

API Build-Test-Release Jenkins CI-CD Pipeline

In this lab, we will build a Jenkins CI-CD pipeline for spring boot based microservice application that service REST API calls to perform CRUD operations.

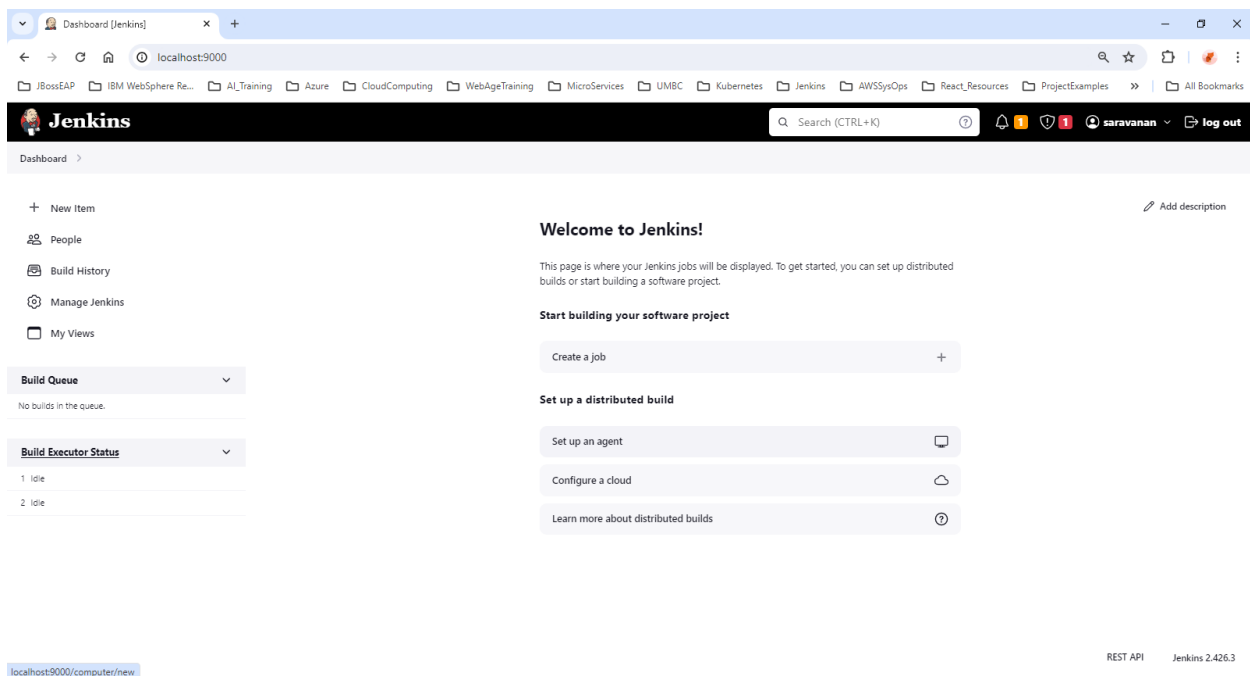
The GitHub Code repository for this Jenkins CI-CD pipeline is available at

<https://github.com/foxwas/customerserviceAPI>

If you do not have Jenkins on your system, download, install and set it up.

Let us use the Jenkins in our lab machine.

1. Open a command window, change directory to Jenkins directory and **start Jenkins**
OR If Jenkins is running as a service, make sure the service is running.
2. Open a browser, go to Jenkins home page, Use the Jenkins user credentials to login. Ask your Instructor about Jenkins set up in your lab environment.

