

Lab Exercise 20

Creating a Pipeline Script

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

Tools required: Jenkins

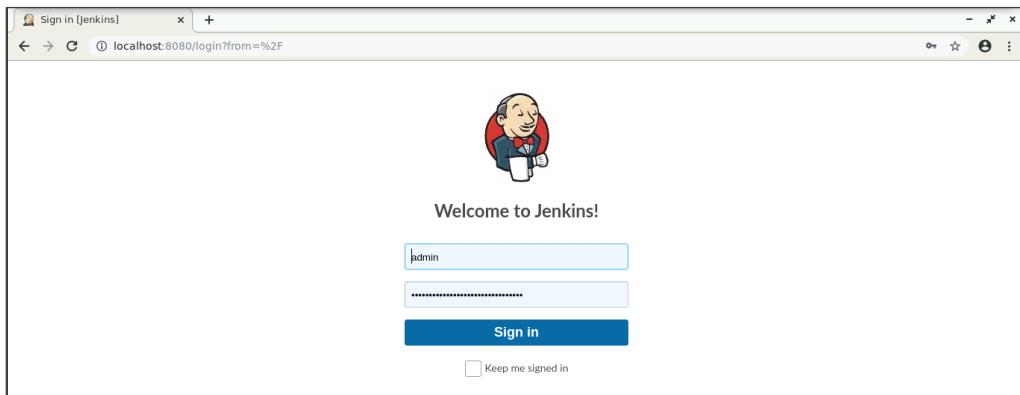
Prerequisites: None

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



Note: The credentials for accessing Jenkins in the lab are Username: **admin** and Password: **admin**.

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

The screenshot shows the Jenkins dashboard at localhost:8080. At the top, there are links for 'New Item' and 'Build History'. Below that is a search bar and a 'Add description' button. A 'Build Queue' section shows 'No builds in the queue.' and a 'Build Executor Status' section showing '0/2' executors available. The main area displays a table with columns: S (Status), W (Workload), Name, Last Success, Last Failure, and Last Duration. One entry is visible: 'CodeScanSnyk' with a green checkmark, last success at '6 min 53 sec #9', and last failure at 'N/A' with a duration of '25 sec'. There are buttons for 'All' and '+' to filter the table.

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

The screenshot shows the 'New Item' dialog in Jenkins at localhost:8080/view/all/newJob. It has a 'New Item' header and a 'Enter an item name' field containing 'new_demo'. Below it, a 'Select an item type' section lists four options: 'Freestyle project' (selected), 'Pipeline' (highlighted with a blue border), 'Multi-configuration project', and 'Folder'. Each option has a brief description. At the bottom is a 'OK' button.

1.4 Click on **Pipeline** as shown in the screenshot below:

The screenshot shows the 'Configure' screen for a 'Pipeline' job named 'new_demo' at localhost:8080/job/new_demo/configure. The left sidebar has tabs for 'General', 'Triggers', 'Pipeline' (which is selected and highlighted in grey), and 'Advanced'. The right panel is titled 'Pipeline' with the sub-section 'Definition'. It says 'Define your Pipeline using Groovy directly or pull it from source control.' and has a dropdown menu set to 'Pipeline script'. Below is a 'Script' editor with a single line of Groovy code: '1'. A 'try sample Pipeline...' link is next to the editor. At the bottom are 'Save' and 'Apply' buttons, and a checked checkbox for 'Use Groovy Sandbox'.

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 the Jenkins Pipeline configuration page for a project named 'new_demo'. The 'Pipeline' tab is selected in the sidebar. The main area contains a 'Script' editor with the following Groovy code:

```
1 > pipeline {  
2 >     agent any  
3 >     stages {  
4 >         stage("hello") {  
5 >             steps{  
6 >                 echo"welcome to jenkins pipeline"  
7 >             }  
8 >         }  
9 >     }  
10 > }
```

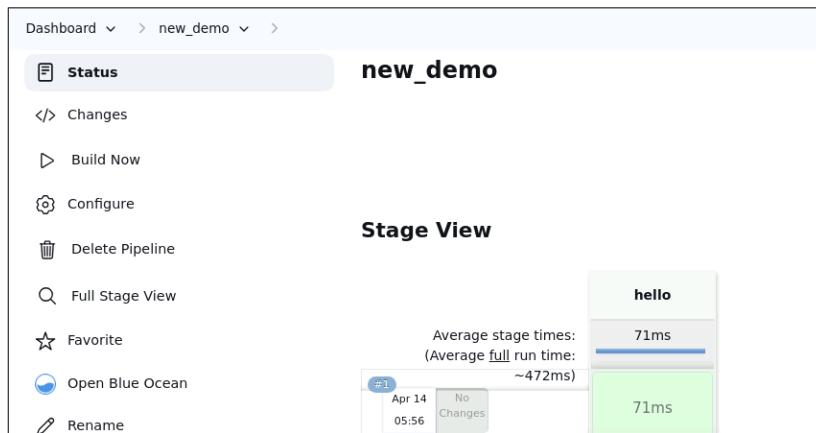
Below the script editor are two buttons: 'Save' (highlighted in blue) and 'Apply'.

