**Multistage Pipelines**

This section will guide you to:

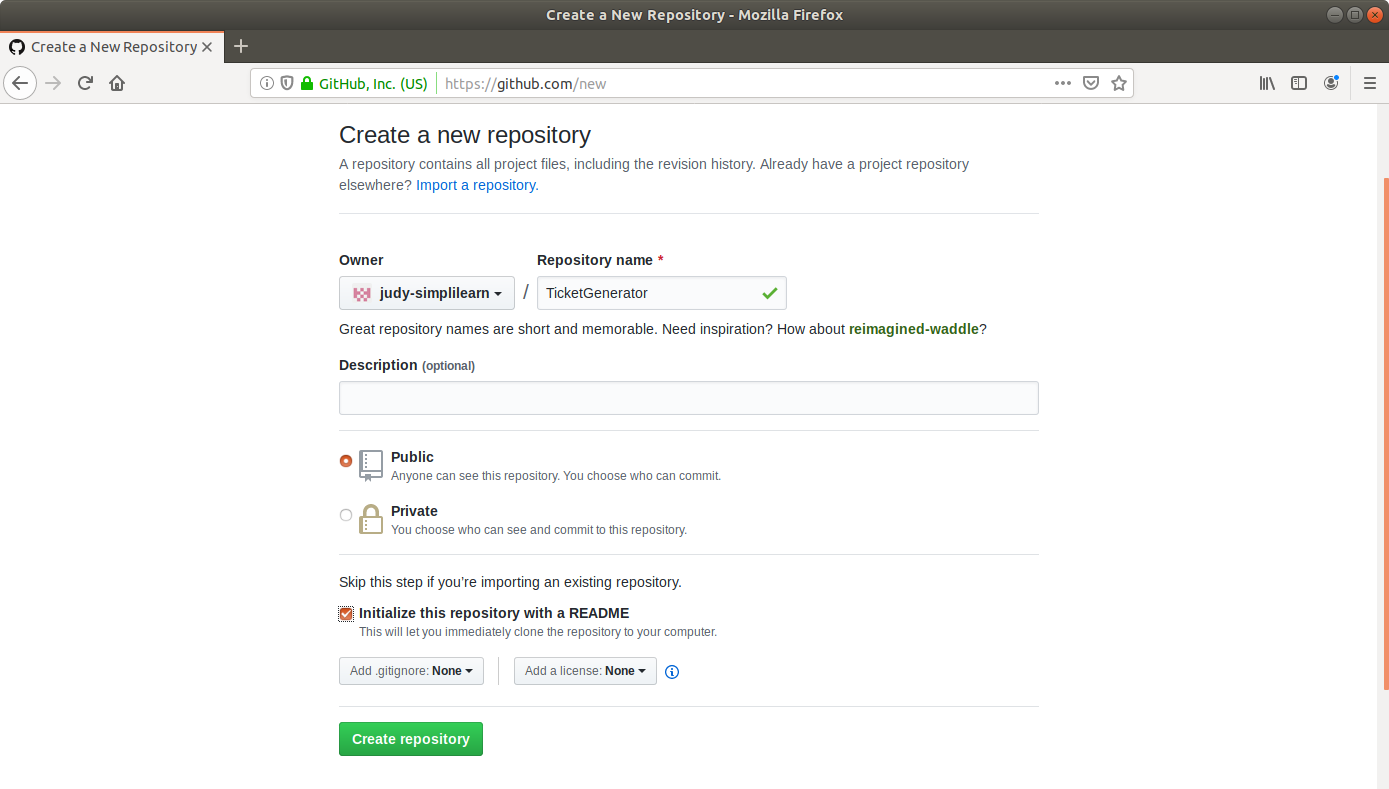
* Create and commit a Jenkinsfile
* Configure a pipeline to run from a Jenkinsfile

