# LAB # 1

## Introduction to GitHub

## OBJECTIVE

Introduction to GitHub by creating Git repository and cloning its configuration to eclipse project.

**You will learn about:**

- Basics of how GitHub works.

GitHub allows multiple developers to work on a single project at the same time, reduces the risk of duplicative or conflicting work, and can help decrease production time. With GitHub, developers can build code, track changes, and innovate solutions to problems that might arise during the site development process simultaneously. Non-developers can also use it to create, edit, and update website content.

Some of the common terms teams will need to understand when using GitHub are:

**Repository**: Every project on GitHub is called repository. It is a folder for your project that contains all files and their revision histories.

**Branch**: a workspace in which you can make changes that won't affect the live site.

**Commit Changes**: a saved record of a change made to a file within the repository.

**Pull Request (PR)**: the way to ask for changes made to a branch to be merged into another branch that also allows for multiple users to see, discuss and review work being done.

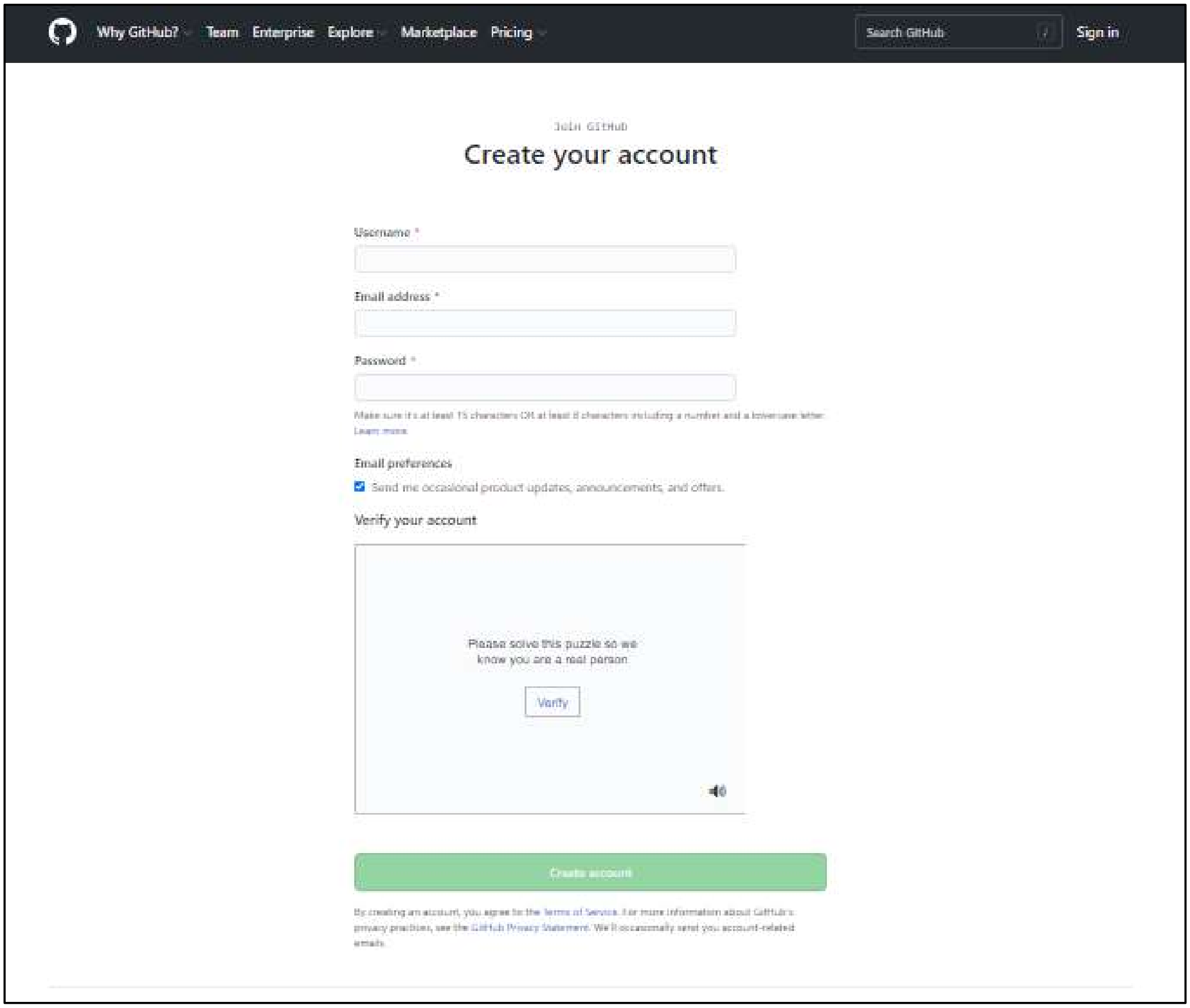
**Merge**: after a pull request is approved, the commit will be pulled in (or merged) from one branch to another and then, deployed on the live site

**Issues**: how work is tracked when using git. Issues allow users to report new tasks and content fixes, as well as allows users to track progress on a project board from beginning to end of a specific project.

### STEPS OF CREATING GIT REPOSITORY:

**Step # 01**: Create a GitHub account by clicking on link and sign up.

**https://github.com/**



Join GitHub

Create your account

Username *

Email address *

Password *

Make sure it's at least 15 characters OR at least 8 characters including a number and a lowercase letter. Learn more

Email preferences

☑ Send me occasional product updates, announcements, and offers.

