

Assignment 2: Automating Version Control and Code Collaboration of TE Mini Project with Git

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Aim: To Perform Code Collaboration of TE Mini Project using GIT workflow

Problem:

TechCo's development team is collaborating on a new feature for their application. However, multiple developers are working on the same parts of the codebase, causing merge conflicts, inconsistent commits, and errors in version control. The team struggles to manage branches effectively and maintain a clean history. The current workflow relies heavily on manual processes, making it difficult to track and resolve issues efficiently.

Implementation:

- Set up a Git repository for a project (either create a new project or use an existing one).
- Collaborate with a team member by creating multiple branches for different features.
- Implement the following:
 - Create a feature branch and make changes to the code.
 - Push changes to the remote repository.
 - Use a Git cheat sheet to commit, merge branches, and resolve conflicts.
 - Create a pull request (PR) and ensure code review processes are followed.

Step 1: Initialize a Git Repository and Push It to GitHub

1. Change directory to current project workspace directory

```
MINGW64:/d/amey/BTech/Sem6/Project/main project/attendance_manager_01
$ cd Sem6/Project/main project/attendance_manager_01
bash: cd: too many arguments

ameyg@Amey MINGW64 /d/amey/BTech
$ cd Sem6/Project/

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project
$ cd main project/attendance_manager_01
bash: cd: too many arguments

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project
$ cd main project
bash: cd: too many arguments

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project
$ ^C

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project
$ cd main\ project

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project
$ cd attendance_manager_01
bash: cd: attendance_manager_01: No such file or directory

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project
$ cd attendance_manager_01

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
$
```

Later transferred to Asmika/attendance_manager repository

2. SETUP: Configuring user information used across all local repositories

```
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
$ git config --global user.email "ameygaikwad1464@gmail.com"
```

3. SETUP & INIT: Configuring user information, initializing and cloning repositories

```
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
$ git init
Initialized empty Git repository in D:/amey/BTech/Sem6/Project/main project/attendance_manager_01/.git/

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$
```

4. STAGE & SNAPSHOT: Working with snapshots and the Git staging area

```
MINGW64:/d/amey/BTech/Sem6/Project/main project/attendance_manager_01
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .metadata
        README.md
        analysis_options.yaml
        android/
        ios/
        lib/
        linux/
        macos/
        pubspec.lock
        pubspec.yaml
        test/
        web/
        windows/

nothing added to commit but untracked files present (use "git add" to track)
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$
```

5. Add a file as it looks now to your next commit (stage)

```
MINGW64:/d/amey/BTech/Sem6/Project/main project/attendance_manager_01
windows/

nothing added to commit but untracked files present (use "git add" to track)
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$ git add .
warning: in the working copy of 'lib/screens/notifications_screen.dart', LF will
be replaced by CRLF the next time Git touches it
warning: in the working copy of 'lib/screens/profile_screen.dart', LF will be re
placed by CRLF the next time Git touches it
warning: in the working copy of 'linux/flutter/generated_plugin_registrant.cc',
LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'linux/flutter/generated_plugin_registrant.h', L
F will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'linux/flutter/generated_plugins.cmake', LF will
be replaced by CRLF the next time Git touches it
warning: in the working copy of 'macos/Flutter/GeneratedPluginRegistrant.swift',
LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'windows/flutter/generated_plugin_registrant.cc'
, LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'windows/flutter/generated_plugin_registrant.h',
LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'windows/flutter/generated_plugins.cmake', LF wi
ll be replaced by CRLF the next time Git touches it
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$
```

6. Commit your staged content as a new commit snapshot

```
MINGW64:/d/amey/BTech/Sem6/Project/main project/attendance_manager_01
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_man
ager_01 (master)
$ git commit -m "initial commit"
[master (root-commit) b7e827e] initial commit
136 files changed, 8120 insertions(+)
create mode 100644 .metadata
create mode 100644 README.md
create mode 100644 analysis_options.yaml
create mode 100644 android/.gitignore
create mode 100644 android/app/build.gradle
create mode 100644 android/app/src/debug/AndroidManifest.xml
create mode 100644 android/app/src/main/AndroidManifest.xml
create mode 100644 android/app/src/main/kotlin/com/example/attendance_ma
nager_00/MainActivity.kt
create mode 100644 android/app/src/main/res/drawable-v21/launch_backgrou
nd.xml
create mode 100644 android/app/src/main/res/drawable/launch_background.x
ml
create mode 100644 android/app/src/main/res/mipmap-hdpi/ic_launcher.png
create mode 100644 android/app/src/main/res/mipmap-mdpi/ic_launcher.png
create mode 100644 android/app/src/main/res/mipmap-xhdpi/ic_launcher.png
create mode 100644 android/app/src/main/res/mipmap-xxhdpi/ic_launcher.pn
g
create mode 100644 android/app/src/main/res/mipmap-xxxhdpi/ic_launcher.p
ng
create mode 100644 android/app/src/main/res/values-night/styles.xml
```

7. Transmit local branch commits to the remote repository branch

```
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_man
ager_01 (master)
$ git remote add origin https://github.com/ameygaikwad/attendance_manager
.git
```