**Step 1:** Creating a Git repository for the ticket generator program

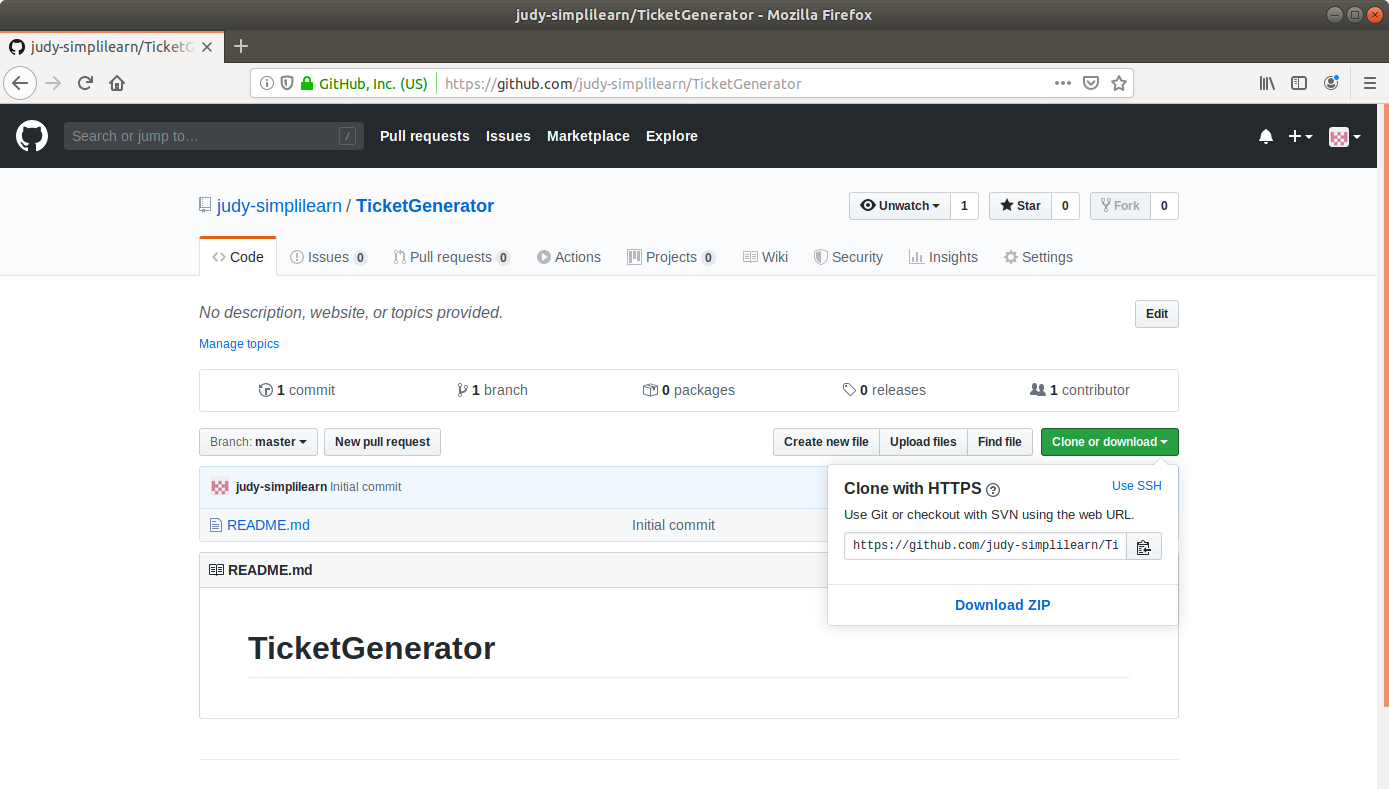
* Login to your **Github** account.
* Click on the **plus** icon next to the profile picture and select ***New repository*** from the drop-down menu.



* Fill the required fields in the create repository form.

