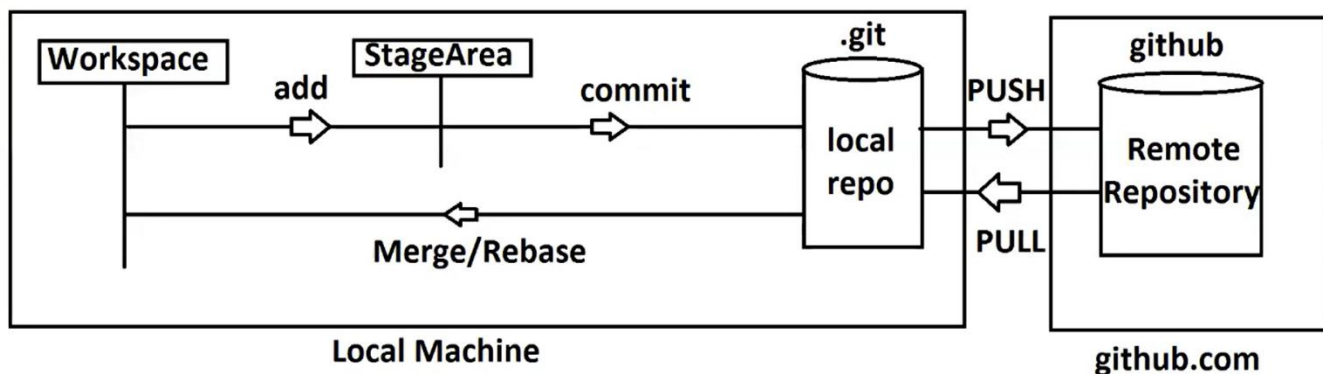


Git

Introduction:

- To develop application, we will write different types of files in projects (like java, xml, jsp etc..).
- All these files are stored finally in a **central server** i.e., **Code Repository** which maintains the details of code like;
 1. How many times code is modified?
 2. Who modified what code (+/- added/removed)?
 3. Changes done on what date and time?
- Maintaining these details is known as **Version Management/Version Control**.
- In development mostly used tool is GIT (gitHub) for Code Repository and Version Control.
- It maintains two level repository process for cross verify and commit.
- For this we need to create an account in github.com (using email id and verify email after creation).
- It maintains staging area to select /verify/comment the file while adding to local repository.
- Git provided 2 types Repositories:
 1. Public Repository (Free for every one)
 2. Private Repository (Paid version)



Add: Need to write code in workspace (project) and test, then move files to Stage Area (verification area)

Commit: Sending files from Stage Area to Local Repository.

Push: Sending our files from Local Repository to Remote Repository after coding and unit testing.

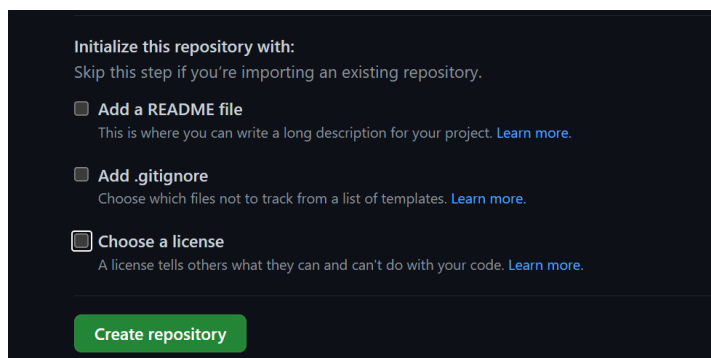
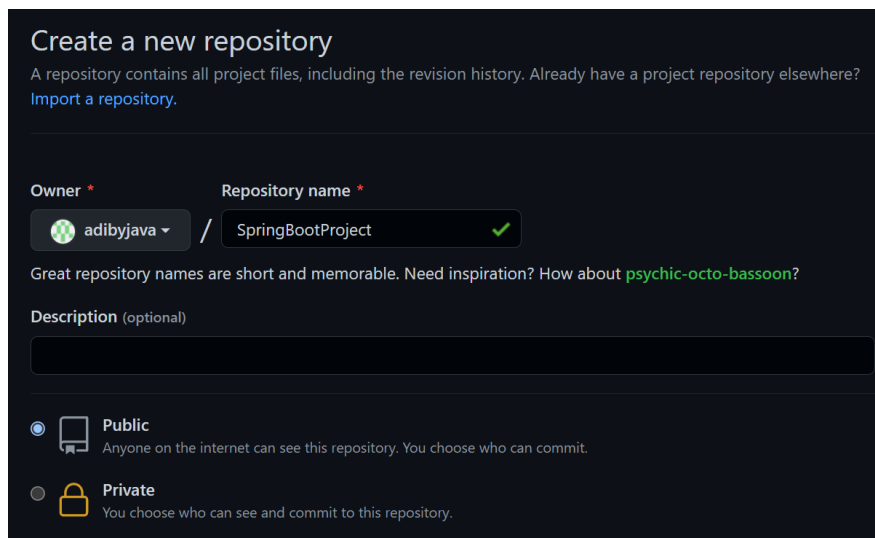
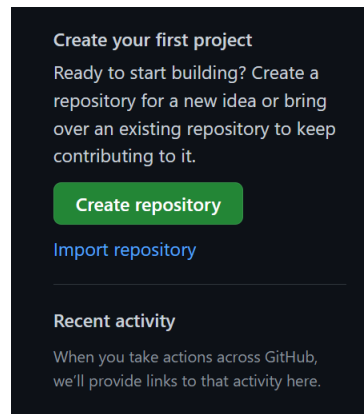
Pull: Fetching file from Remote Repository. Fetch other module files that are written by other developers.

Merge/Rebase: Update files from Local Repository to Workspace.

Create Remote Repository in GitHub:

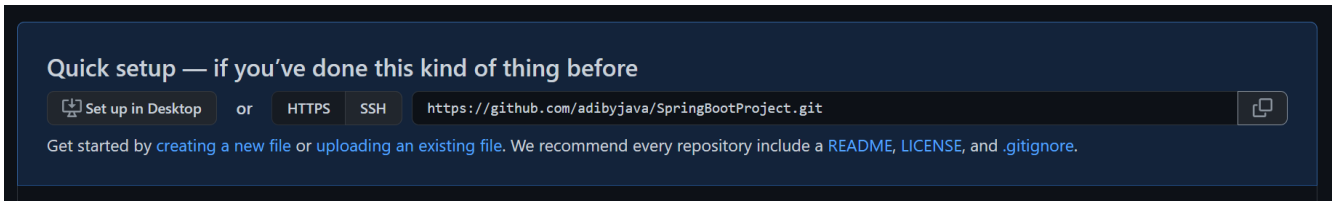
Steps:

1. Go to <https://github.com/>
2. Signup (Register) with details
3. Go to Email -and verify Link
4. Login with Username and Password
5. Create Repository Type Public (Companies uses- Private Type)



6. Copy Git Link:

<https://github.com/adibych/java/SpringBootProject.git>



Develop a spring boot project as *SpringBootProject* in STS or Eclipse ide
(Same as repository name *SpringBootProject* created in *GitHub*)

New Spring Starter Project

Service URL:

Name:

☒ Use default location

Location: [Browse](#)

Type: Packaging:

Java Version: Language:

Group:

Artifact:

Version:

Description:

Package:

Working sets

☐ Add project to working sets [New...](#)

Working sets: [Select...](#)

[< Back](#) [Next >](#) [Finish](#) [Cancel](#)

New Spring Starter Project Dependencies

Spring Boot Version:

Frequently Used:

☐ Java Mail Sender ☐ Lombok ☐ MySQL Driver

☐ Spring Boot DevTools ☐ Spring Data JPA ☐ Spring Data MongoDB

☐ Spring Security ☐ Spring Web ☐ Thymeleaf

Available:

Type to search dependencies

Developer Tools

Google Cloud Platform

I/O

Messaging

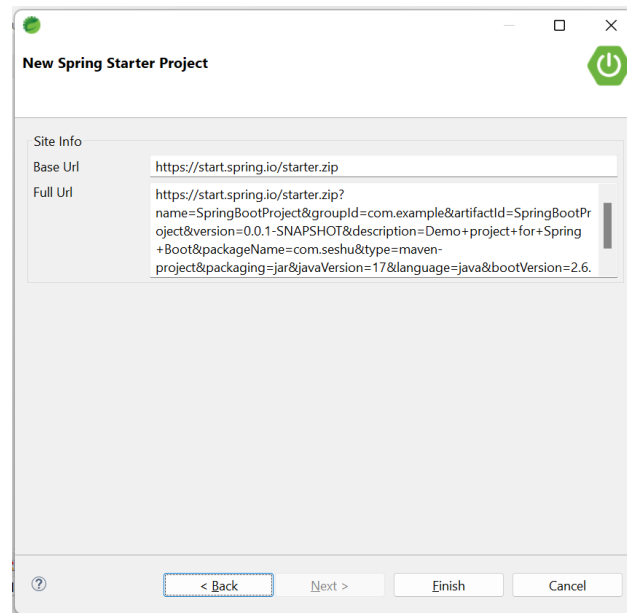
Microsoft Azure

NoSQL

Observability

Selected:

[< Back](#) [Next >](#) [Finish](#) [Cancel](#)



```
SpringBootProject [boot]
├── src/main/java
│   ├── com.seshu
│   │   └── SpringBootProjectApplication.java
│   └── com.seshu.runner
│       └── SampleRunner.java
├── src/main/resources
│   └── application.properties
├── src/test/java
│   └── com.seshu
│       └── SpringBootProjectApplicationTests.java
├── JRE System Library [JavaSE-15]
├── Maven Dependencies
├── src
├── target
├── HELP.md
├── mvnw
├── mvnw.cmd
└── pom.xml
```

```
package com.seshu;

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

@SpringBootApplication
public class SpringBootProjectApplication {

    public static void main(String[] args) {
        SpringApplication.run(SpringBootProjectApplication.class, args);
    }
}
```


```
package com.seshu.runner;

import org.springframework.boot.CommandLineRunner;
import org.springframework.stereotype.Component;

@Component
public class SampleRunner implements CommandLineRunner{

    @Override
    public void run(String... args) throws Exception {
        System.out.println("Sample Runner...");
    }
}
```

Run the project as Spring Boot App



The screenshot shows the Spring Tool Suite 4 IDE with the console output of a Spring Boot application. The console displays the Spring Boot logo, the version (v2.6.2), and the application startup logs. The logs indicate that the application is starting successfully, with no active profile set, falling back to the default profile.

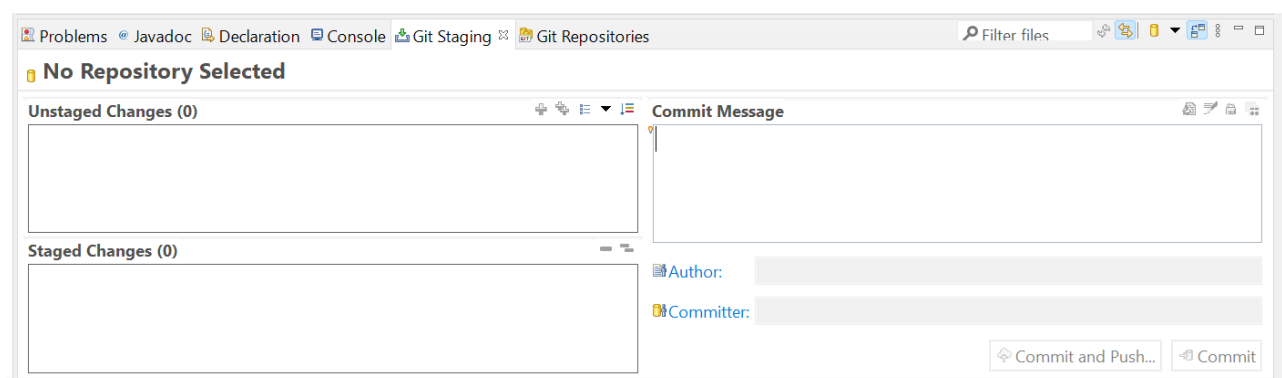
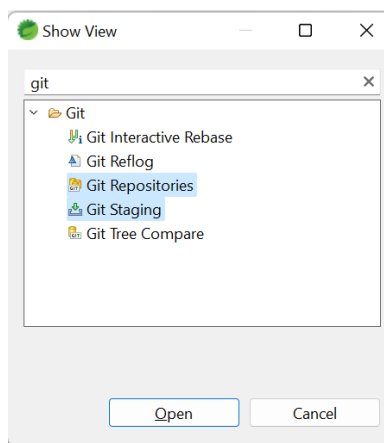
```
spring boot - SpringBootProject/src/main/java/com/seshu/SpringBootProjectApplication.java - Spring Tool Suite 4
File Edit Source Refactor Navigate Search Project Run Window Help
<terminated> SpringBootProject - SpringBootProjectApplication [Spring Boot App] C:\sts-4.10.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_15.0.2.v20210201-0955\jre\bin\javaw.exe (07-Jan-2022, 5:42:15 pm)

:: Spring Boot :: (v2.6.2)

2022-01-07 17:42:18.273 INFO 13148 --- [main] com.seshu.SpringBootProjectApplication : Starting SpringBootProjectApplication using Java 15.0.2
2022-01-07 17:42:18.276 INFO 13148 --- [main] com.seshu.SpringBootProjectApplication : No active profile set, falling back to default profile
2022-01-07 17:42:19.018 INFO 13148 --- [main] com.seshu.SpringBootProjectApplication : Started SpringBootProjectApplication in 1.118 seconds
```

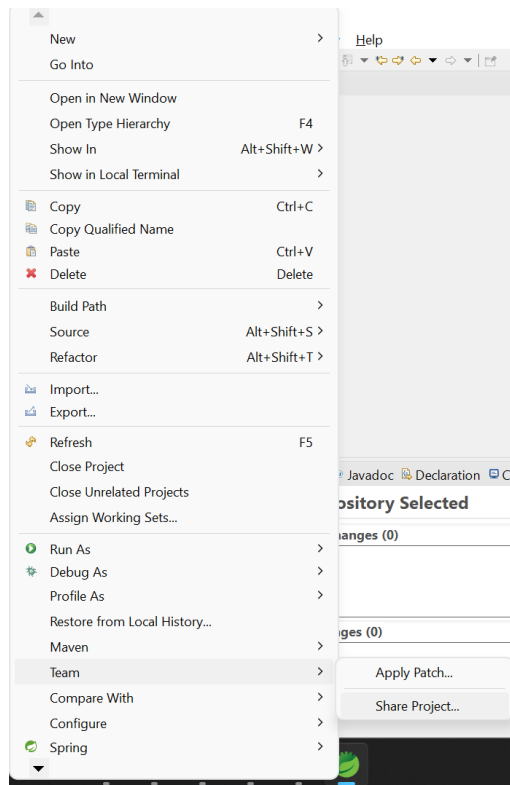
Steps to display git view:

Go to window menu -> Show Views search for "git" select **GitRepository** and **GitStaging**.

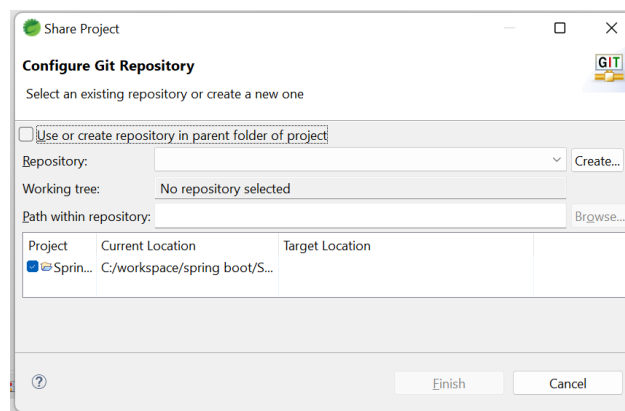


Creating local repository in Eclipse:

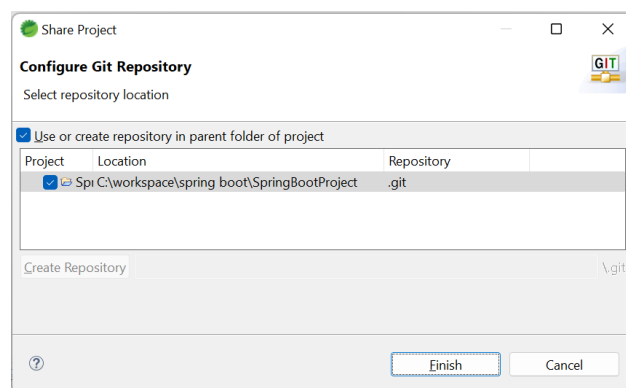
1. Right Click on Project (**SpringBootProject**) -> choose "**Team**" option -> select **Share project...**



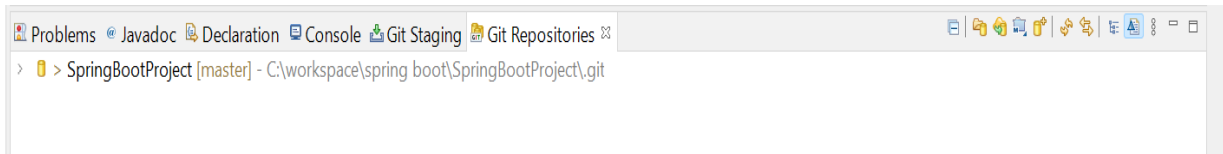
2. select checkbox "**Use or create repository**"