8. Push to remote repo

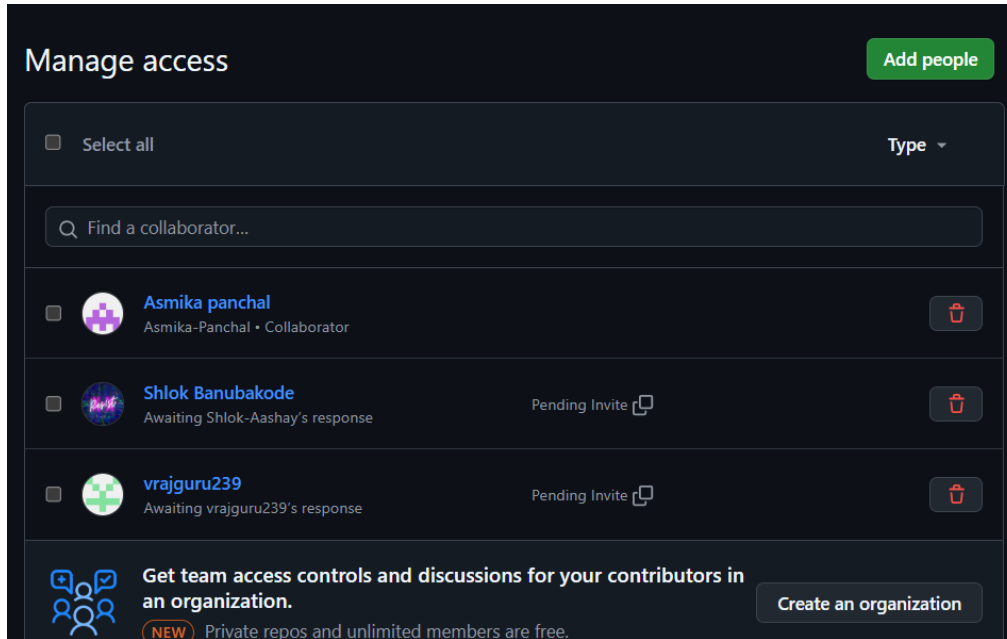
```
MINGW64:/d/amey/BTech/Sem6/Project/main project/attendance_manager_01
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$ git remote remove origin

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$ git remote add origin https://github.com/amey146/attendance_manager.git

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$ git push origin master
Enumerating objects: 186, done.
Counting objects: 100% (186/186), done.
Delta compression using up to 4 threads
Compressing objects: 100% (156/156), done.
Writing objects: 100% (186/186), 284.77 KiB | 9.19 MiB/s, done.
Total 186 (delta 26), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (26/26), done.
To https://github.com/amey146/attendance_manager.git
 * [new branch]      master -> master

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/main project/attendance_manager_01
(master)
$
```

9. Add collaborators



10. Make a feature branch “Login Page” and change current branch – created by Asmika Panchal -23101A2002

Make changes in feature branch and add all files to stage

Commit changes

```
MINGW64:/c:/Users/asmika/Desktop/temp git/attendance_manager