Verify your account

Please solve this puzzle so we know you are a real person

Verify

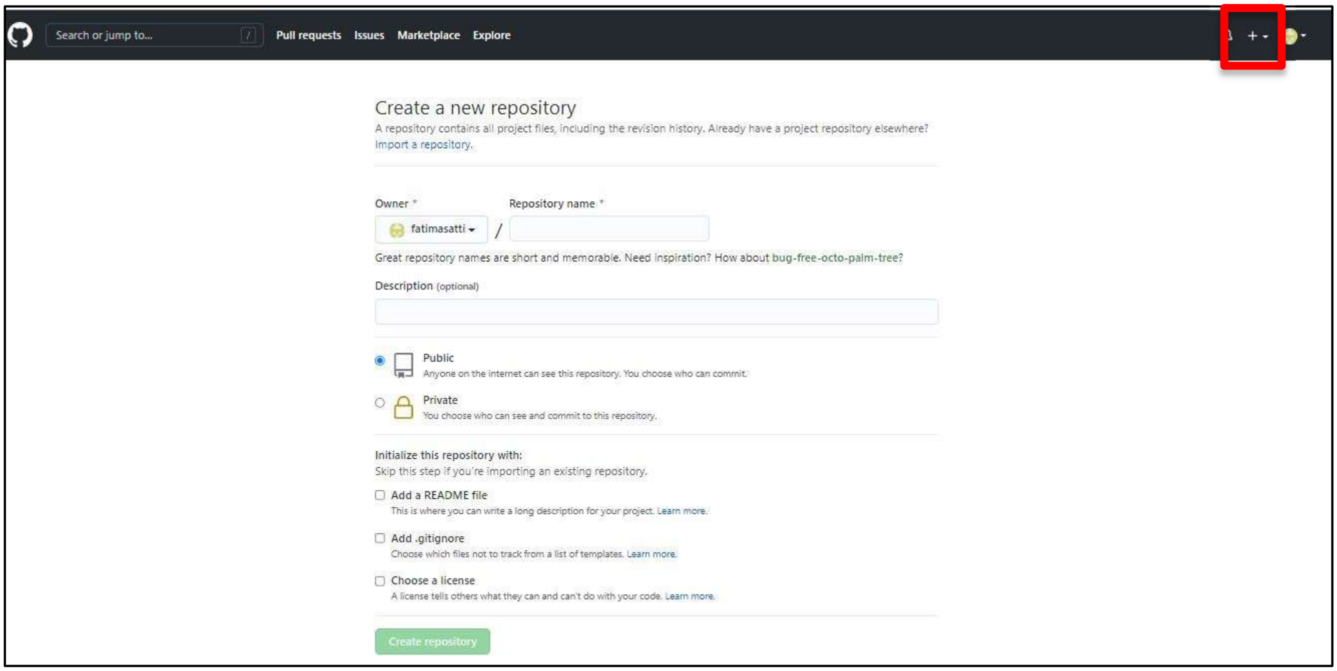
Create account

By creating an account, you agree to the Terms of Service. For more information about GitHub's privacy practices, see the GitHub Privacy Statement. We'll occasionally send you account-related emails.

**<u>Step # 2:</u> Create a repository by clicking (+) sign or by clicking the link below:**

**https://github.com/new**

- Enter your Repository name.
- You can also add description (optional).
- Choose whether you want to make your repository Public or Private.
- Add a README file (optional).
- Click on Create repository.



Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? Import a repository.

Owner * fatimasatti / Repository name *

Great repository names are short and memorable. Need inspiration? How about bug-free-octo-palm-tree?

Description (optional)

● Public
Anyone on the internet can see this repository. You choose who can commit.

○ Private
You choose who can see and commit to this repository.

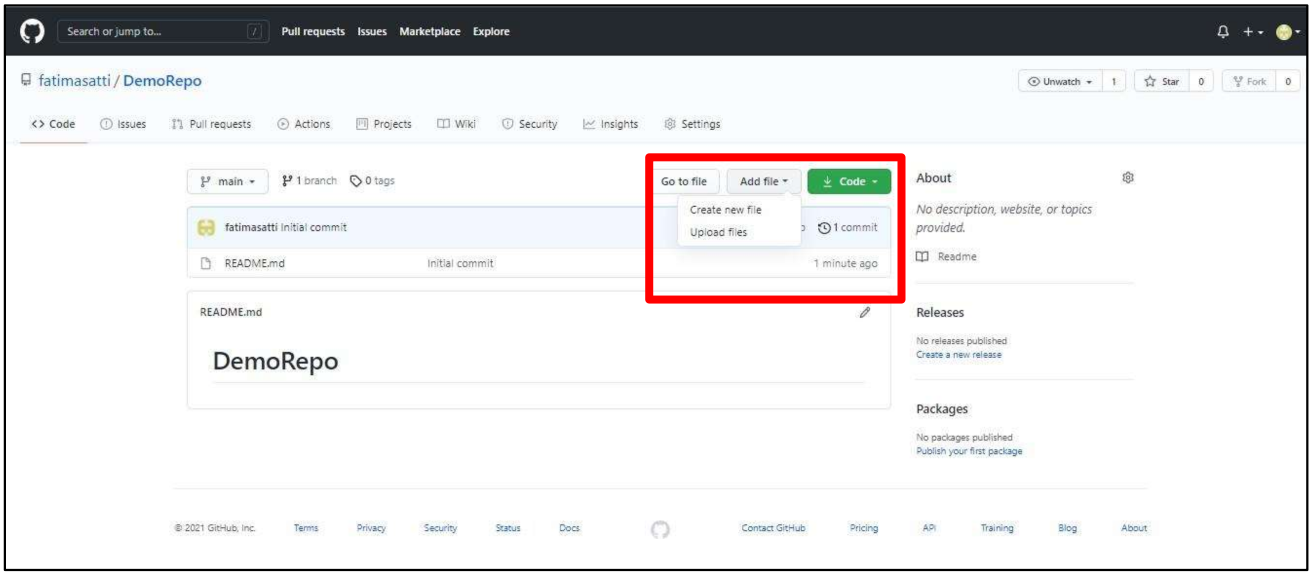
Initialize this repository with:
Skip this step if you're importing an existing repository.

□ Add a README file
This is where you can write a long description for your project. Learn more.

□ Add .gitignore
Choose which files not to track from a list of templates. Learn more.

□ Choose a license
A license tells others what they can and can't do with your code. Learn more.

**Step # 3:** **Upload files from any eclipse workplace folder and commit changes.**



fatimasatti Initial commit — 1 commit

README.md — Initial commit — 1 minute ago

README.md

DemoRepo

About

No description, website, or topics provided.