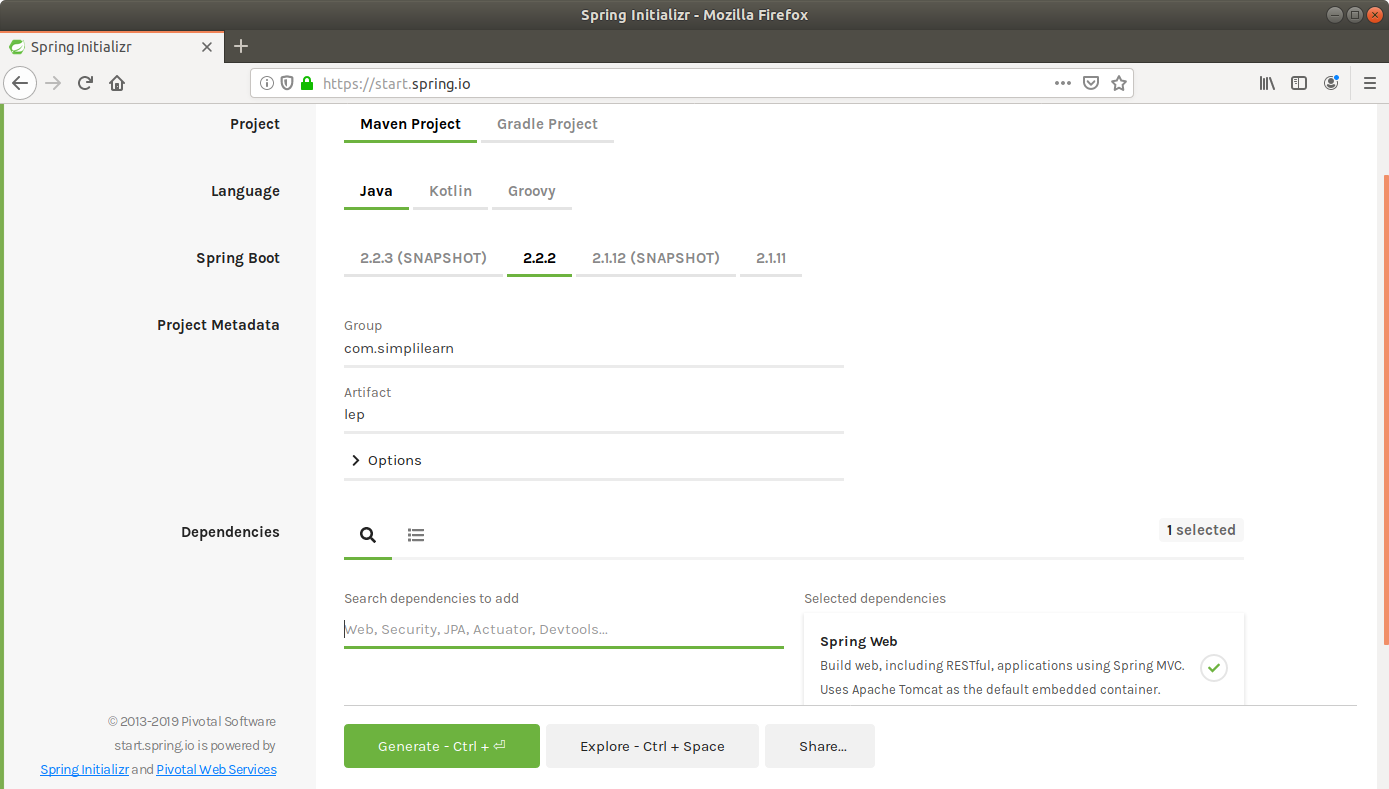


* Click on the **Create Repository** button.
* Click on the **Clone or download** button and copy the URL.



