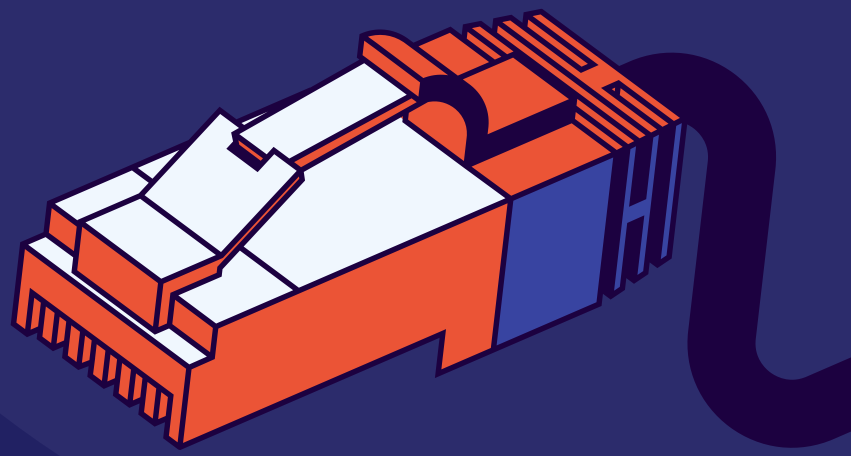
GitLab

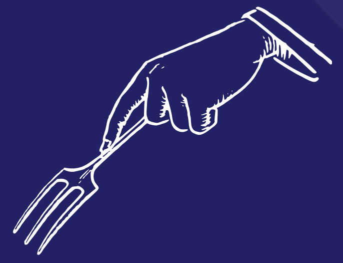
A WORKSHOP BY SOCIS

What we’re doing



01. Why GitLab?

02. Setup



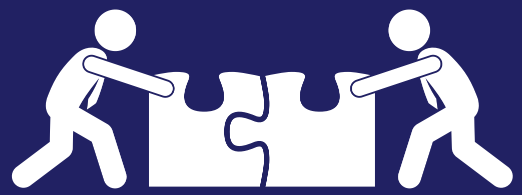
03. Forking

04. Worklow

05. Branching

06. Fetch or Pull?

07. add, commit and push



08. Merging vs rebase

09. Conflicts and mistakes

What is GitLab?

- Self-hosted version control system for tracking project history
- Source code management by allowing creating remote copies of the main repository
- Automated DevOps and DEvSecOps environment used by most companies in the industry
- Built in CI/CD for automated testing and deployment
- Code reviews before merging into the main repository from your feature/local branch

Setting up the setup...

step 1: Install Git

For Windows:

download Git for windows

For Mac Os:

install Homebrew if you haven't already (use the youtube tutorial on the step by step guide)

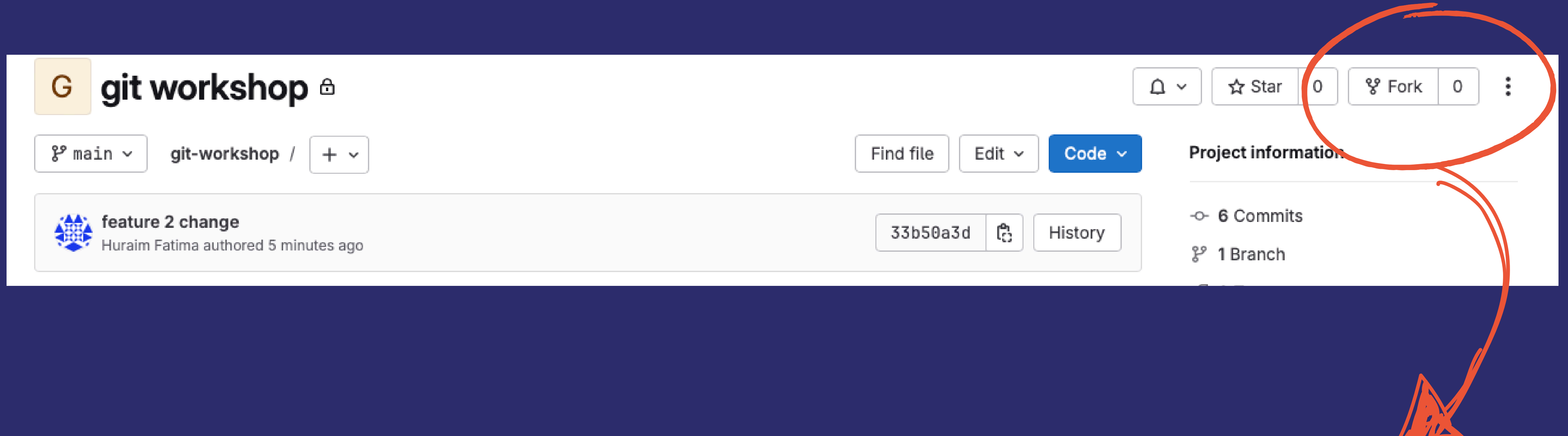
use the command : brew install git

step 2: Login into GitLab

use your university of Guelph email and password to login to GitLab.
use the link below:

