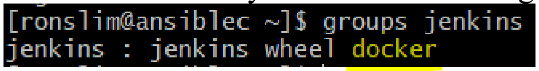
Docker Jenkins Pipeline (Build and Push)

Pre-requisite:

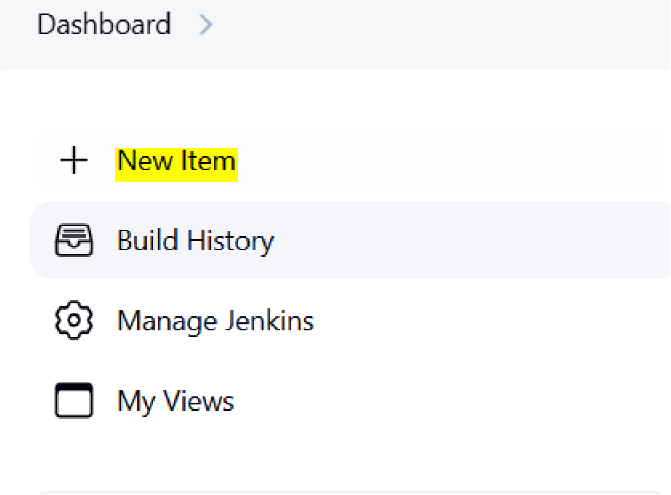
- Jenkins already installed
- Docker Pipeline Plugins installed
- Jenkins user already included in docker group



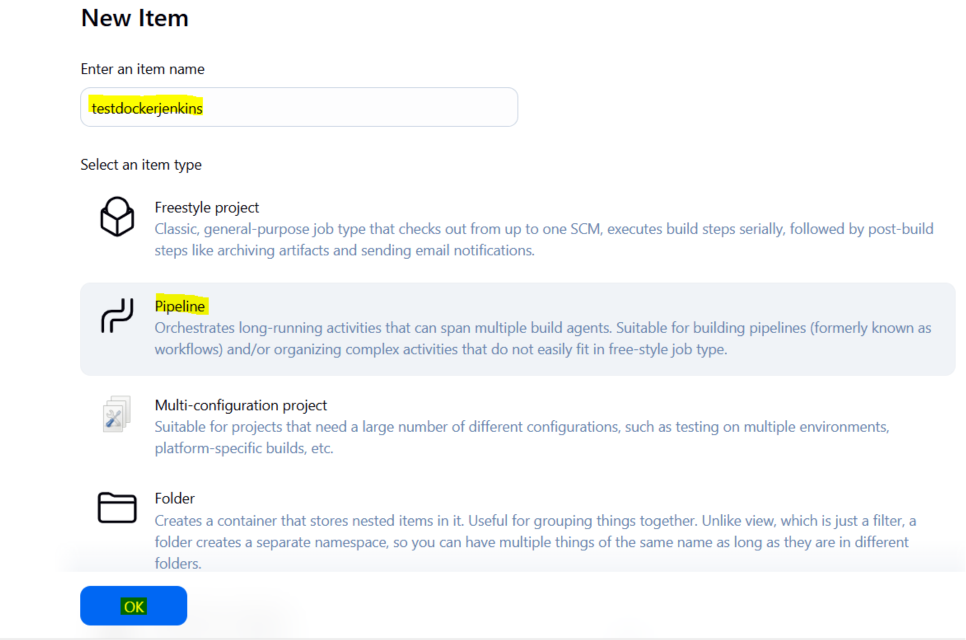
```
[ronslim@ansiblec ~]$ groups jenkins
jenkins : jenkins wheel docker
```

Create a Pipeline

Click New Item



Enter an item name then click Pipeline then click OK button.



New Item

Enter an item name

testdockerjenkins

Select an item type

Freestyle project
Classic, general-purpose job type that checks out from up to one SCM, executes build steps serially, followed by post-build steps like archiving artifacts and sending email notifications.