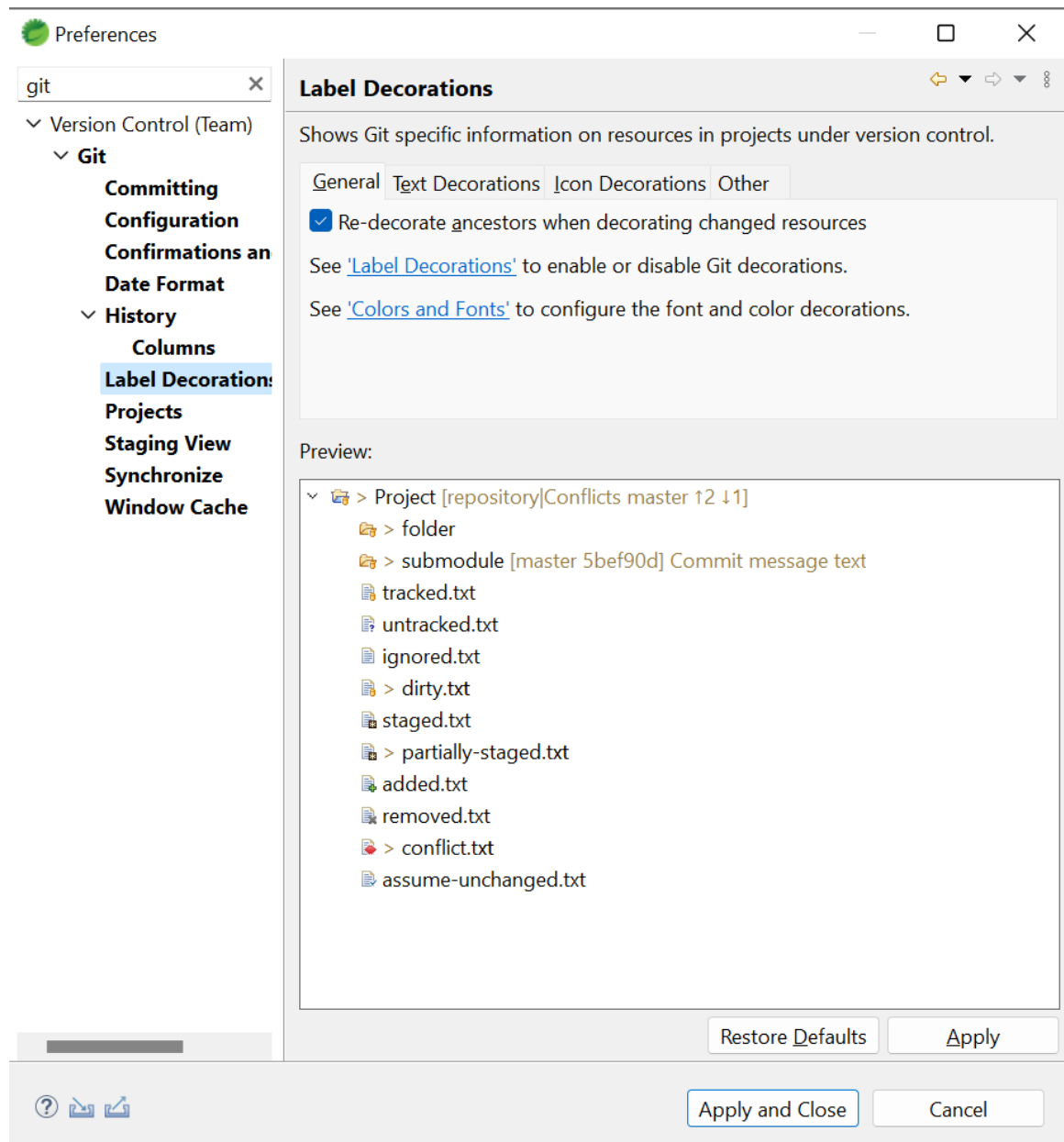
3. select option shown below and click **create repository** button and click on Finish



4. You can find your project under **Git Repositories**.

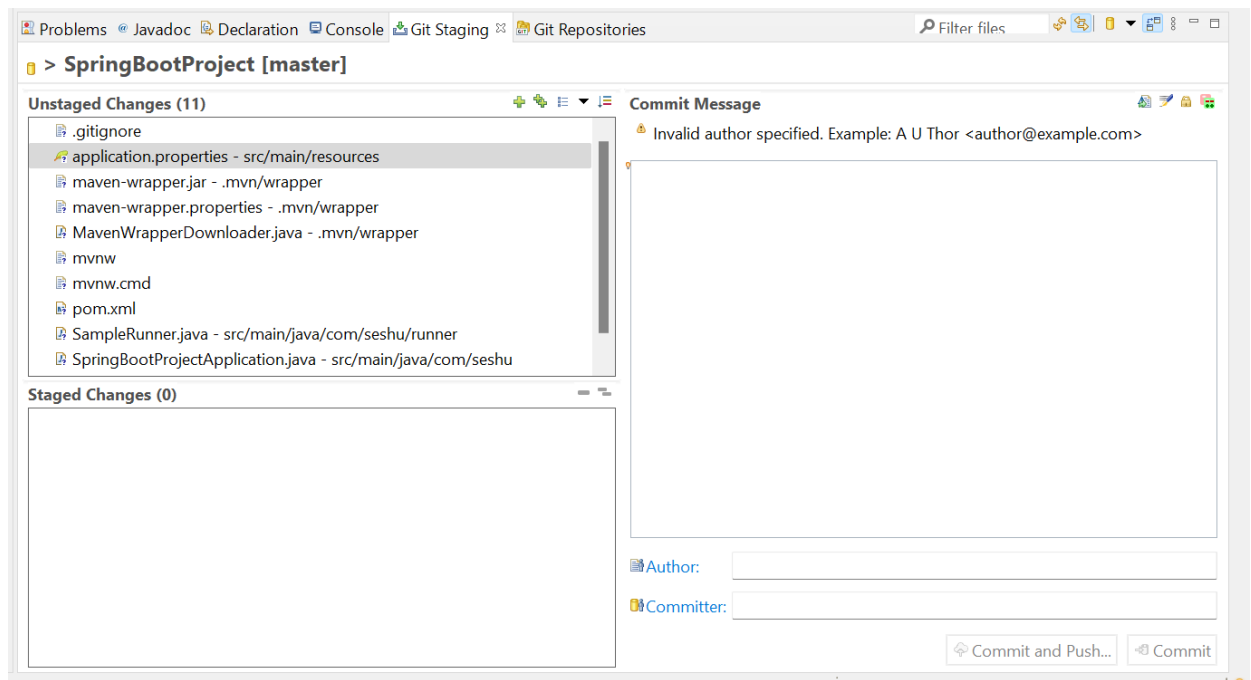


```
> SpringBootProject [boot] [SpringBootProject master]
  > src/main/java
    > com.seshu
      > SpringBootApplication.java
    > com.seshu.runner
      > SampleRunner.java
  > src/main/resources
    > application.properties
  > src/test/java
    > com.seshu
```

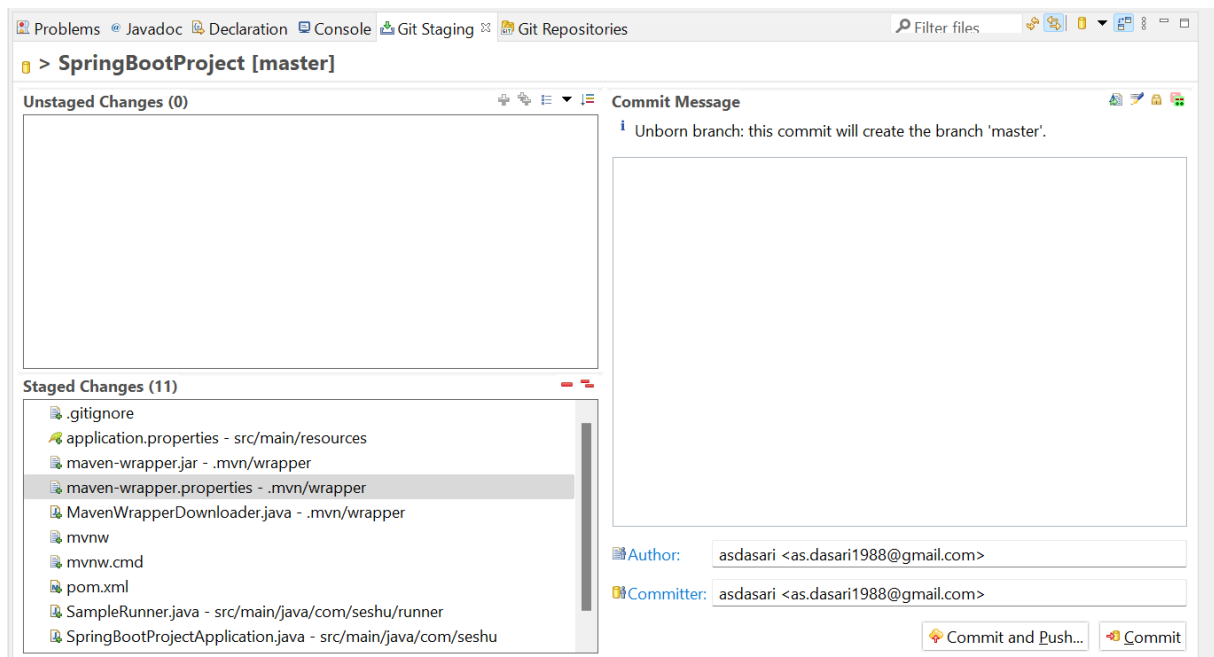


GIT Operations with Flow:

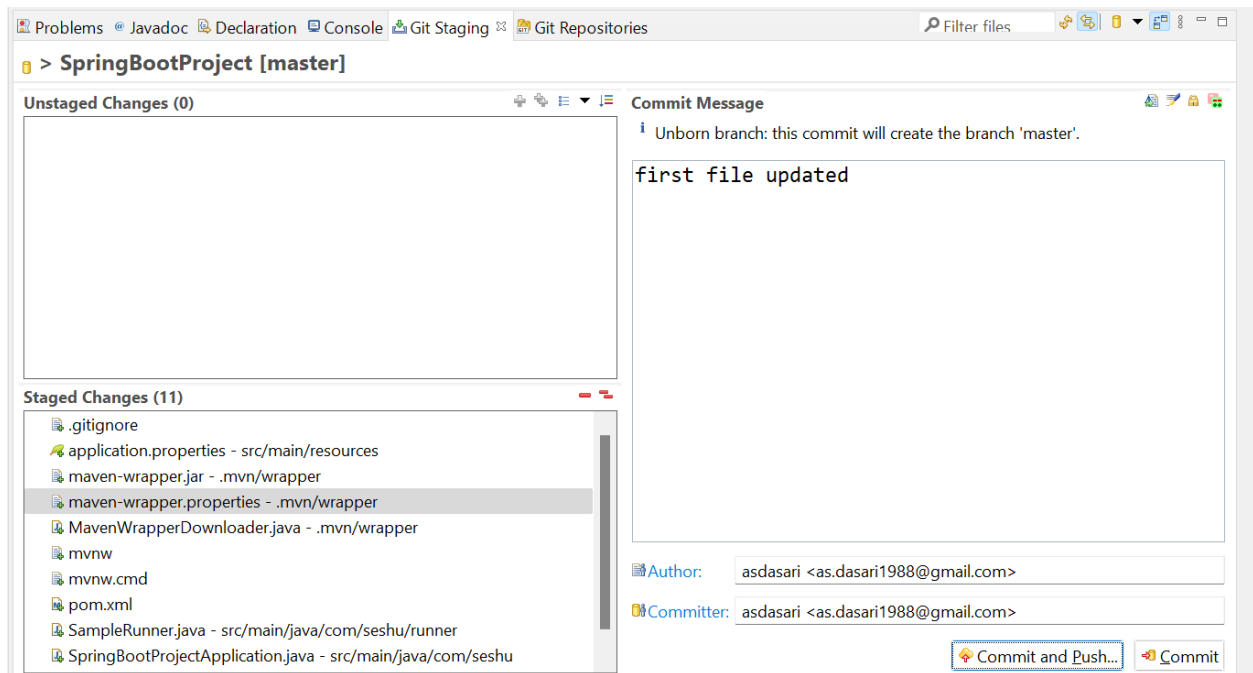
1. Click on the project (**SpringBootProject**) then you will find all files in **Unstaged Changes** area



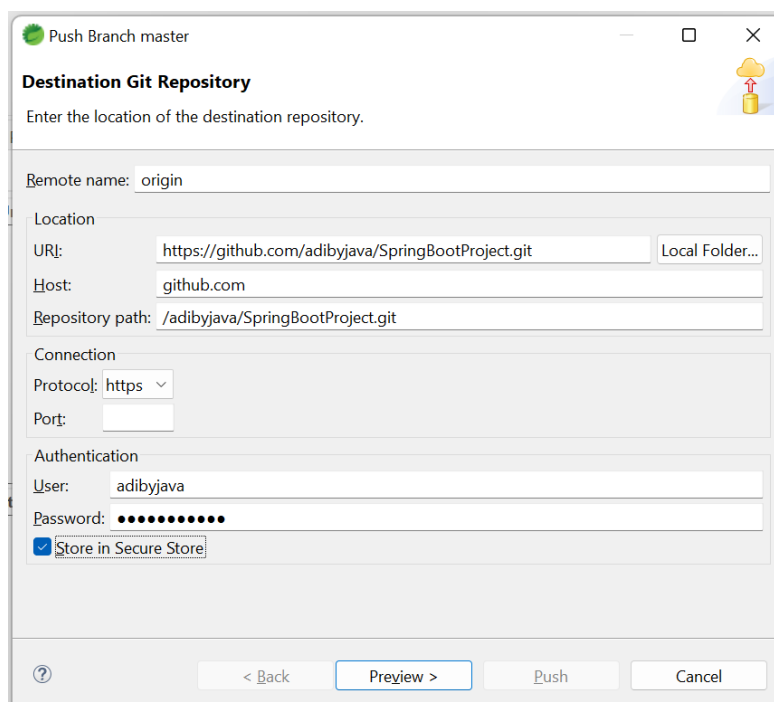
2. Add files to **git staging** (Click-drag-drop).

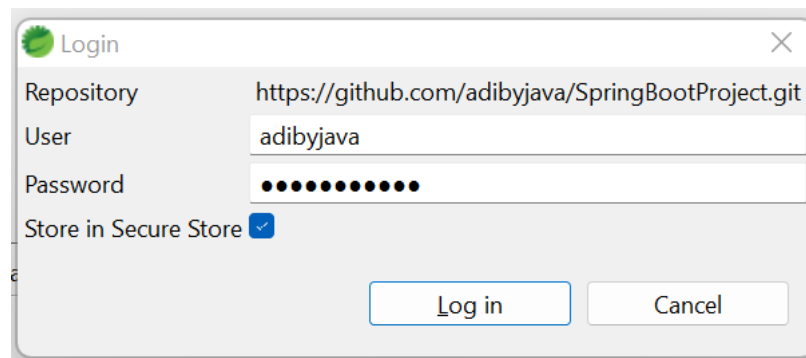
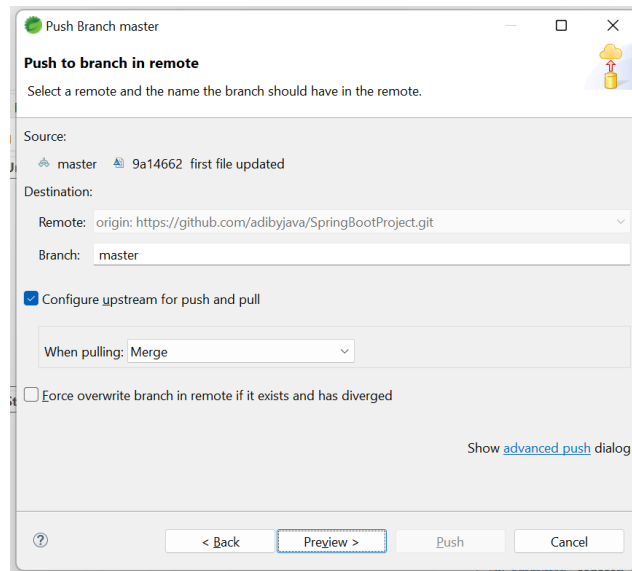