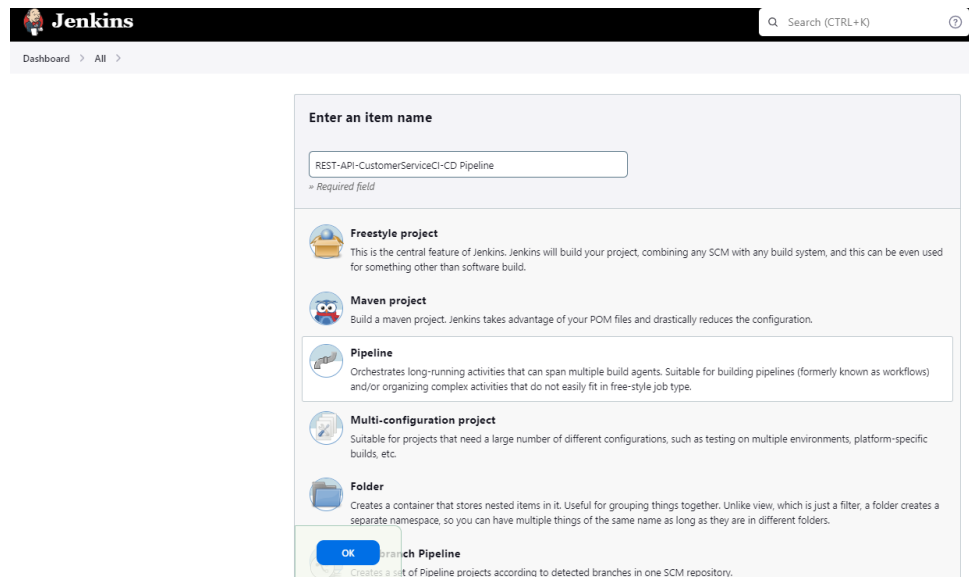


3. In the Jenkins Dashboard page, click on **New Item**

4. Let us create a Pipeline item with the following configuration.

Name: **REST-API-CustomerServiceCI-CD Pipeline**
Project type: Pipeline

Click **Ok**.



The screenshot shows the Jenkins 'New Item' dialog. The 'Enter an item name' field is filled with 'REST-API-CustomerServiceCI-CD Pipeline'. Below this, there are five project type options, each with an icon and a description. The 'Pipeline' option is highlighted with a blue border. At the bottom of the dialog, there is a 'Create Pipeline' button.

5. In the Pipeline configuration page, scroll down to Pipeline section, use the following configuration.

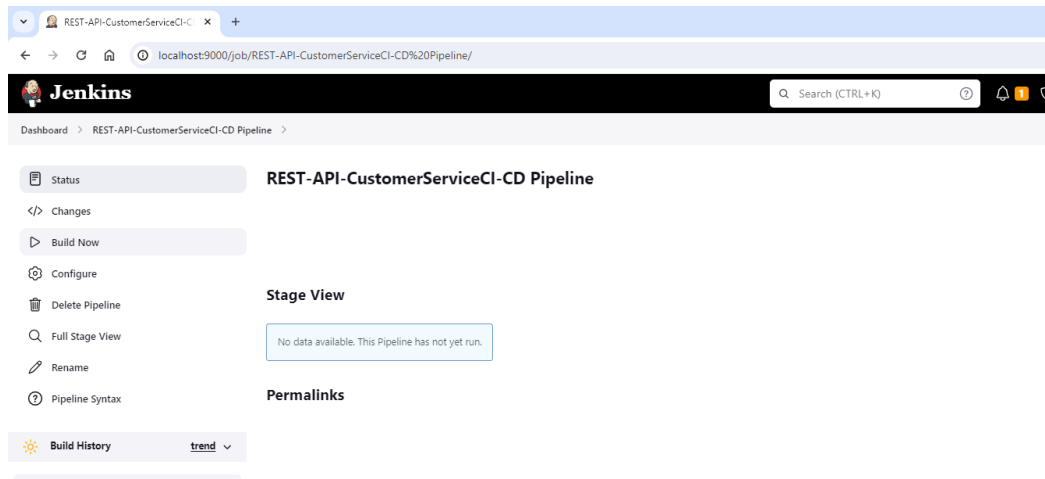
select the option:	Pipeline script from SCM
SCM:	Git
Repository URL:	https://github.com/foxwas/customerserviceAPI.git
Credentials:	none
Branch Specifier:	*/main
Script Path:	Jenkinsfile

Click on **Apply** and then **Save**.

6. You may review the pipeline script at the site

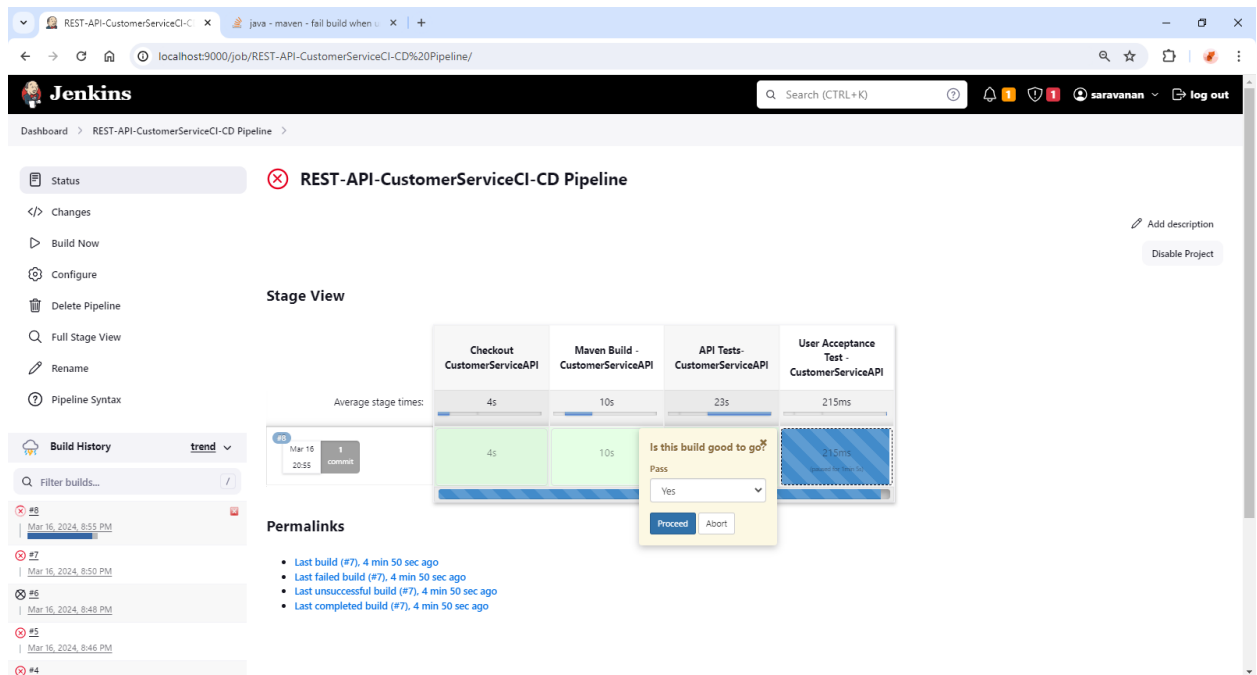
<https://github.com/foxwas/customerserviceAPI/blob/main/Jenkinsfile>

