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Lesson 01 Demo 01

Implementing the DevOps Model

Objective: To implement DevOps using GitHub to store a Java program and Jenkins to build consistent code packages, enabling continuous integration

Tools required: Git, GitHub, and Jenkins

Prerequisites: None

Steps to be followed:

1. Create a GitHub repository
2. Add a Java program to the repository
3. Create a freestyle build job in Jenkins
4. Build the Java program with Jenkins

Step 1: Create a GitHub repository

1.1 Open the browser in your lab, go to **https://github.com**, and click on the **Sign in** button

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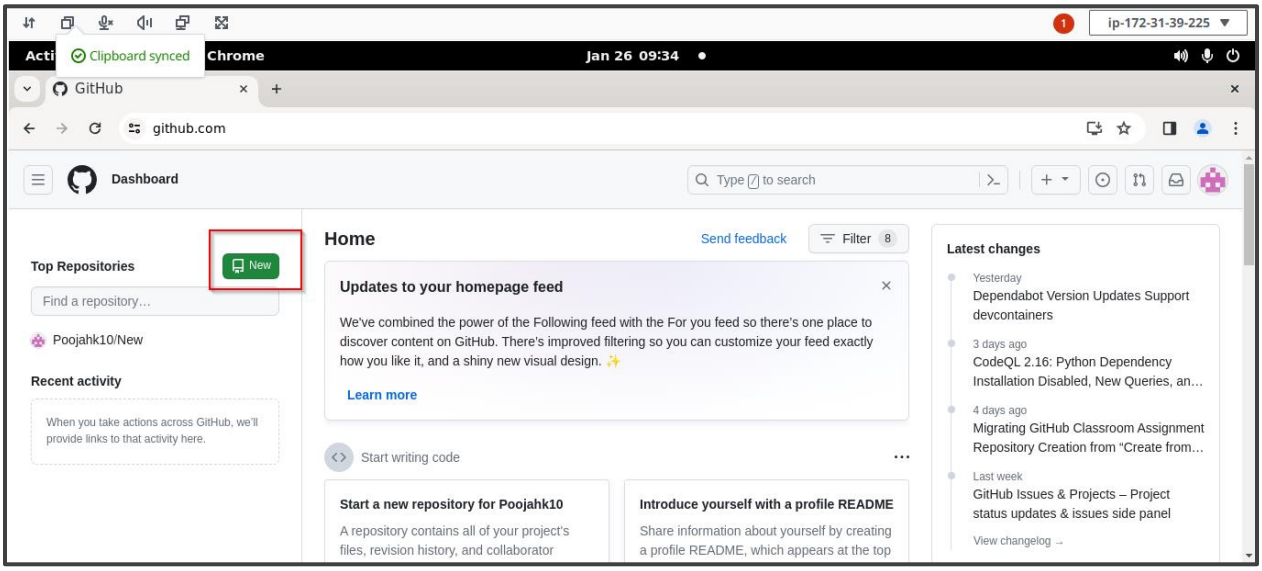
1.2 Enter the credentials of your GitHub account and click on **Sign in**

