

TASK 2

Step 1: Open Jenkins and click "**New Item.**"

Step 2: Enter a project name, select "**Pipeline,**" then click **OK.**

Step 3: In the **General** tab, scroll down to the "**Pipeline**" section.

Step 4: Under "**Definition,**" select "**Pipeline script from SCM.**"

Step 5: In the **SCM** field, choose "**Git,**" then enter your GitHub repository URL.

Step 6: Ensure your GitHub repository contains the following files:

- app.py (Application code)
- Dockerfile (Instructions to build the Docker image)
- docker-compose.yml (For container orchestration)
- Jenkinsfile (Defines the pipeline stages)
- requirements.txt (Dependencies for the application)

Step 7: Click "**Save**" to apply the configuration.

Step 8: On the project page, click "**Build Now**" to start the job.

Step 9: The build status will appear in the **Build History** panel (left-side panel).

Step 10: Click on the latest build (#1, #2, etc.) and select "**Console Output**" to view logs and results.

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localhost:8080/job/CI-CD PIPELINE1/10/console 80% ☆

Jenkins

Dashboard > CI-CD PIPELINE1 > #10

- Status
- Changes
- Console Output
- Edit Build Information
- Delete build '#10'
- Timings
- Git Build Data
- Pipeline Overview
- Pipeline Console
- Restart from Stage
- Replay
- Pipeline Steps
- Workspaces
- Previous Build
- Next Build

Console Output

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```
Started by user g
Obtained Jenkinsfile from git https://github.com/ajaig2003/Jenkins
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in /var/lib/jenkins/workspace/CI-CD PIPELINE1
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Declarative: Checkout SCM)
[Pipeline] checkout
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/CI-CD PIPELINE1/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/ajaig2003/Jenkins # timeout=10
Fetching upstream changes from https://github.com/ajaig2003/Jenkins
> git --version # timeout=10
> git --version # 'git version 2.43.0'
> git fetch --tags --force --progress -- https://github.com/ajaig2003/Jenkins +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse origin/main^{commit} # timeout=10
Checking out Revision 8efc56a870c209bb2a9de228d3ded490aef4f79e (origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 8efc56a870c209bb2a9de228d3ded490aef4f79e # timeout=10
Commit message: "Add files via upload"
> git rev-list --no-walk 8efc56a870c209bb2a9de228d3ded490aef4f79e # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] withEnv
```

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Jenkins

Dashboard > CI-CD PIPELINE1 > #10

```
[Pipeline] {
[Pipeline] withEnv
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Checkout Code)
[Pipeline] git
Selected Git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
> git rev-parse --resolve-git-dir /var/lib/jenkins/workspace/CI-CD PIPELINE1/.git # timeout=10
Fetching changes from the remote Git repository
> git config remote.origin.url https://github.com/ajaig2003/Jenkins # timeout=10
Fetching upstream changes from https://github.com/ajaig2003/Jenkins
> git --version # timeout=10
> git --version # 'git version 2.43.0'
> git fetch --tags --force --progress -- https://github.com/ajaig2003/Jenkins +refs/heads/*:refs/remotes/origin/* # timeout=10
> git rev-parse refs/remotes/origin/main^{commit} # timeout=10
Checking out Revision 8efc56a870c209bb2a9de228d3ded490aef4f79e (refs/remotes/origin/main)
> git config core.sparsecheckout # timeout=10
> git checkout -f 8efc56a870c209bb2a9de228d3ded490aef4f79e # timeout=10
> git branch -a -v --no-abbrev # timeout=10
> git branch -D main # timeout=10
> git checkout -b main 8efc56a870c209bb2a9de228d3ded490aef4f79e # timeout=10
Commit message: "Add files via upload"
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Build Docker Image)
[Pipeline] script
[Pipeline] {
[Pipeline] sh
+ docker build -t ajaigurusamy/my-app:latest .
#0 building with "default" instance using docker driver

#1 [internal] load build definition from Dockerfile
```

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Dashboard > CI-CD PIPELINE1 > #10

```
#1 transferring dockerfile:
#1 transferring dockerfile: 471B 0.1s done
#1 DONE 0.3s

#2 [internal] load metadata for docker.io/library/python:3.11-slim
#2 ...

