

## Jenkins Persistent volume

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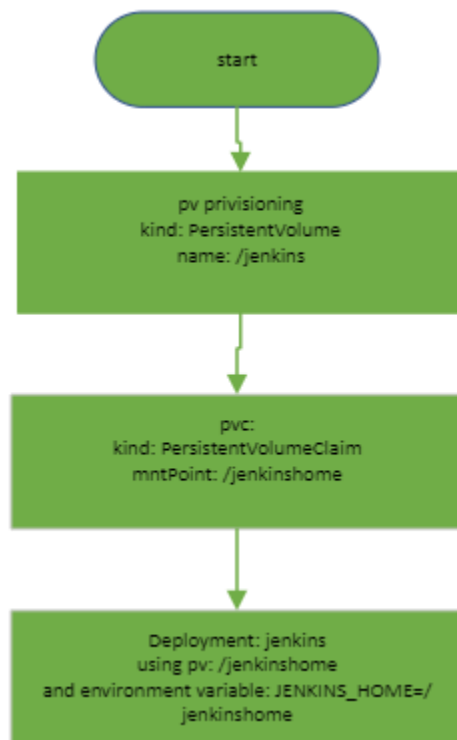
## General

The intention of this document is to demonstrate persistent volume used by Jenkins installed on a container inside k8s pod

## Github source files

<https://github.com/BaruchiHalamish20/K8sDockerDesktop-/tree/master/kubefiles/jenkins>

## Architecture



## Process Flow

Deployment files:

1. Pv: Persistent Volume
2. PVC: Persistent Volume Claim
3. Deployment: jenkins deployment using environment variable
4. Service: LoadBalancer (did not set ingress)

## Deployment

```
$ k apply -f kubefiles/jenkins/jenkins-pv.yaml
```

```
$ k apply -f kubefiles/jenkins/jenkins-pvc.yaml
```

```
$ k apply -f kubefiles/jenkins/jenkins-depl.yaml
```

## Verification

### Service

```
$ k get service
```

NAME	TYPE	CLUSTER-IP	EXTERNAL-IP	PORT(S)	AGE
jenkins-external-service	LoadBalancer	10.102.161.116	localhost	8080:30080/TCP	16s

### Persistent Volume and volume claims

```
$ k get pv
```

NAME	CAPACITY	ACCESS MODES	RECLAIM POLICY	STATUS	CLAIM
STORAGECLASS	REASON	AGE			
jenkins-pv	1Gi	RWO	Retain	Available	59m

```
$ k get pvc
```

NAME	STATUS	VOLUME	CAPACITY	ACCESS MODES	STORAGECLASS	AGE
jenkins-pvc	Bound	pvc-e89e9177-f028-4413-b052-8504b4ff04a6	1Gi	RWO	hostpath	59m

Access from jenkins-test pod:

```
$ k describe pod/jenkins-container-test
```

```
Name:      jenkins-container-test
```

```
...
```

```
Environment:  <none>
```

```
Mounts:
```

```
  /jenkins_home from use-jenkins-pvc-volume (rw)
```

```
$ k exec -it pod/jenkins-container-test bash
```

```
root@jenkins-container-test:/# date
```

```
Sun Mar 26 19:34:51 UTC 2023
```

```
root@jenkins-container-test:/# ls -ltr /jenkins_home/plugins/ | tail -2
```

```
-rw-r--r-- 1 root root 44190 Mar 26 19:28 pipeline-multibranch-defaults.jpi
drwxr-xr-x 5 root root 4096 Mar 26 19:28 pipeline-multibranch-defaults
```

## Jenkins Pod logs

k logs jenkins-65f5dff46-8dnf4

...

Jenkins initial setup is required. An admin user has been created and a password generated.  
Please use the following password to proceed to installation:

