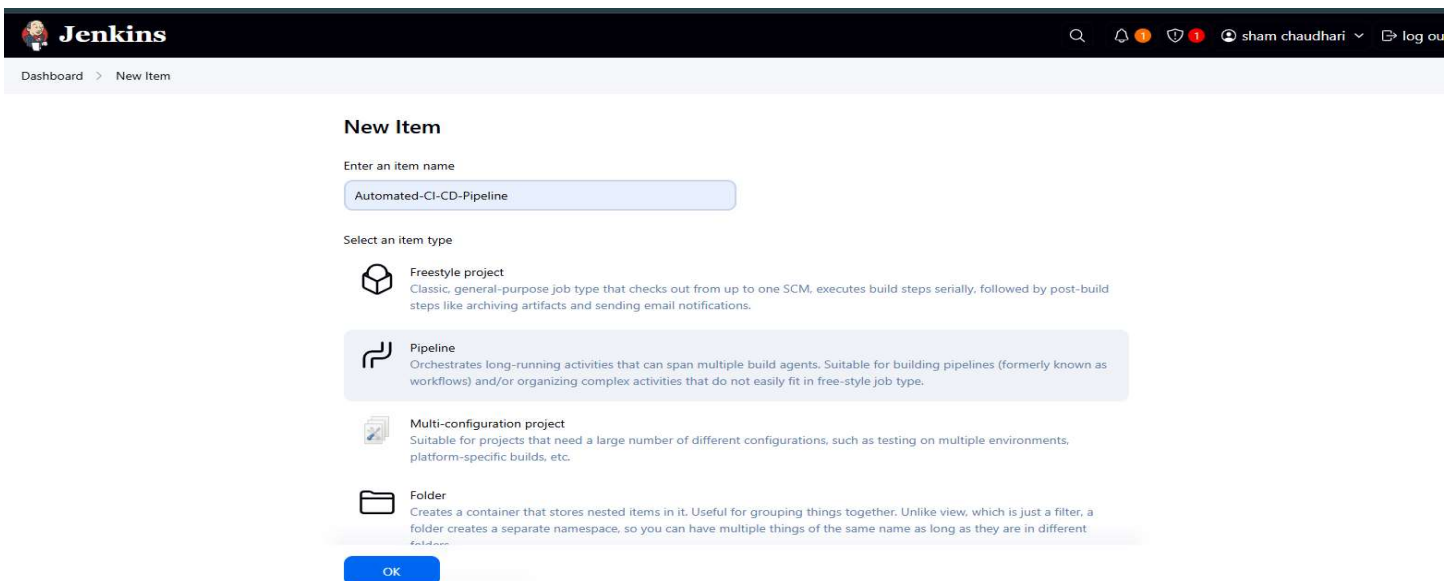
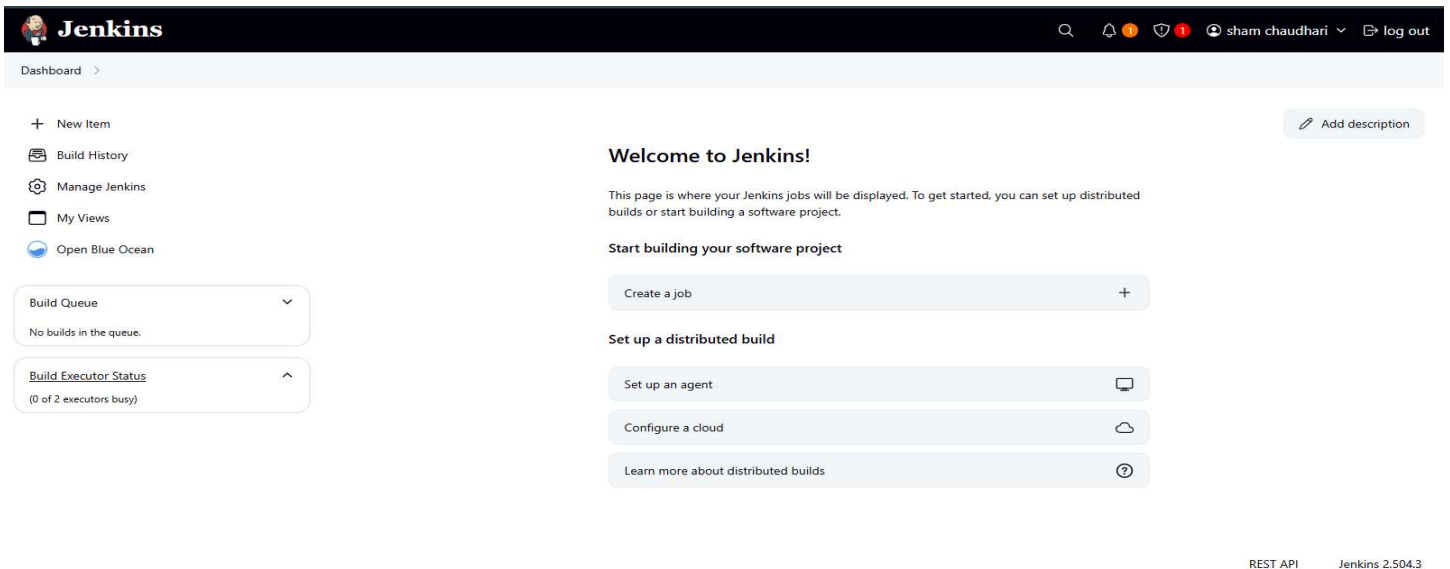
