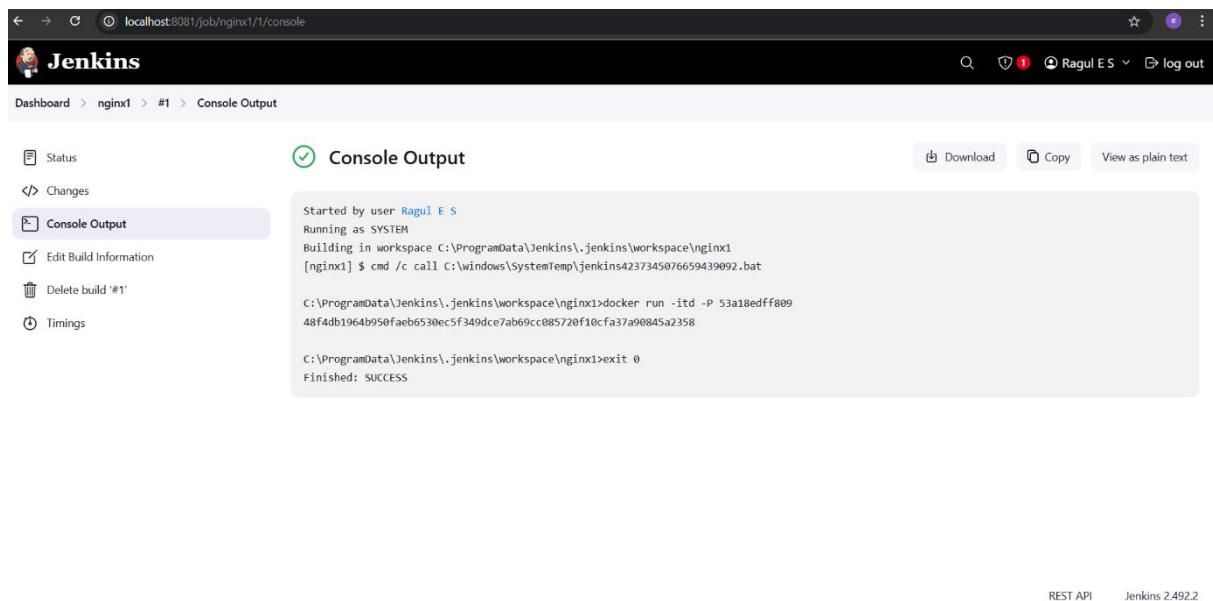


DevOps Day-2

Learned about Jenkins in windows used to create docker image and push to a docker container using functions.

Output of building a simple freestyle project:



The screenshot shows the Jenkins web interface in a browser. The address bar indicates the URL is `localhost:8081/job/nginx1/1/console`. The Jenkins logo and name are at the top left, and the user `Ragul E S` is logged in at the top right. The breadcrumb navigation shows `Dashboard > nginx1 > #1 > Console Output`. On the left sidebar, the `Console Output` option is selected. The main area displays the console output for build #1, which is successful. The output text is as follows:

```
Started by user Ragul E S
Running as SYSTEM
Building in workspace C:\ProgramData\jenkins\jenkins\workspace\nginx1
[nginx1] $ cmd /c call C:\windows\SystemTemp\jenkins4237345076659439092.bat

C:\ProgramData\jenkins\jenkins\workspace\nginx1>docker run -itd -P 53a18edff809
48f4db1964b950faeb6530ec5f349dce7ab69cc085720f10cfa37a90845a2358

C:\ProgramData\jenkins\jenkins\workspace\nginx1>exit 0
Finished: SUCCESS
```

At the bottom right of the page, the text `REST API Jenkins 2.492.2` is visible.

Dashboard > simple-web-app > #1

Status

Changes

Console Output

Edit Build Information

Delete build '#1'

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Restart from Stage

Replay

Pipeline Steps

Workspaces

Next Build

✓ #1 (18 Mar 2025, 13:59:45)

Add description

Keep this build forever

🕒

Started by user Ragul E S

Started 3 days 6 hr ago
Took 10 sec

🕒

This run spent:

- 18 ms waiting;
- 10 sec build duration;
- 10 sec total from scheduled to completion.