3. Add Commit Message and click on **Commit and Push** button

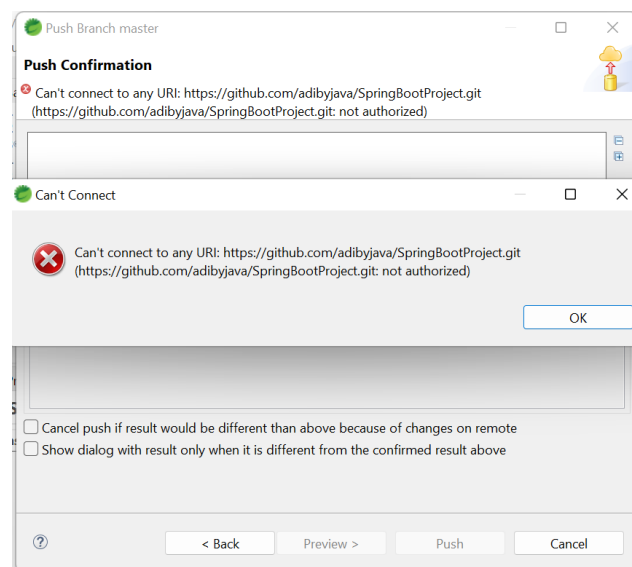


4. Paste Git Link in URI input box, and Enter User and password and click on **Preview**.





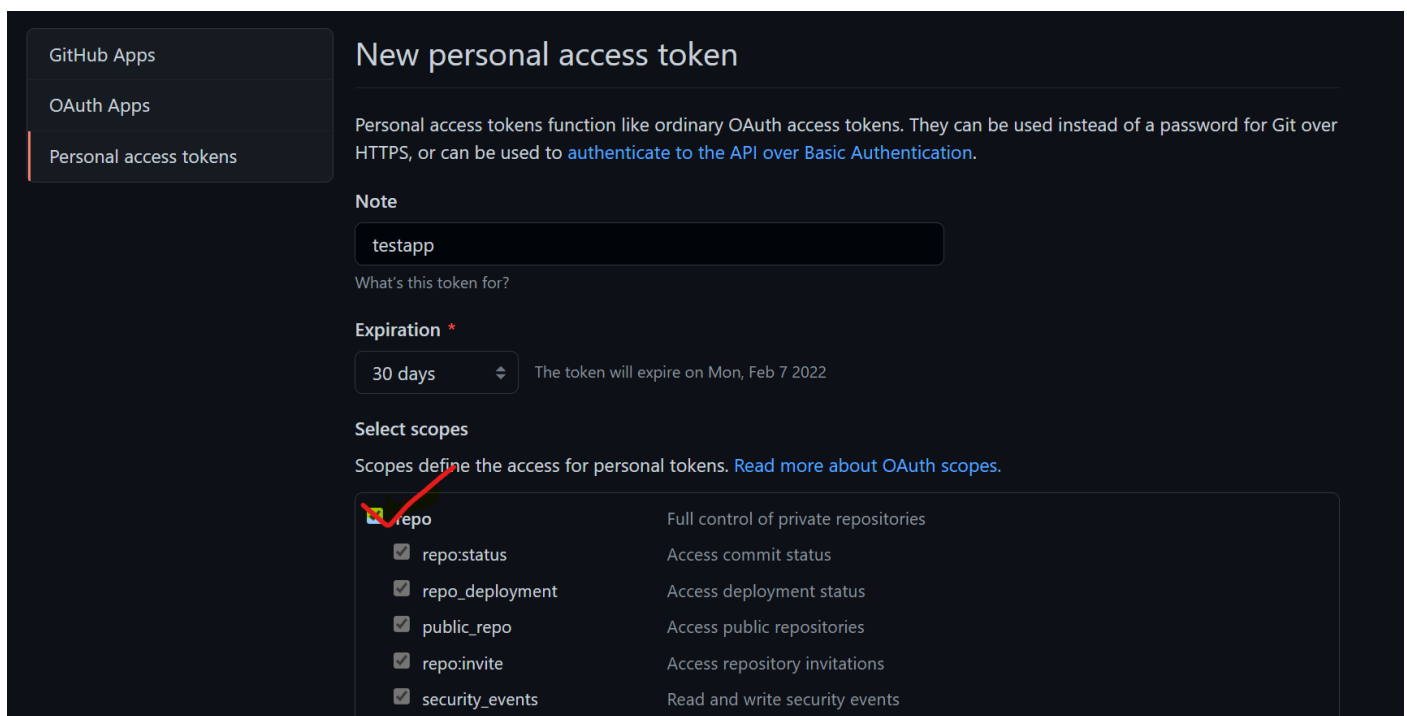
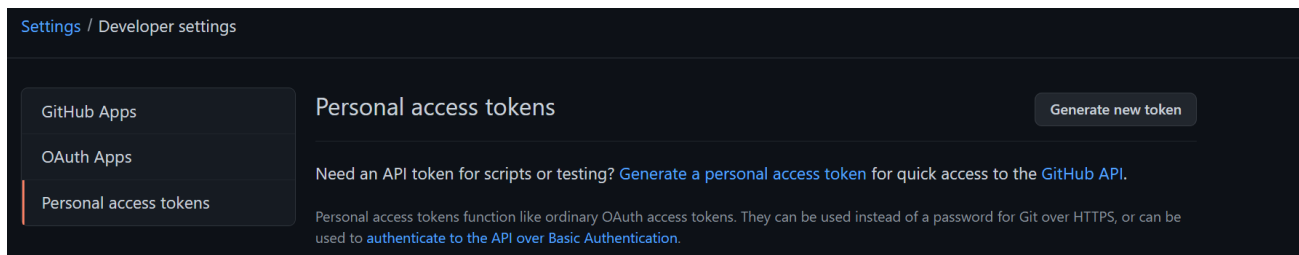
If you are facing this error, then do the following process...



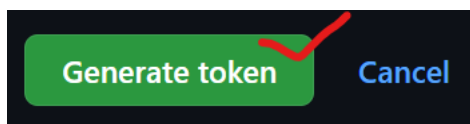
Solution:

Go to Github ->

Settings -> Developer settings -> Personal access tokens -> Generate a personal access token



Click on **Generate token**



GitHub Apps

OAuth Apps

Personal access tokens

Personal access tokens

Generate new token Revoke all

Tokens you have generated that can be used to access the [GitHub API](#).

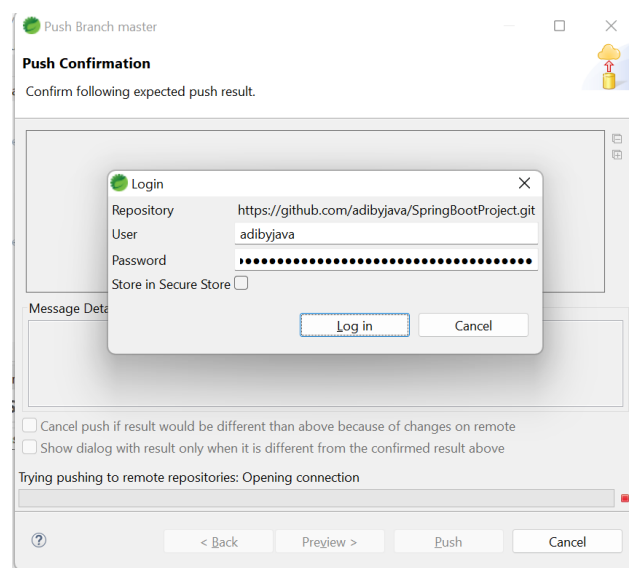
Make sure to copy your personal access token now. You won't be able to see it again!

✓ ghp_daKLHYmpBtyZy1NVTEryu6sr9mc17N3SEV0J

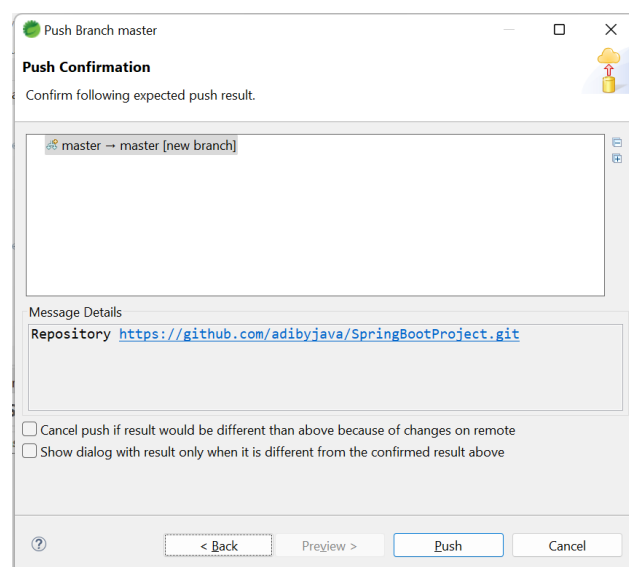
Delete

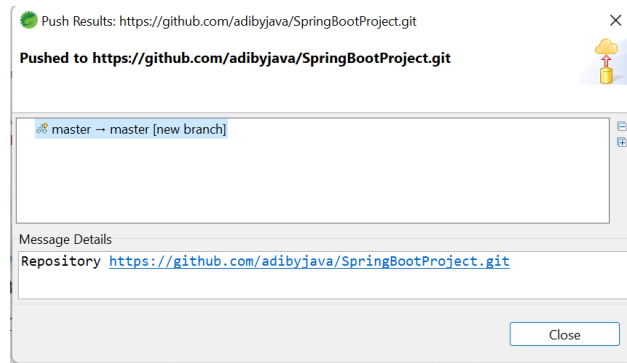
Personal access tokens function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#).

Copy the generated token and use it as password.



