# Complete Git and Github

Download the latest version of Git and choose the 64/32 bit version.After the file is downloaded, install it in the system.Once installed, select Launch the Git Bash, then click on finish.

git: Git - Downloads (git-scm.com)

## Git bash important command

1. *" ls "* command for see the file inside a folder
2. "mkdir" command for creating a folder
3. "cd folder name" for go into to folder
4. "touch names.txt" create file in folder
5. `cd /c/Users/john/Desktop/newproject` you can navigate to a folder that is inside multiple subfolders using the `cd` command
6. for going back from one folder "cd .."
7. for going root "cd / "
8. initialize git in folder "git init"
9. to delete any file "rm -rf filename"
10. "git status" is a command which is used to see the tracked or Untracked files or other changes Tracked file which is ready to push on github
11. "git add file1.txt file2.txt" to make this file as tracked file "git add . " to make all file in a folder
12. To add a folder file which is inside the main folder where .git file is ; we first go inside the folder then" git add filename"
13. To commit git commit -m "msg"
14. To see all commit history "git log"

15. To delete commit history:

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git log
commit 73cfeaf34b1f4c879d2f5a907f3587edf62deab5 (HEAD -> master)
Author: Rakib-Hasan25 <you@example.com>
Date:   Sun Jan 14 14:00:43 2024 +0600

    2nd commit

commit d0caef1f5b79dc3757e28460a80987c0fea59ac8
Author: Rakib-Hasan25 <you@example.com>
Date:   Sun Jan 14 13:56:32 2024 +0600

    1st commit
```

We want to delete 2nd commit , we have to copy the 1st commit commit id
And "git reset selectedCommitId"

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git reset d0caef1f5b79dc3757e28460a80987c0fea59ac8
Unstaged changes after reset:
M       rakib.txt

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git log
commit d0caef1f5b79dc3757e28460a80987c0fea59ac8 (HEAD -> master)
Author: Rakib-Hasan25 <you@example.com>
Date:   Sun Jan 14 13:56:32 2024 +0600

    1st commit

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
```

16. To attach my local git repository with external Remote Repository
" git remote add origin https://github.com/Rakib-Hasan25/GithubPractice.git"
Remote means I am going to add url
Add means add
"Orgin" is tell when we want attach my personal github account url

18."git remote -v" tells us what are the url attach to our local git repository

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git remote add origin https://github.com/Rakib-Hasan25/GithubPractice.git

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git remote -v
origin  https://github.com/Rakib-Hasan25/GithubPractice.git (fetch)
origin  https://github.com/Rakib-Hasan25/GithubPractice.git (push)

