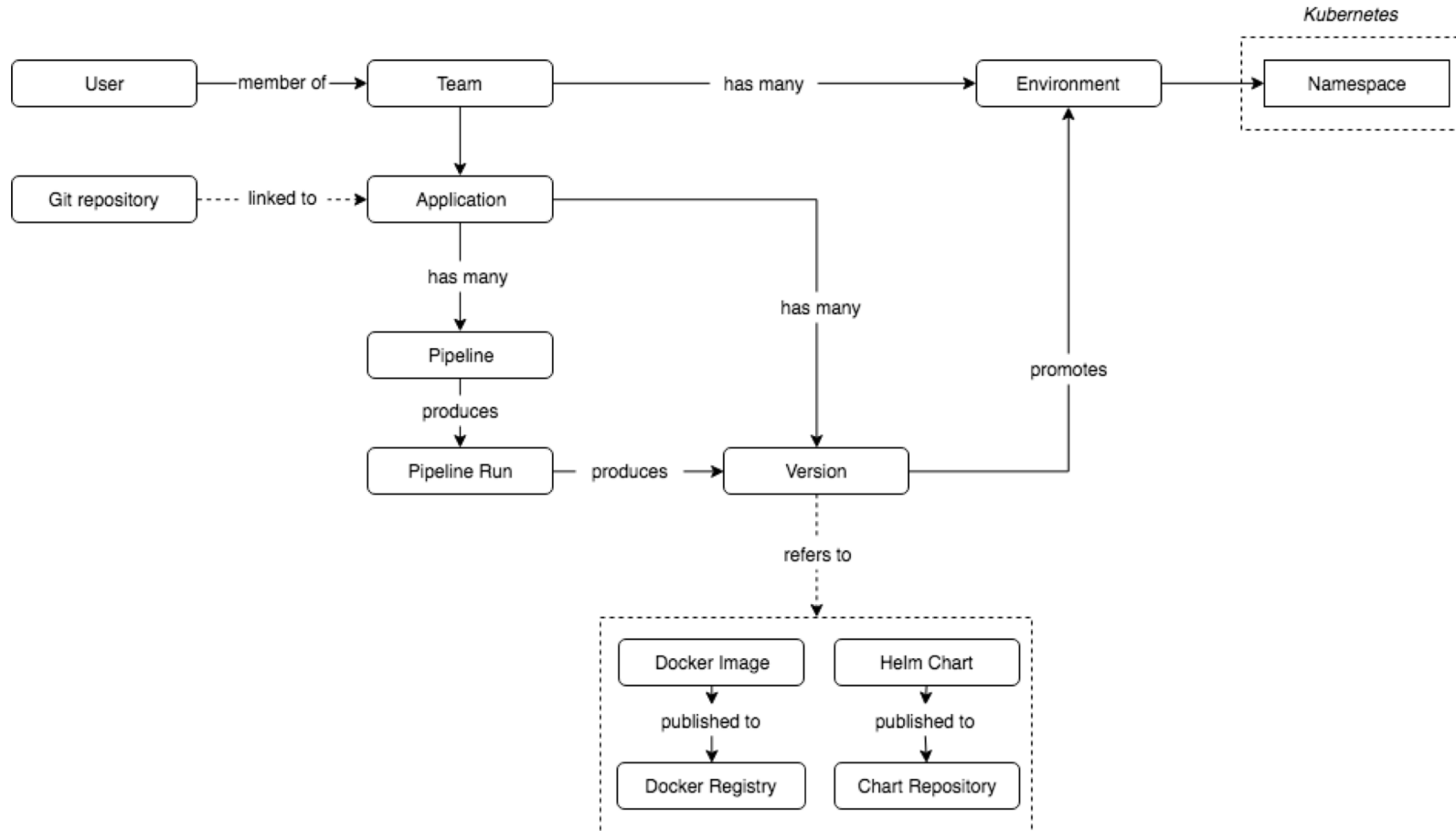
What is 'Jenkins X'?

- With Jenkins X each team gets its own **Environments**. By default Jenkins X creates a Staging and Production environment for each team but you can create new environments via `jx create environment`.