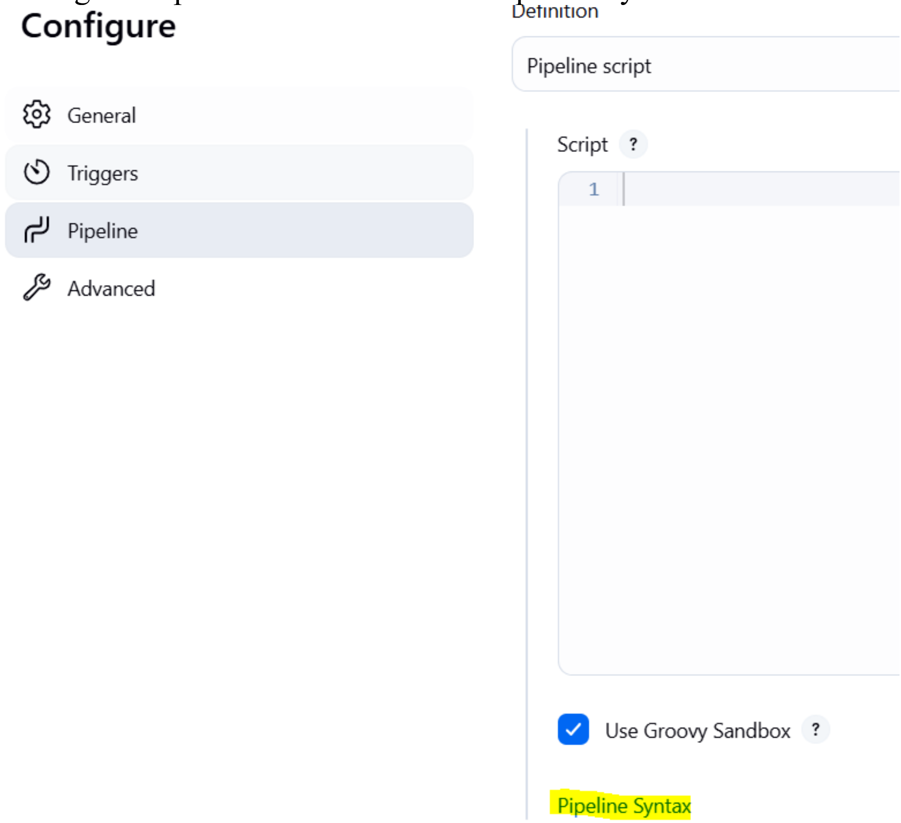
Pipeline
Orchestrates long-running activities that can span multiple build agents. Suitable for building pipelines (formerly known as workflows) and/or organizing complex activities that do not easily fit in free-style job type.

Multi-configuration project
Suitable for projects that need a large number of different configurations, such as testing on multiple environments, platform-specific builds, etc.

Folder
Creates a container that stores nested items in it. Useful for grouping things together. Unlike view, which is just a filter, a folder creates a separate namespace, so you can have multiple things of the same name as long as they are in different folders.

Create a Docker Registry Credential

Then go to Pipeline Section and click Pipeline Syntax

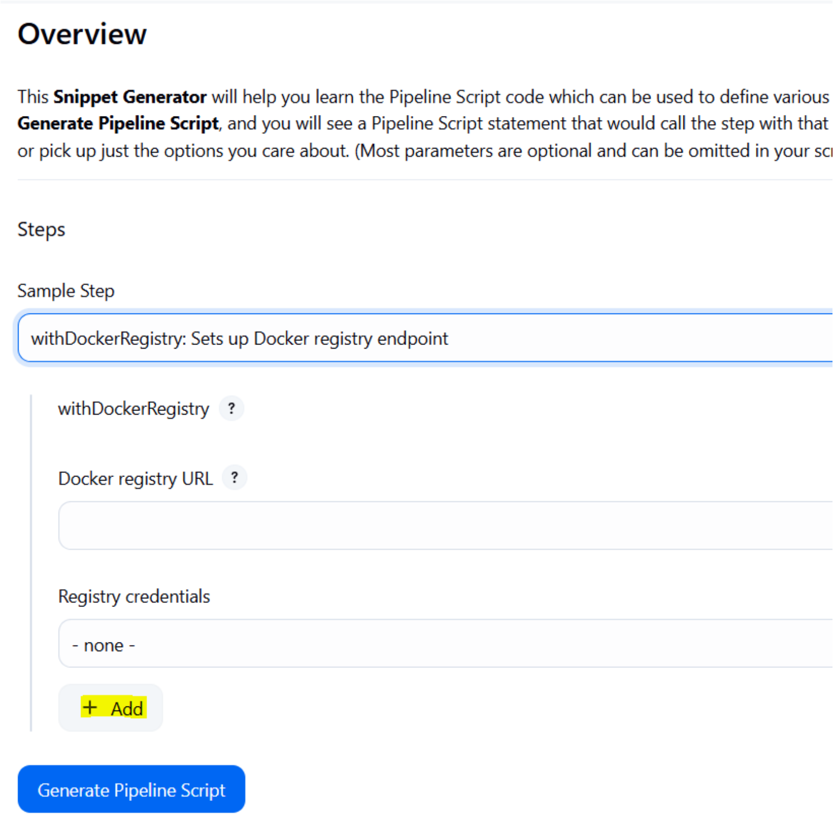


Definition

Pipeline script

☑ Use Groovy Sandbox ?