**Step 2:** Generating a spring boot project

* Go to ​start.​spring.​io/​

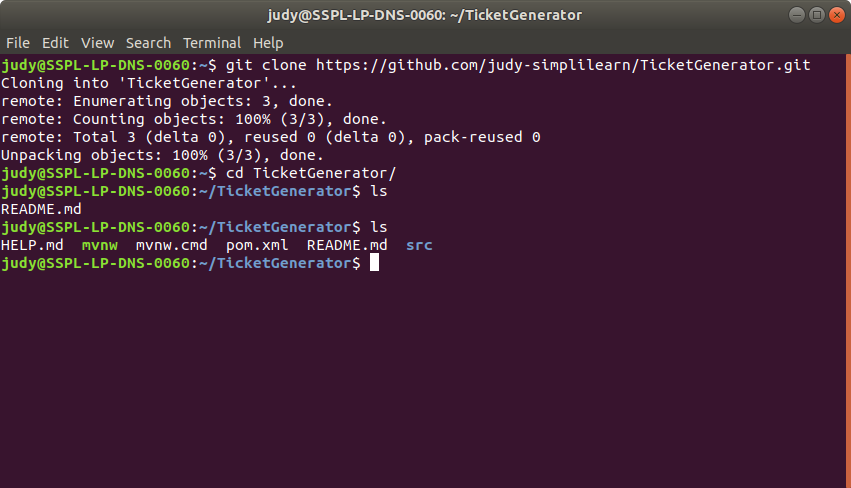


* Select **Maven** as the project type.
* Fill Group and Artifact with appropriate values. For example,***com.simplilearn*** and ***TicketGenerator****.*
* Add **Web (Spring Web)** to Dependencies.
* Click on **Generate Project.**
* Select packaging: **Jar** and Java: **8**
* The generated skeleton project should be downloaded as a zip file.

**Step 3:** Adding the code for ticket generation to the repository

* Open the terminal and navigate to an appropriate location.
* Run **git clone [URL]** to clone the repository.
* Unzip the downloaded spring boot project to the cloned repository.  
  (cd Downloads  
  unzip ***TicketGenerator***.zip)

Copy the contents of ***TicketGenerator*** folder present in downloads and paste it into your repository folder)



* Navigate to the ***TicketGenerator***folder within the ***src*** folder.   
  **cd /src/main/java/com/simplilearn/TicketGenerator**
* Open the **TicketGeneratorApplication.java** in a text editor.
* Add the following method to the file and save it.

**package com.simplilearn.ticketGenerator;**

**import org.springframework.boot.SpringApplication;**

**import org.springframework.boot.autoconfigure.SpringBootApplication;**

**@SpringBootApplication**

**public class TicketGeneratorApplication {**

**public static double getRandomTicketNumber(){**

**double min=1000;**

**double max=9999;**

**double x = (int)(Math.random()\*((max-min)+1))+min;**

**return x;**

**}**

**public static void main(String[] args) {**

**SpringApplication.run(TicketGeneratorApplication.class, args);**

**}**

**}**

* Navigate to the *ticketGenerator* folder within the ***test*** folder.

**cd** **/src/test/java/com/simplilearn/TicketGenerator**

* Open the **TicketGeneratorApplicationTests.java** in a text editor.
* Add the following *test* method to the file and save it.

**package com.simplilearn.ticketGenerator;**

**import org.junit.Test;**

**import static org.junit.Assert.\*;**

**import org.springframework.boot.test.context.SpringBootTest;**

**@SpringBootTest**

**class TicketGeneratorApplicationTests {**

**private TicketGeneratorApplication ticketer = new TicketGeneratorApplication();**

**@Test**

**public void testRandomNumber() {**

**assertTrue(ticketer.getRandomTicketNumber()>1000&&ticketer.getRandomTicketNumber()<9999);**

**}**

**}**

* Save the file and exit the text editor.

**Step 4:** Creating and committing a Jenkinsfile

* Navigate to the *TicketGenerator* root directory where the **pom.xml** is.
* Open a new text file and add the following script to it.