asmika@DESKTOP-4E22MD8 MINGW64 ~/Desktop/temp git/attendance_manager (master)
$ git checkout SCRUM-8-Login-page
Switched to branch 'SCRUM-8-Login-page'
Your branch is up to date with 'origin/SCRUM-8-Login-page'.

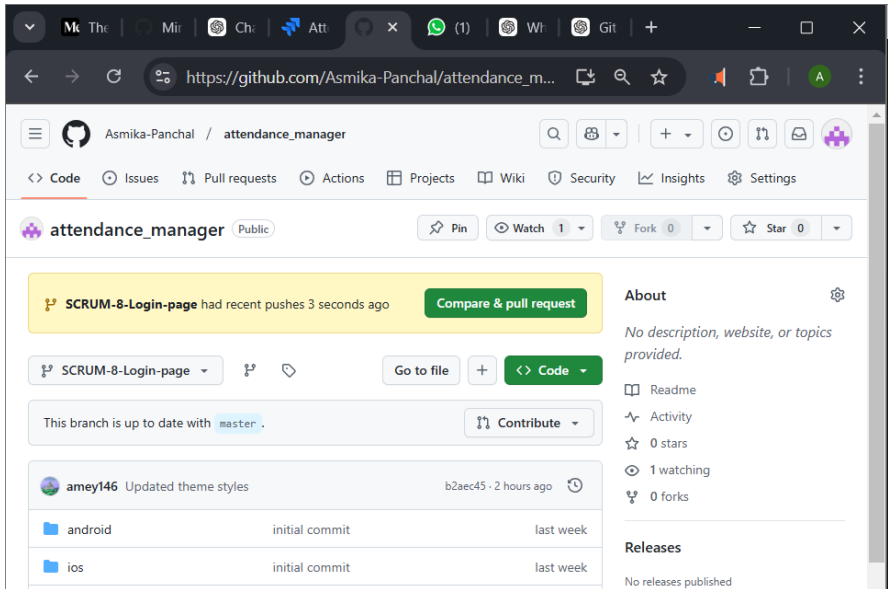
asmika@DESKTOP-4E22MD8 MINGW64 ~/Desktop/temp git/attendance_manager (SCRUM-8-Login-page)
$ git add .

asmika@DESKTOP-4E22MD8 MINGW64 ~/Desktop/temp git/attendance_manager (SCRUM-8-Login-page)
$ git commit -m "Updated the Login Page"
[SCRUM-8-Login-page fb6129b] Updated the Login Page
1 file changed, 2 insertions(+), 1 deletion(-)

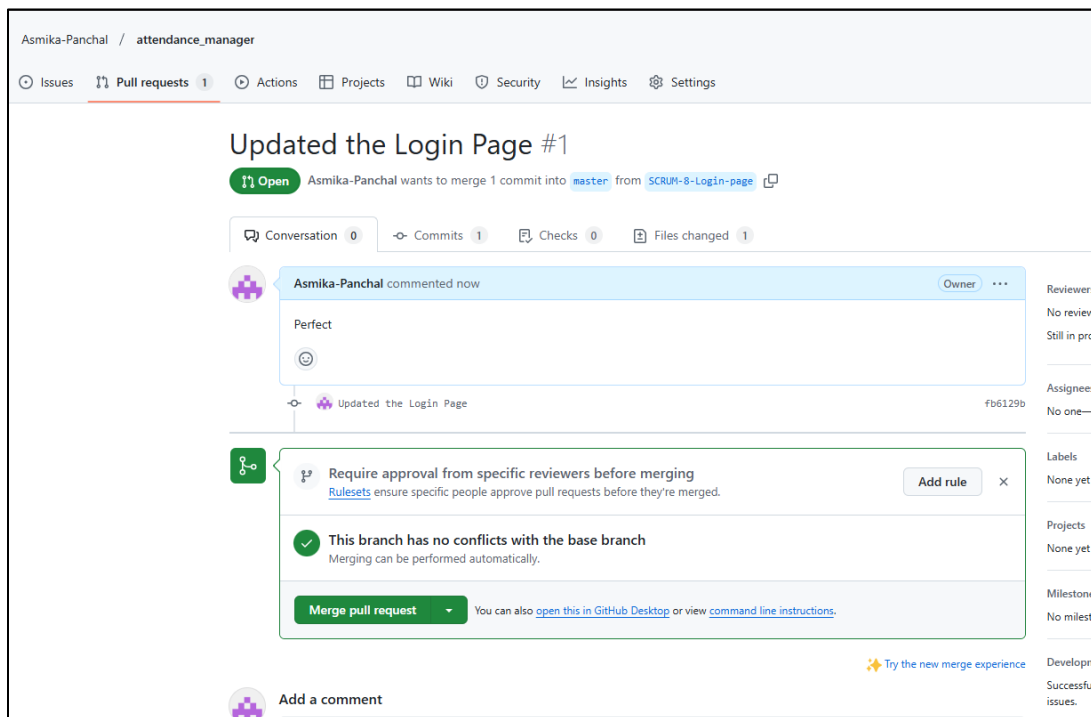
asmika@DESKTOP-4E22MD8 MINGW64 ~/Desktop/temp git/attendance_manager (SCRUM-8-Login-page)
$ git push origin SCRUM-8-Login-page
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 456 bytes | 456.00 KiB/s, done.
Total 5 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 3 local objects.
To https://github.com/Asmika-Panchal/attendance_manager.git
   b2aec45..fb6129b  SCRUM-8-Login-page -> SCRUM-8-Login-page

asmika@DESKTOP-4E22MD8 MINGW64 ~/Desktop/temp git/attendance_manager (SCRUM-8-Login-page)
$ |
```