1.3 Click on **New** as shown in the screenshot below:



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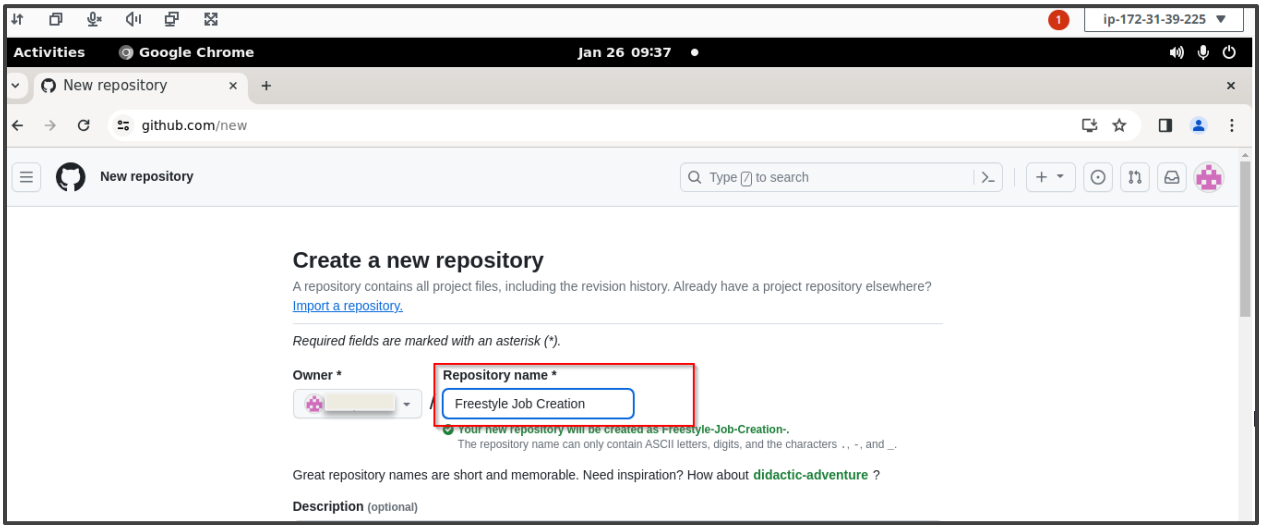
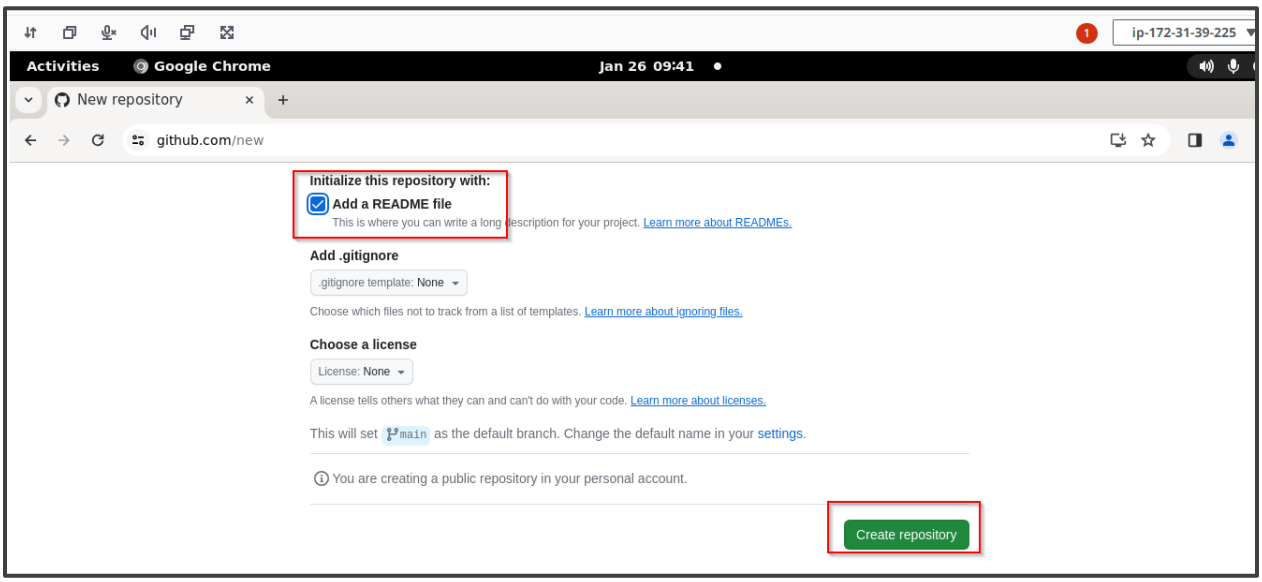
1.4 Add the **Repository name** as shown in the screenshot below:



1.5 Select the check box of **ADD a README file** and click on **Create repository**



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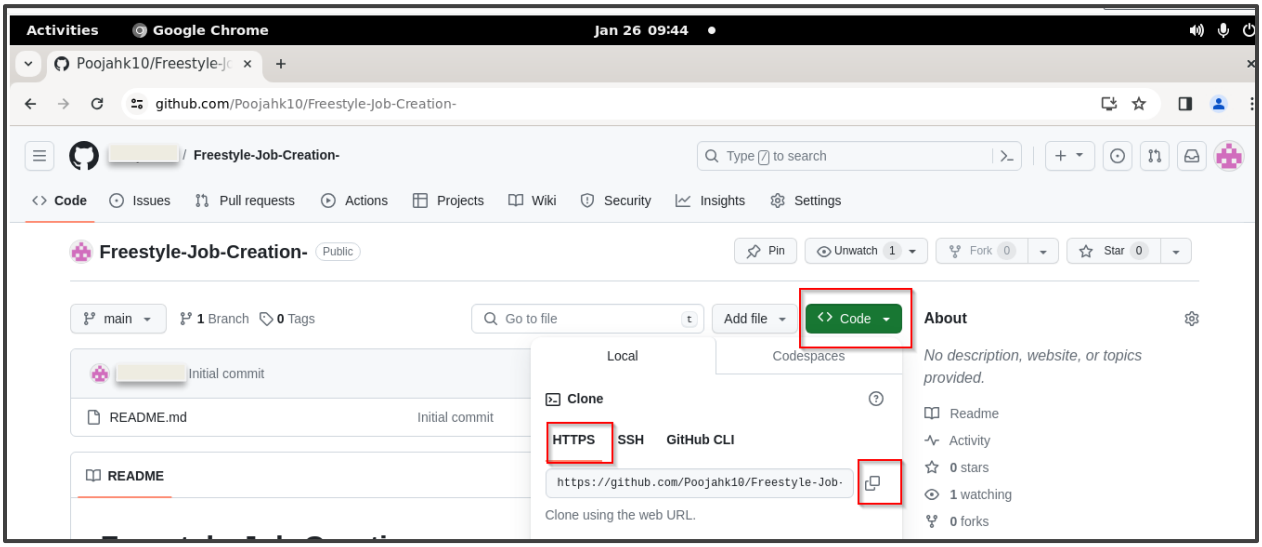
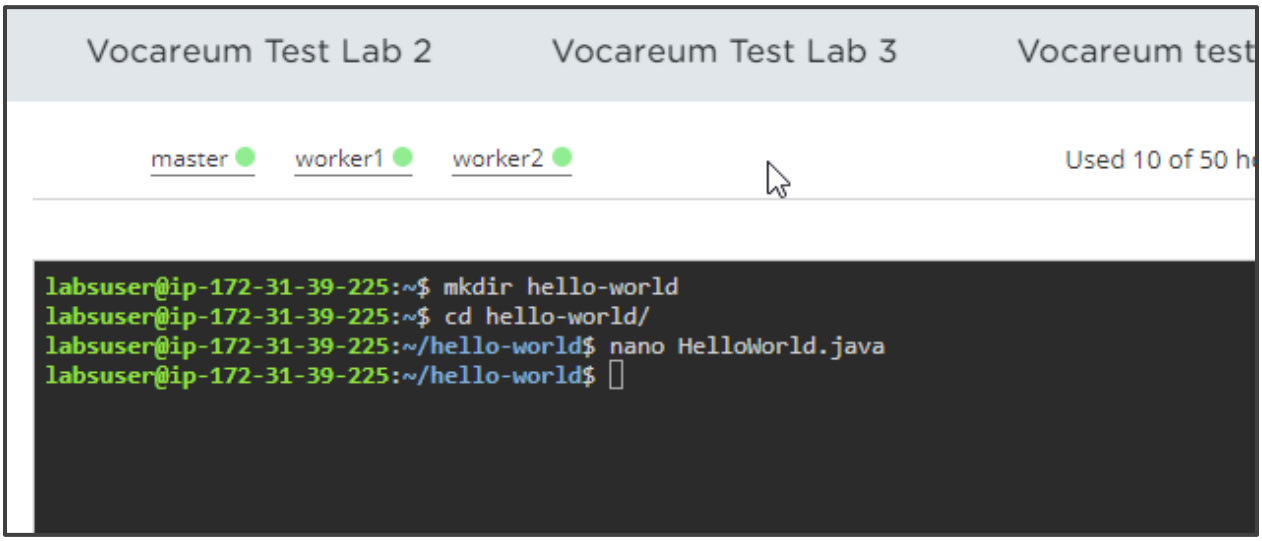
1.6 Click on **<> Code**, then **HTTPS**, and finally copy the repository URL



Step 2: Add a Java program to the repository

2.1 Open the terminal, run the following commands to create a directory, navigate to the **hello-world** directory, and open the Java file in a text editor as shown in the screenshot below:

mkdir hello-world
cd hello-world
nano HelloWorld.java



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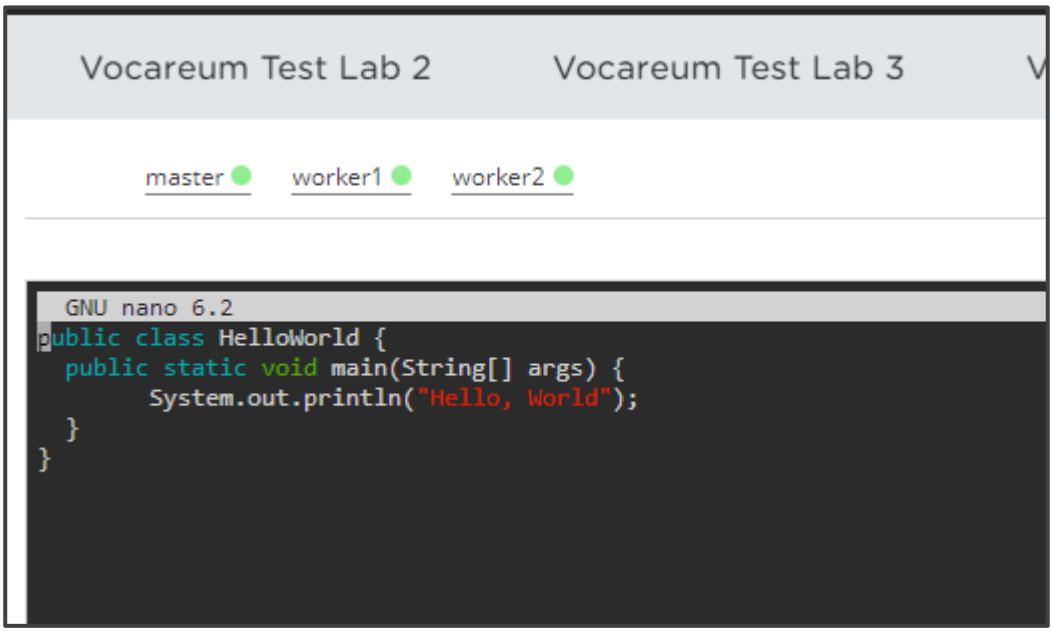
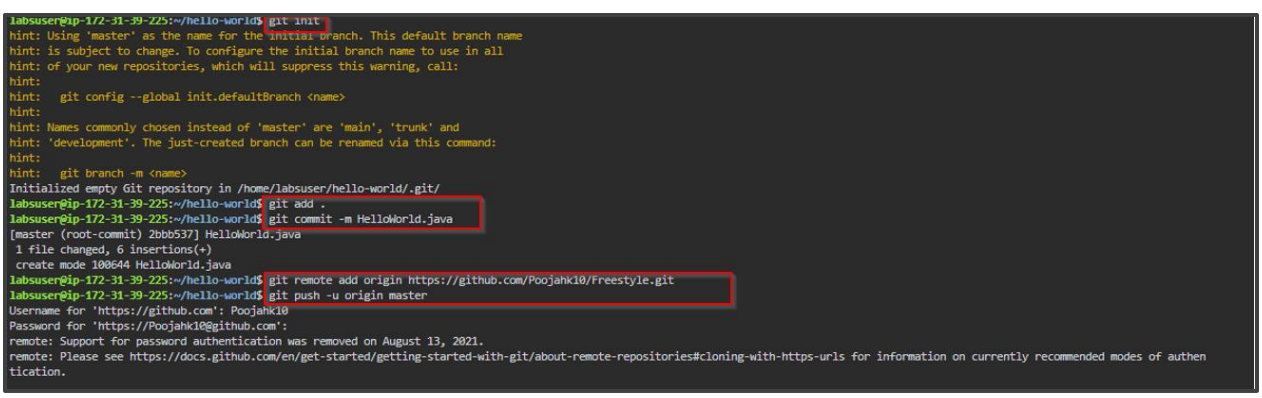
2.2 Copy and paste the below code into the file, save the file, and exit from the text editor:

```
public class HelloWorld {
  public static void main(String[] args) {
        System.out.println("Hello, World");
  }
}
```



2.3 Run the following commands:

git init
git add .
git commit -m "Add new files"
git remote add origin <Repository_URL>
git push -u origin master