On Pipeline Syntax window, put withDockerRegistry… Then click + Add to add registry credentials



Overview

This **Snippet Generator** will help you learn the Pipeline Script code which can be used to define various
Generate Pipeline Script, and you will see a Pipeline Script statement that would call the step with that
or pick up just the options you care about. (Most parameters are optional and can be omitted in your sc

Steps

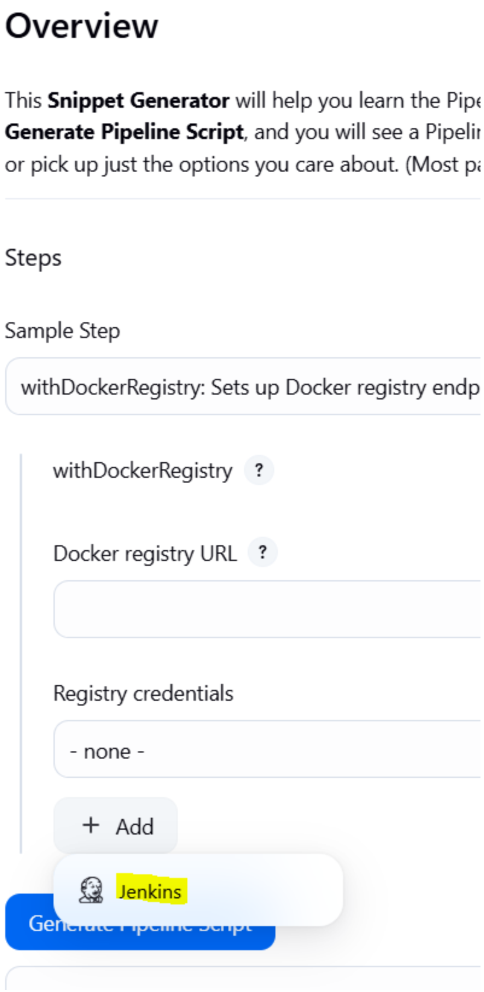
Sample Step: withDockerRegistry: Sets up Docker registry endpoint

withDockerRegistry ?

Docker registry URL ?

Registry credentials: - none -

Then click Jenkins



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Steps

Sample Step

withDockerRegistry: Sets up Docker registry endp

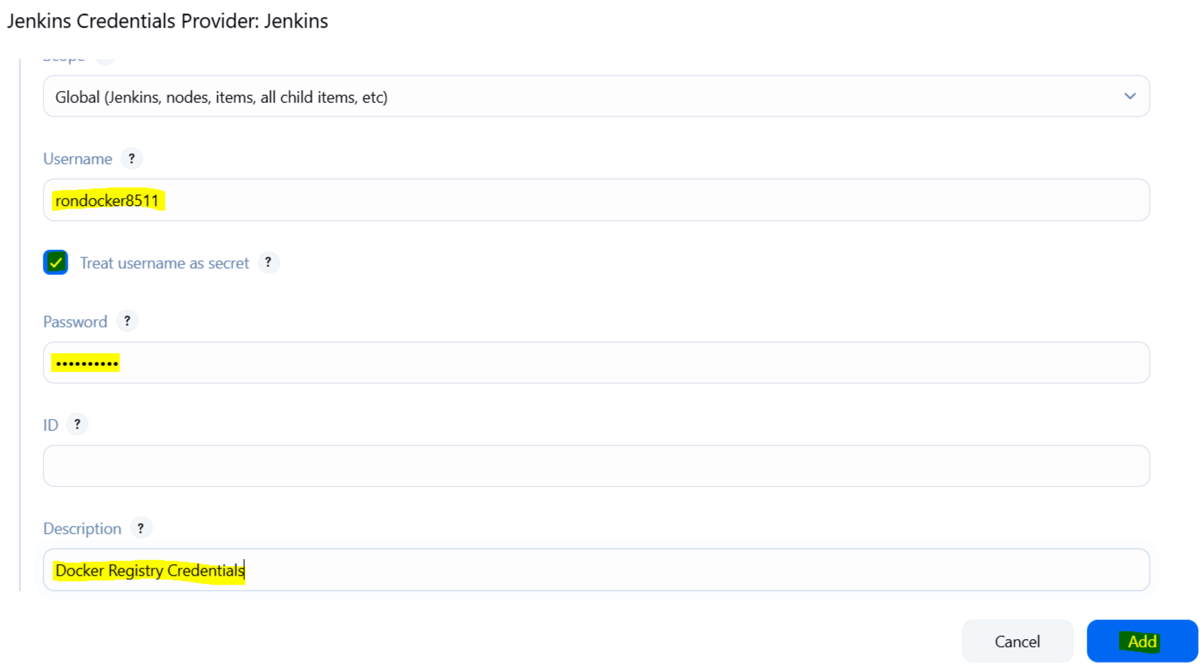
withDockerRegistry ?

