

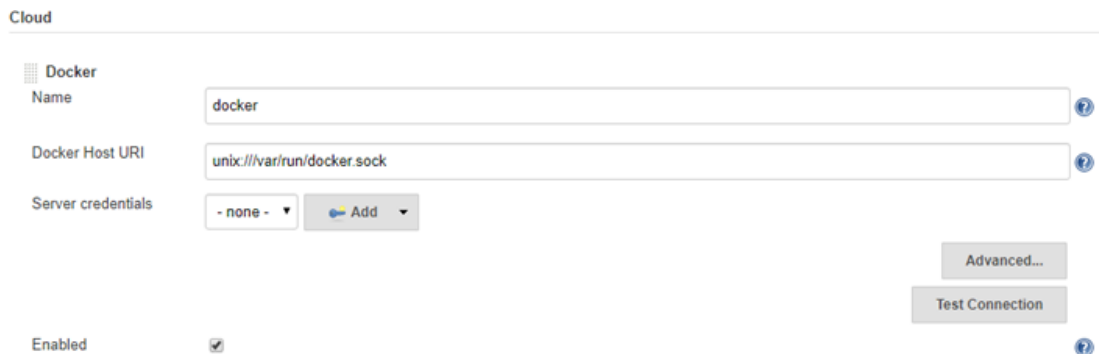
Phase-5 Practice Project: Assisted Practice

6. Setting up a Jenkins Pipeline.

Installing Docker plugin and configuring Docker cloud

- Add Docker cloud by accessing Manage Jenkins ☐ Configure system. Then, you have to add Docker cloud details as shown below:

Docker Host URI: unix:///var/run/docker.sock



The screenshot shows the Jenkins 'Cloud' configuration page for a Docker cloud. The 'Name' field is set to 'docker'. The 'Docker Host URI' field is set to 'unix:///var/run/docker.sock'. The 'Server credentials' dropdown is set to '- none -' with an 'Add' button next to it. There are 'Advanced...' and 'Test Connection' buttons on the right. The 'Enabled' checkbox is checked.

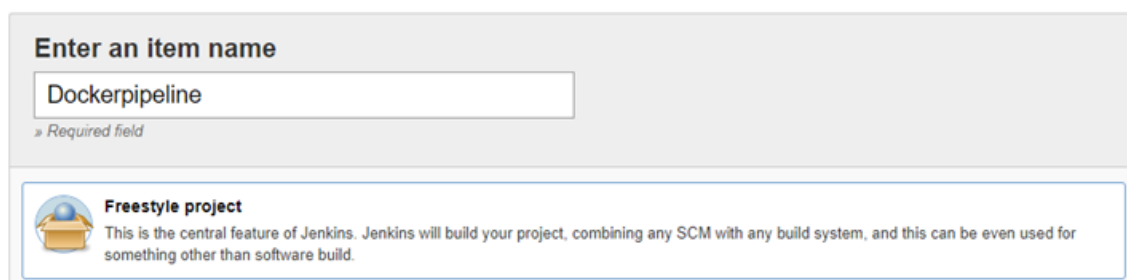
- Configure the Docker cloud to give complete access to docker.sock file so that Jenkins will be able to connect to Docker process

`chmod 777 /var/run/docker.sock`

```
root@ip-172-31-17-73:/var/run# chmod 777 docker.sock
```

Configuring Jenkins job

- Create a new Jenkins pipeline job for supporting CI/CD workflow



The screenshot shows the 'Enter an item name' dialog in Jenkins. The text 'Dockerpipeline' is entered in the input field. Below the input field, it says '» Required field'. At the bottom, there is a 'Freestyle project' option with a description: 'This is the central feature of Jenkins. Jenkins will build your project, combining any SCM with any build system, and this can be even used for something other than software build.'