🔗 git

Revision: cac8686dac7be57bb82c07f5d98ce2997e07401

Repository: https://github.com/NIDHARSAN-V/Devops_Guvi_Nginx.git

- refs/remotes/origin/master

</>

No changes.

REST API Jenkins 2.492.2

Jenkins

Dashboard > simple-web-app > #1

Status

Changes

Console Output

Edit Build Information

Delete build '#1'

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Restart from Stage

Replay

Pipeline Steps

Workspaces

Next Build

✓ Console Output

Download

Copy

View as plain text

Started by user Ragul E S

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app

[Pipeline] {

[Pipeline] stage

[Pipeline] { (SCM)

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

Cloning the remote Git repository

Cloning repository https://github.com/NIDHARSAN-V/Devops_Guvi_Nginx.git

> git.exe init C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app # timeout=10

Fetching upstream changes from https://github.com/NIDHARSAN-V/Devops_Guvi_Nginx.git

> git.exe --version # timeout=10

> git --version # 'git version 2.39.2.windows.1'

> git.exe fetch --tags --force --progress -- https://github.com/NIDHARSAN-V/Devops_Guvi_Nginx.git +refs/heads/*:refs/remotes/origin/* # timeout=10

> git.exe config remote.origin.url https://github.com/NIDHARSAN-V/Devops_Guvi_Nginx.git # timeout=10

> git.exe config --add remote.origin.fetch +refs/heads/*:refs/remotes/origin/* # timeout=10


Avoid second fetch

> git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10

Checkout to build file: cac8686dac7be57bb82c07f5d98ce2997e07401 (refs/remotes/origin/master)

Script ?

```
1 pipeline {
2   agent any
3
4   stages {
5     stage('SCM') {
6       steps {
7         git branch: 'main', url: 'https://github.com/PraneshC2005/DevOps_simple-web-app.git'
8       }
9     }
10    stage('Build'){
11      steps {
12        bat 'mvn clean install'
13      }
14    }
15    stage('build to images') {
16      steps {
17        script{
18          bat "docker build -t ragul177/webapplication ."
```

**Jenkins**

🔍

🔔

🛡️

👤 Ragul E S

🚪 log out

Dashboard > simple-web-app > #6

Status

Changes

Console Output

Edit Build Information

Delete build #6

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Restart from Stage

Replay

Pipeline Steps

Workspaces

Previous Build

✓ Console Output

DownloadCopyView as plain text

Started by user Ragul E S

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app

[Pipeline] {

[Pipeline] stage

[Pipeline] { (SCM)

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app\.git # timeout=10

Fetching changes from the remote Git repository

> git.exe config remote.origin.url https://github.com/PraneshC2005/DevOps_simple-web-app.git # timeout=10

Fetching upstream changes from https://github.com/PraneshC2005/DevOps_simple-web-app.git

> git.exe --version # timeout=10

> git --version # 'git version 2.39.2.windows.1'

> git.exe fetch --tags --force --progress -- https://github.com/PraneshC2005/DevOps_simple-web-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10


> git.exe rev-parse "refs/remotes/origin/main^{commit}" # timeout=10

Checking out Revision 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 (refs/remotes/origin/main)

> git.exe config core.sparsecheckout # timeout=10

> git.exe checkout -f 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 # timeout=10

> git.exe branch -a -v --no-abbrev # timeout=10

**Jenkins**

🔍

🔔

🛡️

👤 Ragul E S

🚪 log out

Dashboard > simple-web-app > #7

Status

Changes

Console Output

Edit Build Information

Delete build #7

Timings

Git Build Data

Pipeline Overview

Pipeline Console

Restart from Stage

Replay

Pipeline Steps

Workspaces

Previous Build

✓ Console Output

DownloadCopyView as plain text

Started by user Ragul E S

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app

[Pipeline] {

[Pipeline] stage

[Pipeline] { (SCM)