Docker registry URL ?

Registry credentials

- none -

Then fill-out Username and Password and check Treat username as secret. You can also fill-out the description (optional). Then click Add button.



Jenkins Credentials Provider: Jenkins

Scope

Global (Jenkins, nodes, items, all child items, etc)

Username

rondocker8511

☑ Treat username as secret

Password

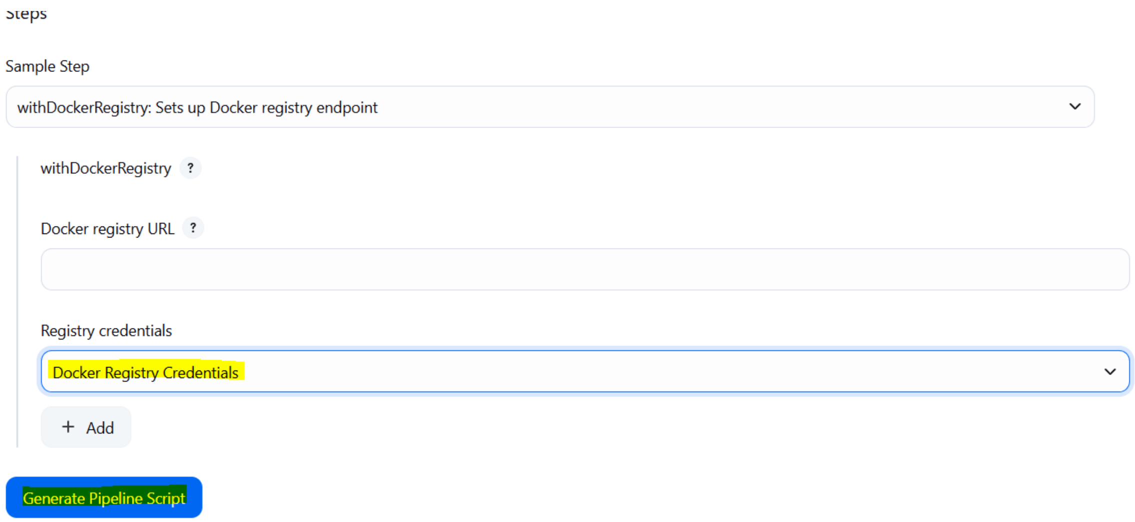
••••••••••

ID

Description

Docker Registry Credentials

After clicking Add button, you will go back to Pipeline Syntax window. Then choose Docker Registry Credentials on Registry Credentials and click Generate Pipeline Script.