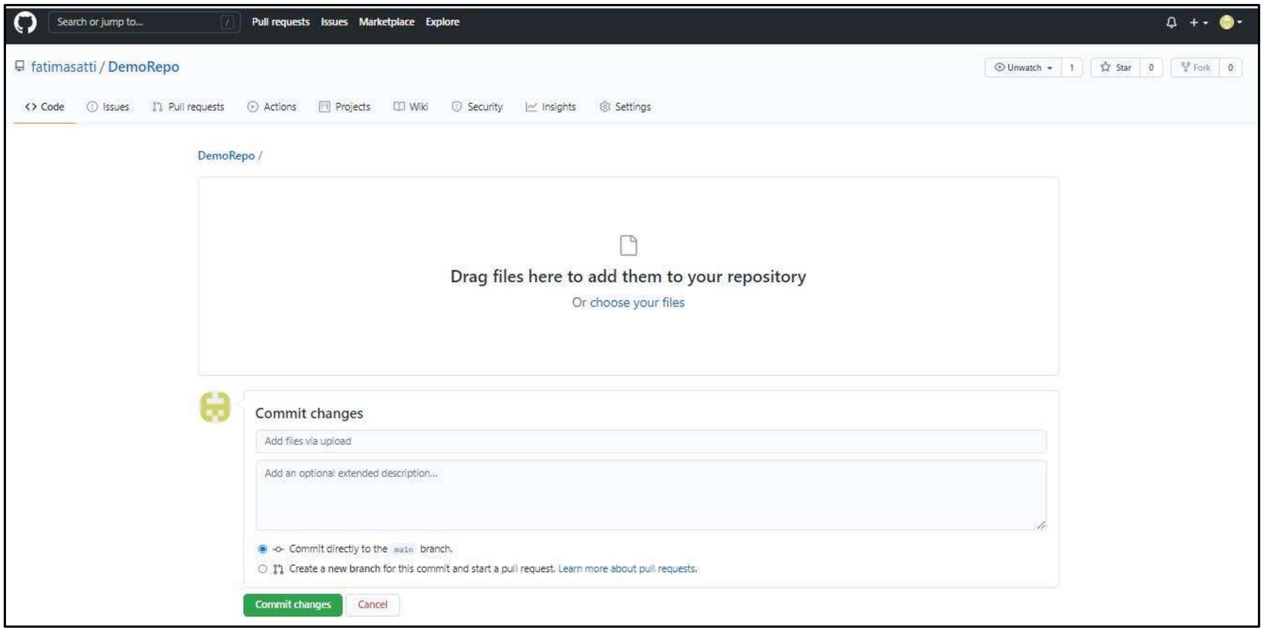
Readme

Releases

No releases published
Create a new release

Packages

No packages published
Publish your first package



DemoRepo /

Drag files here to add them to your repository

Or choose your files

Commit changes

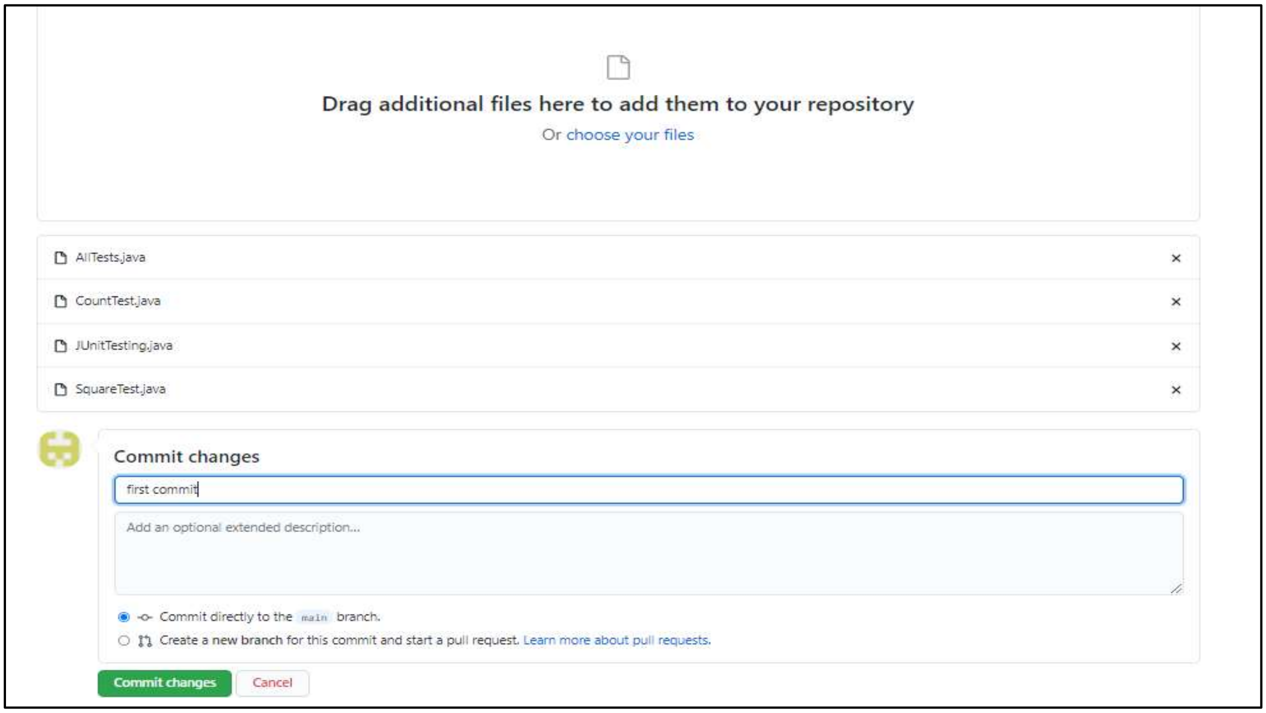
Add files via upload

Add an optional extended description...

● Commit directly to the `main` branch.

○ Create a new branch for this commit and start a pull request. Learn more about pull requests.