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app\.git # timeout=10

Fetching changes from the remote Git repository

> git.exe config remote.origin.url https://github.com/PraneshC2005/DevOps_simple-web-app.git # timeout=10

Fetching upstream changes from https://github.com/PraneshC2005/DevOps_simple-web-app.git

> git.exe --version # timeout=10

> git --version # 'git version 2.39.2.windows.1'

> git.exe fetch --tags --force --progress -- https://github.com/PraneshC2005/DevOps_simple-web-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10


> git.exe rev-parse "refs/remotes/origin/main^{commit}" # timeout=10

Checking out Revision 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 (refs/remotes/origin/main)

> git.exe config core.sparsecheckout # timeout=10

> git.exe checkout -f 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 # timeout=10

> git.exe branch -a -v --no-abbrev # timeout=10

 **Jenkins**

Dashboard > simple-web-app > #7

Status

</> Changes

Console Output

✓ Edit Build Information

🗑 Delete build '#7'

🕒 Timings

🔧 Git Build Data

📊 Pipeline Overview

📄 Pipeline Console

🔄 Restart from Stage

🎞 Replay

📋 Pipeline Steps

📁 Workspaces

⬅ Previous Build

✓ **Console Output**

Download

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View as plain text

Started by user Ragul E S

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app

[Pipeline] {

[Pipeline] stage

[Pipeline] { (SCM)

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\simple-web-app\.git # timeout=10

Fetching changes from the remote Git repository

> git.exe config remote.origin.url https://github.com/PraneshC2005/DevOps_simple-web-app.git # timeout=10

Fetching upstream changes from https://github.com/PraneshC2005/DevOps_simple-web-app.git

> git.exe --version # timeout=10

> git --version # 'git version 2.39.2.windows.1'

> git.exe fetch --tags --force --progress -- https://github.com/PraneshC2005/DevOps_simple-web-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10


> git.exe rev-parse "refs/remotes/origin/main^(commit)" # timeout=10

Checking out Revision 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 (refs/remotes/origin/main)

> git.exe config core.sparsecheckout # timeout=10

> git.exe checkout -f 51808a2b1b30b6dcfa81ee3d814f0b7b829114d4 # timeout=10

> git.exe branch --set-upstream --force --progress -- https://github.com/PraneshC2005/DevOps_simple-web-app.git +refs/heads/*:refs/remotes/origin/* # timeout=10

 **Jenkins**

Dashboard > nginx1 > #1 > Console Output

Status

</> Changes

Console Output

✓ Edit Build Information

🗑 Delete build '#1'