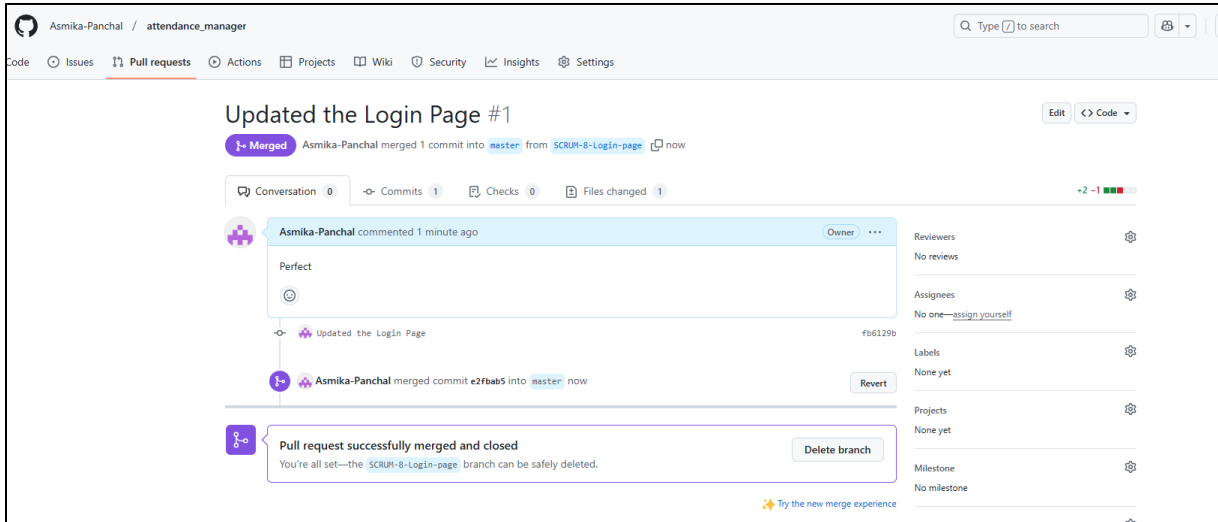
11. Compare and pull request



12. Review the changes



13. Merge into Main Branch



14. Same for “Home Page” branch – created by Amey Gaikwad - 23101A2005

```
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (master)
$ git checkout SCRUM-9-Home-Page
Switched to a new branch 'SCRUM-9-Home-Page'
branch 'SCRUM-9-Home-Page' set up to track 'origin/SCRUM-9-Home-Page'.

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-P
age)
$
```

15. Add files to stage

```
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-P
age)
$ git add .
warning: in the working copy of 'lib/screens/homepage_screen.dart', LF will be r
eplaced by CRLF the next time Git touches it

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-P
age)
$ git status
On branch SCRUM-9-Home-Page
Your branch is up to date with 'origin/SCRUM-9-Home-Page'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file:   lib/screens/homepage_screen.dart
```