Note: Ensure that the password to be added is your **GitHub** account **Token**

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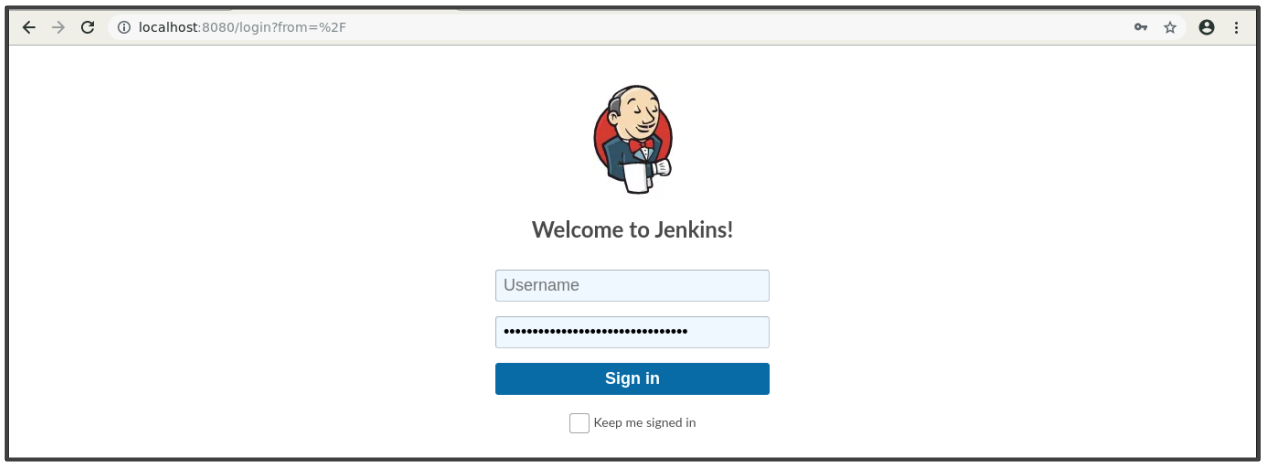
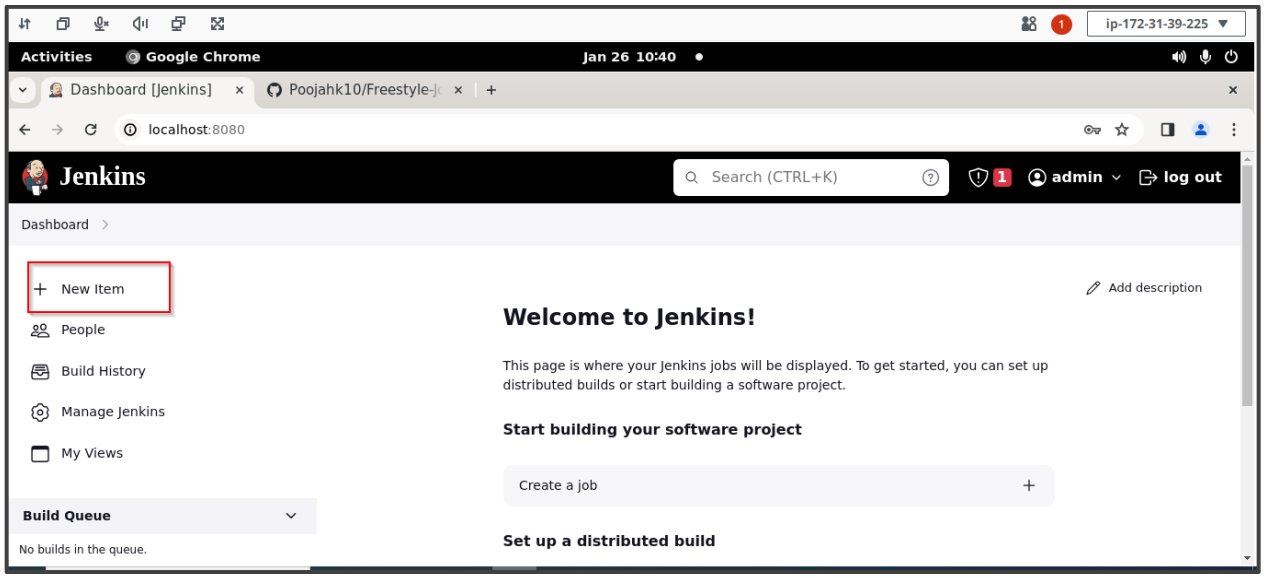
Step 3: Create a freestyle build job in Jenkins

3.1 Open the browser, type **localhost:8080**; this will open Jenkins. Provide the credentials and then click on **Sign in**

