

1. **Install and verify Git**

- * Use Homebrew to install Git.
- * Confirm installation by checking the Git version.

```
C:\Users\lokesm>git -v  
git version 2.50.1.windows.1
```

```
C:\Users\lokesm>
```

2. **Configure Git**

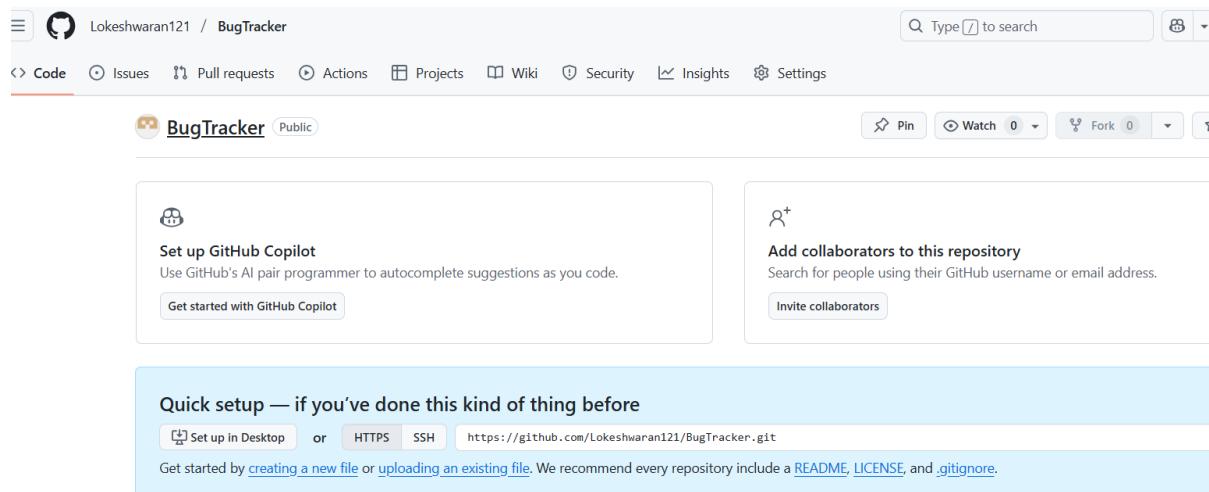
- * Set your global Git username and email to your real or test identity.

```
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample> git config --global user.name "Lokeshwaran121"  
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample> git config --global user.email "lokeshwaran.2201121@srec.ac.in"
```

3. **Create GitHub Repository**

- * Go to GitHub and create a new repo named: `BugTracker`

- * Do **not** initialize with README or license.
- * Keep the repo **private** or **public** as needed.



4. **Clone the Repository**

- * Clone the repo to your local system using HTTPS.
- * Use your **GitHub token** to authenticate.

```
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample> git clone https://github.com/Lokeshwaran121/BugTracker.git
Cloning into 'BugTracker'...
warning: You appear to have cloned an empty repository.
```

5. **Verify `.`git` folder**

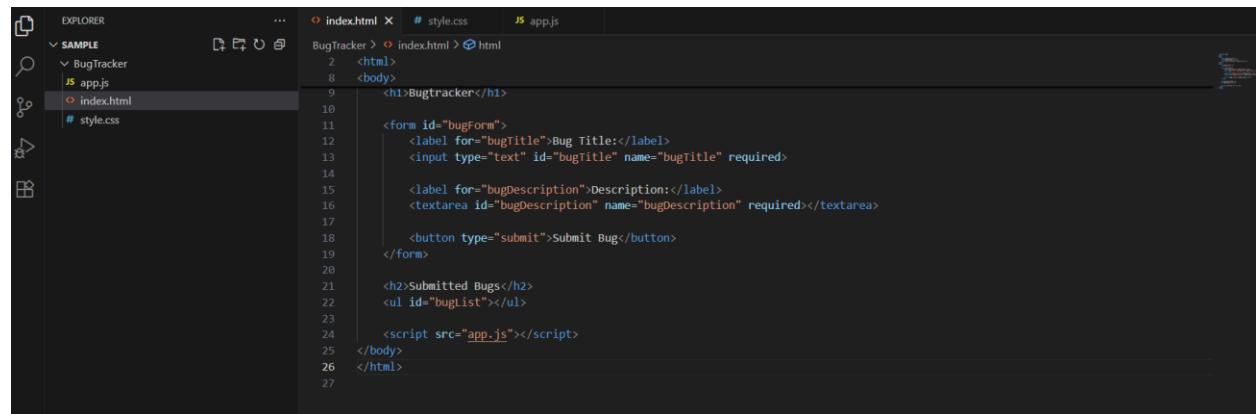
- * Inside the cloned folder, use the terminal to check if `.`git` is present.

```
lokesm@1PDQML3 MINGW64 ~/OneDrive - EPS US, LLC/Desktop/Sample/BugTracker (main)
$ ls -a
./ ../.git/
```

6. **Create Basic Files**

- * Create the following in the root of your repo:

- * `README.md`
- * `index.html` (basic BugTracker layout)
- * `style.css` (simple styles)
- * `app.js` or `main.java` or `Program.cs` (based on backend choice)



The screenshot shows the VS Code interface with the following details:

- EXPLORER:** Shows a tree view with a folder named "SAMPLE" containing a subfolder "BugTracker" which contains "app.js" and "index.html". There are also "style.css" and a ".git" folder listed.
- EDITOR:** The "index.html" file is open in the editor tab. The code is as follows:

```

<!DOCTYPE html>
<html>
  <head>
    <title>Bugtracker</title>
    <link href="style.css" rel="stylesheet">
  </head>
  <body>
    <h1>Bugtracker</h1>
    <form id="bugForm">
      <label for="bugTitle">Bug Title:</label>
      <input type="text" id="bugTitle" name="bugTitle" required>

      <label for="bugDescription">Description:</label>
      <textarea id="bugDescription" name="bugDescription" required></textarea>

      <button type="submit">Submit Bug</button>
    </form>

    <h2>Submitted Bugs</h2>
    <ul id="bugList"></ul>
  </body>
</html>

```

Name	Last commit message	Last commit date
README.md	feat:added readme	now
app.js	feat: initial layout for BugTracker	6 minutes ago
index.html	feat: initial layout for BugTracker	6 minutes ago
style.css	feat: initial layout for BugTracker	6 minutes ago

7. **Track Your Work**

* Add and commit the above files using **conventional commits**:

- * `feat: initial layout for BugTracker`
- * `style: basic styles for homepage`

```
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git add .
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git add index.html
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git commit -m "feat: initial layout for BugTracker"
[main (root-commit) ea2dd9f] feat: initial layout for BugTracker
3 files changed, 104 insertions(+)
create mode 100644 app.js
create mode 100644 index.html
create mode 100644 style.css
```

8. **Push Changes to GitHub**

* Push to the `main` branch using GitHub token if needed.

```
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 14 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (5/5), 1.27 KiB | 92.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Lokeshwaran121/BugTracker.git
 * [new branch]      main -> main
```

Name	Last commit message	Last commit date
README.md	feat: added readme	now
app.js	feat: initial layout for BugTracker	6 minutes ago
index.html	feat: initial layout for BugTracker	6 minutes ago
style.css	feat: initial layout for BugTracker	6 minutes ago

9. **Edit File Remotely (Conflict Setup)**

- * On GitHub, open `index.html` and change an `

` tag.
- * Commit the change with: `fix: updated heading remotely`

Name	Last commit message	Last commit date
README.md	fix: updated heading remotely	6cabd1c · now

10. **Change Same File Locally**

- * Locally, change the **same line** in `index.html`.

```
<!-- MDN Reference -->
</head>
<body>
  <h1>Bugtracker Information</h1>

  <form id="bugForm">
    <label for="bugTitle">Bug Title:</label>
    <input type="text" id="bugTitle" name="bugTitle" required>
```

11. **Trigger Merge Conflict**

- * Try to push your local changes without pulling first.
- * Observe the **merge conflict error**.

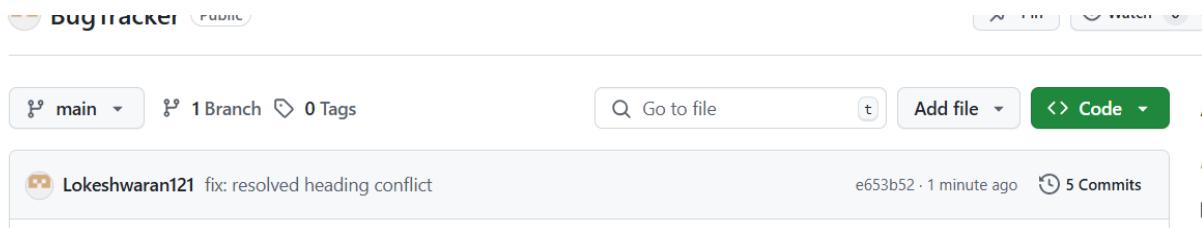
```

1 file changed, 1 insertion(+), 1 deletion(-)
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git push
To https://github.com/Lokeshwaran121/BugTracker.git
! [rejected]      main -> main (fetch first)
error: failed to push some refs to 'https://github.com/Lokeshwaran121/BugTracker.git'
hint: Updates were rejected because the remote contains work that you do not
hint: have locally. This is usually caused by another repository pushing to
hint: the same ref. If you want to integrate the remote changes, use
hint: 'git pull' before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.