Steps

Sample Step

withDockerRegistry: Sets up Docker registry endpoint

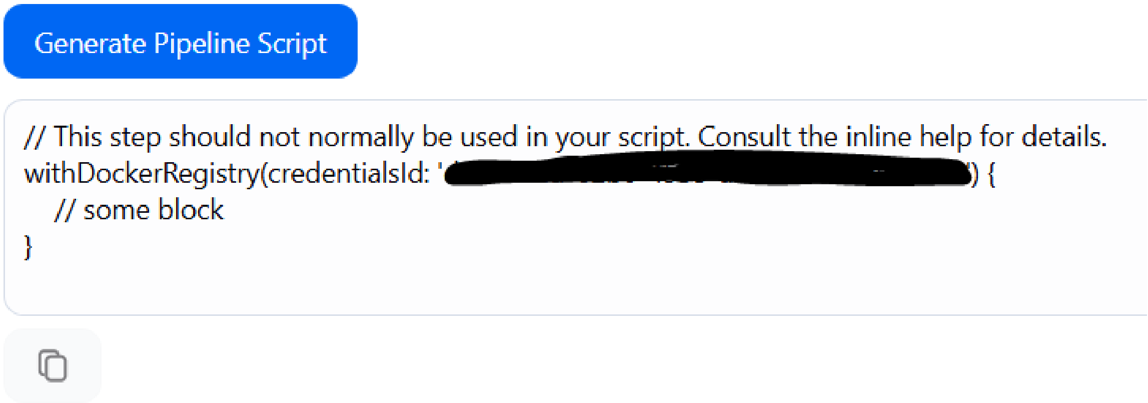
withDockerRegistry

Docker registry URL

Registry credentials

Docker Registry Credentials

Then the script will be generated with credentials



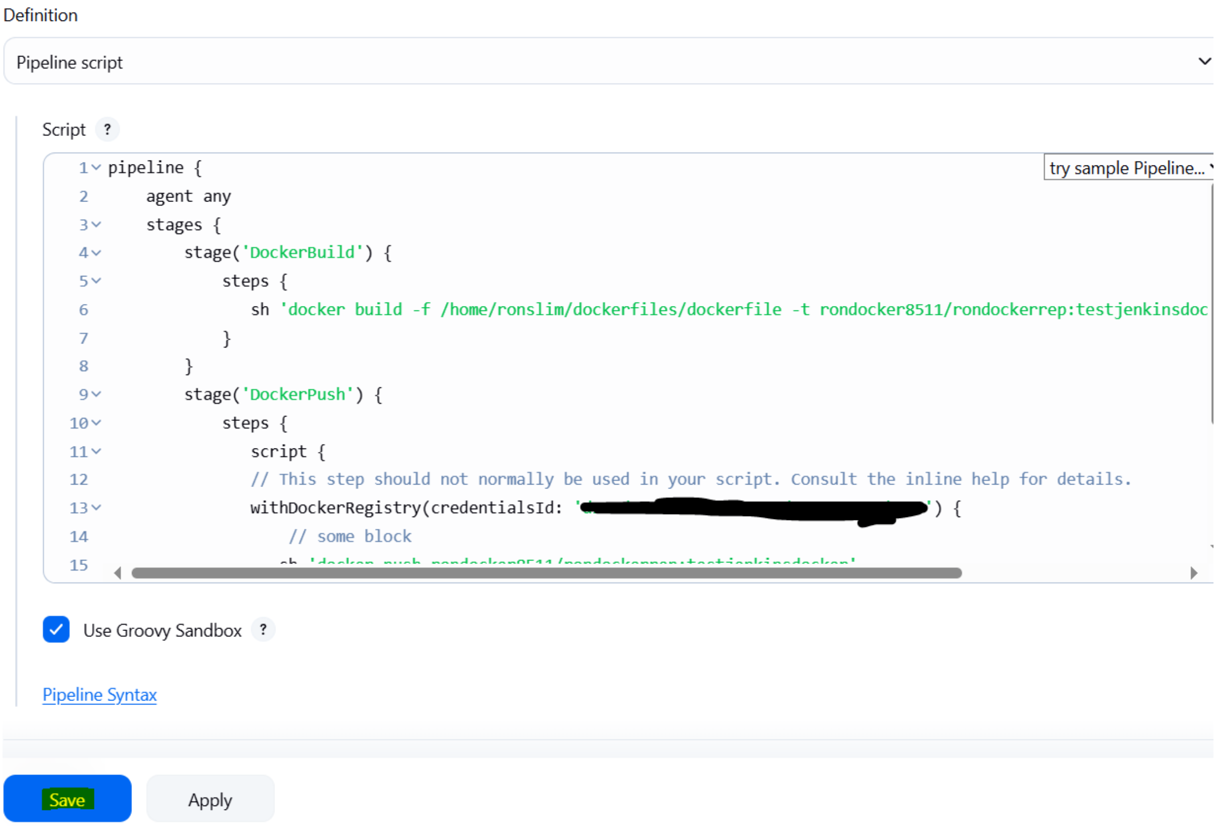
```
// This step should not normally be used in your script. Consult the inline help for details.
withDockerRegistry(credentialsId: '[redacted]') {
  // some block
}
```

Pipeline Script

Then exit the Pipeline Syntax window and then put to the Pipeline Script Below and click Save button:

```
pipeline {
   agent any
   stages {
      stage('DockerBuild') {
         steps {
           sh 'docker build -f /home/ronslim/dockerfiles/dockerfile -t rondocker8511/rondockerrep:testjenkinsdocker /home/ronslim/dockerfiles'
         }
      }
      stage('DockerPush') {
         steps {
           script {
           // This step should not normally be used in your script. Consult the inline help for details.
           withDockerRegistry(credentialsId: '<Cred ID>) {
              // some block
             sh 'docker push rondocker8511/rondockerrep:testjenkinsdocker'
             }
           }
         }
      }
   }
}
```

Notice that in the above script, we have 2 stages, DockerBuild and DockerPush. DockerBuild is to build the docker image from dockerfile. DockerPush is to push the docker image to the docker hub. Tag Name for this example is testjenkinsdocker.