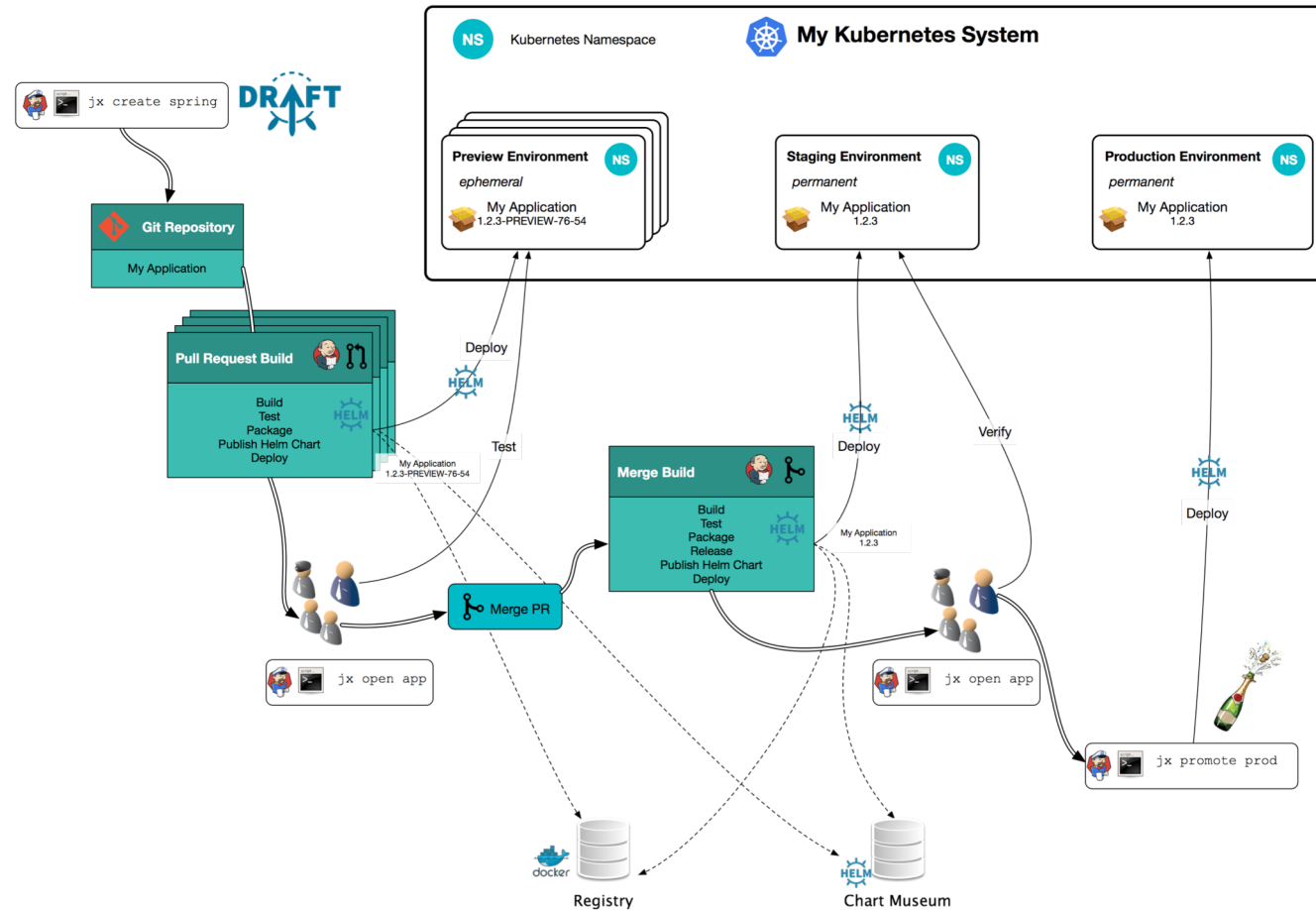
What is 'Jenkins X'?

- Proposing Jenkins X as **a sub project** within the Jenkins foundation as Jenkins X has a **different focus**: automating CI/CD for the cloud using Jenkins plus other open source tools like Kubernetes, Helm, Git, Nexus/Artifactory etc.

Architecture Diagram



Architecture Diagram



Try it

- Jenkins X team said, "For the best getting started experience we currently recommend using Google Container Engine (GKE)".
- Our environment is unsuitable for testing...

Try it

- on k8s cluster on verda dev,
- I tried to "jx install" to set up jenkins X but failed...
- Support only the following.
 - Google Cloud (GKE), Amazon (AWS), Azure (AKS), Minikube (local)
- Waiting for external loadbalancer to be created and update the nginx-ingress-controller service in kube-system namespace ingress init failed: service jxing-nginx-ingress-controller never became ready
error: service jxing-nginx-ingress-controller never became ready

Try it

- on Local by using Minikube
 - install Minikube
 - Install Hyperkit driver
 - Install Docker for MAC
 - Install jx command