Commit changes Cancel



Drag additional files here to add them to your repository

Or choose your files

AllTests.java ×

CountTest.java ×

JUnitTesting.java ×

SquareTest.java ×

Commit changes

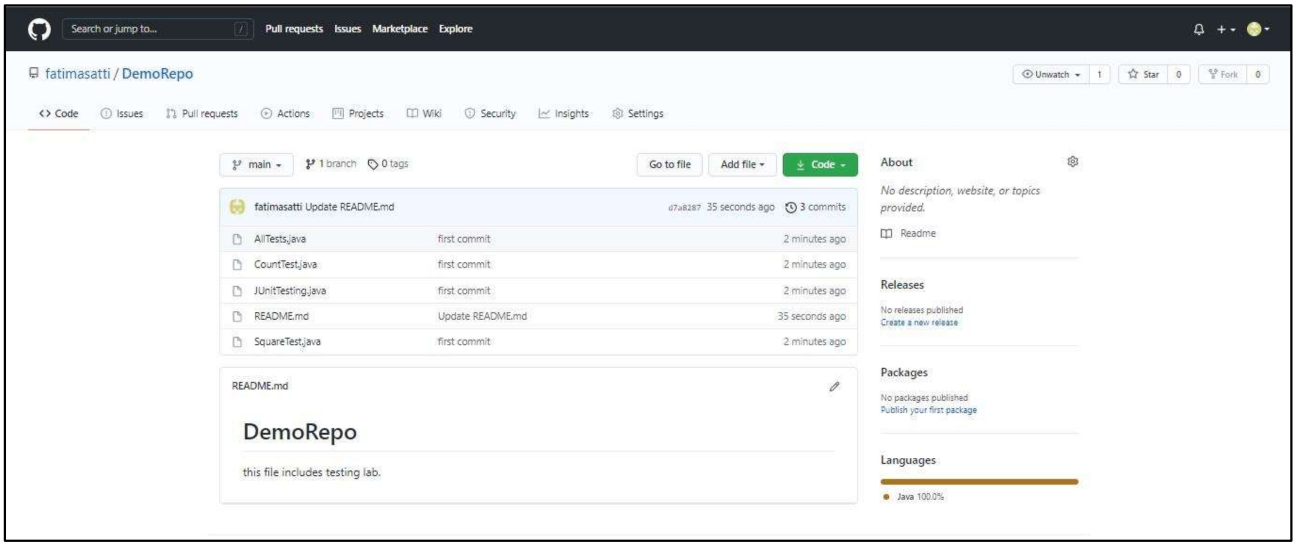
first commit

Add an optional extended description...

● Commit directly to the `main` branch.

○ Create a new branch for this commit and start a pull request. Learn more about pull requests.

Commit changes Cancel



fatimasatti Update README.md d7a8287 35 seconds ago 3 commits

| | | |
|---|---|---|
| AllTests.java | first commit | 2 minutes ago |
| CountTest.java | first commit | 2 minutes ago |
| JUnitTesting.java | first commit | 2 minutes ago |
| README.md | Update README.md | 35 seconds ago |
| SquareTest.java | first commit | 2 minutes ago |

README.md

DemoRepo

this file includes testing lab.

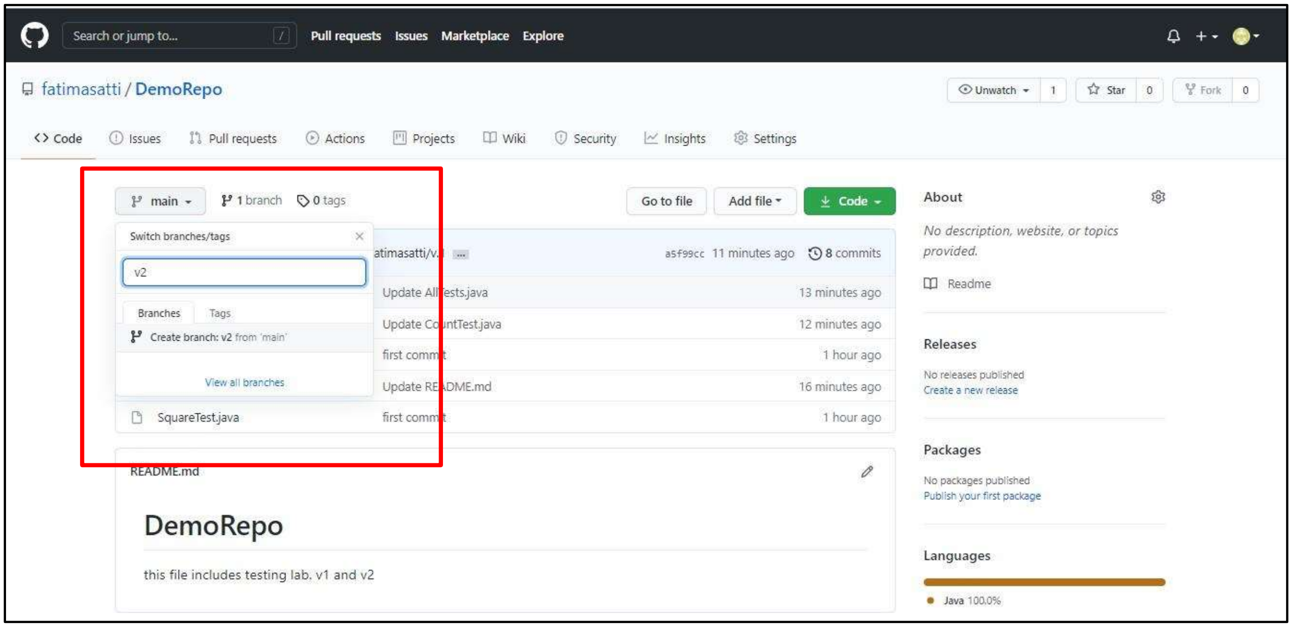
No description, website, or topics provided.

No releases published
Create a new release

No packages published
Publish your first package

You can now see that all the files are uploaded in your current repository.