16. Commit and push

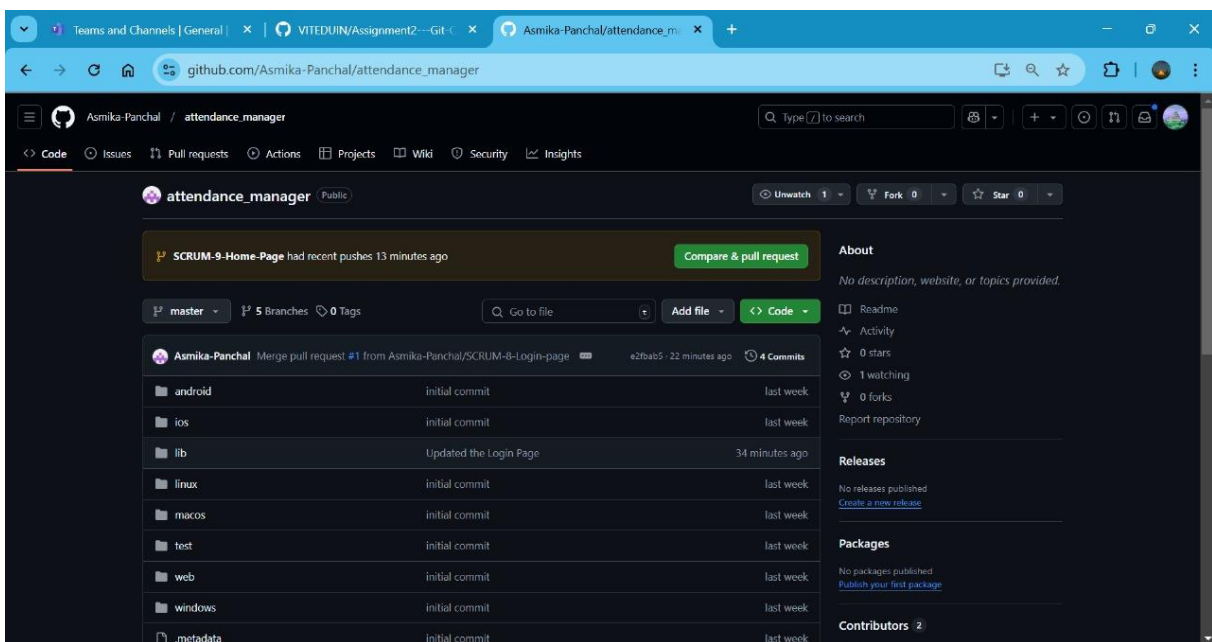
```
MINGW64:/d/amey/BTech/Sem6/Project/attendance_manager

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-Page)
$ git commit -m "Home Page changes"
[SCRUM-9-Home-Page b463793] Home Page changes
1 file changed, 9 insertions(+)
create mode 100644 lib/screens/homepage_screen.dart

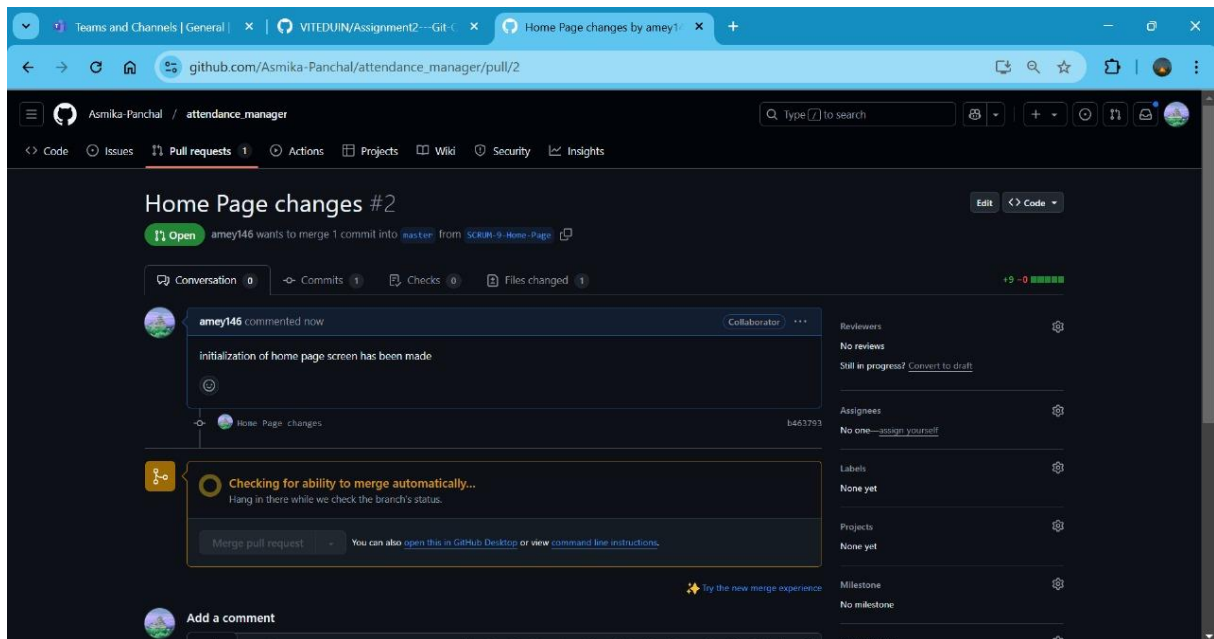
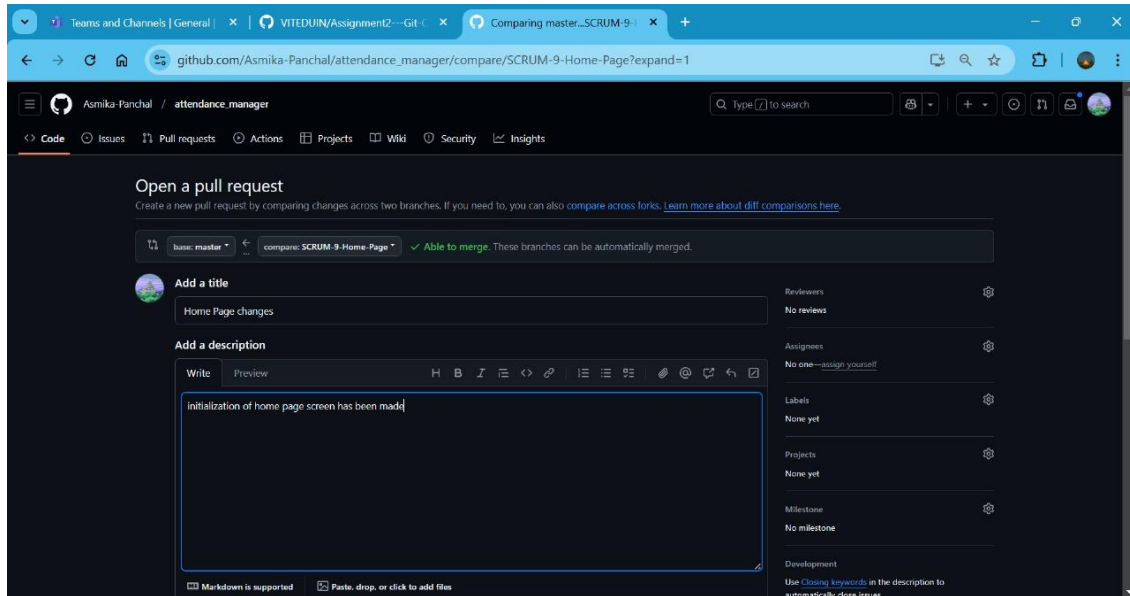
ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-Page)
$ git push origin SCRUM-9-Home-Page
Enumerating objects: 8, done.
Counting objects: 100% (8/8), done.
Delta compression using up to 4 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 559 bytes | 559.00 KiB/s, done.
Total 5 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
To https://github.com/Asmika-Panchal/attendance_manager.git
b2aec45..b463793 SCRUM-9-Home-Page -> SCRUM-9-Home-Page

ameyg@Amey MINGW64 /d/amey/BTech/Sem6/Project/attendance_manager (SCRUM-9-Home-Page)
$
```