Try it

- on Local by using Minikube(cont..)
 - Create Cluster by jx command

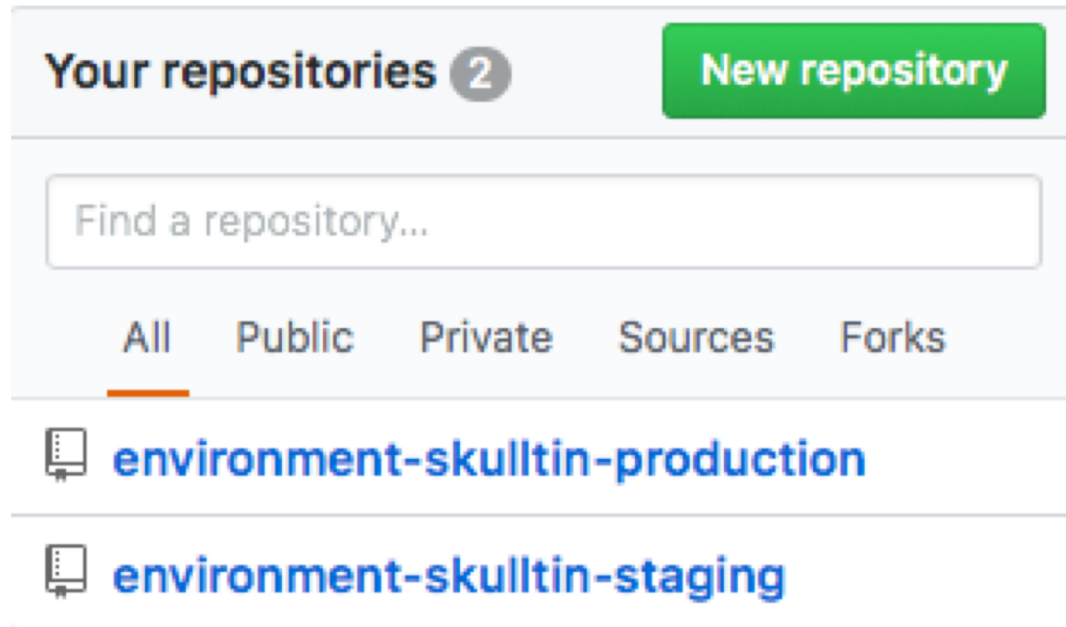
※ check

Should use account of github.com

Try it

- on Local by using Minikube(cont..)

[View full screenshot](#)



Try it

- on Local by using Minikube(cont..)
 - Create Spring Boot application for testing.
 - execute 'jx create spring -d web -d actuator'

Try it

- on Local by using Minikube(cont..)

The screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search bar, and a user profile icon labeled 'admin'. Below the navigation bar, the left sidebar contains various links: 'Back to Project', 'Status', 'Changes', 'Console Output' (selected), 'View as plain text', 'Edit Build Information', 'Git Build Data', 'No Tags', 'Open Blue Ocean', 'Thread Dump', 'Pause/resume', 'Replay', and 'Pipeline Steps'. The main content area is titled 'Console Output' and displays the following log:

```
Branch indexing
08:34:21 Connecting to https://api.github.com using jhlee811/*****
Obtained Jenkinsfile from 33a8b22ee892939de12dffffb4601328405062549
Running in Durability level: MAX_SURVIVABILITY
[Pipeline] node
Still waiting to schedule task
maven-vld6q is offline
Running on maven-vld6q in /home/jenkins/workspace/jhlee811_demo_master-34B4UGH62F3LIQ7SDWQ4V4DUYINMCQVULXQHG20PXCBNBC2JDDDA
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Cloning the remote Git repository
Cloning with configured refspecs honoured and without tags
Cloning repository https://github.com/jhlee811/demo.git
> git init /home/jenkins/workspace/jhlee811_demo_master-34B4UGH62F3LIQ7SDWQ4V4DUYINMCQVULXQHG20PXCBNBC2JDDDA # timeout=10
Fetching upstream changes from https://github.com/jhlee811/demo.git
> git --version # timeout=10
using GIT_ASKPASS to set credentials
> git fetch --no-tags --progress https://github.com/jhlee811/demo.git +refs/heads/master:refs/remotes/origin/master
> git config remote.origin.url https://github.com/jhlee811/demo.git # timeout=10
> git config --add remote.origin.fetch +refs/heads/master:refs/remotes/origin/master # timeout=10
> git config remote.origin.url https://github.com/jhlee811/demo.git # timeout=10
Fetching without tags
Fetching upstream changes from https://github.com/jhlee811/demo.git
using GIT_ASKPASS to set credentials
> git fetch --no-tags --progress https://github.com/jhlee811/demo.git +refs/heads/master:refs/remotes/origin/master
Checking out Revision 33a8b22ee892939de12dffffb4601328405062549 (master)
> git config core.sparsecheckout # timeout=10
> git checkout -f 33a8b22ee892939de12dffffb4601328405062549
Commit message: "Draft create"
First time build. Skipping changelog.
[Pipeline] }
[Pipeline] // stage
```