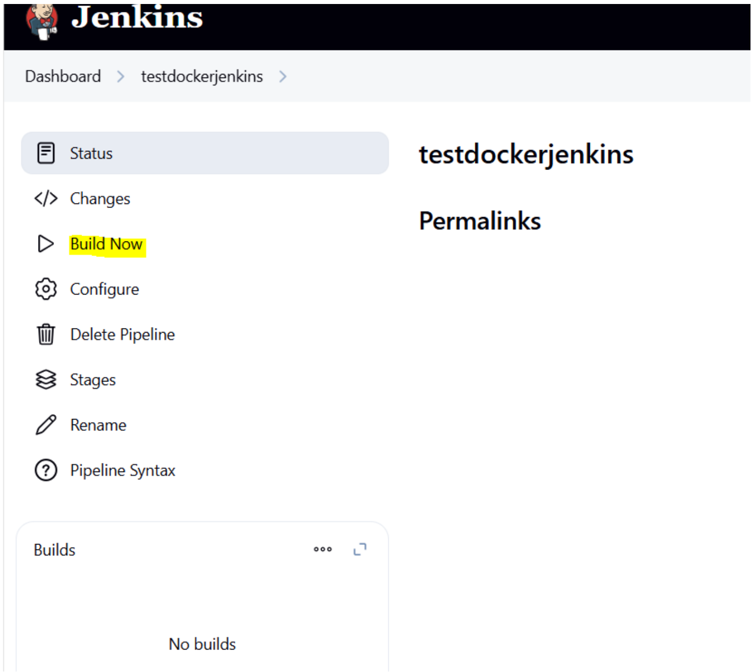


```
pipeline {
    agent any
    stages {
        stage('DockerBuild') {
            steps {
               sh 'docker build -f /home/ronslim/dockerfiles/dockerfile -t rondocker8511/rondockerrep:testjenkinsdoc
            }
        }
        stage('DockerPush') {
            steps {
               script {
               // This step should not normally be used in your script. Consult the inline help for details.
               withDockerRegistry(credentialsId: '[redacted]') {
                   // some block
                   sh 'docker push rondocker8511/rondockerrep:testjenkinsdocker'
```

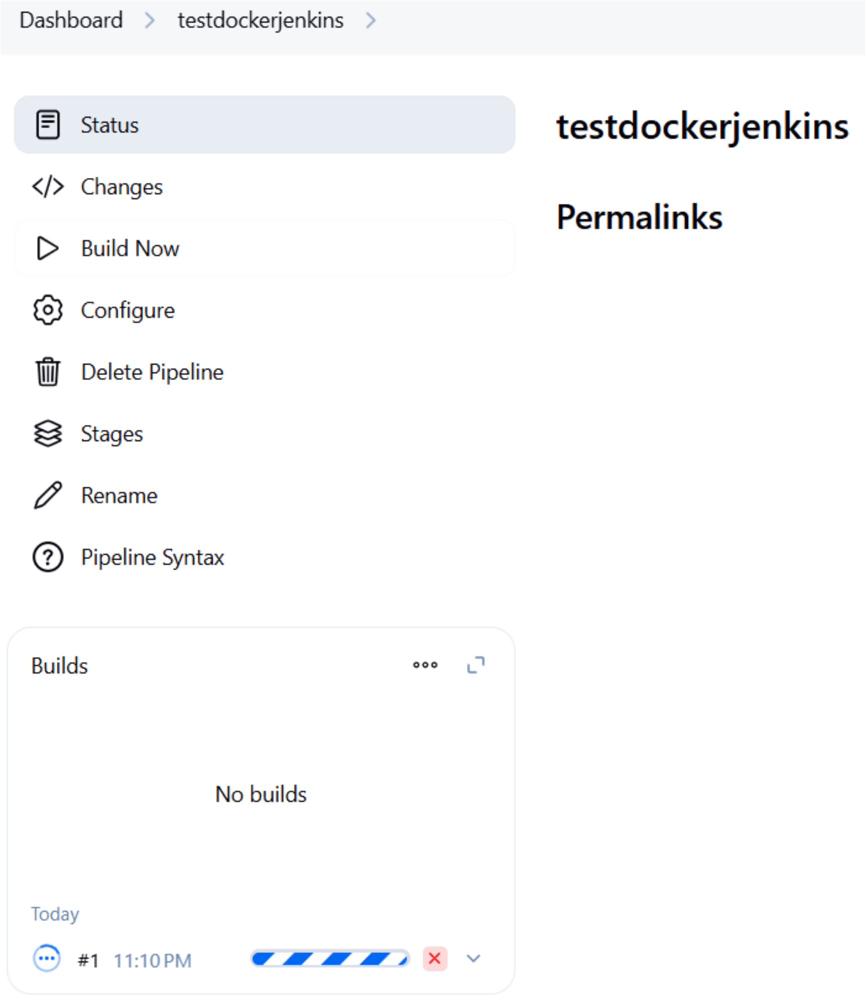
☑ Use Groovy Sandbox ?