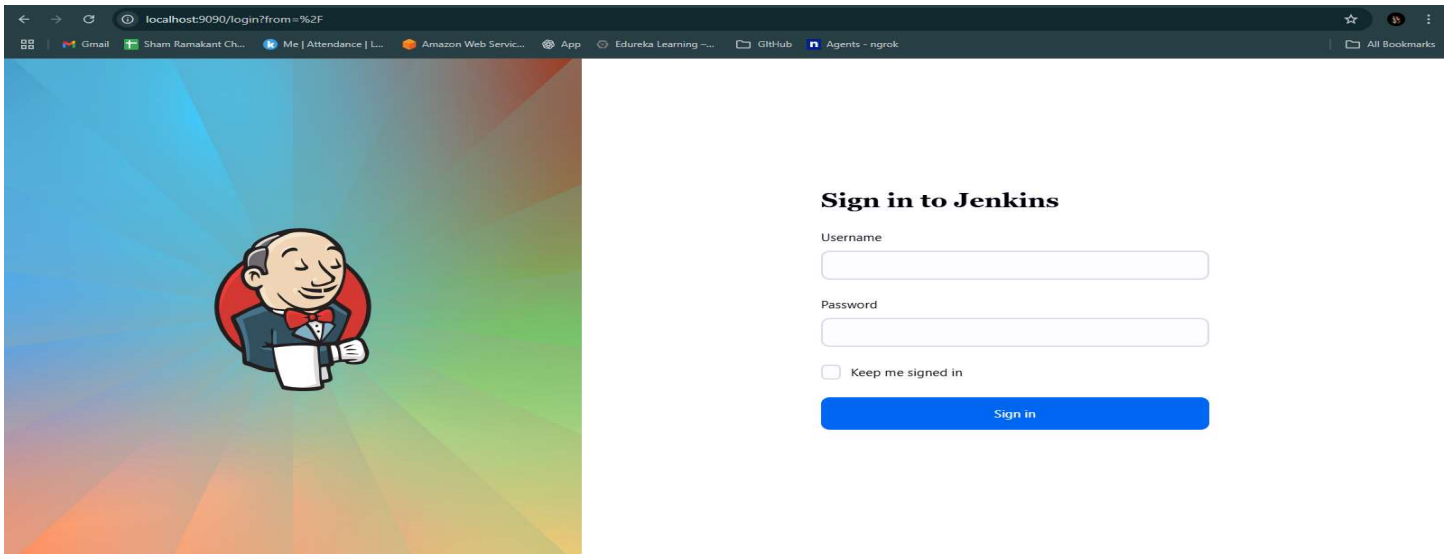