## Step # 4: Create a new branch and make changes in any file. Perform Commit, Pull requests and merge.



v2

Create branch: v2 from 'main'

atimasatti/v... a5f99cc 11 minutes ago 8 commits

| | | |
|---|---|---|
| | Update All...ests.java | 13 minutes ago |
| | Update Co...ntTest.java | 12 minutes ago |
| | first comm... | 1 hour ago |
| | Update RE...DME.md | 16 minutes ago |
| SquareTest.java | first comm... | 1 hour ago |

README.md

DemoRepo

this file includes testing lab. v1 and v2

No description, website, or topics provided.

No releases published
Create a new release

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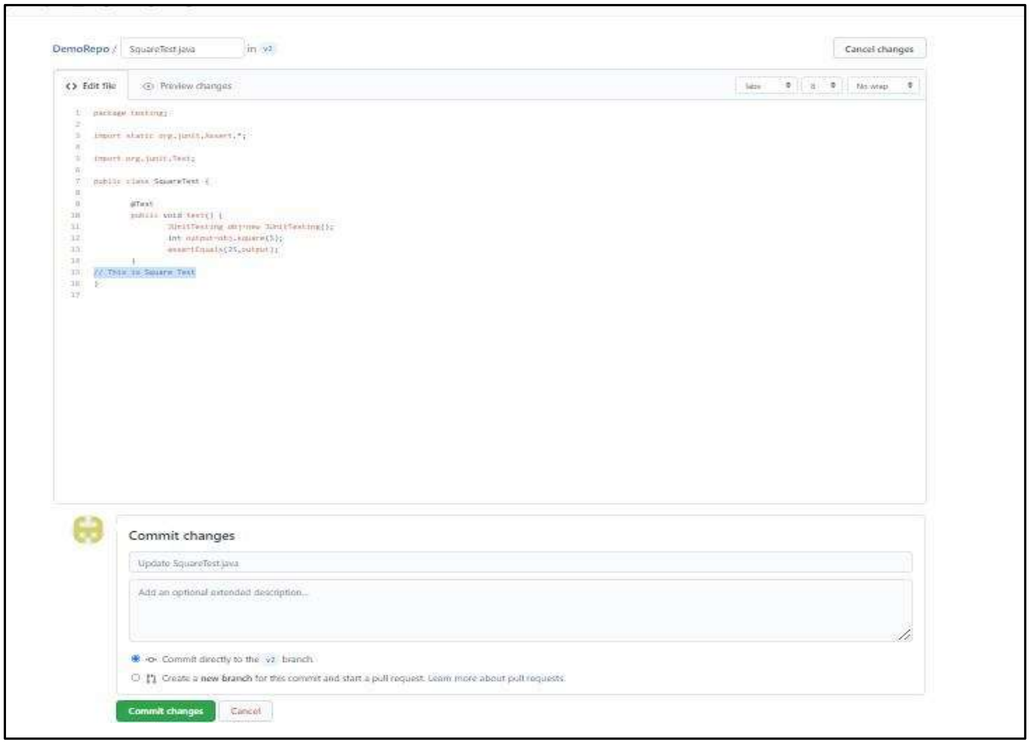
(In above screeshot, you can see a branch named **V2** is created).

Update any file in V2, then select Commit changes.



```
package testing;

import static org.junit.Assert.*;

import org.junit.Test;

public class SquareTest {

        @Test
        public void test() {
                JUnitTesting obj=new JUnitTesting();
                int output=obj.square(5);
                assertEquals(25,output);
        }
// This is Square Test
}

```

Commit changes

Update SquareTest.java

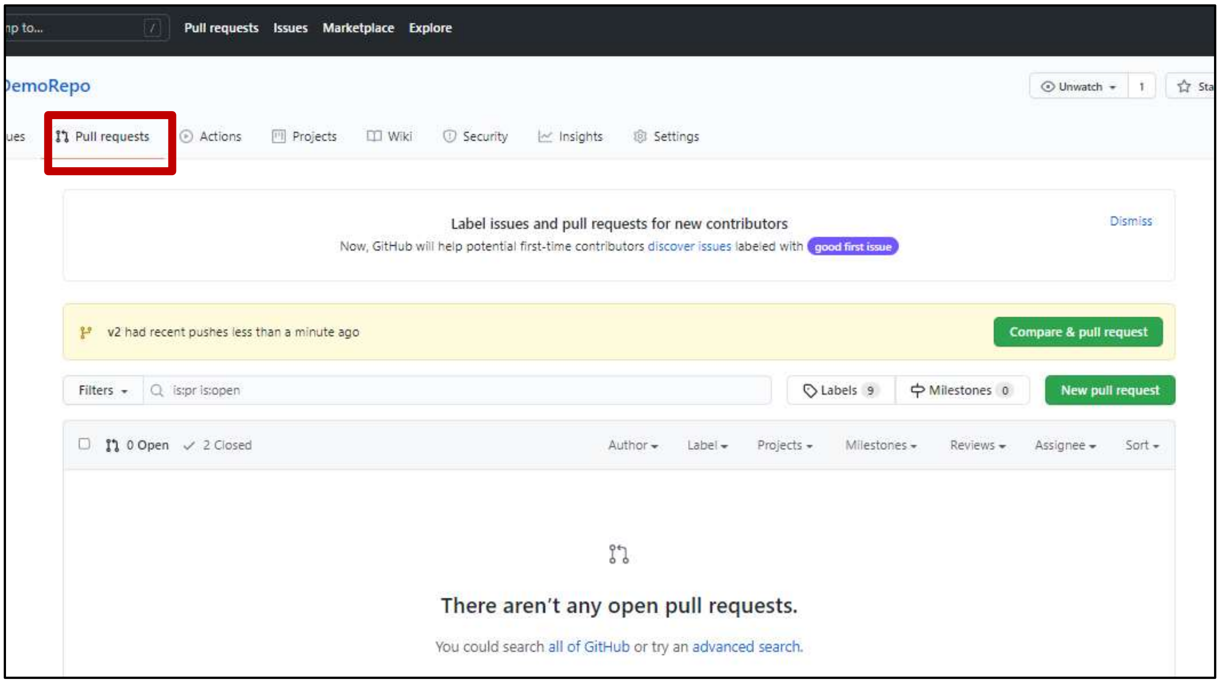
Add an optional extended description...

● Commit directly to the v2 branch.