GitLab.socs login page

Forking



git workshop

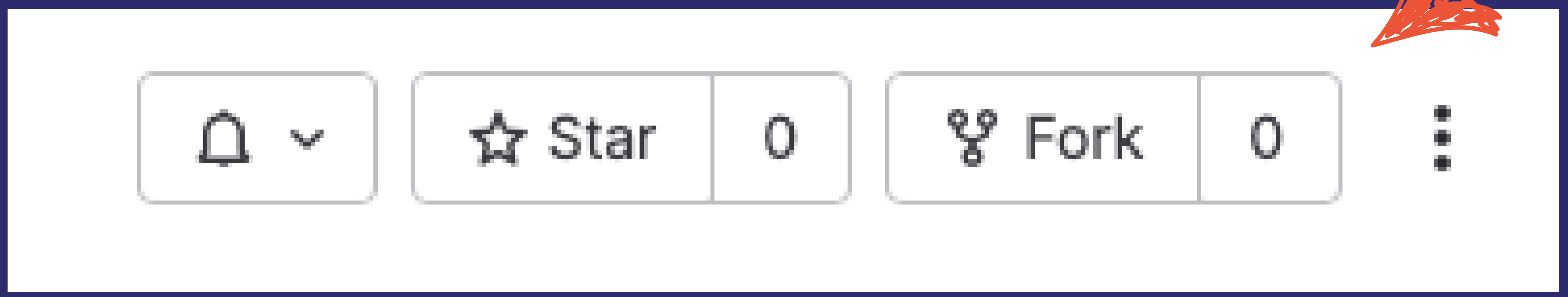
feature 2 change

Huraim Fatima authored 5 minutes ago

Project information

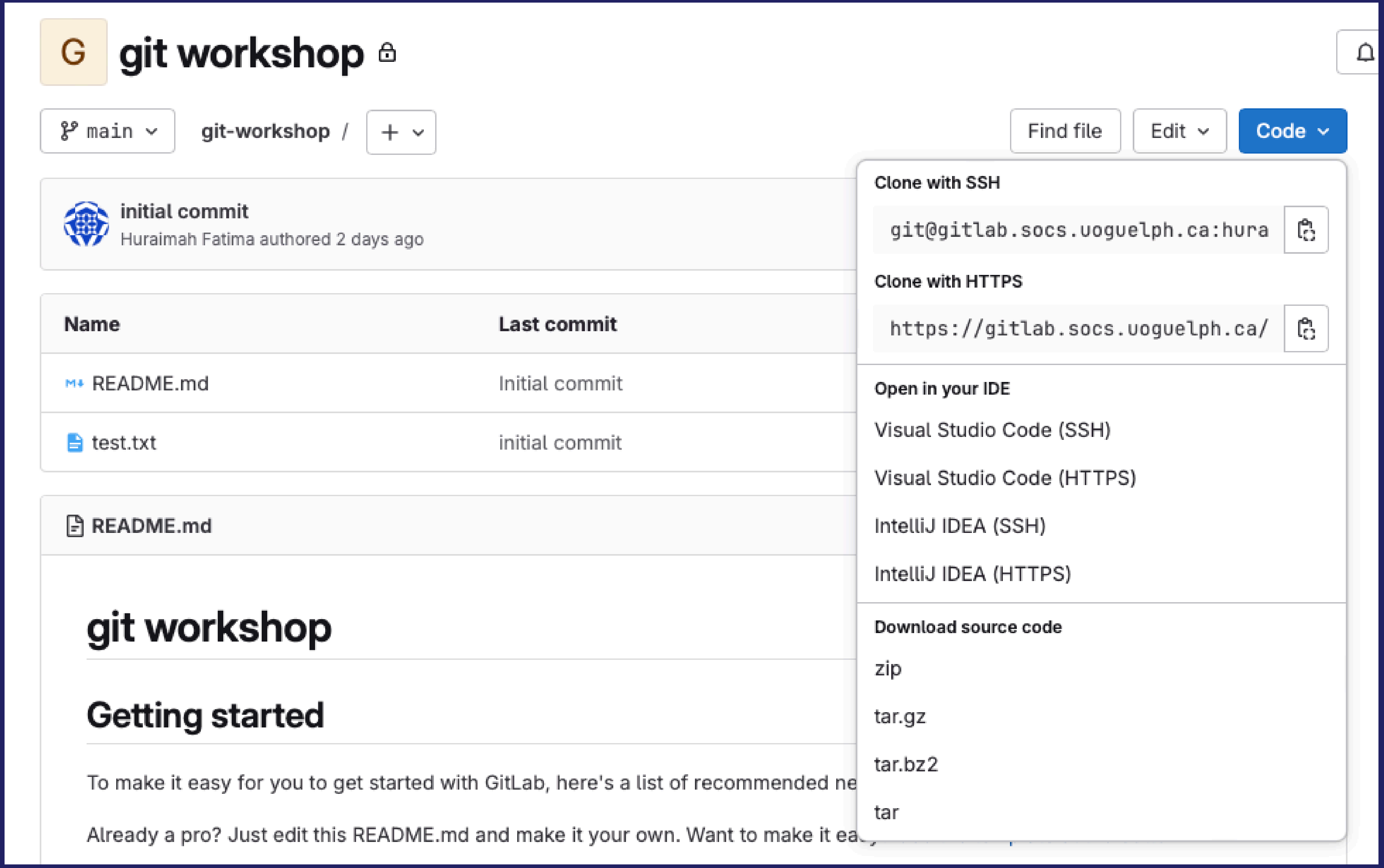
6 Commits

1 Branch



setting up your repository

- clone your repository into your local machine to create a local repository.