7. In The pipeline page, Click on **Build Now**.



8. Review the pipeline stages, each stage log messages.

9. In the User Acceptance Stage click on the stage, select Yes, and click on **Proceed**.



10. Review the pipeline stages and log messages.

REST-API-CustomerServiceCI-CD Pipeline

Stage View

Checkout CustomerServiceAPI	Maven Build - CustomerServiceAPI	API Tests- CustomerServiceAPI	User Acceptance Test - CustomerServiceAPI	Release- DataService
4s	10s	23s	263ms	734ms

Average stage times: (Average full run time: ~2min 29s)

Build History

- #8 Mar 16, 2024, 8:55 PM
- #7 Mar 16, 2024, 8:50 PM
- #6 Mar 16, 2024, 8:48 PM
- #5 Mar 16, 2024, 8:46 PM
- #4

Permalinks

- Last build (#7), 4 min 50 sec ago
- Last failed build (#7), 4 min 50 sec ago
- Last unsuccessful build (#7), 4 min 50 sec ago
- Last completed build (#7), 4 min 50 sec ago

11. Select the build → Click on Console output and review the console log messages.

12. Select any customer in the list, Edit customer data to update the customer and Save.

Console Output

```

Started by user saravanan
Obtained Jenkinsfile from git https://github.com/foxwas/customer-service-API.git
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\Users\saravanan\.jenkins\workspace\REST-API-CustomerServiceCI-CD Pipeline
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Checkout CustomerServiceAPI)
[Pipeline] git
Selected git installation does not exist. Using Default
The recommended git tool is: NONE
No credentials specified
> C:\Program Files\Git\bin\git.exe rev-parse --resolve-git-dir C:\Users\saravanan\.jenkins\workspace\REST-API-CustomerServiceCI-CD Pipeline\.git # timeout=10
Fetching changes from the remote Git repository
> C:\Program Files\Git\bin\git.exe config remote.origin.url https://github.com/foxwas/customer-service-API.git # timeout=10
Fetching upstream changes from https://github.com/foxwas/customer-service-API.git
> C:\Program Files\Git\bin\git.exe --version # timeout=10
> git --version # 'git version 2.43.0.windows.1'
> C:\Program Files\Git\bin\git.exe fetch --tags --force --progress -- https://github.com/foxwas/customer-service-API.git +refs/heads/*:refs/remotes/origin/* # timeout=10
> C:\Program Files\Git\bin\git.exe rev-parse --refs/remotes/origin/main (commit) # timeout=10
Checking out Revision 9ba99ada89ba07d93cf89d24aca9cf1cc9eb14 (refs/remotes/origin/main)
> C:\Program Files\Git\bin\git.exe config core.sparsecheckout # timeout=10
> C:\Program Files\Git\bin\git.exe checkout -f 9ba99ada89ba07d93cf89d24aca9cf1cc9eb14 # timeout=10
> C:\Program Files\Git\bin\git.exe branch -a -v --no-abbrev # timeout=10
> C:\Program Files\Git\bin\git.exe branch -D main # timeout=10
> C:\Program Files\Git\bin\git.exe checkout -D main 9ba99ada89ba07d93cf89d24aca9cf1cc9eb14 # timeout=10
Commit message: 'customer service API'
[Pipeline] }
[Pipeline] git rev-list --no-walk 32b3393072b744237383c02ac16cc373f1230804 # timeout=10
[Pipeline] }

```