Automated Docker Workflow with Jenkins: Build, Run, and Cleanup

1. Set up Jenkins Pipeline.



Dashboard >

- + New Item
- 📅 Build History
- ⚙️ Manage Jenkins
- 📄 My Views
- 🌊 Open Blue Ocean

✎ Add description

All +

S	W	Name ↓	Last Success	Last Failure	Last Duration	F
...	☀️	Automated-CI-CD-Pipeline	N/A	N/A	N/A	▶️ ☆

Build Queue
No builds in the queue.

Build Executor Status

Icon: S M L ...

Dashboard > Automated-CI-CD-Pipeline > Configuration

Configure

- ⚙️ General
- 🕒 Triggers
- 📄 Pipeline
- 🔧 Advanced

General

Enabled 

Description

This is automated CICD pipeline. stages: Build, Run, and Cleanup.

Plain text [Preview](#)

- ☐ Discard old builds ?
- ☐ Do not allow concurrent builds
- ☐ Do not allow the pipeline to resume if the controller restarts
- ☐ GitHub project
- ☐ Pipeline speed/durability override ?
- ☐ Preserve stashes from completed builds ?

Save Apply

Dashboard > Automated-CI-CD-Pipeline > Configuration

Configure

- ⚙️ General
- 🕒 Triggers
- 📄 Pipeline
- 🔧 Advanced

try sample Pipeline...

```
1 pipeline {
2   agent any
3
4   environment {
5     DOCKER_IMAGE = "sham9394/node-app:${BUILD_NUMBER}"
6     CONTAINER_NAME = "node_app_container"
7   }
8
9   stages {
10    stage('Pull Code') {
11      steps {
12        echo 'Pulling code from GitHub...'
13        git url: 'https://github.com/sham9394/node-app.git', branch: 'main'
14      }
15    }
16
17    stage('Build Docker Image') {
18      steps {
19        echo 'Building new Docker image...'
20        bat """
21          @echo off
22          docker build -t %DOCKER_IMAGE% .
23          """
24      }
25    }
26
27    stage('Remove Previous Docker Container & Image') {
```

Save Apply

2. Build a Pipeline:

Dashboard > Automated-CI-CD-Pipeline >

Status

Changes

Build Now

Configure

Delete Pipeline

Full Stage View

Favorite

Open Blue Ocean

Stages

Rename

Pipeline Syntax

Builds

Filter

Today

Automated-CI-CD-Pipeline

This is automated CICD pipeline, stages: Build, Run, and Cleanup.

Stage View

	Pull Code	Build Docker Image	Remove Previous Docker Container & Image	Run Docker Container	Cleanup Exited Containers	Clear Jenkins Workspace	Declarative: Post Actions
Average stage times: (full run time: ~25s)	2s	9s	2s	3s	2s	311ms	1s
#2 Jul 28 11:45 No Changes	2s	8s	2s	3s	2s	292ms	1s
#1 Jul 28 11:44 No Changes	2s	9s	1s	3s	1s failed	331ms failed	1s

Permalinks

Edit description

Dashboard > Automated-CI-CD-Pipeline > #2

Status

Changes

Console Output

Edit Build Information

Delete build '#2'

Timings

Git Build Data

Open Blue Ocean

Pipeline Overview

Restart from Stage

Replay

#2 (28 Jul 2025, 11:45:31)

Started by user sham chaudhari

This run spent:

- 44 ms waiting;
- 25 sec build duration;
- 25 sec total from scheduled to completion.

Revision: 275c0c2479259f2cdfbd9dabdd56c0f8bd183276
Repository: https://github.com/sham9394/node-app.git

- refs/remotes/origin/main

No changes.

Add description

Keep this build forever

Started 2 min 6 sec ago

Took 25 sec

Dashboard > Automated-CI-CD-Pipeline > #2 > Pipeline Overview

#2

Manually run by sham chaudhari

Started 2 min 47 sec ago

Queued 7 ms

Took 25 sec

Rerun

Graph

Start → Pull Code → Build Docker Image → Remove Previous... → Run Docker Container → Cleanup Exited... → Clear Jenkins... → Post Actions → End

Search

Post Actions 1.4s Started 2m 37s ago Jenkins

Listing running containers: > 50ms

Windows Batch Script docker ps > 0.6s


Listing all containers (including stopped): > 40ms

Windows Batch Script docker ps -a > 0.6s

Pipeline executed successfully! 47ms

Pipeline executed successfully!

3. Verify the Console logs and Outputs:

 Jenkins

Dashboard > Automated-CI-CD-Pipeline > #2

Status

</> Changes

Console Output

Edit Build Information

Delete build '#2'

Timings

Git Build Data

Open Blue Ocean

Pipeline Overview

Restart from Stage

Replay

Pipeline Steps

Workspaces

Previous Build

Console Output

Download Copy View as plain text

Started by user sham chaudhari

[Pipeline] Start of Pipeline

[Pipeline] node

Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\Automated-CI-CD-Pipeline

[Pipeline] {

[Pipeline] withEnv

[Pipeline] {

[Pipeline] stage

[Pipeline] { (Pull Code)

[Pipeline] echo

Pulling code from GitHub...