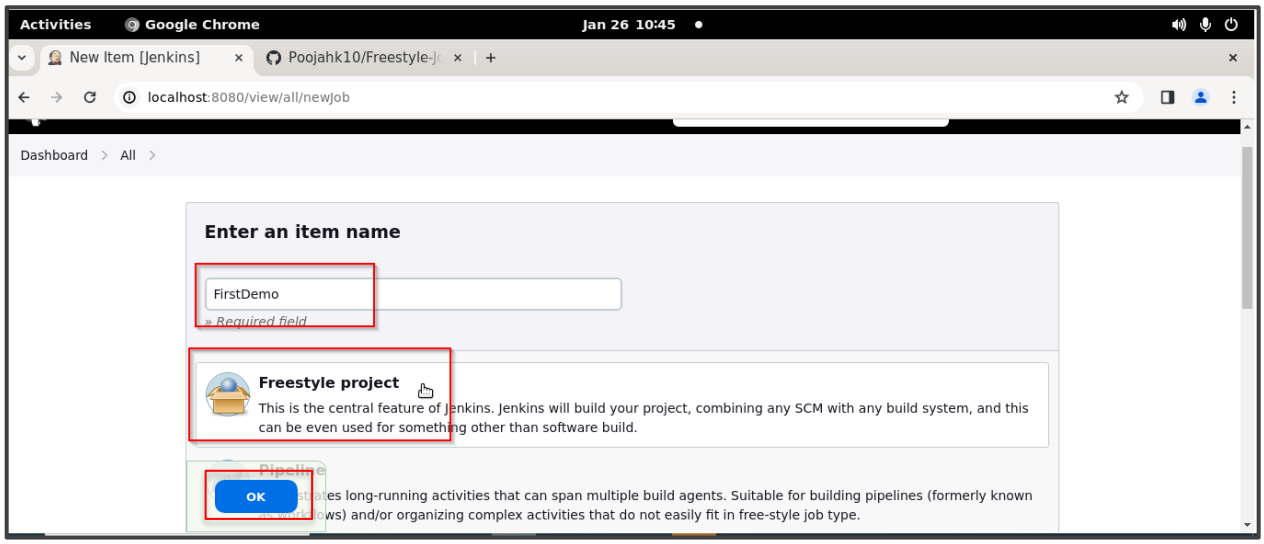


Note: The credentials for accessing Jenkins in the lab are Username: **admin** and Password: **Root123$**.

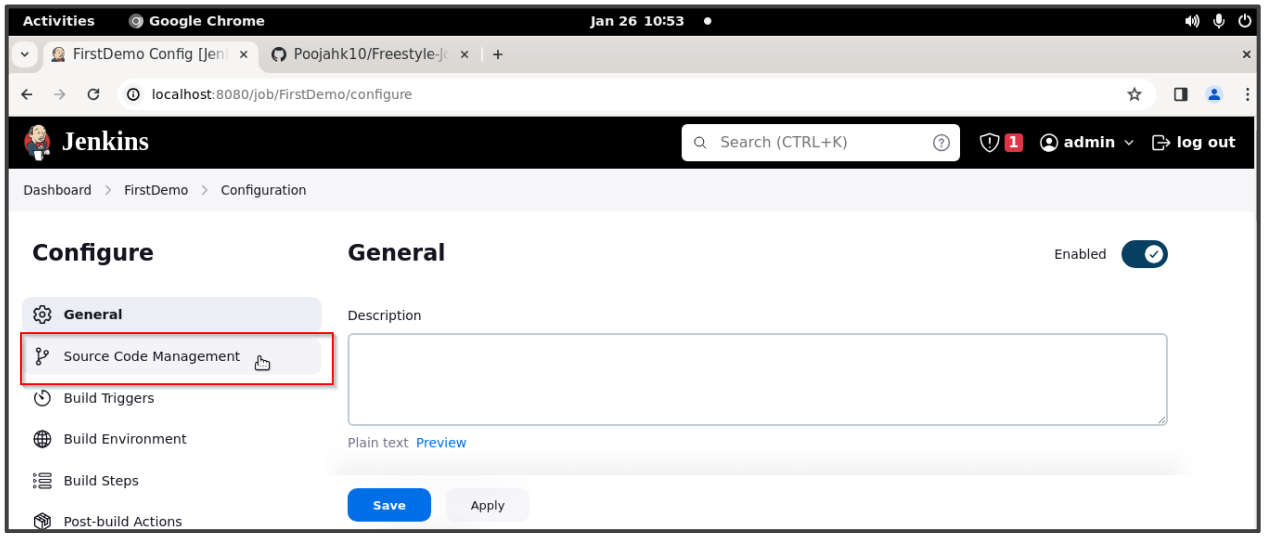
3.2 Click on **New Item** in the Jenkins Dashboard