G git workshop 🔒

main ⌄ git-workshop / + ⌄ Find file Edit ⌄ Code ⌄

initial commit
Huraimah Fatima authored 2 days ago

Name	Last commit
README.md	Initial commit
test.txt	initial commit

README.md

git workshop

Getting started

To make it easy for you to get started with GitLab, here's a list of recommended ne

Already a pro? Just edit this README.md and make it your own. Want to make it ea

Clone with SSH

```
git@gitlab.socs.uoguelph.ca:hura
```

Clone with HTTPS

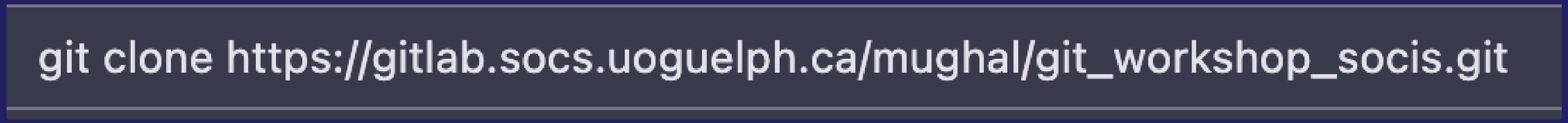
```
https://gitlab.socs.uoguelph.ca/
```

Open in your IDE
Visual Studio Code (SSH)
Visual Studio Code (HTTPS)
IntelliJ IDEA (SSH)
IntelliJ IDEA (HTTPS)

Download source code
zip
tar.gz
tar.bz2
tar

setting up your repository

- clone your repository into your local machine to create a local repository using ‘git clone and the link from your git repo.



```
git clone https://gitlab.socs.uoguelph.ca/mughal/git_workshop_socis.git
```