○ Create a new branch for this commit and start a pull request. Learn more about pull requests.

**Go to Pull Requests tab, select Compare and Pull request.**

// This will compare your V2 edited file with main branch and then will commit the changes.



Label issues and pull requests for new contributors

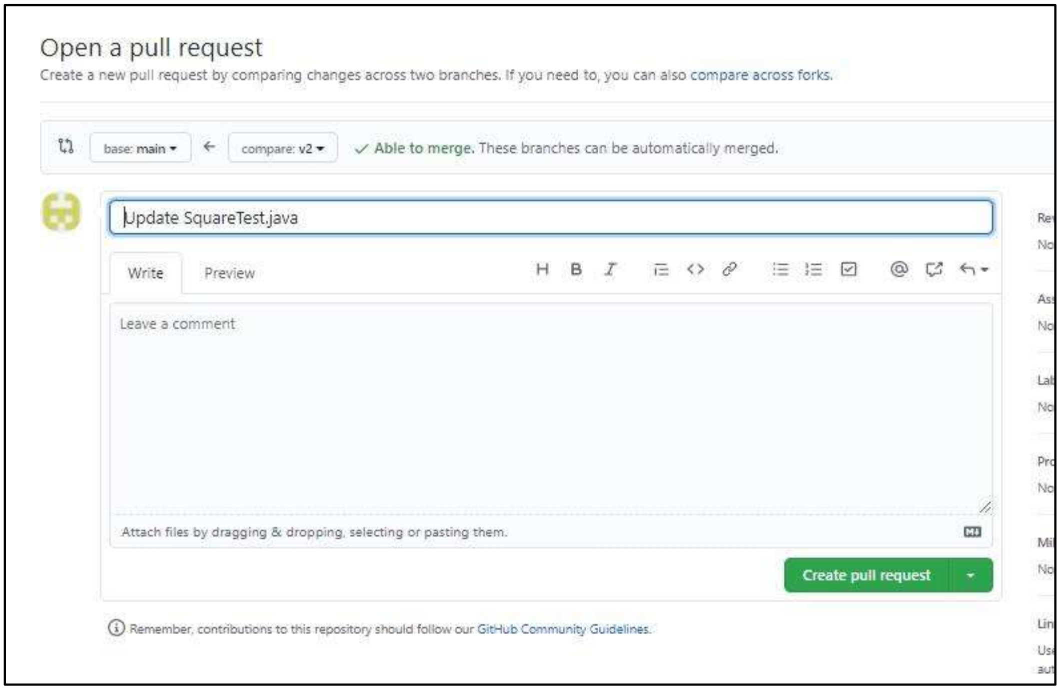
Now, GitHub will help potential first-time contributors discover issues labeled with good first issue

v2 had recent pushes less than a minute ago

There aren't any open pull requests.

You could search all of GitHub or try an advanced search.

## Enter create pull request



Open a pull request

Create a new pull request by comparing changes across two branches. If you need to, you can also compare across forks.

base: main ← compare: v2 ✓ Able to merge. These branches can be automatically merged.

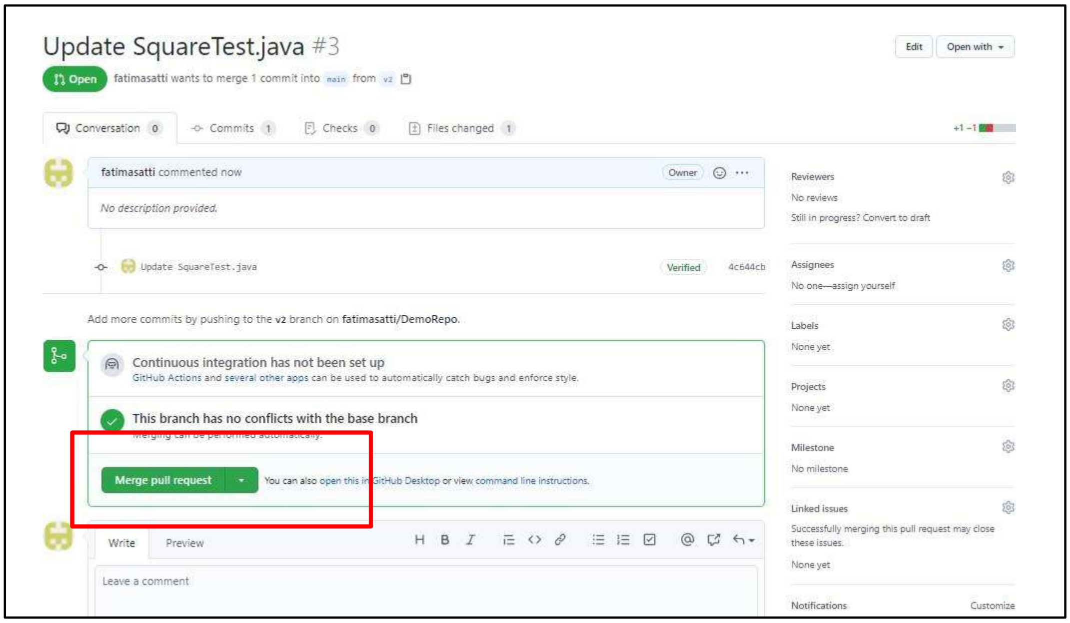
Update SquareTest.java

Leave a comment

Attach files by dragging & dropping, selecting or pasting them.

Remember, contributions to this repository should follow our GitHub Community Guidelines.

## Select Merge Pull request



Update SquareTest.java #3

Open fatimasatti wants to merge 1 commit into main from v2

fatimasatti commented now

No description provided.

Update SquareTest.java Verified 4c644cb

Add more commits by pushing to the v2 branch on fatimasatti/DemoRepo.

Continuous integration has not been set up

GitHub Actions and several other apps can be used to automatically catch bugs and enforce style.

This branch has no conflicts with the base branch

Merging can be performed automatically.

You can also open this in GitHub Desktop or view command line instructions.

