

DRAFT V – Needs Validation

Stage 1 - Installing Jenkins – Steps

Clone this git repo and cd into the /JenkinsInstall folder.

<https://github.com/reagul/Jenkins-VS7-K8s>

Steps in Order :

- Install Namespace
 - o \$ kubectl create namespace jenkins
- Install PV
 - o \$ kubectl apply -f jenkins.pv.yaml
- Install RBAC
 - o \$ kubectl apply -f jenkins.rbac.yaml
- Install SVC
 - o \$ kubectl apply -f jenkins.svc.yaml

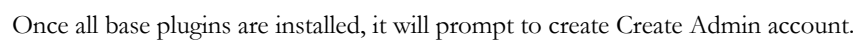
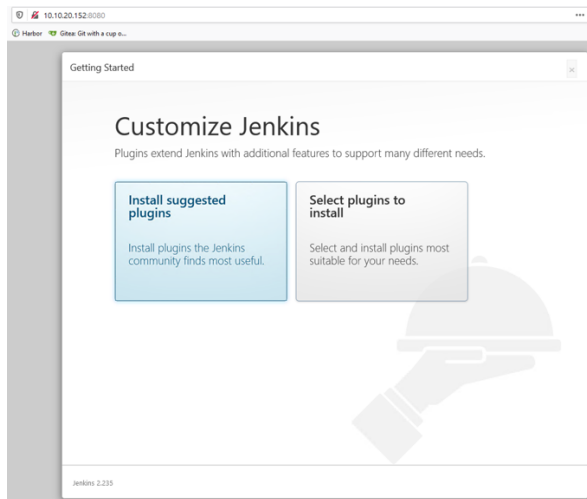
Snapshot of services installed at this stage.

```
user1@ubul:~/v7k8s-tc-templates/sc06/JENKINS-Final/docker-development-youtube-series/jenkins$ k get pvc
NAME                STATUS  VOLUME                                     CAPACITY  ACCESS MODES  STORAGECLASS          AGE
jenkins-claim-two   Bound   pvc-b726c4c1-b3ee-4049-b46c-b6218fc2fcd2  4Gi       RWO           projectpacific-storage-policy  31m
user1@ubul:~/v7k8s-tc-templates/sc06/JENKINS-Final/docker-development-youtube-series/jenkins$ k describe rolebindings jenkins
Name:                jenkins
Labels:               <none>
Annotations:          kubectl.kubernetes.io/last-applied-configuration:
                      {"apiVersion":"rbac.authorization.k8s.io/v1","kind":"RoleBinding","metadata":{"annotations":{},"name":"jenkins","namespace":"jenkins"},...
Role:
Kind:                 Role
Name:                 jenkins
Subjects:
  Kind  Name  Namespace
  ----  ----  -
ServiceAccount  jenkins  jenkins
user1@ubul:~/v7k8s-tc-templates/sc06/JENKINS-Final/docker-development-youtube-series/jenkins$ k get svc
NAME                TYPE        CLUSTER-IP      EXTERNAL-IP      PORT(S)          AGE
jenkins             LoadBalancer  198.55.150.65    10.10.20.152     8080:31253/TCP,50000:30998/TCP,80:30637/TCP  30m
user1@ubul:~/v7k8s-tc-templates/sc06/JENKINS-Final/docker-development-youtube-series/jenkins$
```

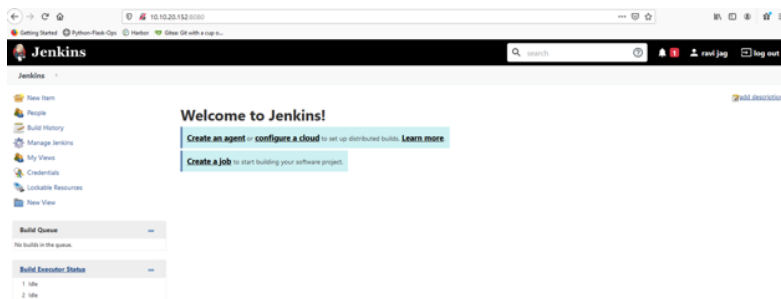
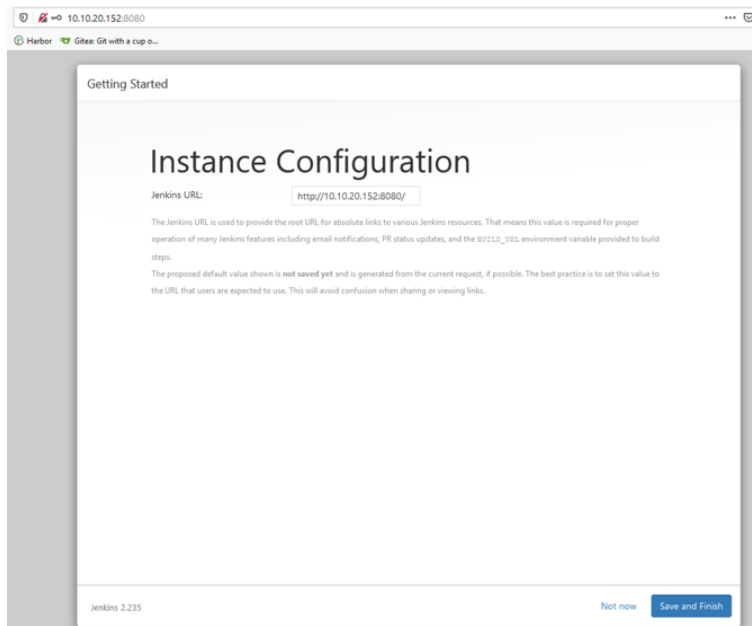
- Install Deployment
 - o \$ kubectl apply -f jenkins.deployment.yaml

At this stage you should have Jenkins come up at the LB Ip.