Click on **Push**





Go to github.com

adibyjava / SpringBootProject Public

Unwatch 1 Fork 0 Star 0

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

master 1 branch 0 tags

Go to file Add file Code

asdasari first file update 64a0be7 1 hour ago 1 commit

.mvn/wrapper	first file update	1 hour ago
src	first file update	1 hour ago
.gitignore	first file update	1 hour ago
mvnw	first file update	1 hour ago
mvnw.cmd	first file update	1 hour ago
pom.xml	first file update	1 hour ago

Help people interested in this repository understand your project by adding a README. [Add a README](#)

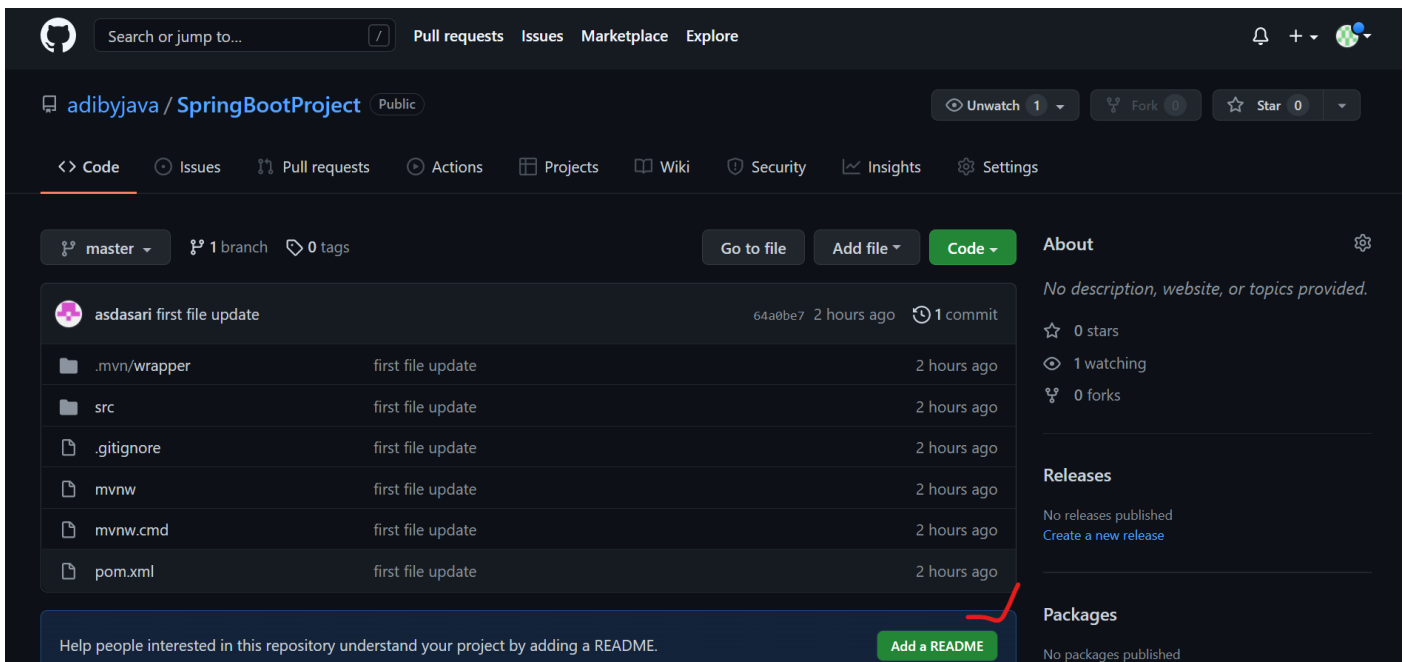
About
No description, website, or topics provided.
0 stars
1 watching
0 forks

Releases
No releases published
[Create a new release](#)

Packages
No packages published

Performing Pull Operation

Step 1: Add a README file in git.



adibbyjava / SpringBootProject Public

Unwatch 1 Fork 0 Star 0

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

master 1 branch 0 tags

Go to file Add file Code

asdasari first file update 64a0be7 2 hours ago 1 commit

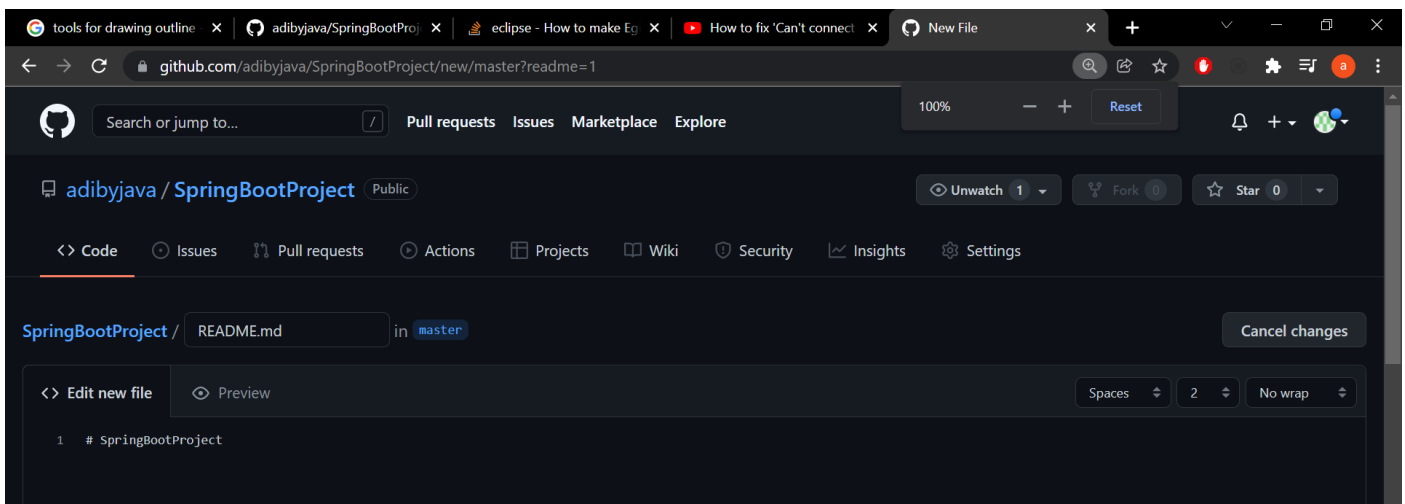
File	Update	Time
.mvn/wrapper	first file update	2 hours ago
src	first file update	2 hours ago
.gitignore	first file update	2 hours ago
mvnw	first file update	2 hours ago
mvnw.cmd	first file update	2 hours ago
pom.xml	first file update	2 hours ago

Help people interested in this repository understand your project by adding a README. [Add a README](#)

About: No description, website, or topics provided. 0 stars, 1 watching, 0 forks.

Releases: No releases published. [Create a new release](#)

Packages: No packages published



tools for drawing outline x adibbyjava/SpringBootProj x eclipse - How to make Eg x How to fix 'Can't connect x New File x

github.com/adibbyjava/SpringBootProject/new/master?readme=1

100% Reset

adibbyjava / SpringBootProject Public

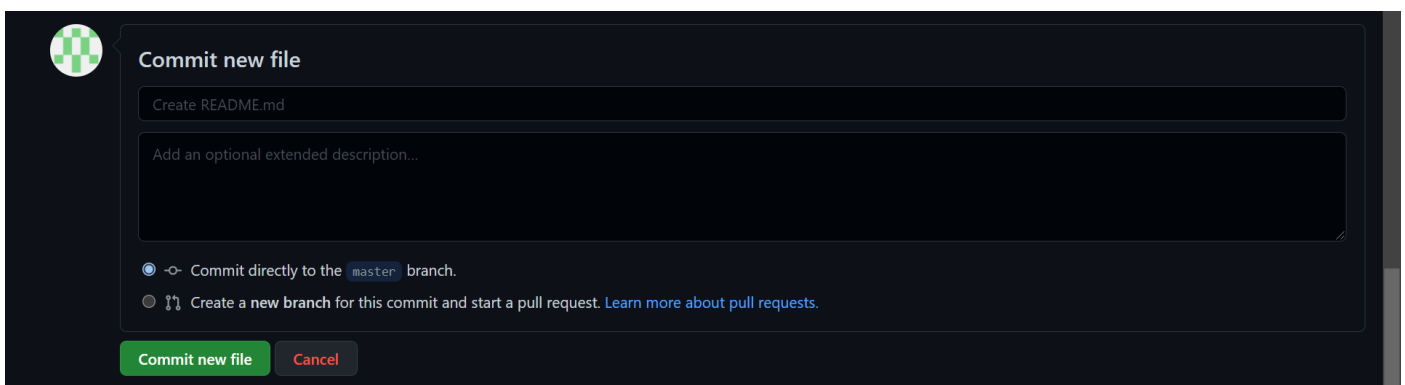
Unwatch 1 Fork 0 Star 0

Code Issues Pull requests Actions Projects Wiki Security Insights Settings

SpringBootProject / README.md in master Cancel changes

Edit new file Preview Spaces 2 No wrap

1 # SpringBootProject



Commit new file

Create README.md

Add an optional extended description...