```

12. **Resolve Conflict**

- * Pull from GitHub (`git pull origin main`)
- * Open conflict in VS Code and manually resolve it.
- * Commit the resolved file: `fix: resolved heading conflict`



13. **Branch for Frontend**

- * Create a new branch `frontend`

```

PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git checkout -b "Frontend"
Switched to a new branch 'Frontend'

```

- * Modify/add to `index.html` and `style.css`
- * Commit your changes with a conventional commit.
- * Push the branch and create a **pull request** to `main`.

```

PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git push origin Frontend
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 14 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 454 bytes | 151.00 KiB/s, done.
Total 4 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'Frontend' on GitHub by visiting:
remote:     https://github.com/Lokeshwaran121/BugTracker/pull/new/Frontend
remote:

```

Lokeshwaran121 · 23 minutes ago

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. [Learn more about diff comparisons here.](#)

The screenshot shows the GitHub interface for creating a pull request. At the top, there are dropdown menus for 'base: main' and 'compare: Frontend'. Below this, there's a title input field containing 'feat:updated frontend'. A large text area for the pull request description is present, with a 'Write' tab selected. The right side of the screen displays various settings: 'Reviewers' (No reviews), 'Assignees' (No one—assign yourself), 'Labels' (None yet), 'Projects' (None yet), 'Milestone' (No milestone), and 'Development' (Use [Closing keywords](#) in the description to automatically close issues). At the bottom right is a green 'Create pull request' button.

14. **Branch for Backend**

- * Switch to `main`, then create a new branch `backend`
- * Create/modify your backend logic file (`main.java`, `Program.cs`, etc.)
- * Commit and push.
- * Raise a PR to `main`.

```

PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git push origin Backend
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 14 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 373 bytes | 186.00 KiB/s, done.
Total 3 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (2/2), completed with 2 local objects.
remote:
remote: Create a pull request for 'Backend' on GitHub by visiting:
remote:     https://github.com/Lokeshwaran121/BugTracker/pull/new/Backend
remote:

```

15. **Create ` `.gitignore`**

- * Add the following:

```
```
node_modules/
*.log
.env
````
```

- * Commit it: `chore: add .gitignore file`

16. **Stash Scenario**

- * Edit any file (e.g., `index.html`) but **don't commit**
- * Try pulling new changes from GitHub — Git should block you
- * Use `git stash`, then `git pull`, then `git stash pop`
- * Resolve any conflict if it appears

```
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git stash
Saved working directory and index state WIP on main: 15d5d51 Merge pull request #2 from Lokeshwaran121/Backend
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git pull
Updating 15d5d51..0a30ca6
Fast-forward
 index.html | 1 +
 1 file changed, 1 insertion(+)
```

```

PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git pull
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 3 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (3/3), 952 bytes | 29.00 KiB/s, done.
From https://github.com/Lokeshwaran121/BugTracker
  15d5d51..0a30ca6 main      -> origin/main
Updating 15d5d51..0a30ca6
error: Your local changes to the following files would be overwritten by merge:
  index.html
Please commit your changes or stash them before you merge.
Aborting

```

17. **Reset and Restore**

- * Add and stage a new dummy file (e.g., `debug.txt`)
- * Then **unstage it** using `git reset`
- * Restore any accidental local change using `git restore`

```

PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git reset sample.txt
Unstaged changes after reset:
 M     index.html
PS C:\Users\lokesm\OneDrive - EPS US, LLC\Desktop\Sample\BugTracker> git restore style.css

```

18. **Rename Branch**

- * Rename the current `main` branch to `dev-main` using Git

The screenshot shows a GitHub repository interface. At the top left, there is a dropdown menu for the branch 'dev-main'. To its right, it says '3 Branches' and '0 Tags'. On the far right, there are buttons for 'Go to file', 'Add file', and 'Code'.

19. **View Commit History**

* Use `git log` and take a screenshot showing at least 5 commits with:

- * different commit types ('feat', 'fix', 'chore', etc.)
- * merge conflict resolved commit

```
commit 0a30ca62f932f9debb63ec95e6b75b42d7961ef8 (HEAD -> dev-main, origin/main, origin/HEAD)
Author: Lokeshwaran121 <160992691+Lokeshwaran121@users.noreply.github.com>
Date:   Mon Jul 21 15:31:54 2025 +0530

    Update index.html

commit 15d5d51a45cce4bd769ce63bae0d15dd7e7c8ba
Merge: e653b52 379fcfa1
Author: Lokeshwaran121 <160992691+Lokeshwaran121@users.noreply.github.com>
Date:   Mon Jul 21 15:27:25 2025 +0530
```

Commits

The screenshot shows a GitHub commit history page for the 'dev-main' branch. It lists several commits made on July 21, 2025. Each commit includes the author, date, message, and a 'Verified' badge.

| Commit Message | Author | Date | Status |
|---|----------------|----------------|----------|
| Update index.html | Lokeshwaran121 | 47 minutes ago | Verified |
| Merge pull request #2 from Lokeshwaran121/Backend | Lokeshwaran121 | 51 minutes ago | Verified |
| feat:added app.js to backed | Lokeshwaran121 | 53 minutes ago | |
| fix: resolved heading conflict | Lokeshwaran121 | 1 hour ago | |
| featupdate | Lokeshwaran121 | 1 hour ago | |
| fix: updated heading remotely | Lokeshwaran121 | 1 hour ago | |
| feat:added readme | Lokeshwaran121 | 1 hour ago | |
| feat: initial layout for BugTracker | Lokeshwaran121 | 1 hour ago | |