🕒 Timings

✓ **Console Output**

Download

Copy

View as plain text

Started by user Ragul E S

Running as SYSTEM

Building in workspace C:\ProgramData\Jenkins\jenkins\workspace\nginx1

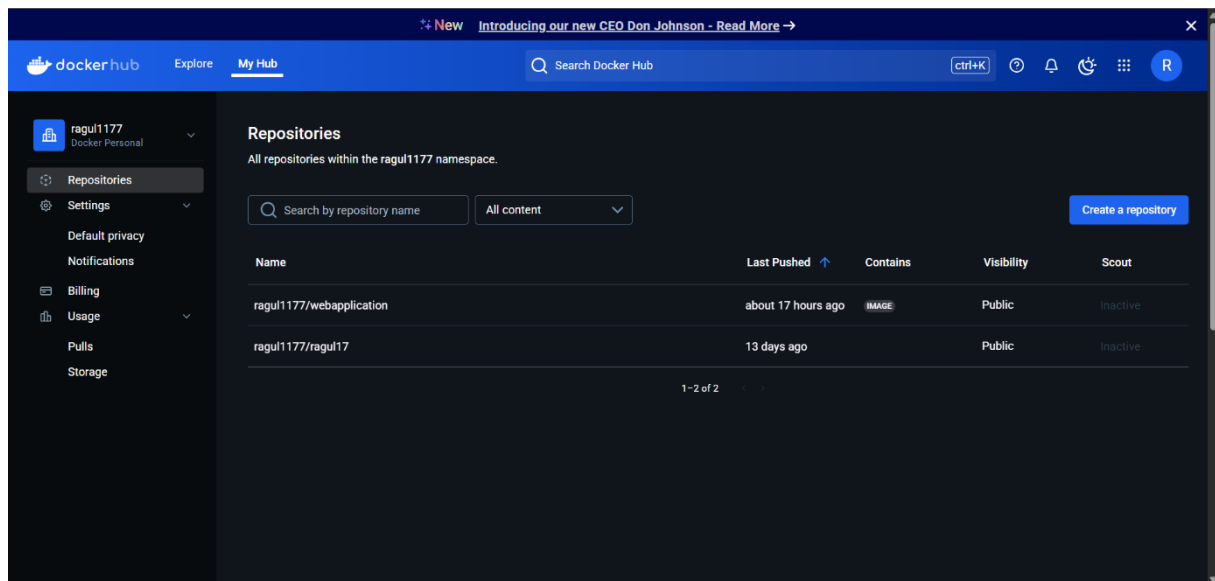
[nginx1] \$ cmd /c call C:\windows\systemtemp\jenkins4237345076659439092.bat

C:\ProgramData\Jenkins\jenkins\workspace\nginx1>docker run -itd -P 53a18edff80948f4db1964b950faeb6530ec5f349dce7ab69cc085720f10cfa37a90845a2358

C:\ProgramData\Jenkins\jenkins\workspace\nginx1>exit 0

Finished: SUCCESS

Pushed to Docker Hub:



Executed this project using the Jenkins File:

```
pipeline {
  agent any

  stages {
    stage('SCM') {
      steps {
        git branch: 'main', url:
'https://github.com/PraneshC2005/DevOps_simple-web-app.git'
      }
    }

    stage('Build'){
      steps {
```

```

        bat 'mvn clean install'
    }
}
stage('build to images') {
    steps {
        script{
            bat "docker build -t ragul1177/webapplication ."
        }
    }
}
stage('docker push hub') {
    steps {
        script{
            withDockerRegistry(credentialsId: 'docker_crud', url:
'https://index.docker.io/v1/') {
                bat 'docker push ragul1177/webapplication'
            }
        }
    }
}
}

```

Docker is a platform that provides virtual containers on which an application can be deployed independent of the underlying OS of the server. Further the container can be created from a replica called

docker image which contains all the dependencies and can run on any OS that has docker engine, with similar results.

BASIC DOCKER COMMANDS

Display docker images available in our machine

```
$ docker images
```

Download docker image.

```
$ docker pull <image-name / image-id>
```

Run docker image.

```
$ docker run <image-name / image-id>
```

Delete docker image.

```
$ docker rmi <image-name / image-id>
```

Display all running docker containers.

```
$ docker ps
```

Display all running and stopped containers.

```
$ docker ps -a
```

Delete docker container.

```
$ docker rm <container-id>
```

Delete docker image forcefully.

```
$ docker rmi -f <image-id>
```

Stop Docker container.

```
$ docker stop <container-id>
```

JENKINS

Jenkins is an open-source automation tool written in Java programming language that allows continuous integration. Jenkins offers a straightforward way to set up a continuous integration or continuous delivery environment for

almost any combination of languages and source code repositories using pipelines, as well as automating other routine development tasks.

The following are the main or most popular Jenkins use cases:

- Continuous Integration: With Jenkins pipelines, we can achieve CI for both applications and infrastructure as code.
- Continuous Delivery: You can set up well-defined and automated application delivery workflows with Jenkins pipelines.

Jenkins achieves CI (Continuous Integration) and CD (Continuous Deployment) with the help of plugins. Plugins are used to allow the integration of various DevOps stages. If you want to integrate a particular tool, you must install the plugins for that tool.