- Configure Git repository so that we can have Dockerfile to build Docker container and push it to Docker Hub

Source Code Management

☐ None
☒ Git

Repositories

Repository URL:

Credentials:

Branches to build

Branch Specifier (blank for 'any'):

Repository browser:

- Configure build triggers to enable Poll SCM feature so that once any push is detected

Build Triggers

☐ Trigger builds remotely (e.g., from scripts)

☐ Build after other projects are built

☐ Build periodically

☐ GitHub hook trigger for GITScm polling

☒ Poll SCM

Schedule:

Would last have run at Monday, July 15, 2019 6:29:35 PM UTC; would next run at Monday, July 15, 2019 6:29:35 PM UTC.

Ignore post-commit hooks: ☐

- Configure Docker build option to configure build configurations. Some of the configurations are mentioned below:

Directory for Dockerfile . (Represents current location)

Docker Registry URL
https://index.docker.io/v1/

Docker credentials Docker hub username
password

Cloud Select Docker Cloud created in
dropdown

Build

Build / Publish Docker Image

Directory for Dockerfile
Location to look for the Dockerfile in, which is used to build the image.

Credentials to pull image from upstream registry

Registry Credentials

Docker registry URL

Registry credentials

Cloud
Cloud to use to build image

Image

Push image ☒

- Follow the steps mentioned below to configure how Docker containers will be deployed

Docker cloud Select from dropdown Docker cloud details

Docker image

anujsharma1990/phpcode:\${BUILD_NUMBER}

Registry Credentials

Clean local images ☒

Attempt to remove images when Jenkins deletes the run ☒

Start/Stop Docker Containers

Action to choose

Docker Cloud

Docker Image

- Once job configuration is done, save the configuration and proceed with triggering build in order to build custom container and deploy the container

Successfully built 57c0eeb63850

Tagging built image with anujsharma1990/phpcode:4

Docker Build Response : 57c0eeb63850

Pushing [anujsharma1990/phpcode:4]

The push refers to repository [docker.io/anujsharma1990/phpcode]

Pushed 2 layers to repository

```
4: digest: sha256:4a9404ab7b26b05fcd0aee10538a43667fc2b9d0834d7dffb4d330356afd106 size: 2408
Cleaning local images [57c0eeb63850]
Docker Build Done
Pulling image anujsharma1990/phpcode:4
4:Pulling from anujsharma1990/phpcode5b7339215d1d:Already exists14ca88e9f672:Already existsa31c3b1caad4:Already
existsb054a26005b7:Already existsd4db4c3dd692:Pulling fs layer42cbd6016189:Pulling fs layer58e44124d930:Pulling fs
layercb727fa74bc1:Pulling fs layer51e9e9911579:Pulling fs layer860ae8f8:Pulling fs
layer51e9e9911579:Waiting860ae8f8:Waitingcb727fa74bc1:Waiting58e44124d930:Verifying Checksum58e44124d930:Download
completecb727fa74bc1:Verifying Checksumcb727fa74bc1:Download complete51e9e9911579:Verifying Checksum51e9e9911579:Download
completed4db4c3dd692:Verifying Checksumd4db4c3dd692:Download complete860ae8f8:Verifying Checksum860ae8f8:Download
completed4db4c3dd692:Pull complete42cbd6016189:Verifying Checksum42cbd6016189:Download complete42cbd6016189:Pull
complete58e44124d930:Pull completecb727fa74bc1:Pull complete51e9e9911579:Pull complete860ae8f8:Pull completenull:Digest:
sha256:4a9404ab7b26b05fcd0aee10538a43667fc2b9d0834d7dffb4d330356afd106null>Status: Downloaded newer image for
anujsharma1990/phpcode:4Starting container for image anujsharma1990/phpcode:4
Started container aec3ed34f43c7d14e1166aed67b99e9f211aed2fe105b10ee5604c046522e8cc
Finished: SUCCESS
```

- Once the build is successful, validate the Docker container deployment on Docker host which will help us to implement complete CI/CD workflow for Docker container

```
root@ip-172-31-17-73:/var/run# docker ps
CONTAINER ID        IMAGE               COMMAND             CREATED
aec3ed34f43c       anujsharma1990/phpcode:4   "/usr/sbin/apache2 -â!"   44 seconds ago
root@ip-172-31-17-73:/var/run#
```