3.3 Enter a name for your project, select **Freestyle project** as the build job type, and click on **OK**



3.4 Click on **Source Code Management**



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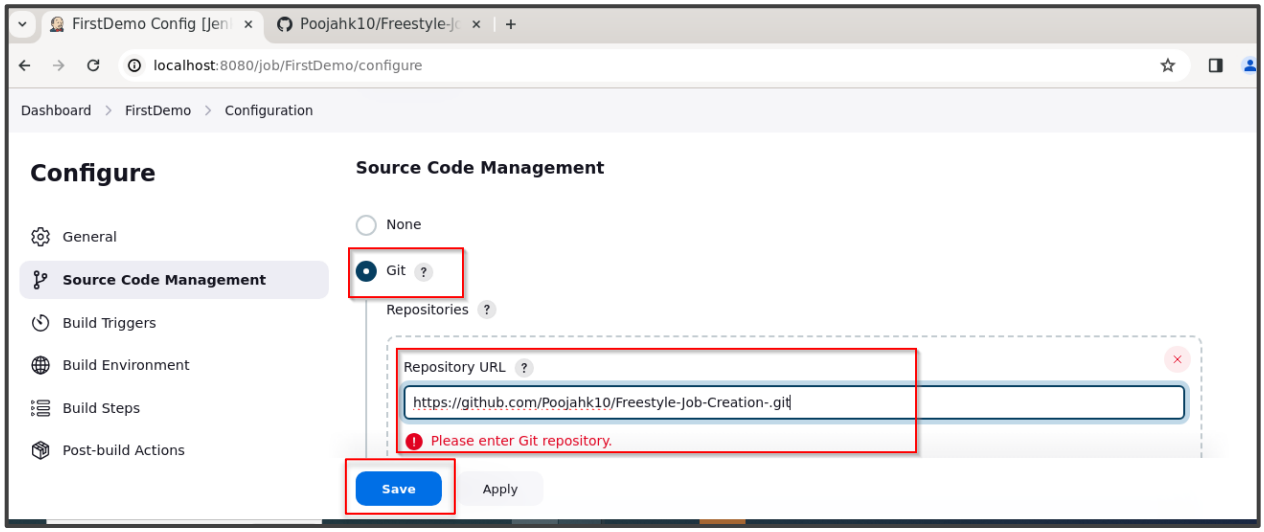
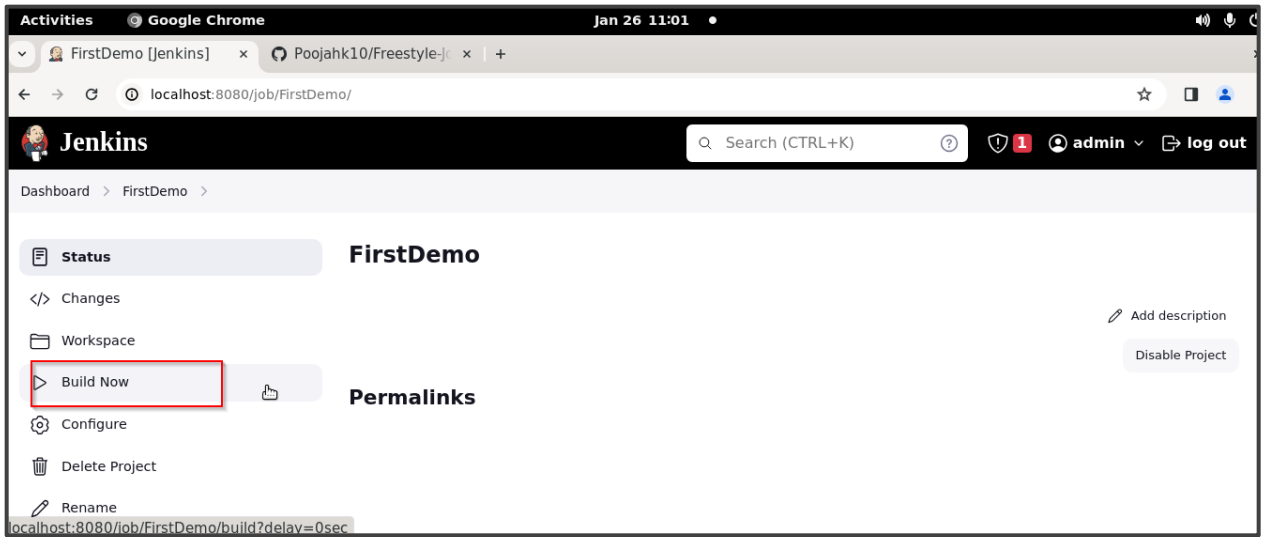
3.5 Select **Git**, enter the **Repository URL**, and then click on **Save**