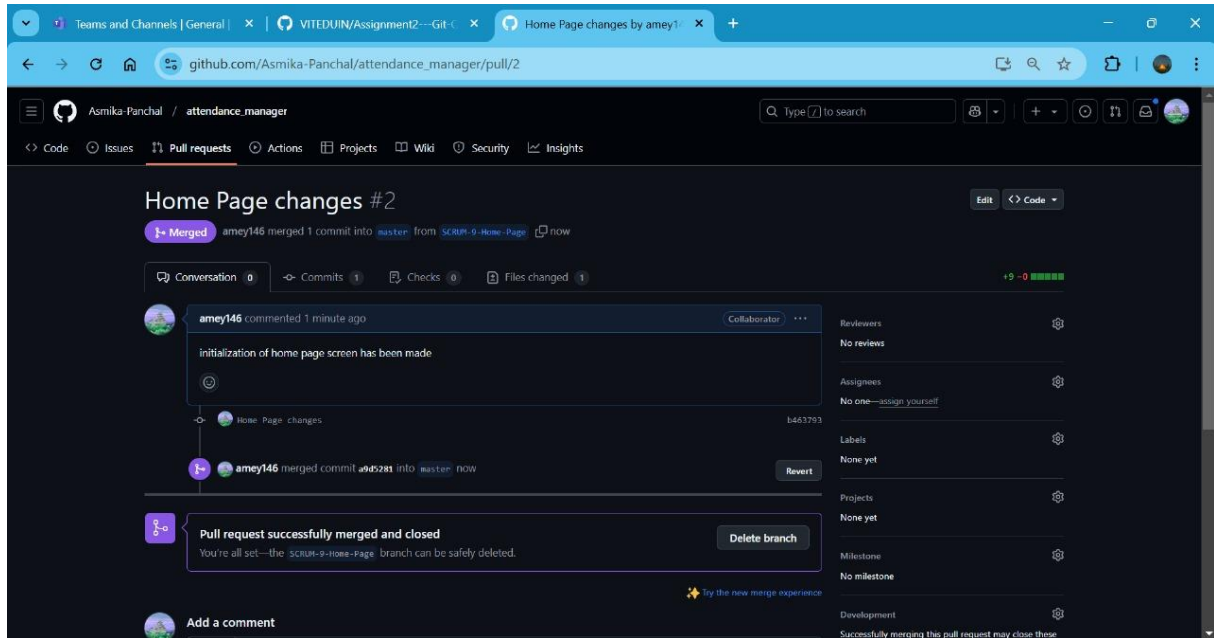
17. Compare and Pull request



18. Review the changes

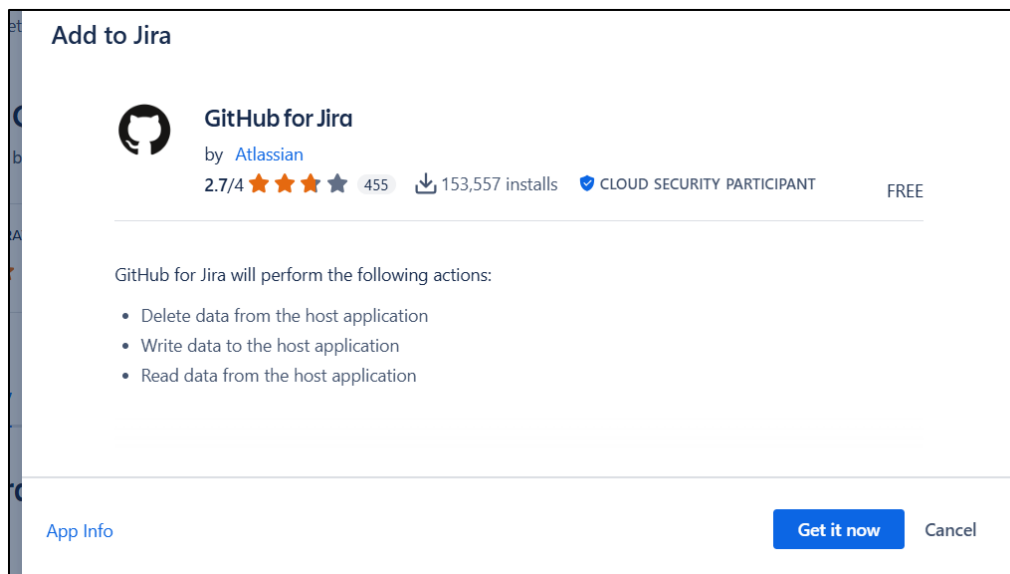


19. Merge into Main Branch

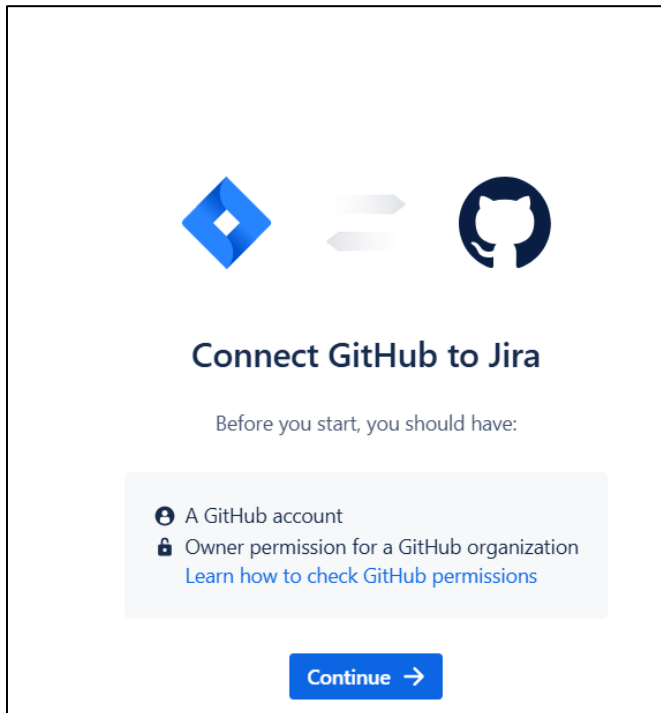


Step 5: Connect GitHub Cloud to Jira

5.1 Install the GitHub for Jira app



5.2 Connect a GitHub organization





Jira by **Atlassian** would like permission to:



Verify your GitHub identity (Asmika-Panchal)



Know which resources you can access



Act on your behalf



[Learn more](#)

[Learn more about Jira](#)