- Get TMP PWD via
 - o kubectl logs jenkins-pod.
 - o This will be entered to loginto the install page first time
- Access Jenkins install on the LoadBalancer IP
- Go to the LB Ip and http://LBIP-address:8080



Enter credentials and go to next page “instance configuration”



If you are here.. then the Jenkins Install has completed.

Stage 2 Next Let us configure Kubernetes Plugins

Install the base Kubernetes plugins

- Kubernetes Continuous Deploy
- Kubernetes Cli
- Kubernetes Credentials Provider
- Kubernetes :: Pipeline :: DevOps Steps
- Kubernetes :: Pipeline :: Kubernetes Steps

10.10.20.152:8080/updateCenter/

HarborGitee: Git with a cup o...

Pipeline: Stage View	Success
Git	Success
MapDB API	Success
Subversion	Success
SSH Build Agents	Success
Matrix Authorization Strategy	Success
PAM Authentication	Success
LDAP	Success
Email Extension	Success
Mailer	Success
Loading plugin extensions	Success
OAuth Credentials	Success
Google OAuth Credentials	Success
Kubernetes Client API	Success
Kubernetes Credentials	Success
Variant	Success
Kubernetes	Success
Kubernetes Credentials Provider	Success
Kubernetes Client API	Success
Kubernetes CLI	Success
Kubernetes :: Pipeline :: DevOps Steps	Success
Loading plugin extensions	Success

[Go back to the top page](#)
(you can start using the installed plugins right away)

☐ Restart Jenkins when installation is complete and no jobs are running

Stage 3 Configure Kubernetes cloud

← → ↻ 🏠

10.10.20.145:8080/configureClouds/

133%

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Getting Started Python-Flask-Ops Harbor Gitea: Git with a cup o...

Jenkins > Configure Clouds

🏠 Back to Dashboard

⚙️ Manage Nodes

☁️

Configure Clouds

Kubernetes

Name

kubernetes

?

Kubernetes URL

https://kubernetes.default:443

?

Kubernetes server certificate key

?

Disable https certificate check

☐

?

Kubernetes Namespace

jenkins

Credentials

- none -

Add

WebSocket

☐

?

Test Connection

Save

Apply

Activate Windows

Go to Settings to activate Windows.

← → ↻ 🏠

10.10.20.152:8080/configureClouds/

⋮ 📄 📁 📌

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Jenkins > Configure Clouds

WebSocket

☐

?

Direct Connection

☐

?

Jenkins URL

http://10.10.20.152:8080

?

Jenkins tunnel

jenkins:50000

?

Connection Timeout

5

?

Read Timeout

15

?

Concurrency Limit

10

?

Pod Labels

Pod Label

Key

jenkins

?

Value

slave

?

Delete Pod Label

Add Pod Label

Max connections to Kubernetes API

32

?

Seconds to wait for pod to be running

600

?

Advanced...


Pod Retention...

Activate Windows
Go to Settings to activate Windows.

Stage 4 – Create a Sample Pipeline

10.10.20.152:8080

Getting Started Python-Flask-Ops Harbor Gitea: Git with a cup o...

 **Jenkins**

Jenkins

- New Item
- People
- Build History
- Manage Jenkins
- My Views
- Credentials
- Lockable Resources
- Open Blue Ocean
- New View

Welcome to Jenkins!

[Create a job](#) to start building your software project.

Build Queue

No builds in the queue.

Build Executor Status

- 1 Idle
- 2 Idle

Jenkins > springboot-jenkins-actuator-rest >

General Build Triggers Advanced Project Options **Pipeline**

Pipeline

Definition

Pipeline script

Script

```
1 pipeline{
2   agent { label 'jenkins-slave' }
3
4   stages {
5
6     stage('Checkout Source') {
7       steps {
8         git 'http://10.10.20.146:3000/paul/springboot-jenkins-actuator-rest.git'
9       }
10    }
11
12    stage('Build') {
13      steps {
14        sh 'mvn -B -DskipTests clean package'
15      }
16    }
17  }
```

try sample Pipeline...

☒ Use Groovy Sandbox

[Pipeline Syntax](#)

Save

Apply

A Jenkins center

Copy the script from here <https://github.com/reagul/Jenkins-VS7-K8s/blob/master/Hello-Kubernetes-Jenkins-File>

It will deploy a Hello Kubernetes php app with a Loadbalancer type.

Pipeline Notes:

Using Kubeconfig to connect with your K8 cluster

Kubeconfig Plugin : Enable Kubernetes plugin on the Jenkins Dashboard

Steps :

- From your Cmd console { after having logged into your K8 } type
 - o `kubect1 config view > k8config`
- Create a Jenkins space credential
 - o Paste the contents of your kubeconfig you got here. Be mindful of injecting spaces / special chars while pasting. If so, recommend deleting and re-creating it again.
- Use the creds as show below in your Jenkins pipeline. Note the `kubeconfigId..` below.. it should match your ID when you created the credentials. If a default one was allocated to you, use it instead.
- Here we are deploying a yaml file that was fetched with git in the prev step