**pipeline {**

**agent any**

**stages {**

**stage("Compile") {**

**steps {**

**sh "mvn compile"**

**}**

**}**

**stage("Unit test") {**

**steps {**

**sh "mvn test"**

**}**

**}**

**}**

**}**

* Save the file as **Jenkinsfile** with no extension.
* Open the pom.xml and add the following dependency.

**<dependency>**

**<groupId>junit</groupId>**

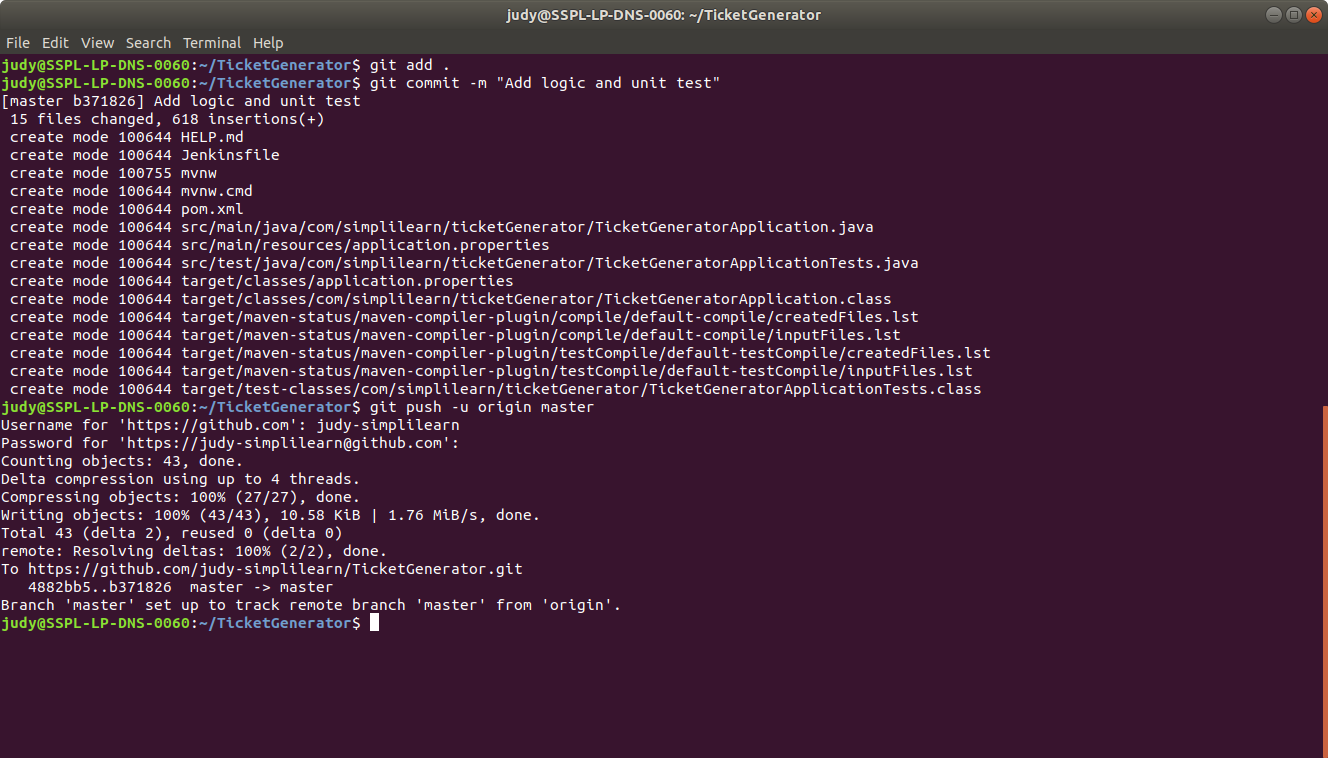
**<artifactId>junit-dep</artifactId>**

**<version>4.8.2</version>**

**<scope>test</scope>**