Cancel

Authorize Jira

Authorizing will redirect to
<https://github.atlassian.com>



Not owned or
operated by GitHub

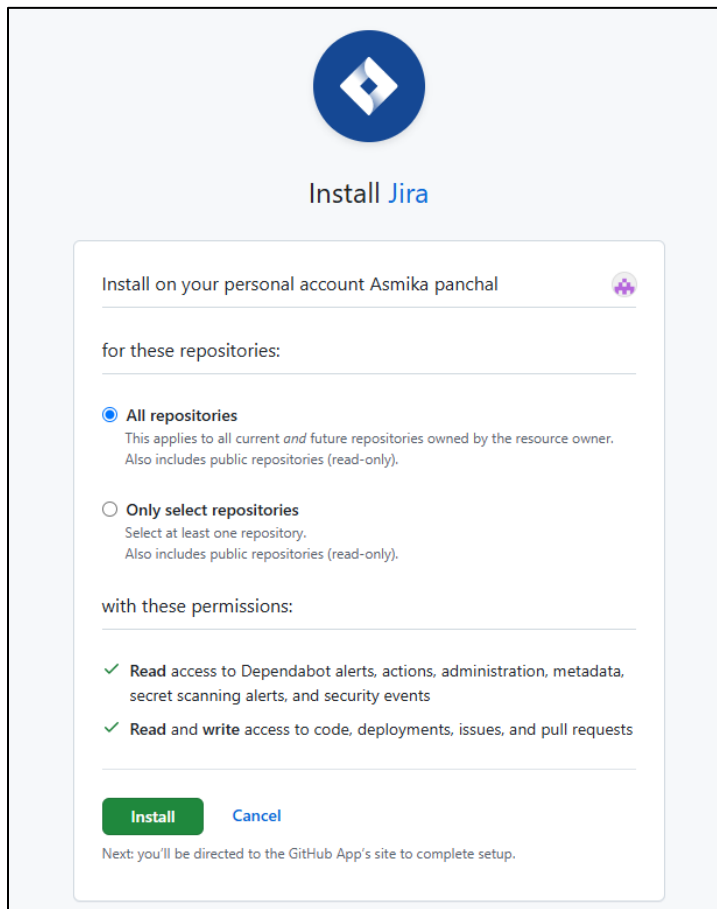


Created 7 years ago

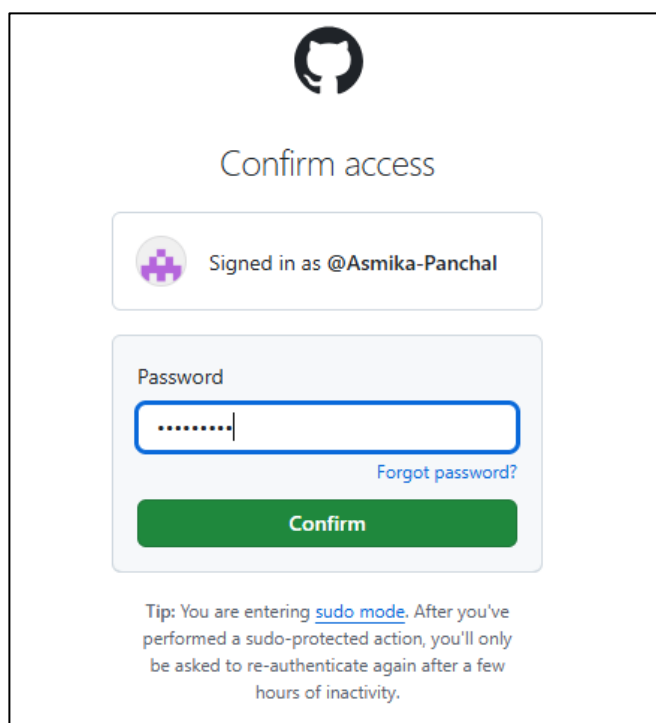


More than 1K
GitHub users

5.3 Add the Jira app to a new GitHub organization

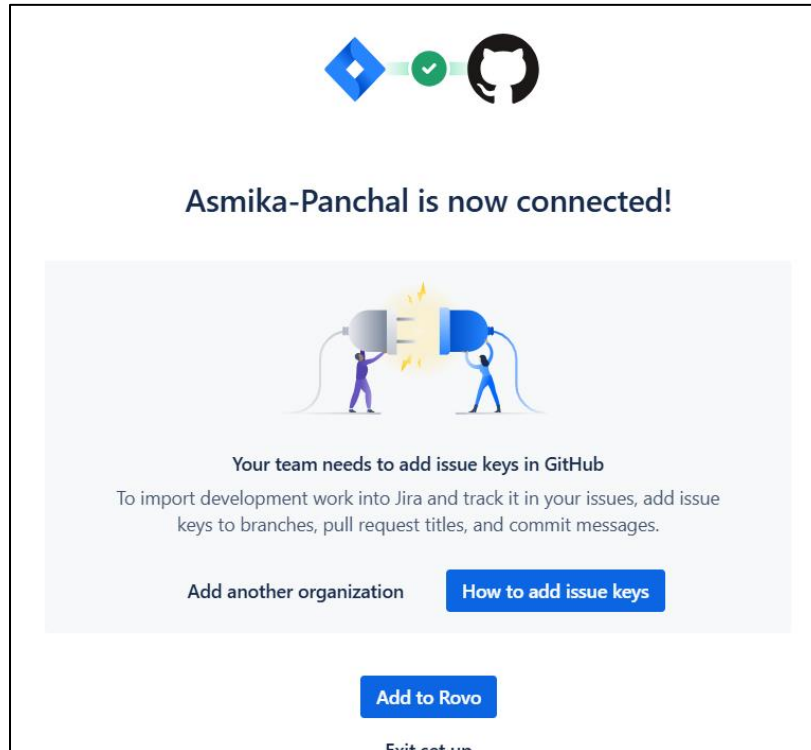


The screenshot shows the GitHub 'Install Jira' app interface. At the top is the Jira logo and the text 'Install Jira'. Below this is a section titled 'Install on your personal account Asmika panchal' with a user profile icon. Underneath, it says 'for these repositories:' followed by two radio button options: 'All repositories' (selected) and 'Only select repositories'. The 'All repositories' option has a description: 'This applies to all current and future repositories owned by the resource owner. Also includes public repositories (read-only)'. The 'Only select repositories' option has a description: 'Select at least one repository. Also includes public repositories (read-only)'. Below these is a section titled 'with these permissions:' followed by two checked items: 'Read access to Dependabot alerts, actions, administration, metadata, secret scanning alerts, and security events' and 'Read and write access to code, deployments, issues, and pull requests'. At the bottom are two buttons: 'Install' (green) and 'Cancel' (blue). A note at the very bottom says 'Next: you'll be directed to the GitHub App's site to complete setup.'