Run Pipeline

Then click Build Now to start the build

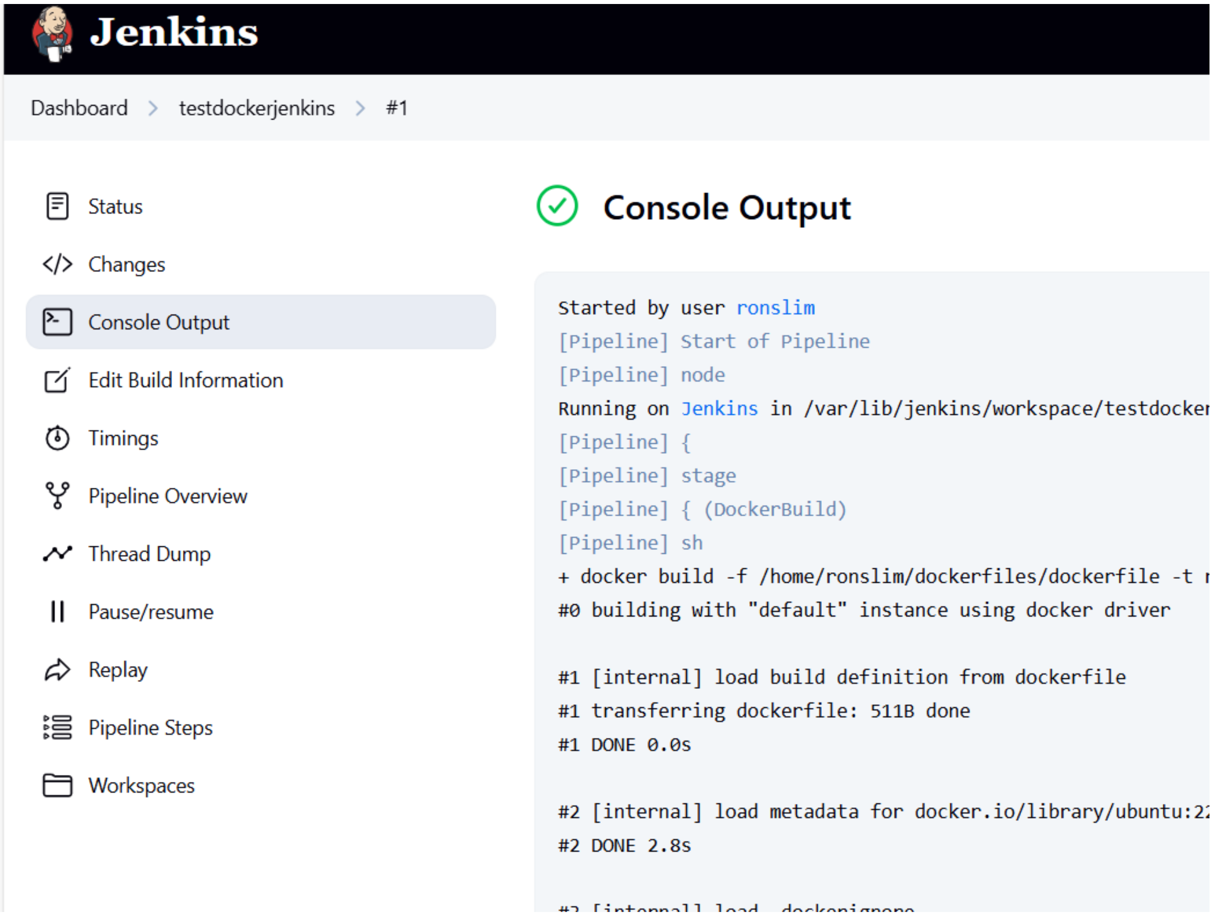


Build already in progress.