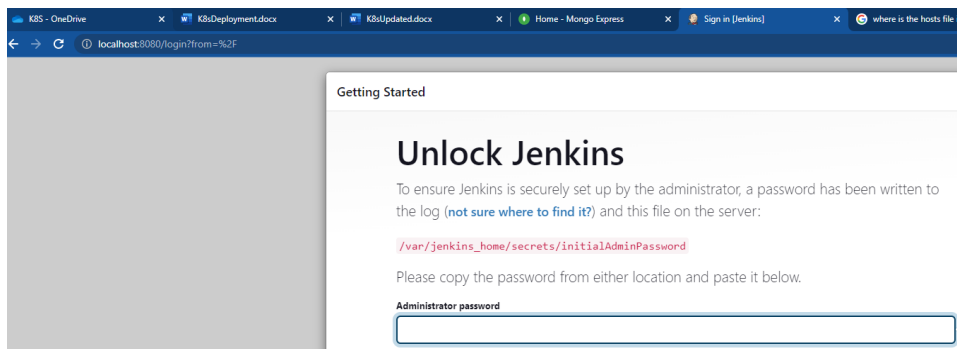
320b980ecbe34b72a43ca7bfe39a52bb

This may also be found at: `/var/jenkins_home/secrets/initialAdminPassword`

....

Login to jenkins:

Url: `http://localhost:8080/login?from=%2F`



Admin username / password: jenkins/jenkins

# Create First Admin User

Username

jenkins

Password

.....

Confirm password

.....

Full name

Baruchi

E-mail address

bhamish10@gmail.com

## Instance Configuration

Jenkins URL:

<http://localhost:8080/>

The Jenkins URL is used to provide the root URL for absolute links to various Jenkins resources. That means this value is required for proper operation of many Jenkins features including email notifications, PR status updates, and the `BUILD_URL` environment variable provided to build steps.

The proposed default value shown is **not saved yet** and is generated from the current request, if possible. The best practice is to set this value to the URL that users are expected to use. This will avoid confusion when sharing or viewing links.

Install new plugins


Create test job

←

→

↺

localhost:8080/job/test\_job/

 **Jenkins**

Dashboard > test\_job >

Status

Changes

Workspace

Build Now

Configure

Delete Project

Rename

Build History

trend

Filter builds...

#3

Mar 26, 2023, 7:52 PM

#2

Mar 26, 2023, 7:48 PM

#1

Mar 26, 2023, 7:42 PM

Atom feed for all

Atom feed for failures

Project test\_job

Permalinks

- Last build (#3), 9 min 54 sec ago
- Last stable build (#3), 9 min 54 sec ago
- Last successful build (#3), 9 min 54 sec ago
- Last failed build (#2), 13 min ago
- Last unsuccessful build (#2), 13 min ago
- Last completed build (#3), 9 min 54 sec ago

Dashboard > test\_job > #3 > Console Output

Status

Changes

Console Output

View as plain text

Edit Build Information

Delete build '#3'

Previous Build

Console Output

Started by user Baruchi

Running as SYSTEM

Building in workspace /var/jenkins\_home/workspace/test\_job

[test\_job] \$ /bin/bash /tmp/jenkins14845500847375153946.sh

/var/jenkins\_home/workspace/test\_job

total 146452

-rw-r--r-- 1 root root 521430 Mar 26 19:19 icons-api.jpi

drwxr-xr-x 4 root root 4096 Mar 26 19:19 icons-api

-rw-r--r-- 1 root root 239816 Mar 26 19:19 cloudbees-folder.jpi

-rw-r--r-- 1 root root 73924 Mar 26 19:28 ansible.jpi

drwxr-xr-x 4 root root 4096 Mar 26 19:28 ansible

-rw-r--r-- 1 root root 44190 Mar 26 19:28 pipeline-multibranch-defaults.jpi

drwxr-xr-x 5 root root 4096 Mar 26 19:28 pipeline-multibranch-defaults

Finished: SUCCESS

Delete pod – make sure persistent volume is ok

```
$ k get pod
```

NAME	READY	STATUS	RESTARTS	AGE
jenkins-65f5dffd46-8dnf4	1/1	Running	0	68m

```
$ k get pod
```

NAME	READY	STATUS	RESTARTS	AGE
jenkins-65f5dffd46-8dnf4	1/1	Running	0	68m
jenkins-container-test	1/1	Running	0	85m

Baruchi@BARUCHI-PC MINGW64 /d/development/K8sDockerDesktop (master)

```
$ k delete pod/jenkins-65f5dffd46-8dnf4
```

```
pod "jenkins-65f5dffd46-8dnf4" deleted
```

Baruchi@BARUCHI-PC MINGW64 /d/development/K8sDockerDesktop (master)

```
$ k get pod
```

NAME	READY	STATUS	RESTARTS	AGE
demo-9b696fddd-zfpn2	1/1	Running	4 (146m ago)	18d
jenkins-65f5dffd46-996tg	1/1	Running	0	12s
jenkins-container-test	1/1	Running	0	85m