#3 [auth] library/python:pull token for registry-1.docker.io
#3 DONE 0.0s

#2 [internal] load metadata for docker.io/library/python:3.11-slim
#2 DONE 4.1s

#4 [internal] load .dockerignore
#4 transferring context: 2B 0.0s done
#4 DONE 0.1s

#5 [1/5] FROM docker.io/library/python:3.11-slim@sha256:7029b00486ac40bed03e36775b864d3f3d39dcdbf19cd45e6a52d541e6c178f0
#5 DONE 0.0s

#6 [internal] load build context
#6 transferring context: 8.18kB 0.4s done
#6 DONE 0.5s

#7 [2/5] WORKDIR /app
#7 CACHED

#8 [3/5] COPY requirements.txt /app/
#8 CACHED

#9 [4/5] RUN pip install --no-cache-dir -r requirements.txt
#9 CACHED

#10 [5/5] COPY . /app
#10 DONE 1.0s
```

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Dashboard > CI-CD PIPELINE1 > #10

```
#10 [5/5] COPY . /app
#10 DONE 1.0s

#11 exporting to image
#11 exporting layers
#11 exporting layers 0.4s done
#11 writing image sha256:15723748f65ee19bdc10ab68d6079435cef287324555428d11d9f2f74fe29d93 0.0s done
#11 naming to docker.io/ajaigurusamy/my-app:latest 0.0s done
#11 DONE 0.6s

[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Login to Docker Registry)
[Pipeline] script
[Pipeline] {
[Pipeline] sh
+ echo 07-Aug-03
+ docker login -u ajaigurusamy --password-stdin
Login Succeeded
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Push Image to Docker Registry)
[Pipeline] script
[Pipeline] {
[Pipeline] sh
+ docker push ajaigurusamy/my-app:latest
The push refers to repository [docker.io/ajaigurusamy/my-app]
014745654f25: Preparing
7f2186e026b5: Preparing
```

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localhost:8080/job/CI-CD PIPELINE1/10/console

Dashboard > CI-CD PIPELINE1 > #10

```
The push refers to repository [docker.io/ajaigururamy/my-app]
014745654f25: Preparing
7f2186e826b5: Preparing
22210881e15f: Preparing
2dca3db2a116: Preparing
e394b4c0757a: Preparing
97d879c3dfa3: Preparing
e2f88fe30c9c: Preparing
1287fbecdfcc: Preparing
97d879c3dfa3: Waiting
e2f88fe30c9c: Waiting
1287fbecdfcc: Waiting
2dca3db2a116: Layer already exists
e394b4c0757a: Layer already exists
7f2186e826b5: Layer already exists
22210881e15f: Layer already exists
97d879c3dfa3: Layer already exists
e2f88fe30c9c: Layer already exists
1287fbecdfcc: Layer already exists
014745654f25: Pushed
latest: digest: sha256:0aefe3b66f3585038b7ef9e9ebd71671eea9b60453cd42eca2a196856ce31f18 size: 1992
[Pipeline] }
[Pipeline] // script
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Deploy using Docker Compose)
[Pipeline] script
[Pipeline] {
[Pipeline] sh
+ docker-compose up -d
Creating network "ci-cdpipeline1_default" with the default driver
Pulling redis (redis:alpine)...
alpine: Pulling from library/redis
Dinest: sha256:82419de7eddf55aa5bcf49efb74e88fa8d931b4d77c07eff8a6b2144472b6952
```

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localhost:8080/job/CI-CD PIPELINE1/10/console

Dashboard > CI-CD PIPELINE1 > #10

```
Pulling redis (redis:alpine)...
alpine: Pulling from library/redis
Digest: sha256:82419de7eddf55aa5bcf49efb74e88fa8d931b4d77c07eff8a6b2144472b6952
Status: Downloaded newer image for redis:alpine
Pulling db (postgres:alpine)...
alpine: Pulling from library/postgres
Digest: sha256:7062a2109c4b51f3c792c7ea01e83ed12ef9a980886e3b3d380a7d2e5f6ce3f5
Status: Downloaded newer image for postgres:alpine
Building app
#0 building with "default" instance using docker driver

#1 [internal] load build definition from Dockerfile
#1 transferring dockerfile:
#1 transferring dockerfile: 471B 0.9s done
#1 DONE 1.3s

#2 [internal] load metadata for docker.io/library/python:3.11-slim
#2 DONE 3.8s

#3 [internal] load .dockerignore
#3 transferring context:
#3 transferring context: 2B 0.4s done
#3 DONE 0.7s

#4 [1/5] FROM docker.io/library/python:3.11-slim@sha256:7029b00486ac40bed03e36775b864d3f3d39dcdbf19cd45e6a52d541e6c178f0
#4 DONE 0.0s

#5 [internal] load build context
#5 transferring context: 3.63kB 1.6s done
#5 DONE 3.6s

#6 [3/5] COPY requirements.txt /app/
#6 CACHED

#7 [4/5] RUN pip install --no-cache-dir -r requirements.txt
```