The screenshot shows the Jenkins pipeline status page for the 'new_demo' pipeline. The left sidebar includes links for Status, Changes, Build Now, Configure, Delete Pipeline, Stages, Rename, Pipeline Syntax, and Credentials. The main content area displays the pipeline stages:

- Builds: No builds
- ... (three dots indicating more stages)

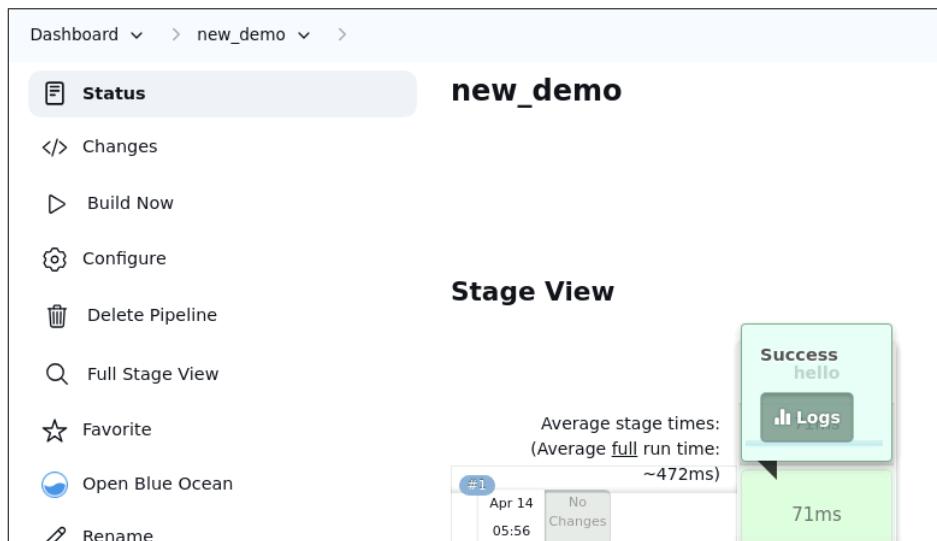
Click on **Build Now** to run the pipeline script as shown in the screenshot below:

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

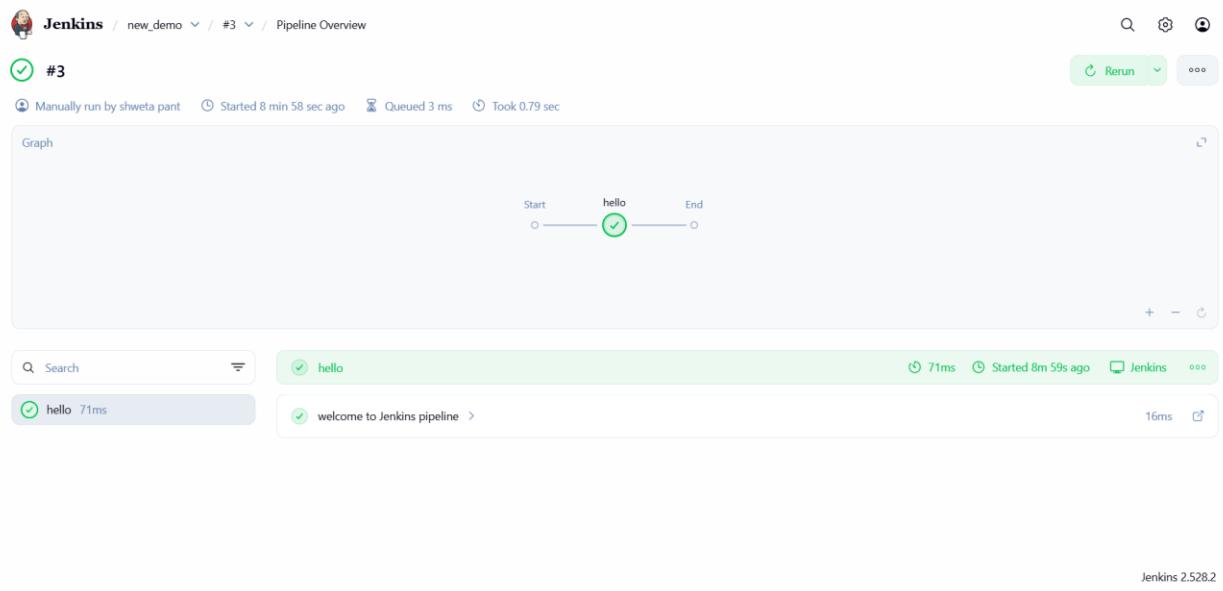


Note: Ensure that you hover the cursor over the milliseconds number without clicking on it

1.7 Click on **Logs** as shown in the screenshot below:



1.8 Check for the message in the top-left corner to confirm the successful execution of the pipeline stage as shown in the screenshot below:



By following these steps, you have successfully created a pipeline script for automating build processes in Jenkins.