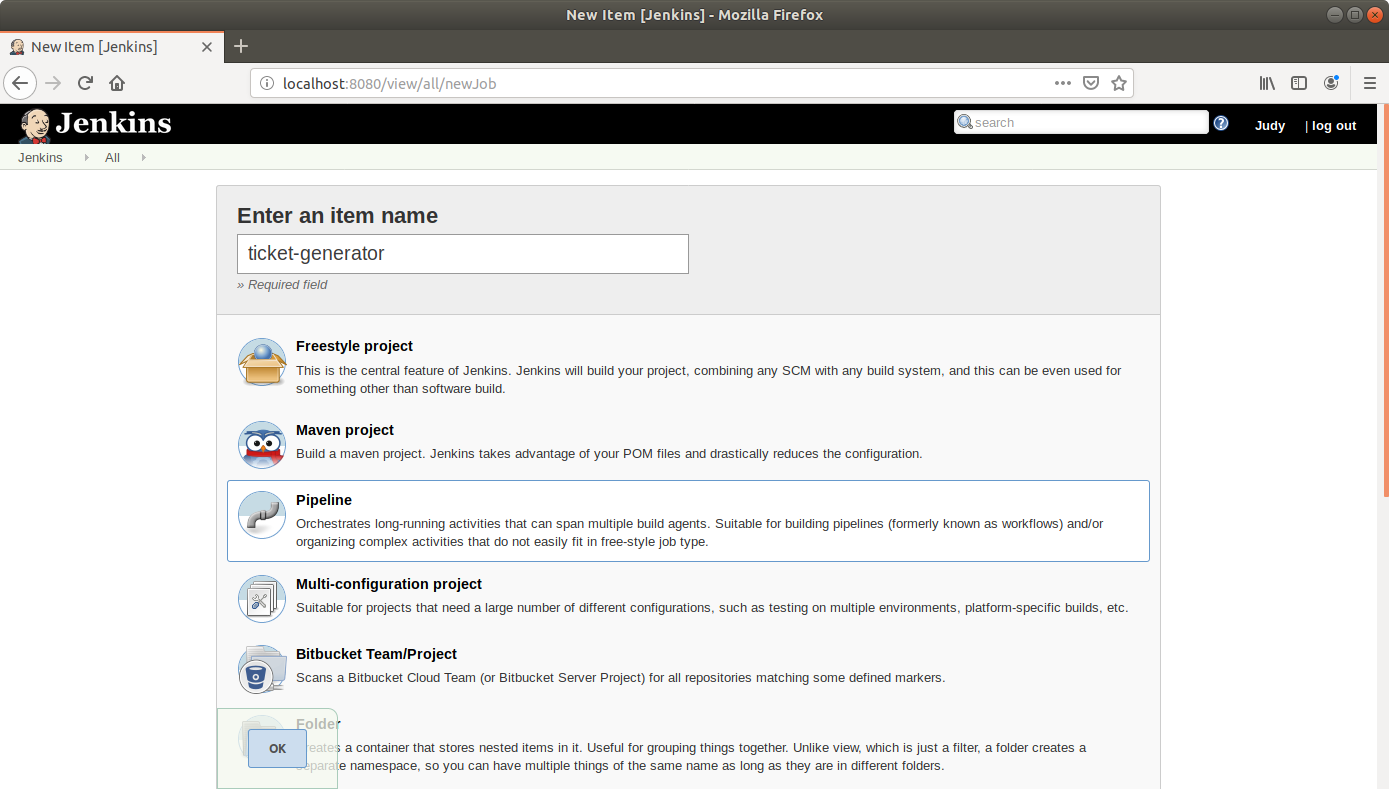
**</dependency>**

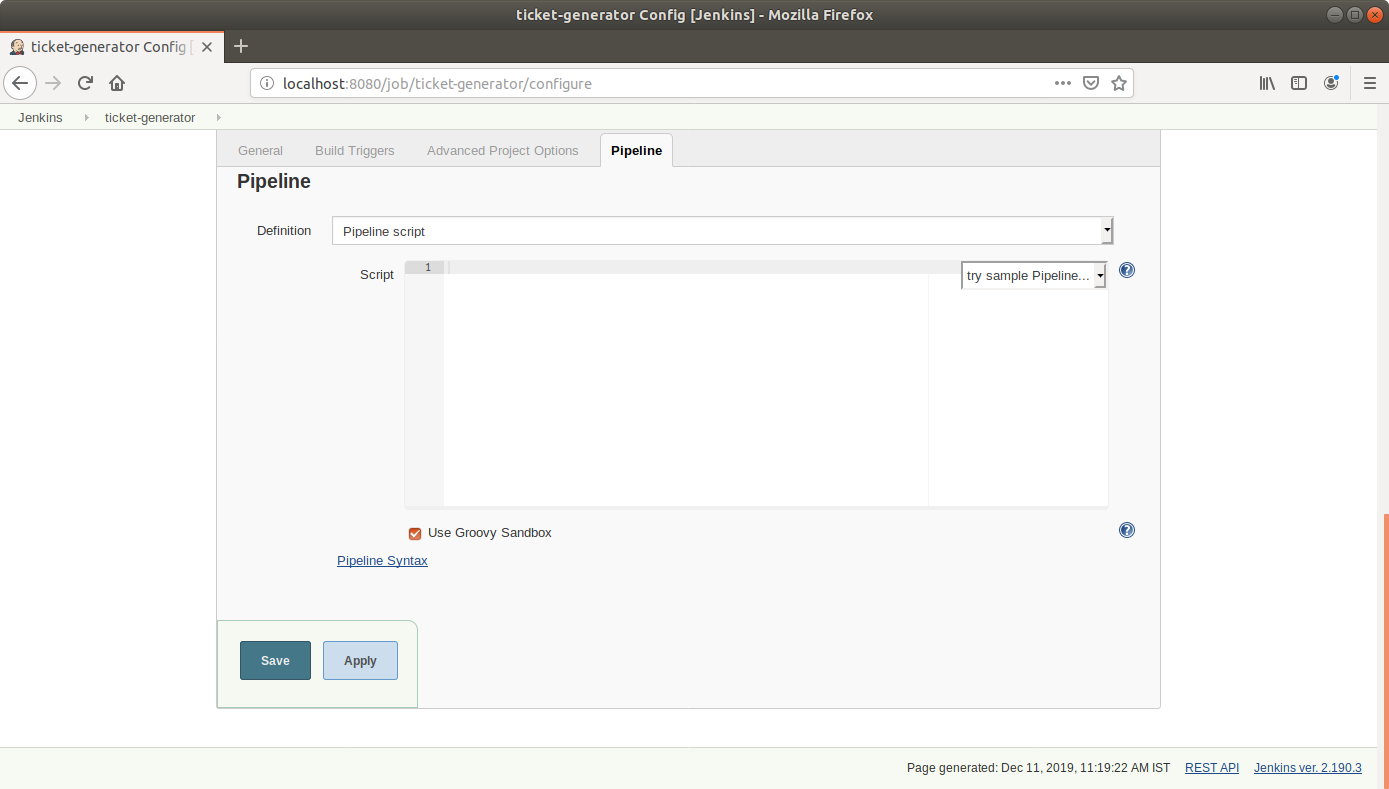
* Commit the changes to the remote SCM.
* Run **git add .**
* Run **git commit -m “Add logic and test”**
* Run **git push -u origin master**