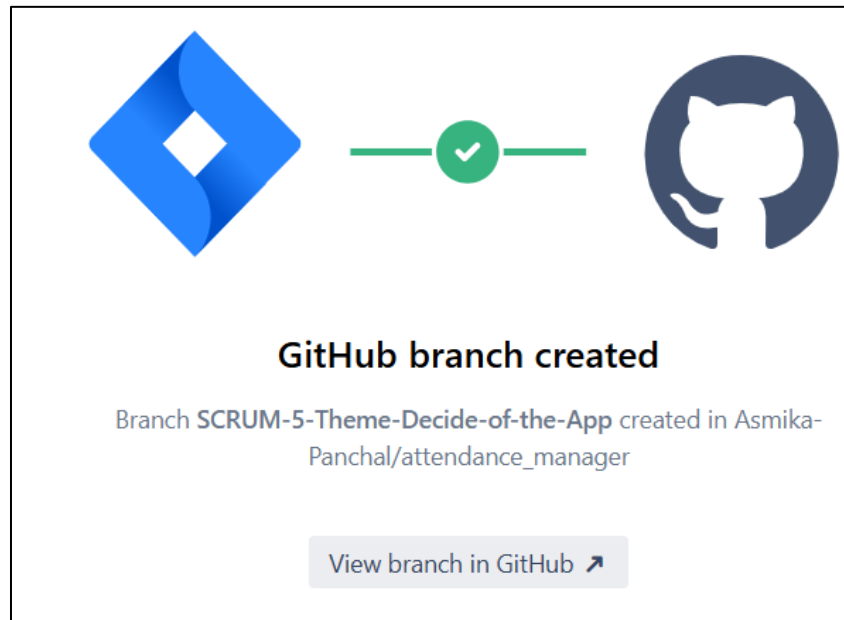
The screenshot shows the GitHub 'Confirm access' interface. At the top is the GitHub logo and the text 'Confirm access'. Below this is a section titled 'Signed in as @Asmika-Panchal' with a user profile icon. Underneath is a 'Password' field with a text input box containing dots. To the right of the input box is a link 'Forgot password?'. Below the password field is a green 'Confirm' button. At the bottom is a tip: 'Tip: You are entering [sudo mode](#). After you've performed a sudo-protected action, you'll only be asked to re-authenticate again after a few hours of inactivity.'

5.4 Connect a new GitHub repository



Create a Branch:

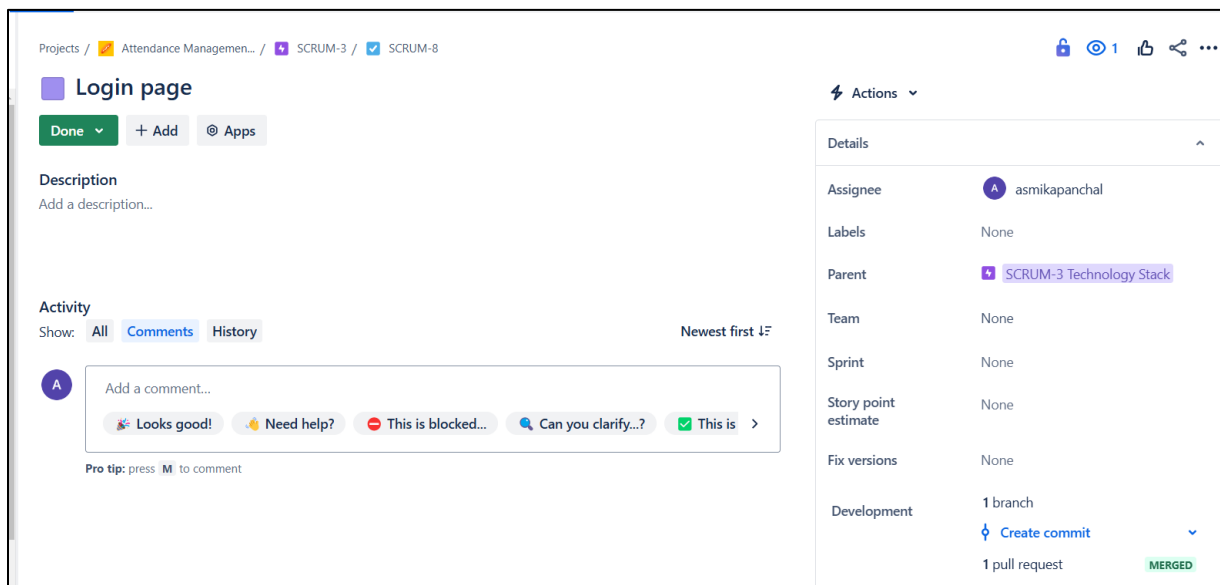
The screenshot shows a form titled "Create GitHub Branch" with the subtitle "Creating a branch for SCRUM-5". The form contains three main sections: "Repository" with a dropdown menu showing "Asmika-Panchal/attendance_manager"; "Branch from" with a dropdown menu showing "master"; and "Branch name" with a text input field containing "SCRUM-5-Theme-Decide-of-the-App". A blue "Create branch" button is located at the bottom right of the form.



Also other issues created like: Login Page, Home Page

5.5 Link your development information to Jira issues

Commit merged reflected in Jira



Projects / Attendance Managemen... / SCRUM-3 / SCRUM-9

Home Page

Done + Add @ Apps

Description

Add a description...

Activity

Show: All Comments History

Newest first

A

Add a comment...

Looks good! Need help? This is blocked... Can you clarify...? This is

Pro tip: press M to comment

Actions

Details

Assignee

AG Amey Gaikwad

Assign to me

Labels

None

Parent

SCRUM-3 Technology Stack

Team

None

Sprint

None

Story point estimate

None

Fix versions

None

Development

1 branch

1 commit 23 minutes ago

1 pull request MERGED

Reporter

A asmikapanch

Quickstart