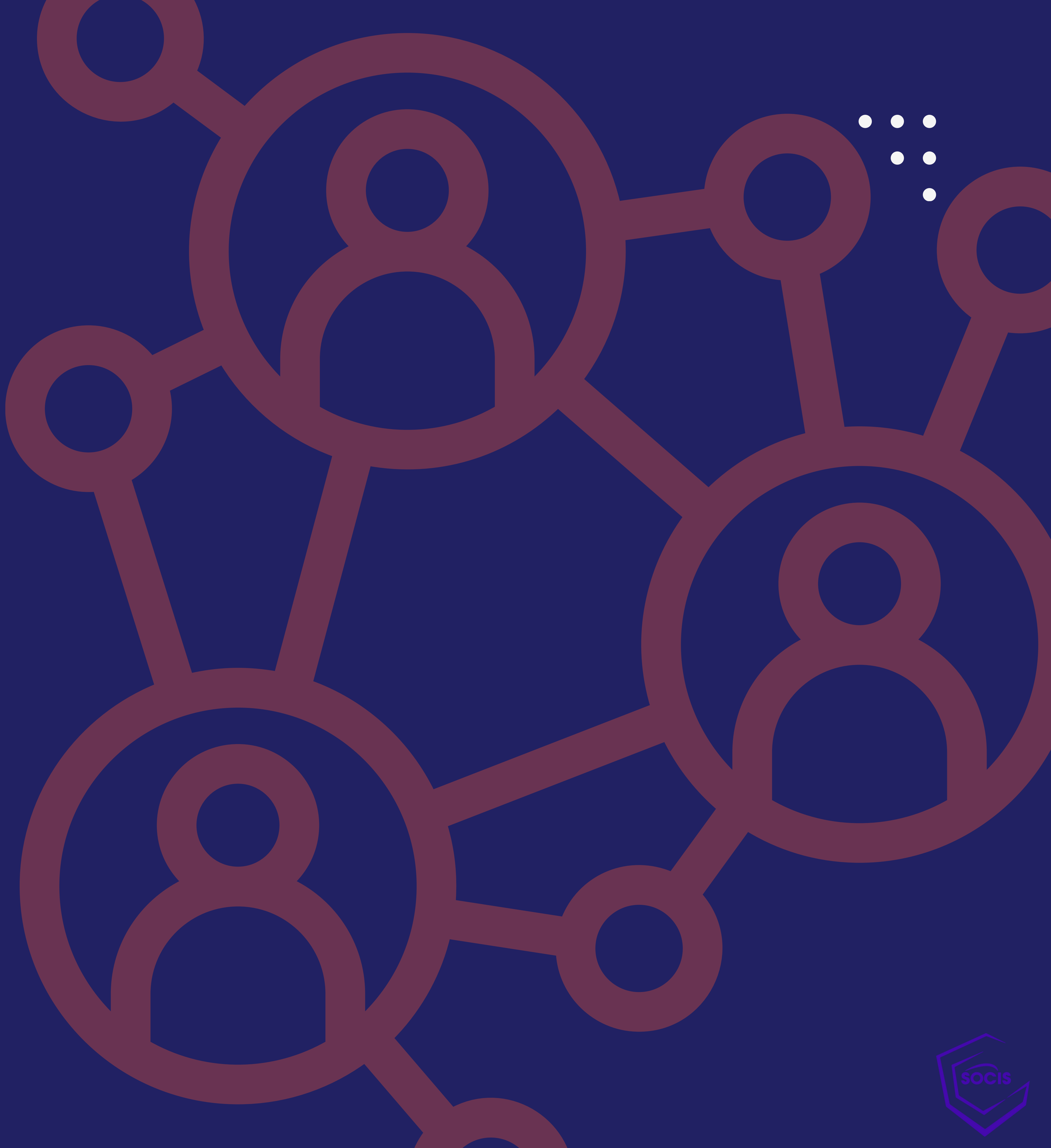
Branching

✓ Branches create a separate workspace for members

- you can create a branch by using the command : **git branch branchName**
- you can switch branches using the command: **git checkout branchName**
- branches allow a large team to work on their own contributions in the project.

✓ Ensures security of the main code

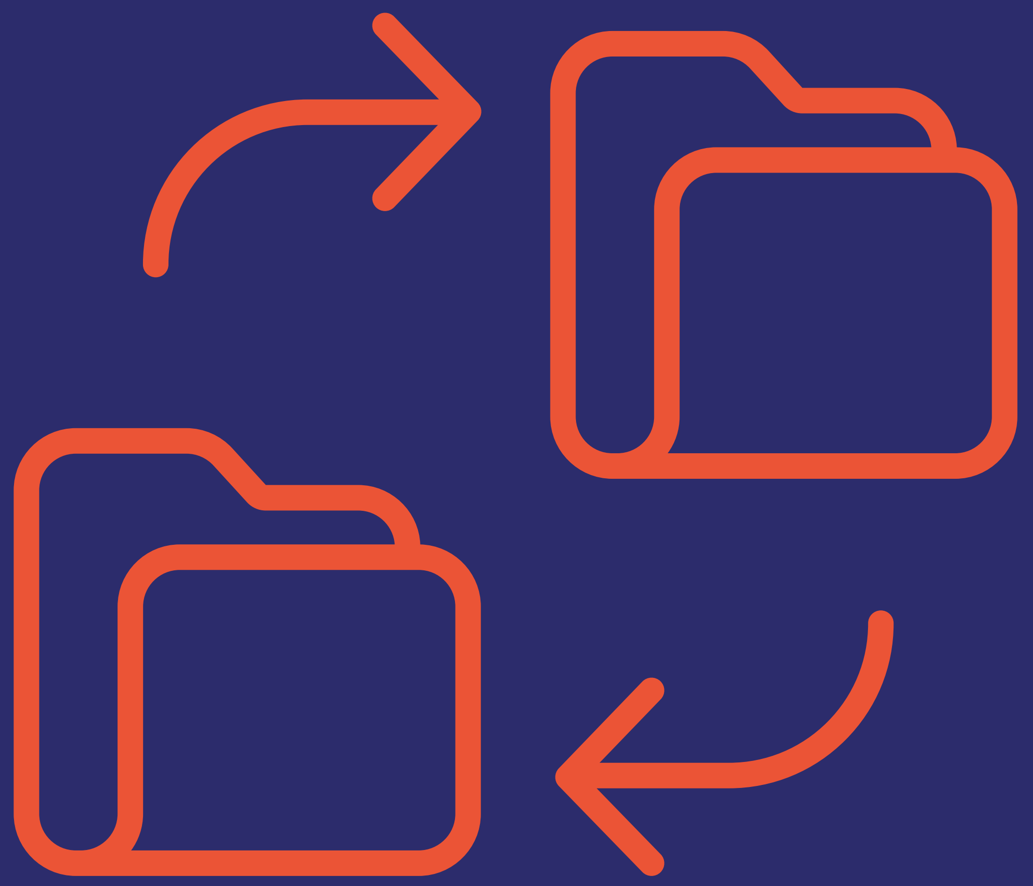
- members can work on their own features of the code separate from the main code and easily merge everything back into main
- code reviews are easier to conduct as changes can be reviewed before merging branches together.



Merging

To merge your branch into another branch/main:

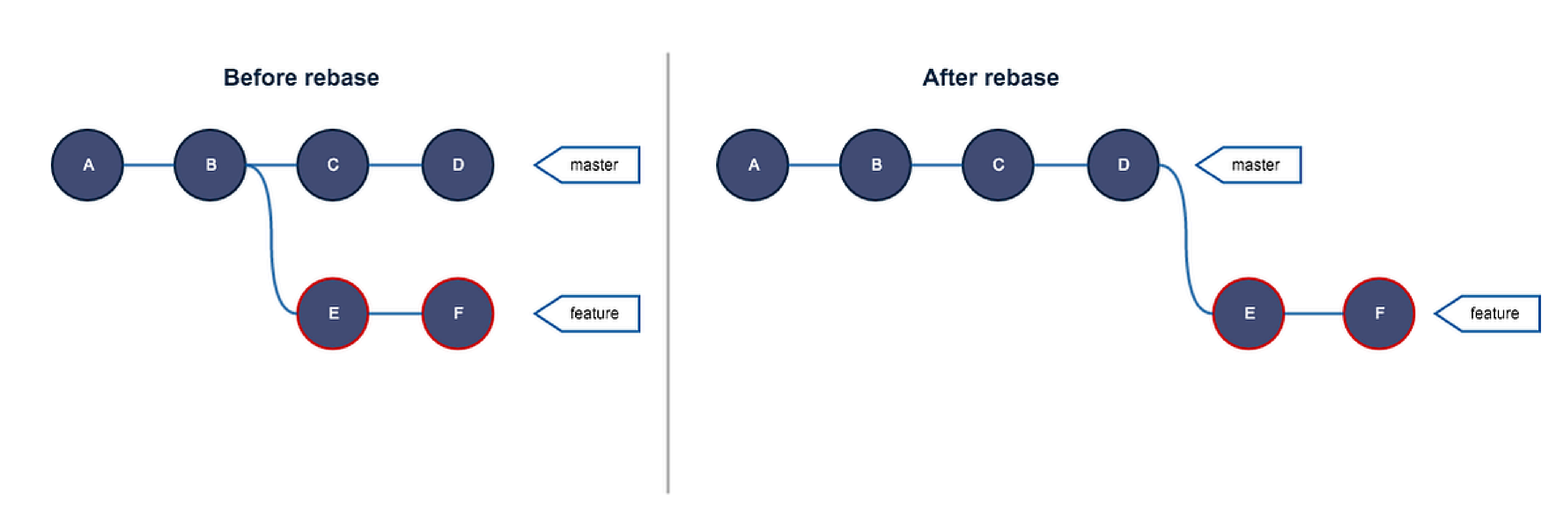
- checkout to the branch you want to merge into
- Use **git merge branchName** (this is the branch you want to merge into your current branch)
- Finally push your changes to the origin, this will make your changes visible on your remote repsitory.



Merge vs Rebase

- 3-way merge:
  git merge --no --ff
- fast-forward merge:
  git merge origin main
- Rebase:
  git rebase main