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$
```

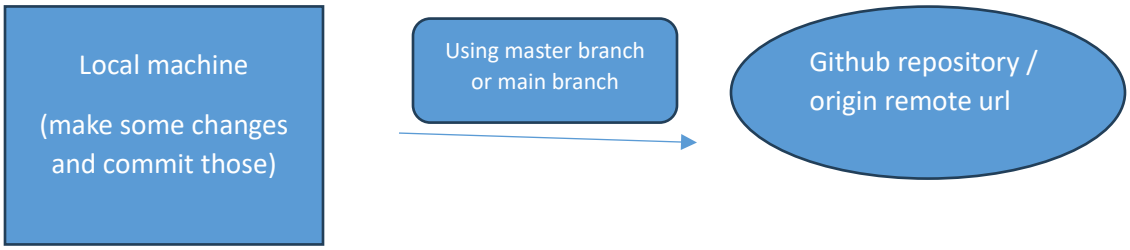
17. The url which we attach now , we want to push our data
    From a branch named master

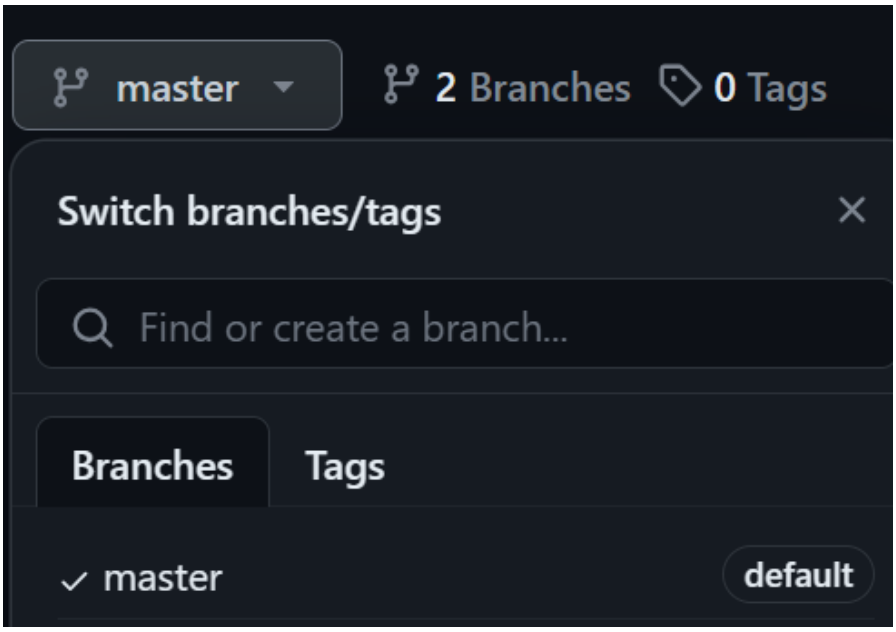
    "git push origin master" → means -> we want to push in the -> origin url (my github repository link) from the master branch

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git log
commit d0caef1f5b79dc3757e28460a80987c0fea59ac8 (HEAD -> master, origin/master)
Author: Rakib-Hasan25 <you@example.com>
Date:   Sun Jan 14 13:56:32 2024 +0600

    1st commit
```

This saying that our first commit is now push on the github/remote origin from master branch And head is now pointing to master branch -> that's means it we again push anything that will push from the master branch



18. Now we will change the branch :

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (master)
$ git checkout -b feature-branch
Switched to a new branch 'feature-branch'
```

And now switched to new branch named ‘feature-branch’

And make changes like create folder, modify file etc and add them and commit them

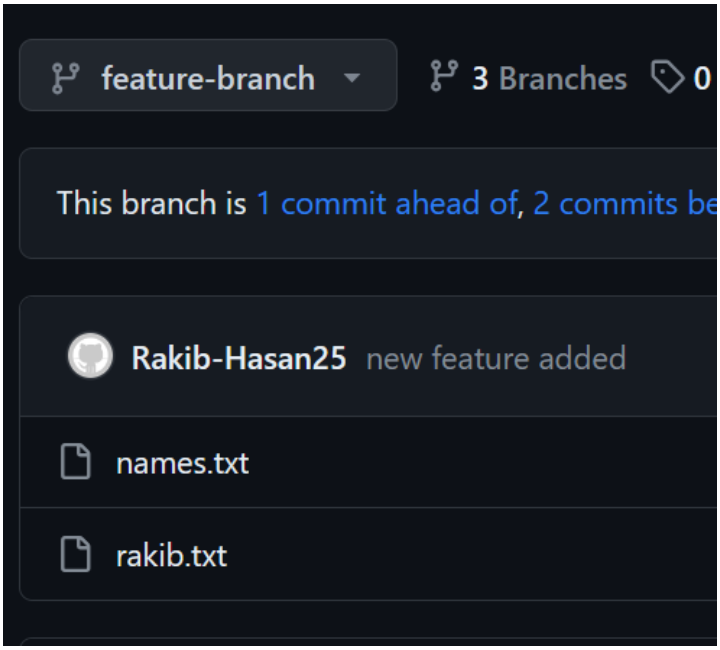
```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject (feature-branch)
$ cd myname

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject/myname (feature-branch)
$ git add .