No builds

You can monitor by clicking below today. Then click Console Output to check progress.

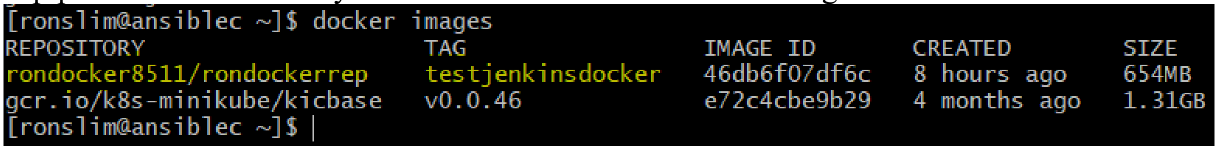


Console Output

```
Started by user ronslim
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/testdocker
[Pipeline] {
[Pipeline] stage
[Pipeline] { (DockerBuild)
[Pipeline] sh
+ docker build -f /home/ronslim/dockerfiles/dockerfile -t r
#0 building with "default" instance using docker driver

#1 [internal] load build definition from dockerfile
#1 transferring dockerfile: 511B done
#1 DONE 0.0s

#2 [internal] load metadata for docker.io/library/ubuntu:22
#2 DONE 2.8s

#3 [internal] load .dockerignore
```

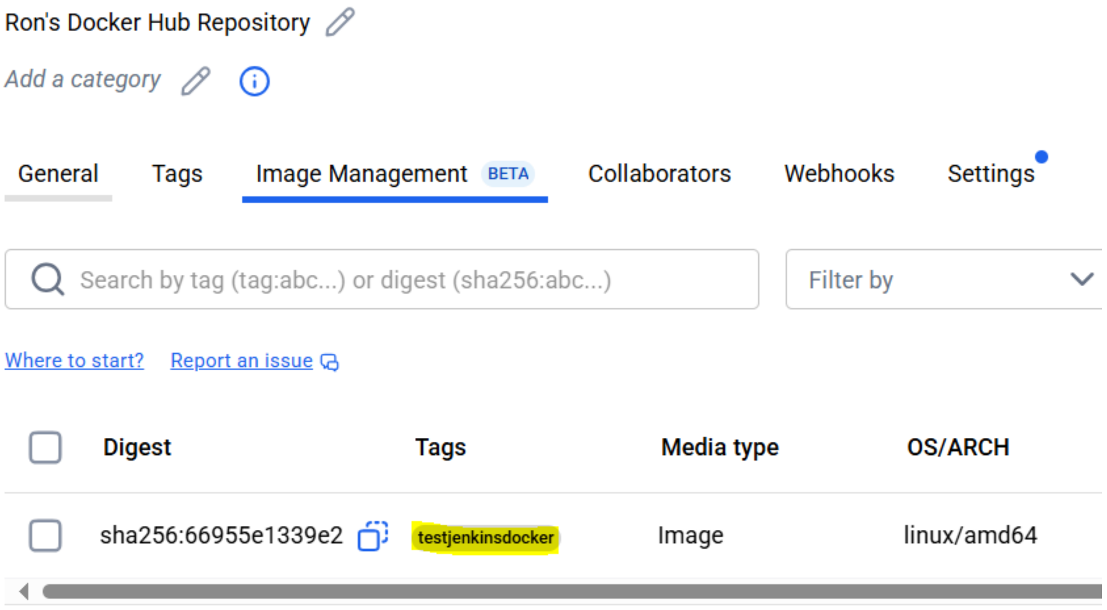
Post Check Result

If pipeline ran successfully then check first if it is in docker images.



```
[ronslim@ansiblec ~]$ docker images
REPOSITORY                    TAG                   IMAGE ID       CREATED         SIZE
rondocker8511/rondockerrep    testjenkinsdocker     46db6f07df6c   8 hours ago     654MB
gcr.io/k8s-minikube/kicbase   v0.0.46               e72c4cbe9b29   4 months ago    1.31GB
[ronslim@ansiblec ~]$ |
```

Then check the docker hub.



Ron's Docker Hub Repository

Add a category

□	Digest	Tags	Media type	OS/ARCH
□	sha256:66955e1339e2	testjenkinsdocker	Image	linux/amd64