Baruchi@BARUCHI-PC MINGW64 /d/development/K8sDockerDesktop (master)

```
$ k delete pod/jenkins-65f5dffd46-8dnf4
```

```
pod "jenkins-65f5dffd46-8dnf4" deleted
```

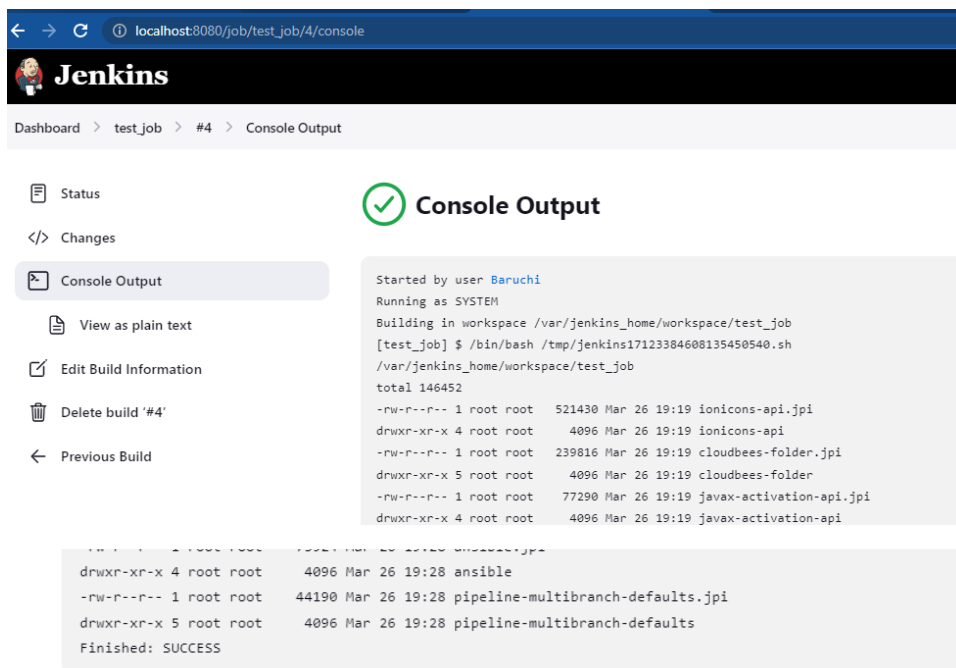


Baruchi@BARUCHI-PC MINGW64 /d/development/K8sDockerDesktop (master)

\$ k get pod

NAME	READY	STATUS	RESTARTS	AGE
jenkins-65f5dff46-996tg	1/1	Running	0	12s
jenkins-container-test	1/1	Running	0	85m

Test job exist after new pod – same results



The screenshot shows the Jenkins web interface at localhost:8080/job/test\_job/4/console. The left sidebar contains links for Status, Changes, Console Output (selected), View as plain text, Edit Build Information, Delete build '#4', and Previous Build. The main area displays the console output for build #4, which was started by user Baruchi and is running as SYSTEM. The output shows the build directory, shell execution, and a file listing of the workspace. The build finished successfully.

```
Started by user Baruchi
Running as SYSTEM
Building in workspace /var/jenkins_home/workspace/test_job
[test_job] $ /bin/bash /tmp/jenkins17123384608135450540.sh
/var/jenkins_home/workspace/test_job
total 146452
-rw-r--r-- 1 root root    521430 Mar 26 19:19 icons-api.jpi
drwxr-xr-x 4 root root      4096 Mar 26 19:19 icons-api
-rw-r--r-- 1 root root   239816 Mar 26 19:19 cloudbees-folder.jpi
drwxr-xr-x 5 root root      4096 Mar 26 19:19 cloudbees-folder
-rw-r--r-- 1 root root    77290 Mar 26 19:19 javax-activation-api.jpi
drwxr-xr-x 4 root root      4096 Mar 26 19:19 javax-activation-api
drwxr-xr-x 4 root root      4096 Mar 26 19:28 ansible
-rw-r--r-- 1 root root   44190 Mar 26 19:28 pipeline-multibranch-defaults.jpi
drwxr-xr-x 5 root root      4096 Mar 26 19:28 pipeline-multibranch-defaults
Finished: SUCCESS
```