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject/myname (feature-branch)
$ git commit -m "some new features"
[feature-branch 1f6a8cc] some new features
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 myname/myname.txt
```

And now we will push this on my origin url (GitHub repository) from my featured branch

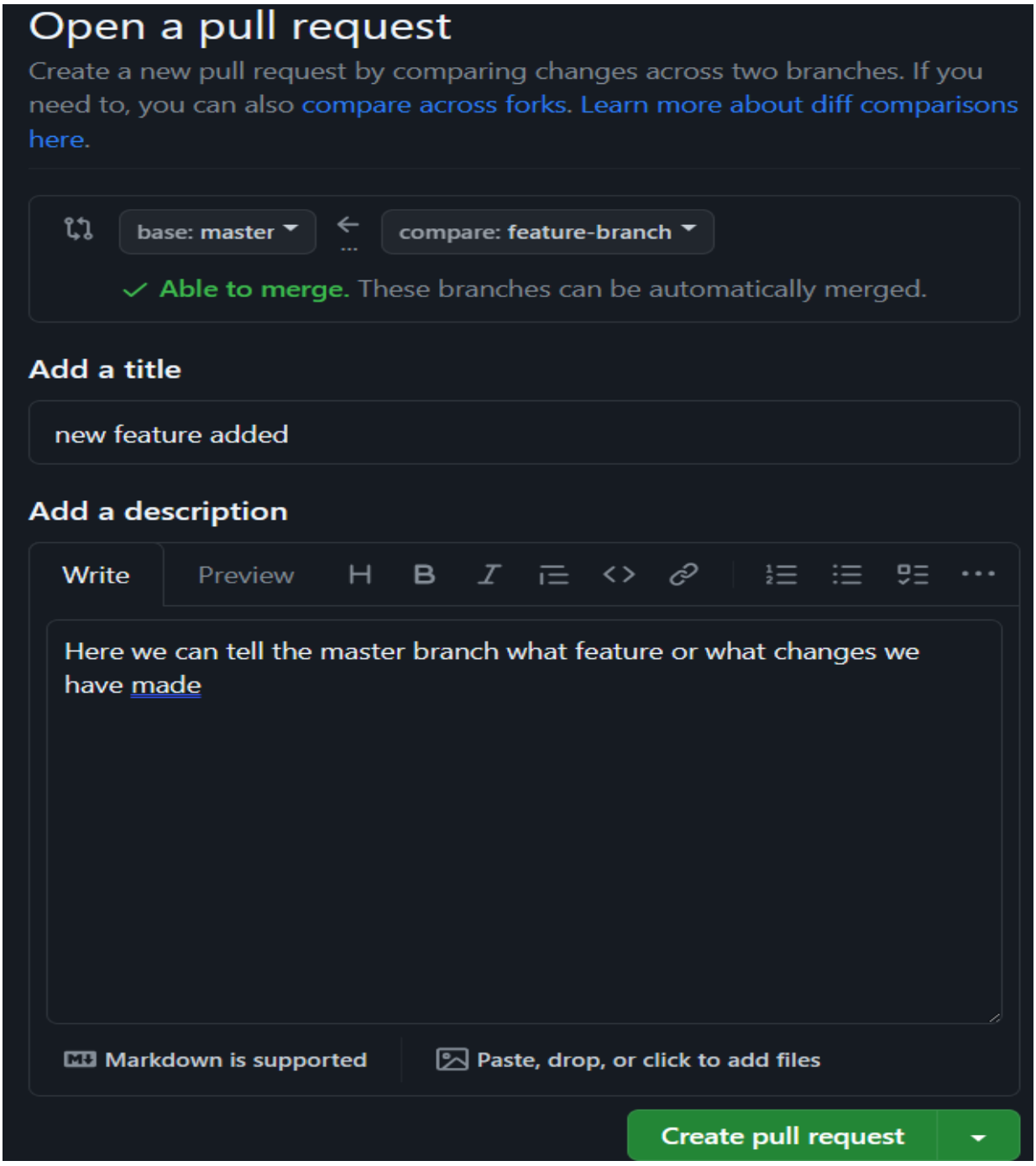
```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/newproject/myname (feature-branch)
$ git push origin feature-branch
