

Lab Exercise 20

Creating a Pipeline Script

PART 2

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Batch: Devops B1

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Objective: To create a pipeline script for automating build processes in Jenkins

Tools required: Jenkins

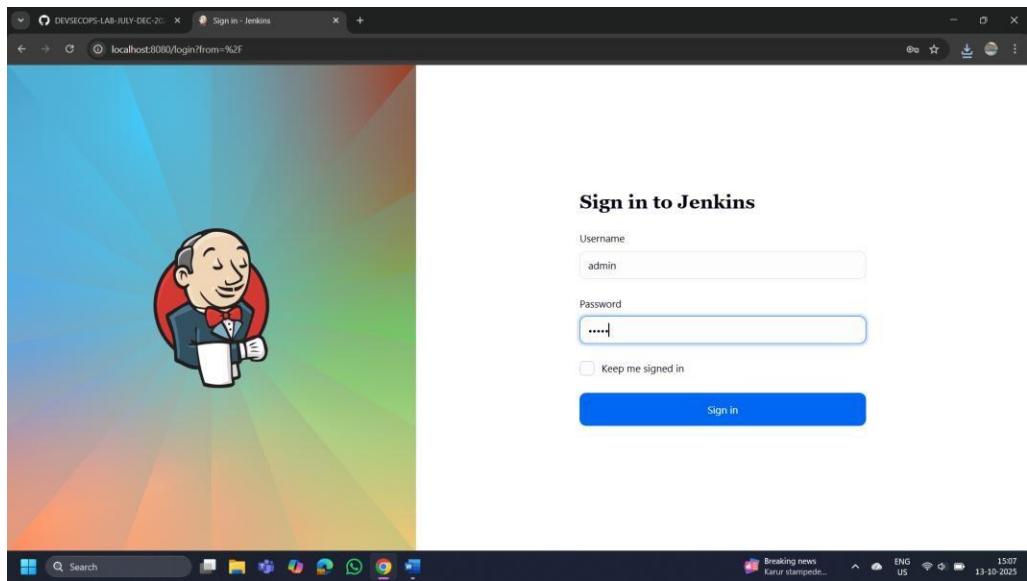
Prerequisites: None

Steps to be followed:

1. **Log in to the Jenkins CI tool and create a pipeline script**

Step 1: Log in to the Jenkins CI tool and create a pipeline script

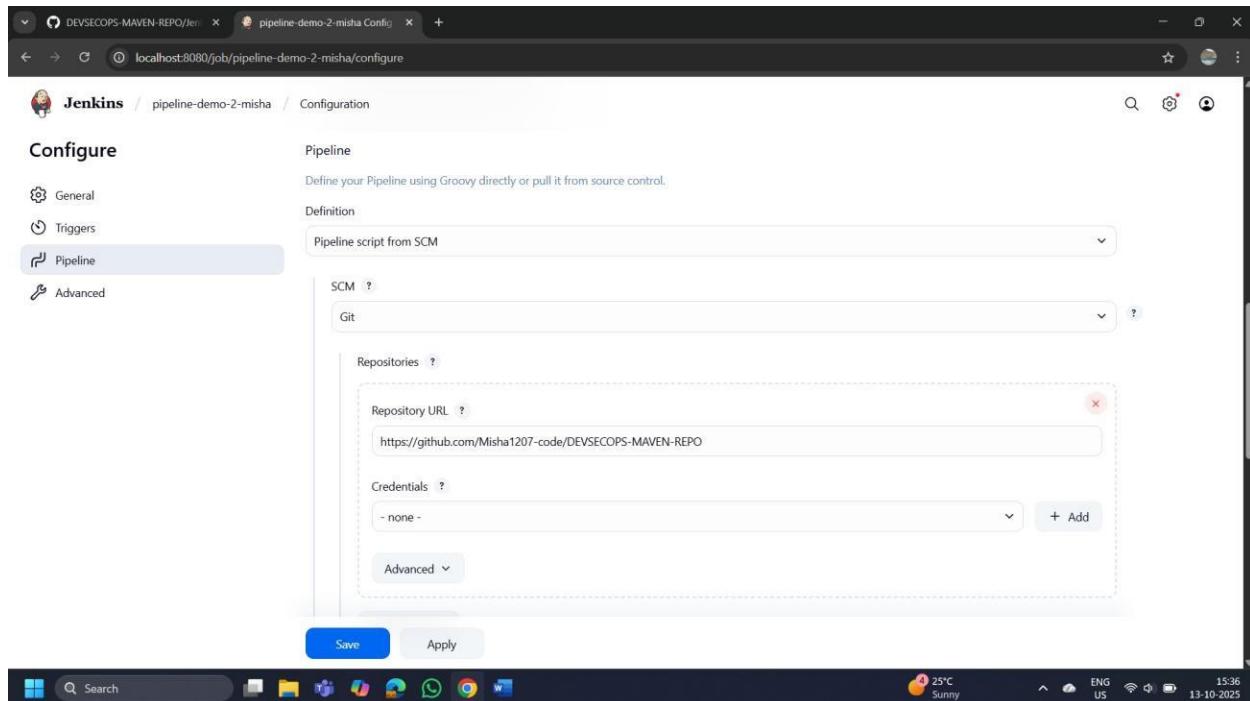
- 1.1 **Open the browser, go to the Jenkins Dashboard by typing localhost:8080 in your browser, provide the credentials, and click the Sign in button**