Step 4: Build the Java program with Jenkins

4.1 Click on **Build Now** to build your project



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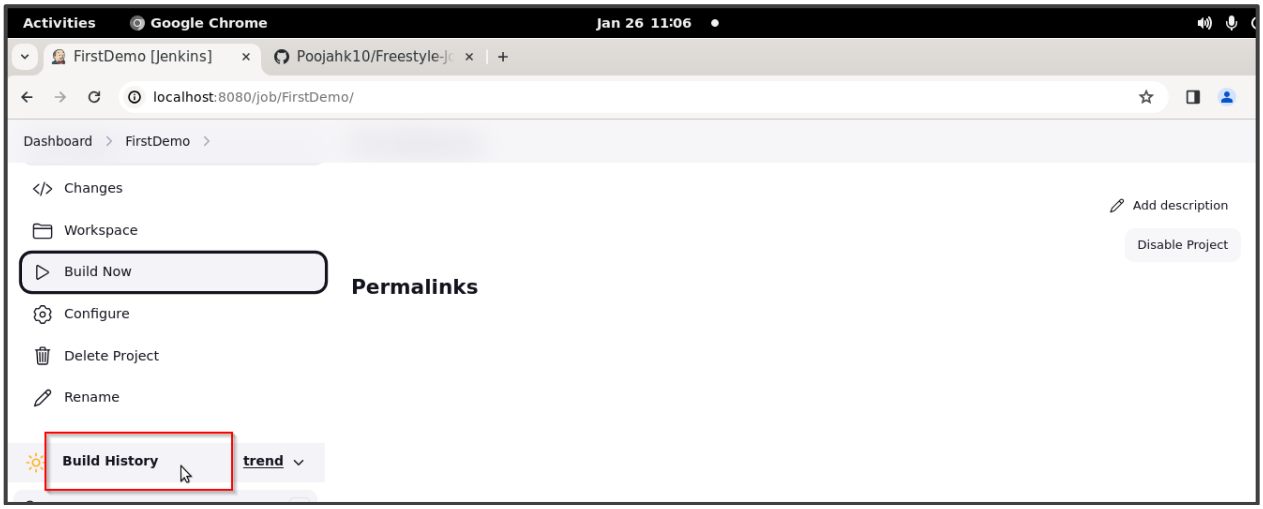
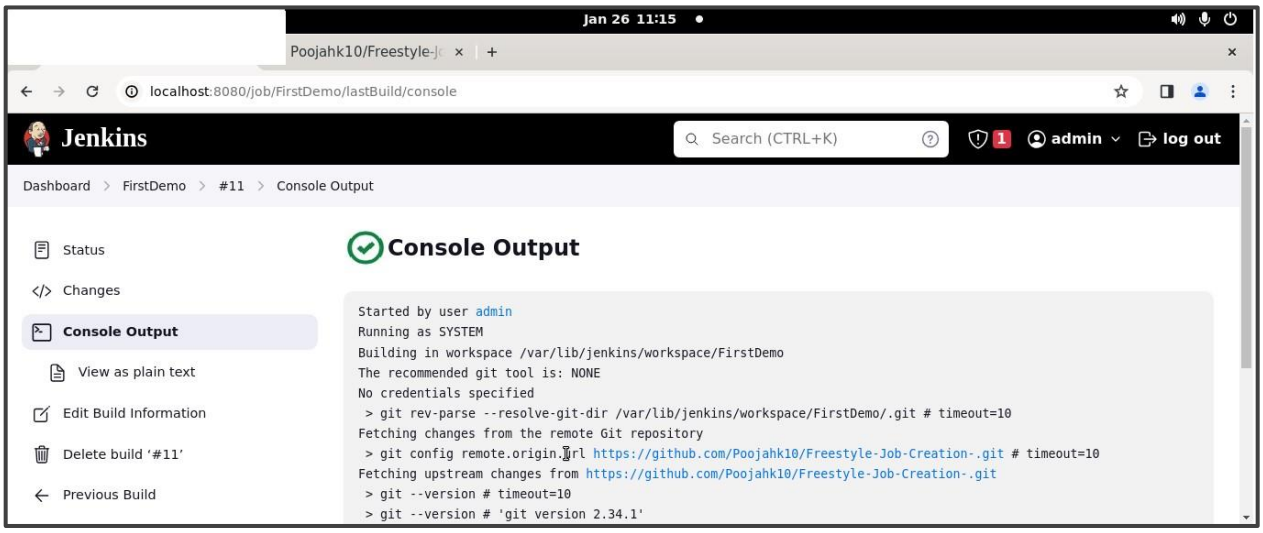
4.2 Click on **Build History** to view the build results



4.3 Click on the **Console Output** to view the build logs



By following these steps, you have successfully implemented DevOps using GitHub to store a Java program and Jenkins to build consistent code packages, enabling continuous integration.

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