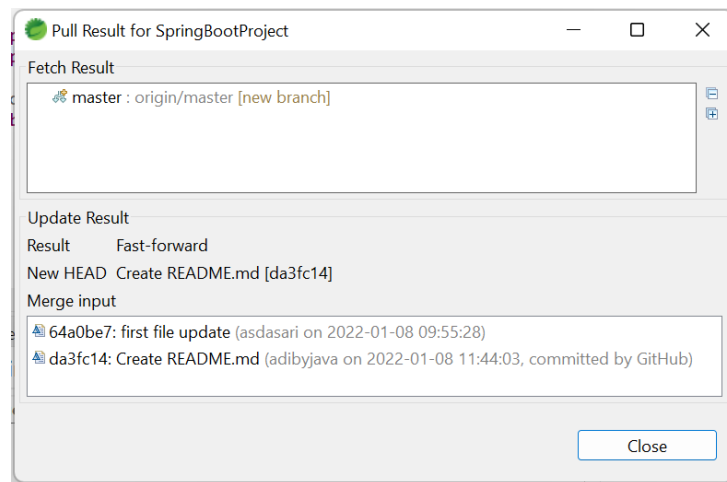
☒ Commit directly to the master branch.

☐ Create a new branch for this commit and start a pull request. [Learn more about pull requests.](#)

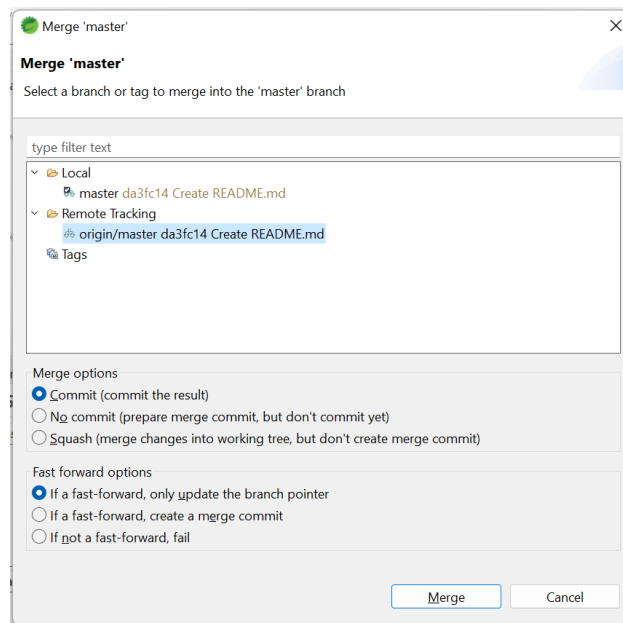
Commit new file Cancel

Step 2: Perform pull operation on sts/eclipse.

Right click on project -> choose Team -> Select pull.



Then Right click on project -> choose **Team** -> **Merge...** to update local from remote




SpringBootProject [boot] [SpringBootProject master]

- > src/main/java
- > src/main/resources
- > src/test/java
- > JRE System Library [JavaSE-15]
- > Maven Dependencies
- > src
- target
- HELP.md
- mvnw
- mvnw.cmd
- pom.xml
- README.md

Version Management

This symbol indicates that file is up to date in both local and remote repository.

 SampleRunner.java

Update the SampleRunner file with some changes.


```
package com.seshu.runner;

import org.springframework.boot.CommandLineRunner;
import org.springframework.stereotype.Component;

@Component
public class SampleRunner implements CommandLineRunner{

    @Override
    public void run(String... args) throws Exception {
        System.out.println("Sample Runner...");
        System.out.println("Welcome to spring boot...");
    }
}
```

You can find different symbol here that indicates that there are some modifications are done in this file but not updated in local and remote repository.

 > SampleRunner.java


Add a new file.

```
package com.seshu.model;

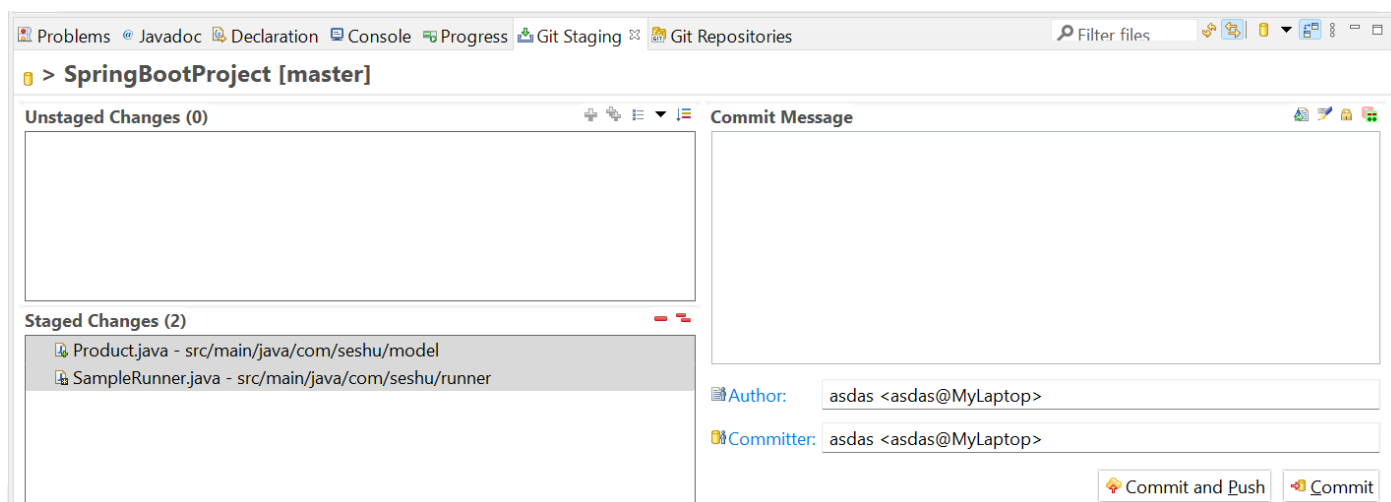
public class Product {

}
```

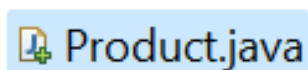
Here, the symbol indicates it is a new file is added in workspace but not available in local and remote repository.

 Product.java

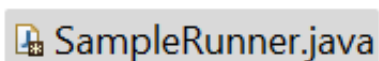
Move from Unstaged Changes area to **Staged Changes** area.



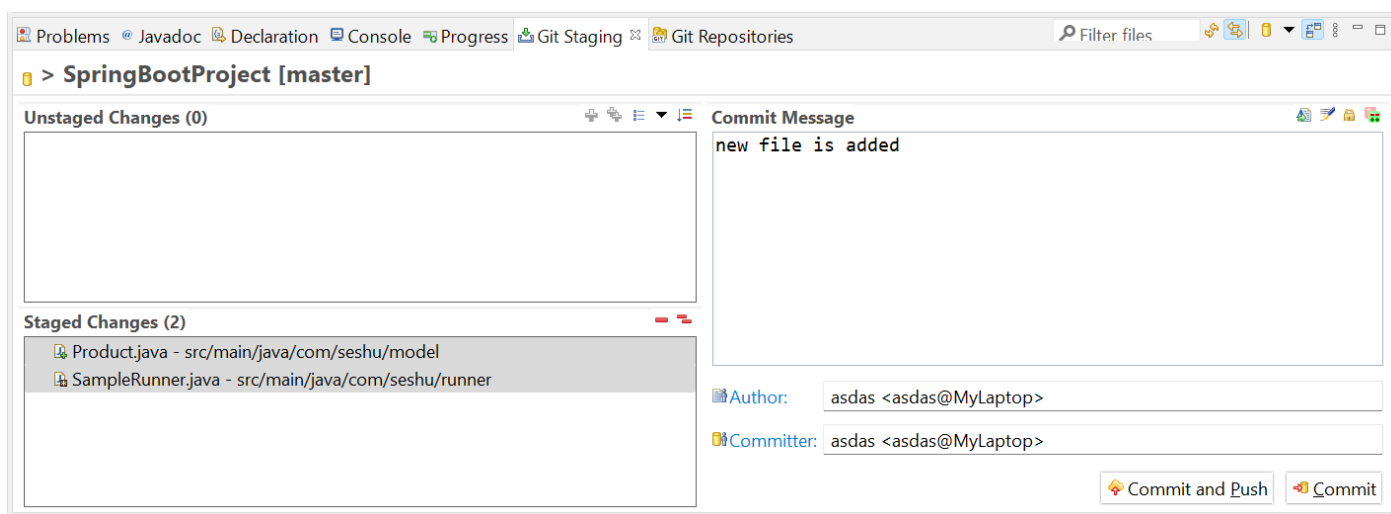
Here, the symbol indicates, that a new file is added to Staged Area but not available in local and remote repository.