[Pipeline] git

The recommended git tool is: NONE

No credentials specified

> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\Automated-CI-CD-Pipeline\.git # timeout=10

Fetching changes from the remote Git repository

> git.exe config remote.origin.url https://github.com/sham9394/node-app.git # timeout=10

Fetching upstream changes from https://github.com/sham9394/node-app.git

> git.exe --version # timeout=10

> git --version # 'git version 2.50.0.windows.2'

> git.exe fetch --tags --force --progress -- https://github.com/sham9394/node-app.git # timeout=10

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

Checking out Revision 275c0c2479259f2cdfbd9dabdd56c0f8bd183276 (refs/remotes/origin/main)

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

> git.exe checkout -f 275c0c2479259f2cdfbd9dabdd56c0f8bd183276 # timeout=10

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

Dashboard > Automated-CI-CD-Pipeline > #2

Cleaning up exited Docker containers and old images...

[Pipeline] bat

No exited containers to remove.

Removing image 7cb3a34c47e3

Untagged: sham9394/node-app:3

Deleted: sha256:7cb3a34c47e341fb8b4d3b6bf30618be5af5752602ce11344254acf89120fce

Removing image 4b1f380eb0dd

Error response from daemon: conflict: unable to delete 4b1f380eb0dd (cannot be forced) - image is being used by running container c59e9af32ee0

Removing image f3c384235ab1

Untagged: sham9394/node-app:1

Deleted: sha256:f3c384235ab1d765c4f87bb1a6cebbb322ae7cadd13a6e006942fa39fd84fa78

[Pipeline] }

[Pipeline] // stage

[Pipeline] stage

[Pipeline] { (Clear Jenkins Workspace)

[Pipeline] echo

Clearing Jenkins workspace...

[Pipeline] deleteDir

[Pipeline] }

[Pipeline] // stage

[Pipeline] stage

[Pipeline] { (Declarative: Post Actions)

[Pipeline] echo

Listing running containers:

[Pipeline] bat

Dashboard > Automated-CI-CD-Pipeline > #2

[Pipeline] }

[Pipeline] // stage

[Pipeline] stage

[Pipeline] { (Declarative: Post Actions)

[Pipeline] echo

Listing running containers:

[Pipeline] bat

C:\ProgramData\Jenkins\jenkins\workspace\Automated-CI-CD-Pipeline>docker ps

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
c59e9af32ee0	sham9394/node-app:2	"docker-entrypoint.s..."	7 seconds ago	Up 5 seconds	0.0.0.0:8080->3000/tcp, [::]:8080->3000/tcp	node_app_container

[Pipeline] echo

Listing all containers (including stopped):

[Pipeline] bat

C:\ProgramData\Jenkins\jenkins\workspace\Automated-CI-CD-Pipeline>docker ps -a

CONTAINER ID	IMAGE	COMMAND	CREATED	STATUS	PORTS	NAMES
c59e9af32ee0	sham9394/node-app:2	"docker-entrypoint.s..."	7 seconds ago	Up 6 seconds	0.0.0.0:8080->3000/tcp, [::]:8080->3000/tcp	node_app_container

[Pipeline] echo

Pipeline executed successfully!