The screenshot shows the GitHub webhook settings page for a repository. The top navigation bar includes the GitHub logo, a search bar, and a user profile icon. Below the navigation bar, the left sidebar contains links: 'Branches', 'Webhooks' (selected), 'Integrations & services', and 'Deploy keys'. The main content area is titled 'Webhooks' and displays the following settings:

- Payload URL**: `http://jenkins.jx.192.168.64.13.nip.io/github-webhook/`
- Content type**: `application/json`
- Secret**: (empty field)
- Which events would you like to trigger this webhook?**:
 - ☐ Just the push event.
 - ☒ Send me everything.
 - ☐ Let me select individual events.
- Active**: ☒ Active. We will deliver event details when this hook is triggered.

Buttons: **Update webhook** (green), **Delete webhook** (red).

Recent Deliveries

Request	Time	...
0dc3e440-30d1-11e8-93b7-4b7c622ea3a7	2018-03-26 17:38:27	...

We couldn't deliver this payload: Couldn't connect to server

Payload

```
{
  "ref": "v0.0.1",
  "ref_type": "tag",
  "master_branch": "master",
  "description": null,
  "pusher_type": "user",
```


Try it

- on Local by using Minikube(cont..)
 - Holding.. Not finish..

Using pipeline: ****/demo/master build: #1

WARNING: Failed to query the Pull Request last commit status for https://github.com/****/environment-skulltin-staging/pull/1 ref 8160459b79ce20b6673cccf059e1be4cb490e551 Could not find a status for repository ****/environment-skulltin-staging with ref 8160459b79ce20b6673cccf059e1be4cb490e551

WARNING: Failed to query the Pull Request last commit status for https://github.com/****/environment-skulltin-staging/pull/1 ref 8160459b79ce20b6673cccf059e1be4cb490e551 Could not find a status for repository ****/environment-skulltin-staging with ref 8160459b79ce20b6673cccf059e1be4cb490e551

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WARNING: Failed to query the Pull Request last commit status for https://github.com/****/environment-skulltin-staging/pull/1

Try it

- on Local by using Minikube(cont..)
 - Maybe, root cause is ...
 - github webhook for jhlee811/demo for url <http://jenkins.jx.192.168.64.13.nip.io/github-webhook/> is not working because of network issue.

Try it

- Jenkins X team said ..
- after "jx create spring -d web -d actuator", we can check test application by "jx get apps" command.

Try it

	NAMESPACE	NAME	READY	STATUS	RESTARTS	AGE
•	jx	jenkins-7f7969755c-9m7s2	1/1	Running	0	39m
•	jx	jenkins-x-chartmuseum-7b95b777b-26k2f	1/1	Running	0	39m
•	jx	jenkins-x-docker-registry-794dcb698-wz8ck	1/1	Running	0	39m
•	jx	jenkins-x-heapster-96bd95dcf-jbfbw	2/2	Running	0	39m
•	jx	jenkins-x-mongodb-6c84f866dc-m8srm	1/1	Running	0	39m
•	jx	jenkins-x-monocular-api-5f9f84ff59-bdbjr	1/1	Running	0	39m
•	jx	jenkins-x-monocular-prerender-6d8897856-vsntv	1/1	Running	0	39m
•	jx	jenkins-x-monocular-ui-5668cd69c6-wgmrk	1/1	Running	0	39m
•	jx	jenkins-x-nexus-7fbd9c8f4b-z9dm5	1/1	Running	0	39m
•	jx	maven-v1d6q	2/2	Running	0	7m
•	jx	pipelinecontroller-5dbc96bbd4-gnng7	1/1	Running	0	39m
•	kube-system	default-http-backend-nhjlg	1/1	Running	0	39m
•	kube-system	kube-addon-manager-minikube	1/1	Running	0	40m
•	kube-system	kube-dns-54ccfbd8-2xbz9	3/3	Running	0	40m
•	kube-system	kubernetes-dashboard-77d8b98585-kxx7w	1/1	Running	0	40m
•	kube-system	nginx-ingress-controller-zgf88	1/1	Running	0	39m
•	kube-system	storage-provisioner	1/1	Running	0	40m
•	kube-system	tiller-deploy-7bf964fff8-wrbvt	1/1	Running	0	40m

I think

- It is not stable yet.
- It is not a substitute for the Jenkins.
- It is necessary to keep checking.
- We must prepare for K8S.

Thank you