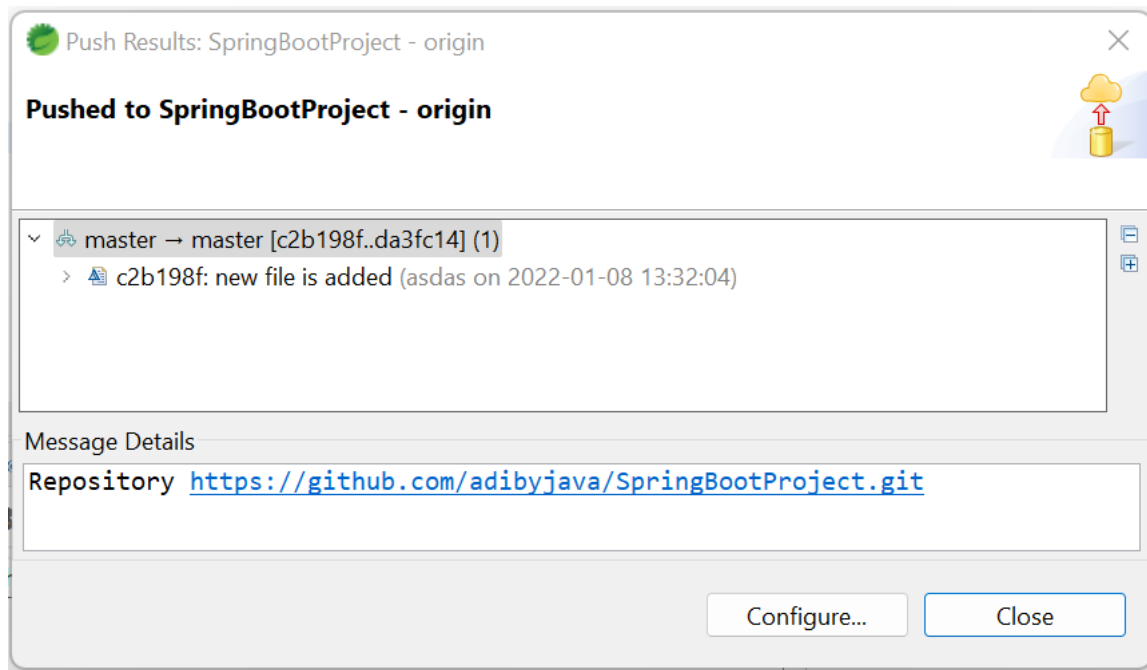


Here, the symbol indicates, that file is already existed in local and remote repository but with new modifications



Write Commit Message and perform **Commit and Push**





SpringBootProject [boot] [SpringBootProject]

- src/main/java
 - com.seshu
 - SpringBootProjectApplication.java
 - com.seshu.model
 - Product.java
 - com.seshu.runner
 - SampleRunner.java

Go to git.com and refresh the project to see updates

asdas and asdas new file is added ✓		c2b198f 2 minutes ago	🕒 3 commits
📁 .mvn/wrapper	first file update	4 hours ago	
📁 src	new file is added	2 minutes ago	
📄 .gitignore	first file update	4 hours ago	
📄 README.md	Create README.md	2 hours ago	
📄 mvnw	first file update	4 hours ago	
📄 mvnw.cmd	first file update	4 hours ago	
📄 pom.xml	first file update	4 hours ago	

Checking History of files in Eclipse

Update SampleRunner and perform Commit and Push

```
package com.seshu.runner;

import org.springframework.boot.CommandLineRunner;
import org.springframework.stereotype.Component;

@Component
public class SampleRunner implements CommandLineRunner{

    @Override
    public void run(String... args) throws Exception {
        System.out.println("Sample Runner...");
        System.out.println("Welcome to spring boot...");
        int x = 10;
        int y = 20;
        System.out.println(x+y);
    }
}
```

To check how many times a file is modified, then we can find by checking history.

Right click on a file -> Team -> Show in History.

Id	Message	Author	Authored Date	Committer	Committed Date
f952da9	master origin/master HEAD update SampleRunner	asdas	2 seconds ago	asdas	2 seconds ago
c2b198f	new file is added	asdas	10 hours ago	asdas	10 hours ago
64a0be7	first file update	asdasari	13 hours ago	asdasari	13 hours ago

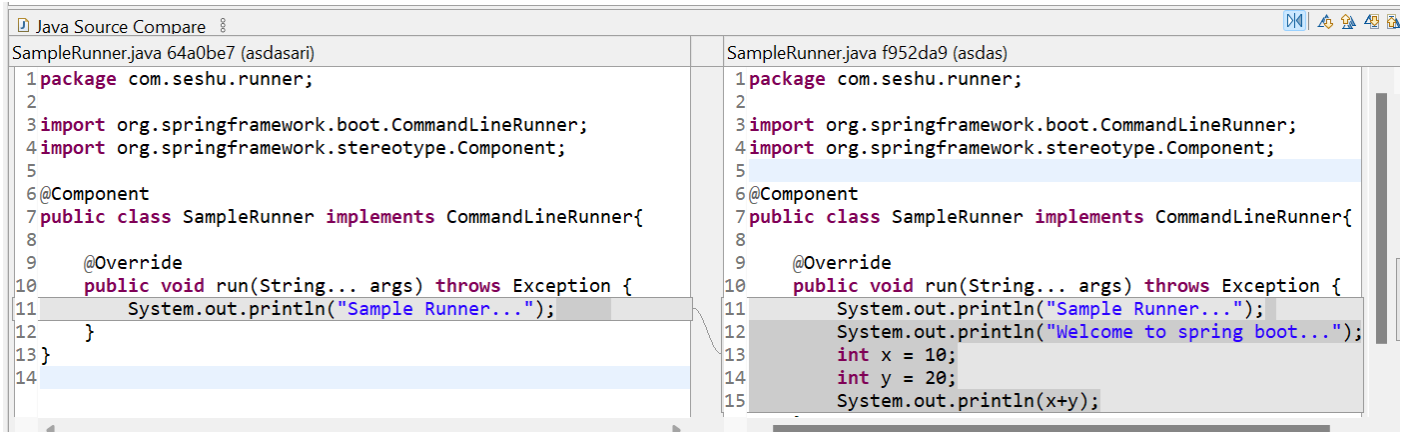
commit f952da984f4599d65ac775fac69389a778cb8b81
 Author: asdas <asdas@MyLaptop> 2022-01-08 23:13:43
 Committer: asdas <asdas@MyLaptop> 2022-01-08 23:13:43
 Parent: c2b198fcb7393f386b7381f755296882f20aca19 (new file is added)
 Branches: master, origin/master

update SampleRunner

To compare 2 files, you can select files by using ctrl + click on files.

Id	Message	Author	Authored Date	Committer	Committed Date
f952da9	master origin/master HEAD	asdas	2 seconds ago	asdas	2 seconds ago
c2b198f	new file is added	asdas	10 hours ago	asdas	10 hours ago
64a0be7	first file update	asdasari	13 hours ago	asdasari	13 hours ago

- Open All in Commit Viewers
- Compare with Each Other
- Show Unified Diff
- Revert Commit
- Import Changed Projects
- Copy Commit Id Ctrl+C



Java Source Compare

SampleRunner.java 64a0be7 (asdasari)

```
1 package com.seshu.runner;
2
3 import org.springframework.boot.CommandLineRunner;
4 import org.springframework.stereotype.Component;
5
6 @Component
7 public class SampleRunner implements CommandLineRunner{
8
9     @Override
10    public void run(String... args) throws Exception {
11        System.out.println("Sample Runner...");
12    }
13 }
14
```

SampleRunner.java f952da9 (asdas)

```
1 package com.seshu.runner;
2
3 import org.springframework.boot.CommandLineRunner;
4 import org.springframework.stereotype.Component;
5
6 @Component
7 public class SampleRunner implements CommandLineRunner{
8
9     @Override
10    public void run(String... args) throws Exception {
11        System.out.println("Sample Runner...");
12        System.out.println("Welcome to spring boot...");
13        int x = 10;
14        int y = 20;
15        System.out.println(x+y);
16    }
17 }
```


Removing Modifications

To remove any modification, we perform Reset.

Add some changes.

```
package com.seshu.runner;

import org.springframework.boot.CommandLineRunner;
import org.springframework.stereotype.Component;

@Component
public class SampleRunner implements CommandLineRunner{

    @Override
    public void run(String... args) throws Exception {
        System.out.println("Sample Runner...");
        System.out.println("Welcome to spring boot...");
        int x = 10;
        int y = 20;
        System.out.println(x+y);

        System.out.println("hello");
        String name = "Jones";
    }
}
```

Go to Git Repository view

-> Branches

-> Remote Tracking

-> right click on origin/master

->Reset