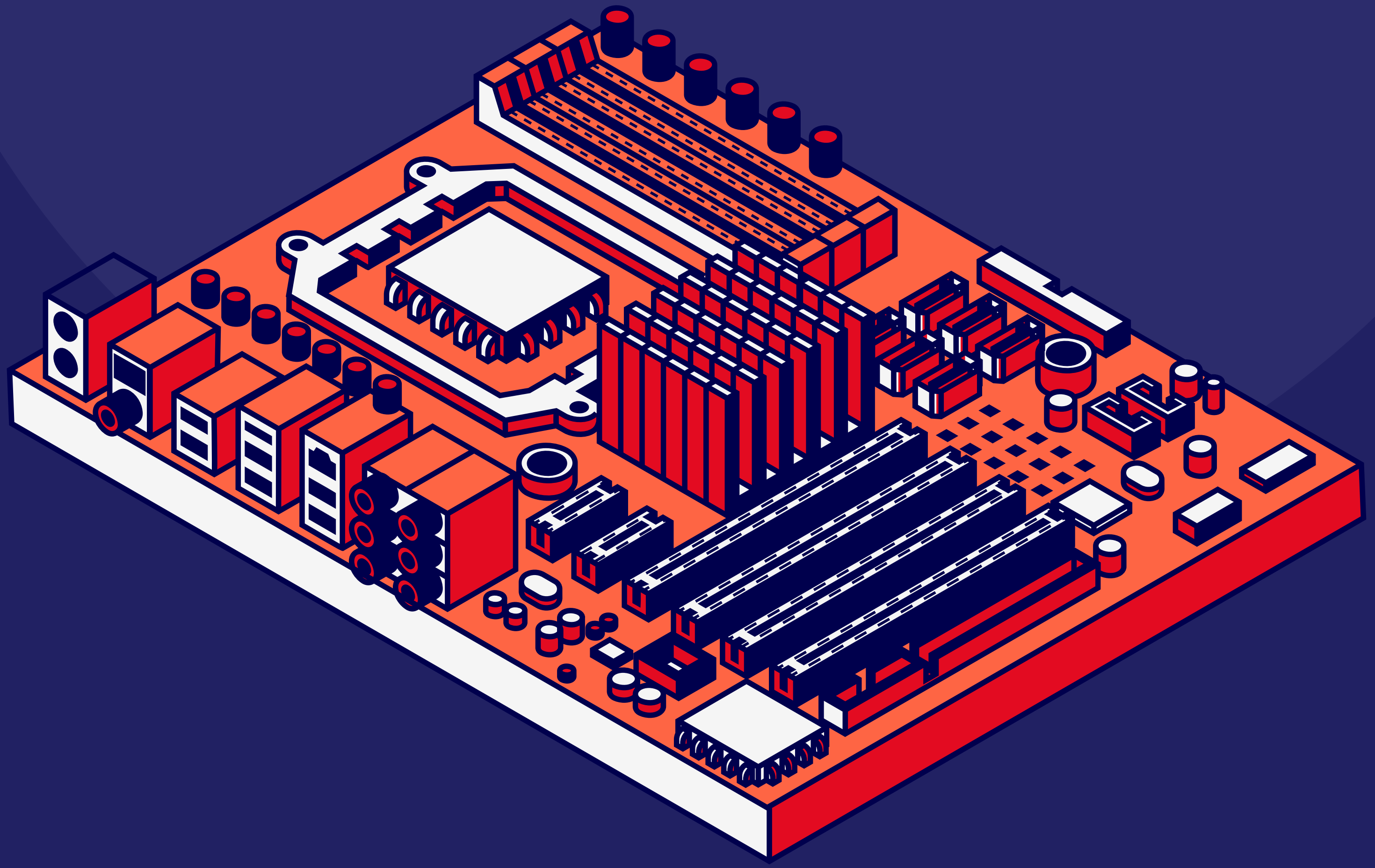
- **Merge or Rebase?**



Pull vs Fetch

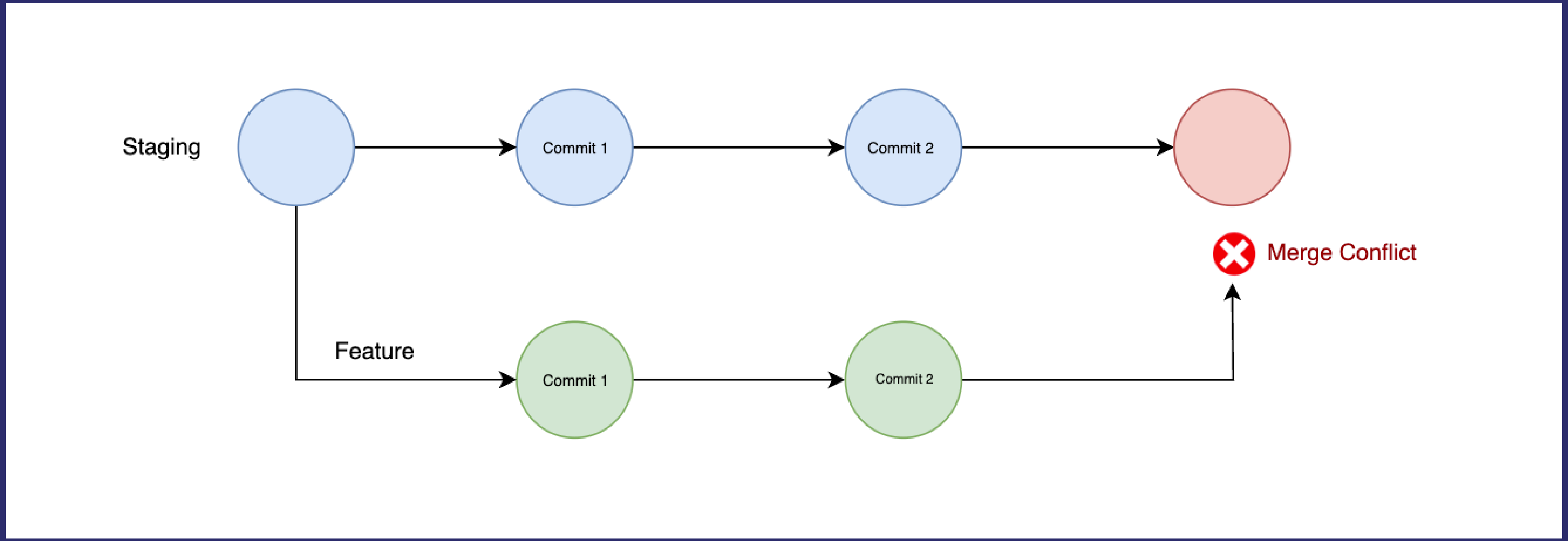
- Fetch updates the remote repository
- Fetch doesn’t merge the changes with your local repository
- additional merge is required to merge the changes into your local repository

- pull updates the remote repository
- it merges most recent changes into your local repository as well



Merge conflicts

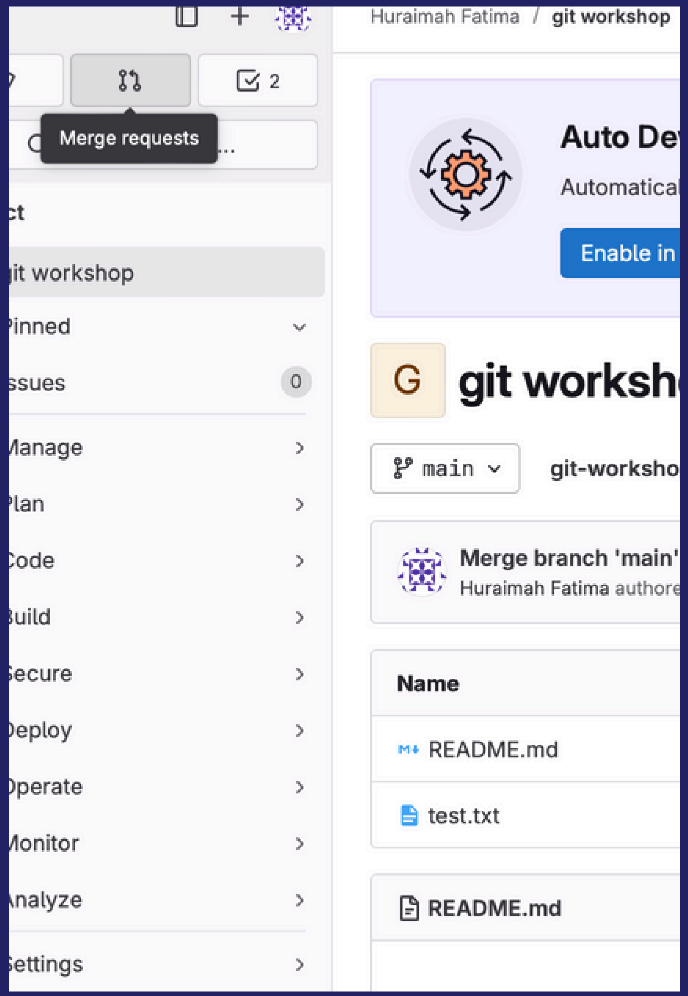
Merge conflicts occur when there are two different changes at the same spot from two different branches being merged in to main.