1.2 Click on the New Item option as shown in the screenshot below:

1.3 Enter a desired name for the project, select Pipeline, and then click on OK as shown in the screenshot below:

1.4 Click on Pipeline as shown in the screenshot below:



1.5 Enter the following pipeline script in the script editor and click on Save as shown in the screenshot below:

```
pipeline
{
    agent
    any
    stages
    {
        stage("hello") {
            steps{
                echo"welcome to Jenkins pipeline"
            }
        }
    }
}
```

The screenshot shows a GitHub repository page for 'DEVSECOPS-MAVEN-REPO'. The 'Jenkinsfile' is open in the code editor. The code defines a Jenkins pipeline with three stages: 'Welcome Stage', 'Clean Stage', and 'Clean Success Stage'. The 'Welcome Stage' contains an echo step. The 'Clean Stage' contains a bat step to run 'mvn clean'. The Jenkinsfile is 57 lines long and 588 bytes in size. The commit was made by 'Misha1207-code' at 'a768294' two minutes ago.

```
1 pipeline
2 {
3     agent any
4     tools
5     {
6         maven 'MAVEN_HOME'
7     }
8
9     stages
10    {
11        stage('Welcome Stage')
12        {
13            steps
14            {
15                echo 'Welcome to Jenkins Pipeline-Misha'
16            }
17        }
18
19        stage('Clean Stage')
20        {
21            steps
22            {
23                bat 'mvn clean'
24            }
25        }
26        stage('Clean Success Stage')
```

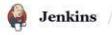
1.6 Click on Build Now to run the pipeline script as shown in the screenshot below:

The screenshot shows the Jenkins pipeline interface for 'pipeline-demo-2-misha'. The 'Stage View' section displays a message: 'No data available. This Pipeline has not yet run.' The left sidebar contains navigation links: Status, Changes, Build Now (which is highlighted), Configure, Delete Pipeline, Full Stage View, Stages, Rename, Pipeline Syntax, and Credentials. The bottom section shows a 'Builds' table with the message 'No builds'.

1.7 Hover over the milliseconds number next to the build stage name as shown in the screenshot below:

The screenshot shows the Jenkins Stage View for the pipeline "pipeline-demo-2-misha". On the left, there's a sidebar with options like Status, Changes, Build Now, Configure, Delete Pipeline, Full Stage View, Stages, Rename, Pipeline Syntax, and Credentials. Below that is a Builds section with a search bar and a list of builds from today: #3 3:41 PM (green checkmark), #2 3:39 PM (red X), and #1 3:39 PM (red X). The main area is titled "Stage View" and displays a timeline of stages for three builds. The stages are: Declarative: Checkout SCM, Declarative: Tool Install, Welcome Stage, Clean Stage, Clean Success Stage, Build & Install Stage, Build Success, and Final Success. Each stage has a duration: 2s, 137ms, 240ms, 15s, 214ms, 16s, 244ms, and 244ms respectively. The "Average stage times: (full run time: ~39s)" is also indicated. The build details for each stage are shown in a grid, with the first build (#3) having "No Changes". The bottom of the screen shows the Windows taskbar with icons for File Explorer, Edge, and other applications.

After using POLL SCM method-



Configure

General

Triggers

Pipeline

Advanced

Triggers

Set up automated actions that start your build based on specific events, like code changes or scheduled times.

- Build after other projects are built ?
- Build periodically ?
- GitHub hook trigger for GITScm polling ?
- Maven Dependency Update Trigger ?

- Poll SCM ?

Schedule ?

⚠ Do you really mean "every minute" when you say "***"? Perhaps you meant "H*****" to poll once per hour**

Would last have run at Monday, 13 October, 2025 at 3:44:00 pm India Standard Time; would next run at Monday, 13 October, 2025 at 3:45:00 pm India Standard Time.

Ignore post-commit hooks ?

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

Save

Apply

```

33     stage('Build & Install Stage')
34     {
35         steps
36         {
37             bat 'mvn install'
38         }
39     }
40
41     stage('Build Success')
42     {
43         steps
44         {
45             echo 'Build successful'
46         }
47     }
48     stage('Final Success')
49     {
50         steps
51         {
52             echo 'Final successful'
53         }
54     }
55     stage('Change POLL SCM MISHA')
56     {
57         steps
58         {
59             echo 'Final successful'
60         }
61     }
62 }

```

Use `Control + Shift + n` to toggle the `tab` key moving focus. Alternatively, use `esc` then `tab` to move to the next interactive element on the page.

Final added build stage-

	Declarative: Checkout SCM	Declarative: Tool Install	Welcome Stage	Clean Stage	Clean Success Stage	Build & Install Stage	Build Success	Final Success	Change POLL SCM MISHA
Average stage times: (full run time: ~28s)	2s	136ms	220ms	9s	207ms	10s	232ms	247ms	275ms
#4 Oct 13 15:47	1 commit	2s	135ms	200ms	3s	200ms	5s	221ms	250ms
#3 Oct 13 15:41	No Changes	2s	137ms	240ms	15s	214ms	16s	244ms	244ms
#2 Oct 13 15:39	No Changes								
#1 Oct 13 15:39	No Changes								

Now we have created a new Jenkins build stage without making hardcoded changes in Jenkins- making changes in Github repo and it will automatically reflect new added stages in the next build scheduled.