[Pipeline] }

[Pipeline] // stage

[Pipeline] }

[Pipeline] // withEnv

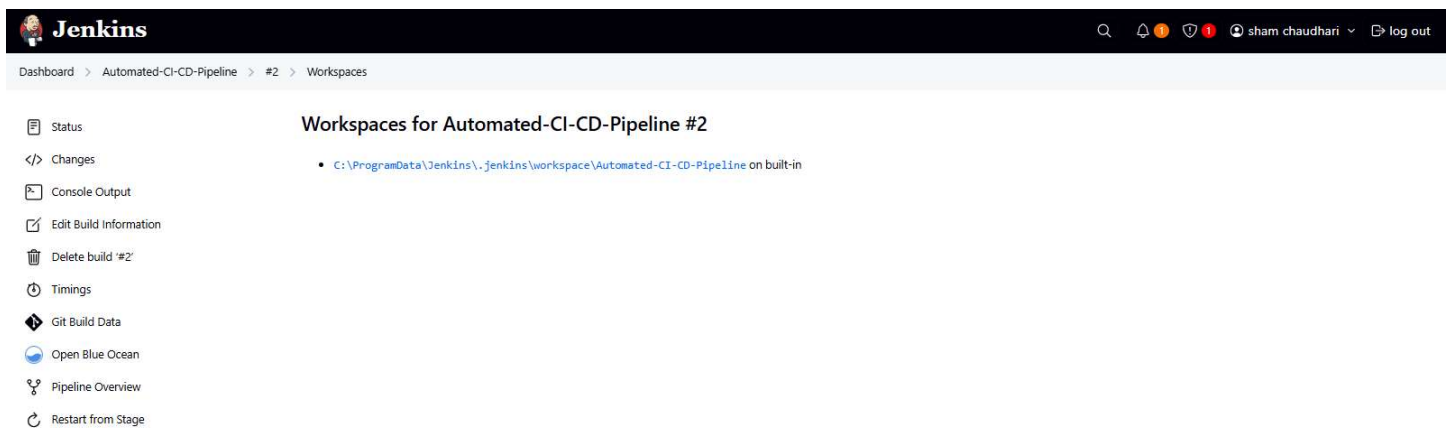
[Pipeline] }

[Pipeline] // node

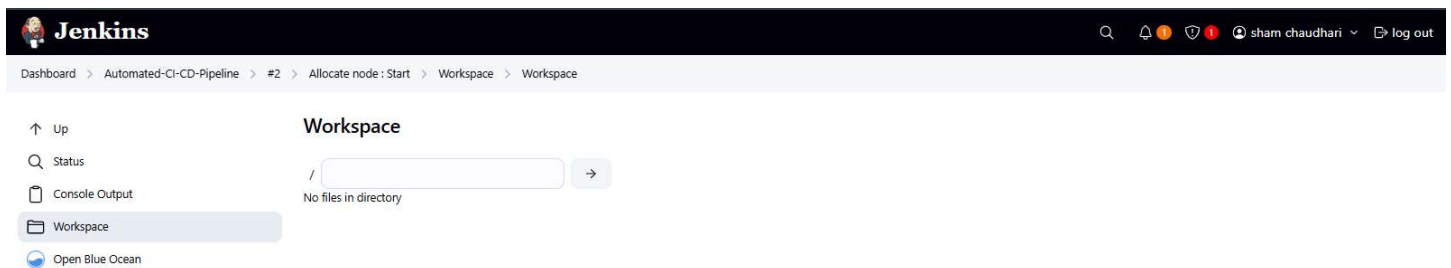
[Pipeline] End of Pipeline

Finished: SUCCESS

4. Deleted Workspace once container UP and Running:

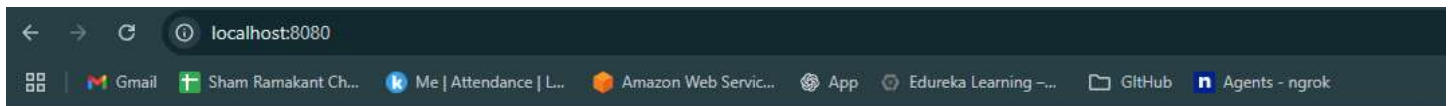


This screenshot shows the Jenkins web interface. The top navigation bar includes the Jenkins logo, a search icon, notification icons, and the user 'sham chaudhari' with a 'log out' link. The breadcrumb trail is 'Dashboard > Automated-CI-CD-Pipeline > #2 > Workspaces'. The main heading is 'Workspaces for Automated-CI-CD-Pipeline #2'. On the left, a sidebar lists various actions: Status, Changes, Console Output, Edit Build Information, Delete build '#2', Timings, Git Build Data, Open Blue Ocean, Pipeline Overview, and Restart from Stage. The main content area shows a single workspace entry: 'C:\ProgramData\Jenkins\workspace\Automated-CI-CD-Pipeline on built-in'.



This screenshot shows the 'Workspace' view in Jenkins. The breadcrumb trail is 'Dashboard > Automated-CI-CD-Pipeline > #2 > Allocate node : Start > Workspace > Workspace'. The left sidebar has links for 'Up', 'Status', 'Console Output', 'Workspace' (which is highlighted), and 'Open Blue Ocean'. The main area is titled 'Workspace' and contains a text input field with a forward arrow button. Below the input field, it says 'No files in directory'.

5. Outputs:



This screenshot shows a web browser window with the address bar set to 'localhost:8080'. The browser's taskbar at the bottom shows several open applications: Gmail, Sham Ramakant Ch..., Me | Attendance | L..., Amazon Web Servic..., App, Edureka Learning --..., GitHub, and Agents - ngrok.

Welcome to My Node.js App!

Click below to get a random programming quote:

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