Leave a comment

Reviewers: No reviews. Still in progress? Convert to draft

Assignees: No one—assign yourself

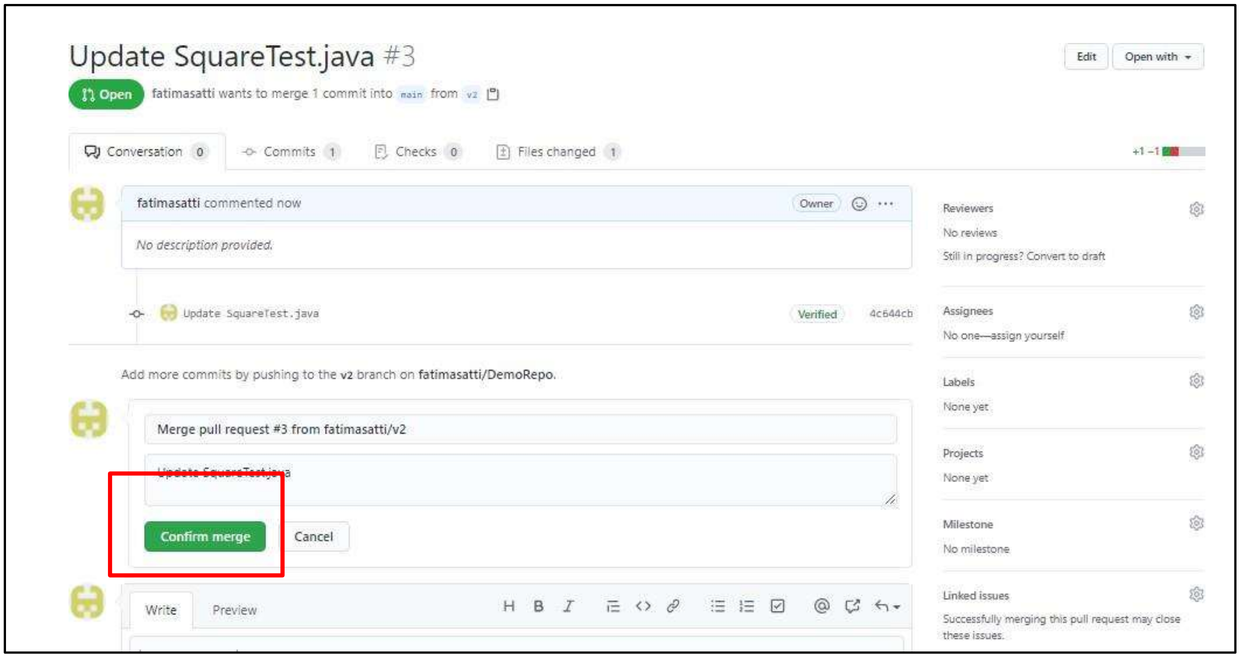
Labels: None yet

Projects: None yet

Milestone: No milestone

Linked issues: Successfully merging this pull request may close these issues. None yet

## Confirm Merge



Update SquareTest.java #3

Open fatimasatti wants to merge 1 commit into main from v2

fatimasatti commented now

No description provided.

Update SquareTest.java Verified 4c644cb

Add more commits by pushing to the v2 branch on fatimasatti/DemoRepo.

Merge pull request #3 from fatimasatti/v2

Update SquareTest.java

Reviewers: No reviews. Still in progress? Convert to draft

Assignees: No one—assign yourself

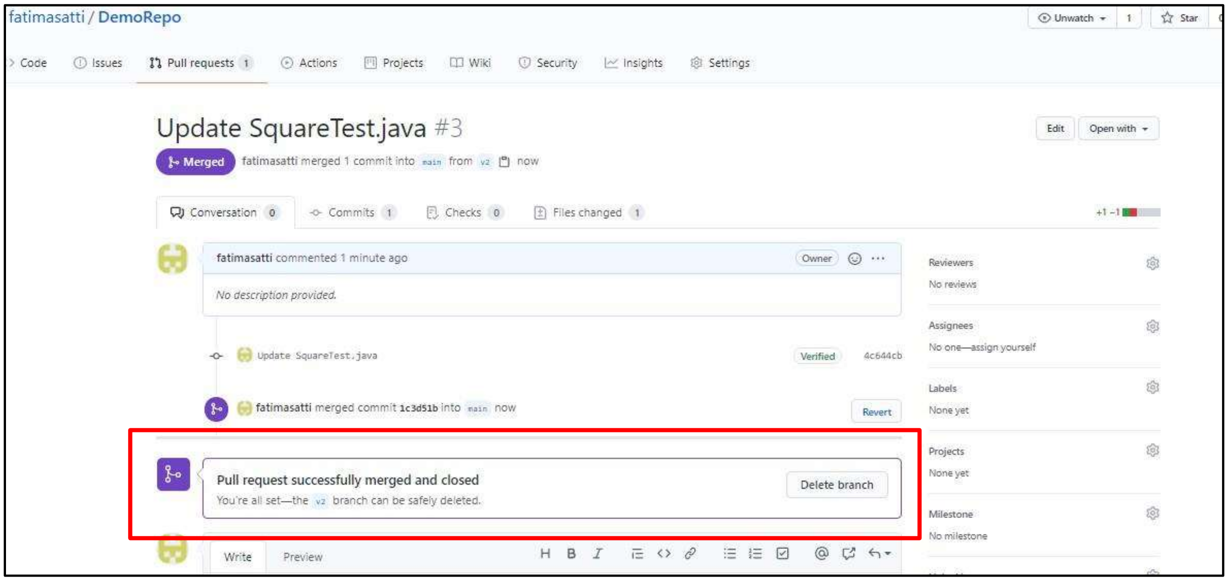
Labels: None yet

Projects: None yet

Milestone: No milestone

Linked issues: Successfully merging this pull request may close these issues.

**You can see that Pull request is successfully merged and closed.**



fatimasatti / DemoRepo

Update SquareTest.java #3

Merged fatimasatti merged 1 commit into main from v2 now

fatimasatti commented 1 minute ago

No description provided.

Update SquareTest.java Verified 4c644cb

fatimasatti merged commit 1c3d51b into main now

Pull request successfully merged and closed

You're all set—the v2 branch can be safely deleted.