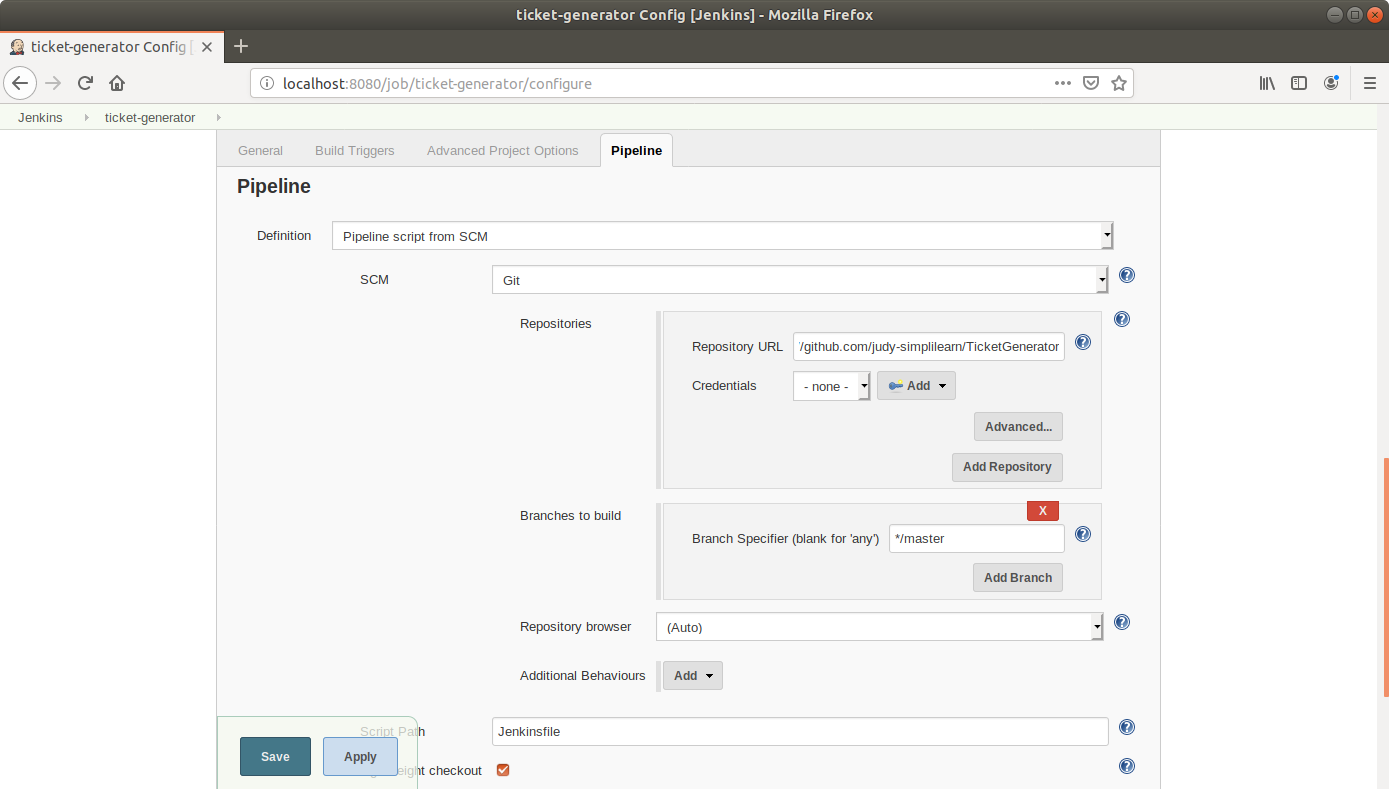
(Please Note: In case master is not specified, execute git push -u origin main) 

**Step 5:** Creating a multistage pipeline in Jenkins

* Go to Jenkins **dashboard**.
* Click on ***New Item***.
* Enter a **name** for your build job.
* Select ***Pipeline***as the build job type.



* Click **OK**.
* On the configuration page, scroll down to the **Pipeline** section.
* Change *Definition* from *Pipeline script* to ***Pipeline script from SCM****.*
* Select ***Git*** *in SCM.*
* Add the repository URL.



* Click **Save**.

**Step 6:** Running a multistage pipeline in Jenkins

* Click on ***Build Now***in the project window.
* Jenkins will now build your pipeline and output the logs.