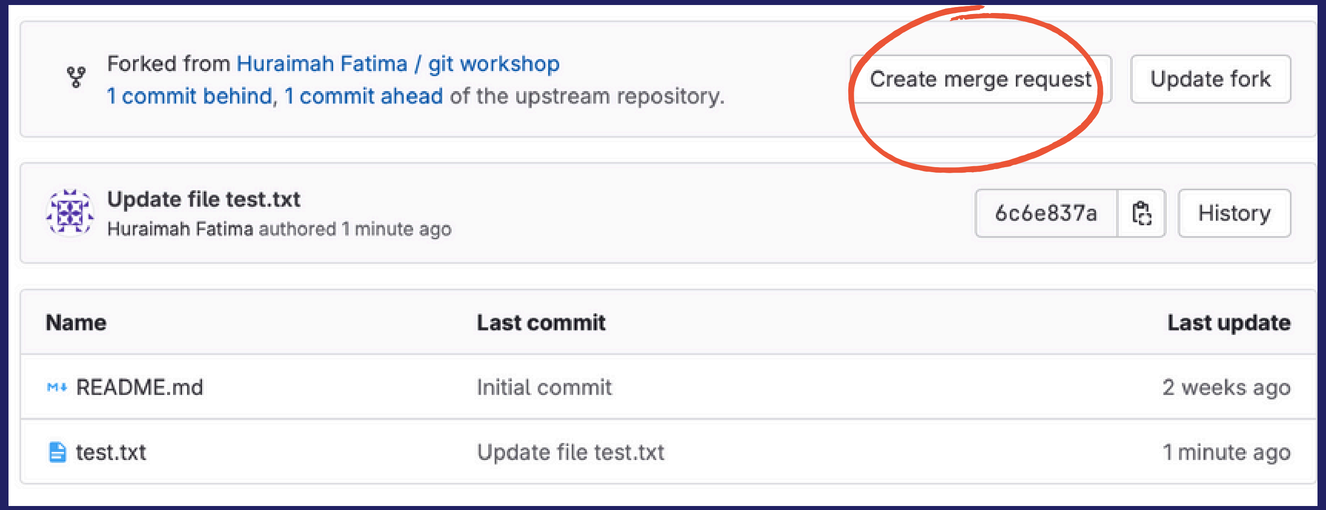
Pull/Merge Requests

A popular use of git is to work on your own repository and merge your repository with the main with your changes.

The owner of the repository will do a code review before approving your request to merge your changes into the main project codebase.