Reviewers: No reviews

Assignees: No one—assign yourself

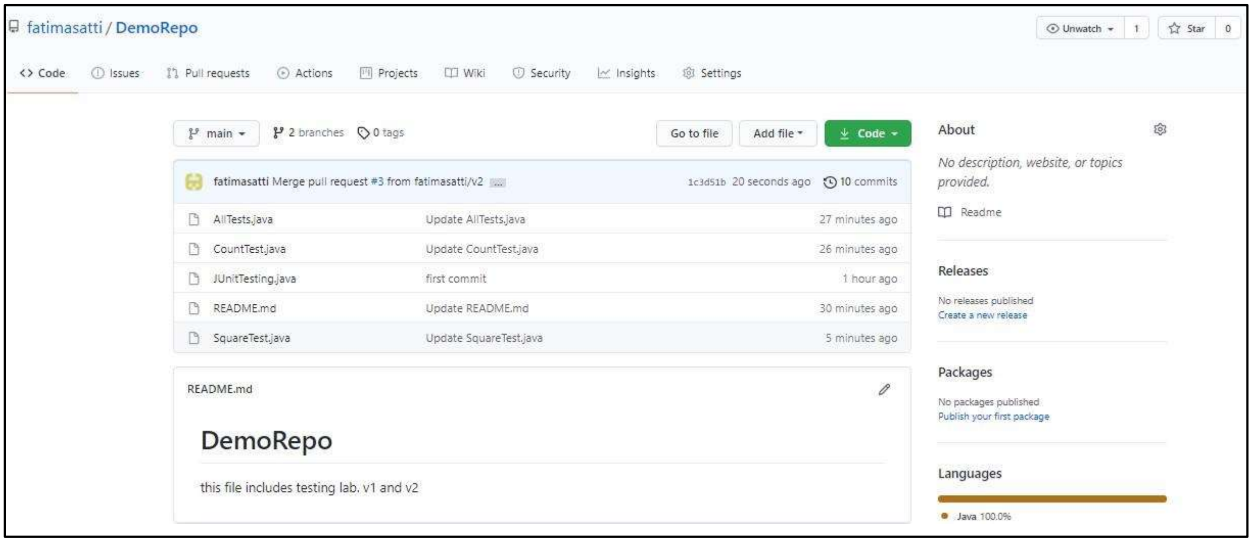
Labels: None yet

Projects: None yet

Milestone: No milestone

You can now delete V2 branch as it is successfully merged into main branch.

SquareTest file is now updated.



fatimasatti Merge pull request #3 from fatimasatti/v2 … 1c3d51b 20 seconds ago 10 commits

| | | |
|---|---|---|
| AllTests.java | Update AllTests.java | 27 minutes ago |
| CountTest.java | Update CountTest.java | 26 minutes ago |
| JUnitTesting.java | first commit | 1 hour ago |
| README.md | Update README.md | 30 minutes ago |
| SquareTest.java | Update SquareTest.java | 5 minutes ago |

No description, website, or topics provided.

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Create a new release

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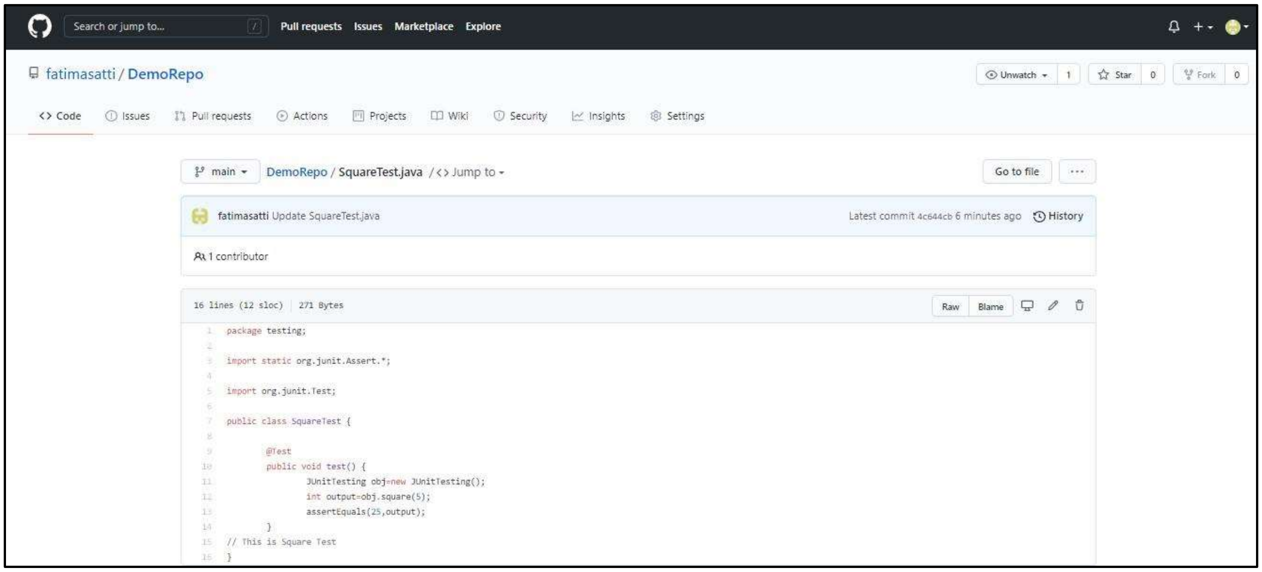
Publish your first package

README.md

DemoRepo

this file includes testing lab. v1 and v2



DemoRepo / SquareTest.java / <> Jump to

fatimasatti Update SquareTest.java Latest commit 4c644cb 6 minutes ago

1 contributor

16 lines (12 sloc) | 271 Bytes

```java
package testing;

import static org.junit.Assert.*;

import org.junit.Test;

public class SquareTest {

        @Test
        public void test() {
                JUnitTesting obj=new JUnitTesting();
                int output=obj.square(5);
                assertEquals(25,output);
        }
// This is Square Test
}
```

## Lab Task:

Create account on GitHub.

Upload any of your Java Project files and perform commit, push, pull and merge operations.