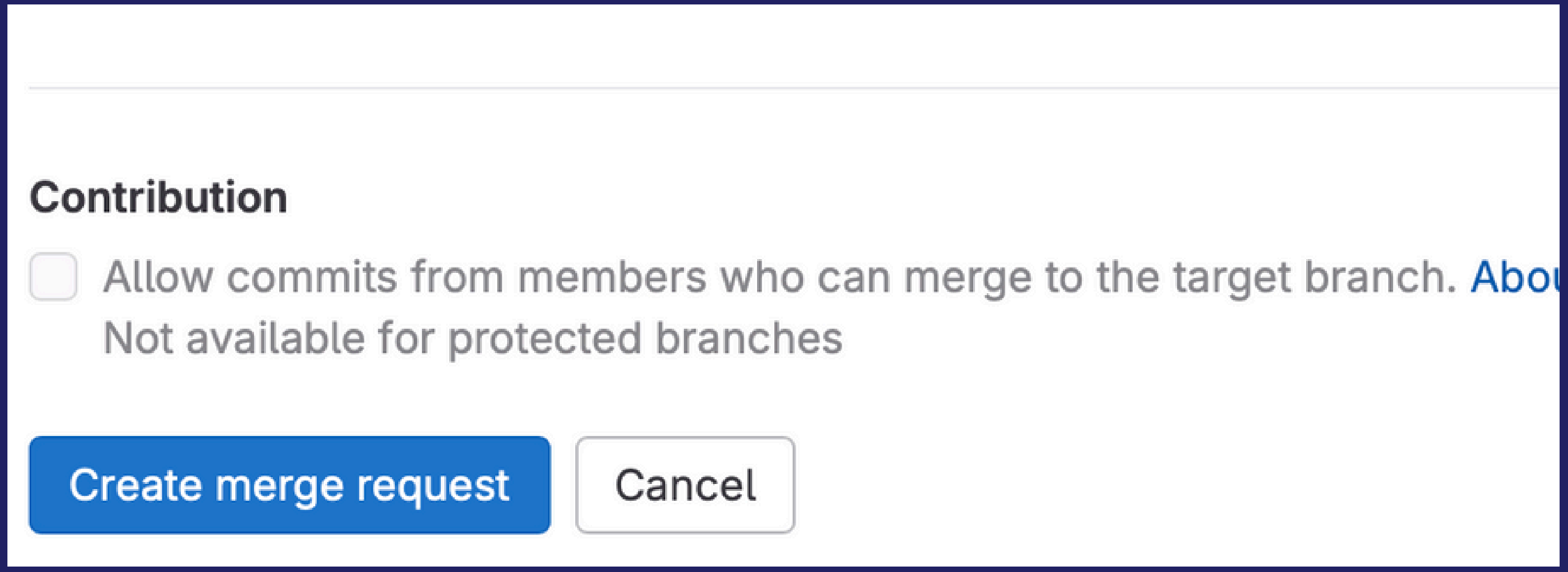
or



Forked from Huraimah Fatima / git workshop
1 commit behind, 1 commit ahead of the upstream repository.

Update file test.txt
Huraimah Fatima authored 1 minute ago

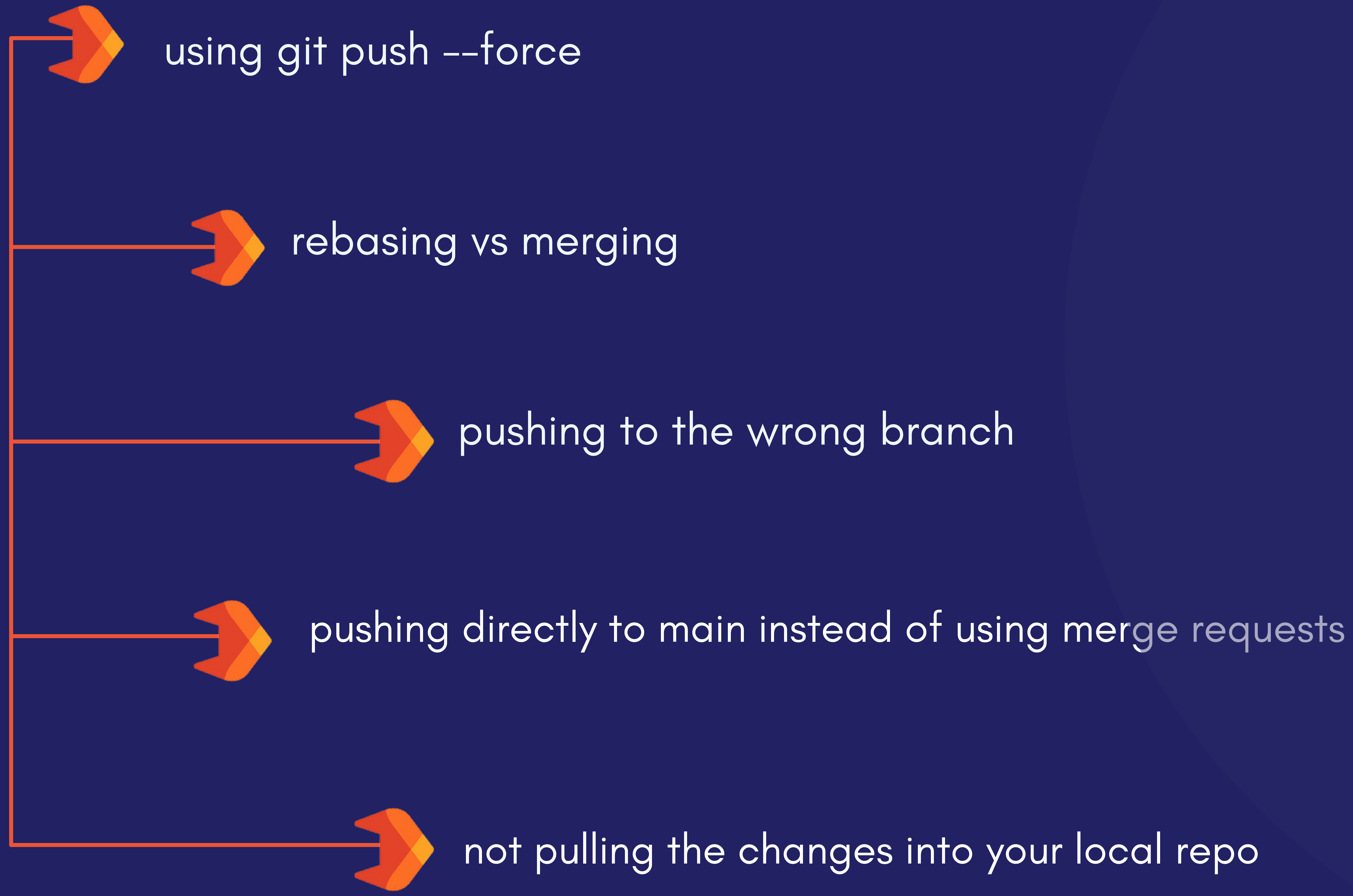
Name	Last commit	Last update
README.md	Initial commit	2 weeks ago
test.txt	Update file test.txt	1 minute ago



Contribution

☐ Allow commits from members who can merge to the target branch. Abou
Not available for protected branches

common mistakes



- using git push --force
- rebasing vs merging
- pushing to the wrong branch
- pushing directly to main instead of using merge requests
- not pulling the changes into your local repo

Thanks!