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 322 bytes | 322.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'feature-branch' on GitHub by visiting:
remote:      https://github.com/Rakib-Hasan25/GithubPractice/pull/new/feature-branch
remote:
To https://github.com/Rakib-Hasan25/GithubPractice.git
 * [new branch]      feature-branch -> feature-branch
```



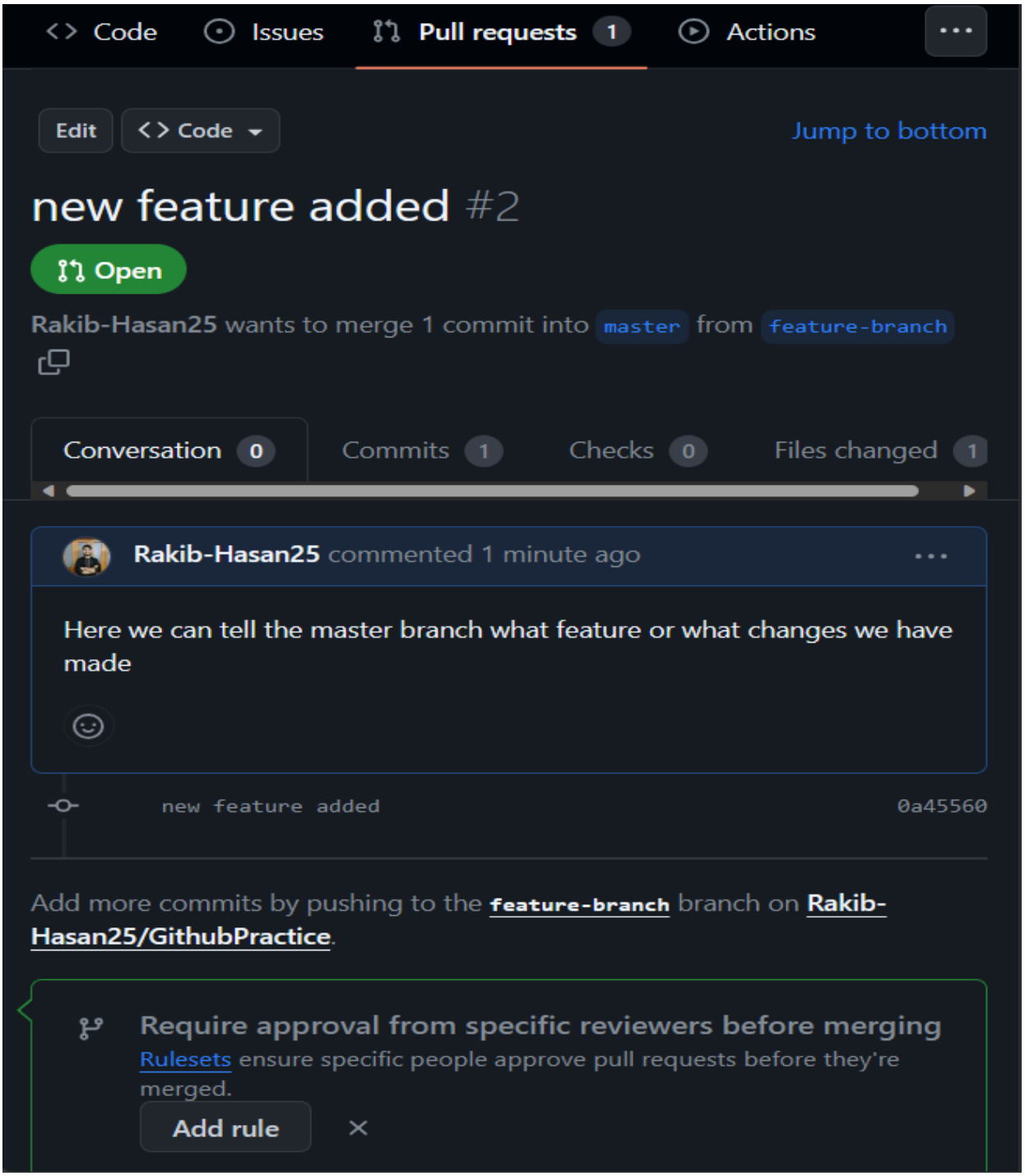

After that visit the github the thing which we now push, will be visible on github on feature branch

⇨ Important thing to note , pushed files is on the feature branch but if we want to marge it with our (master branch) , we have to do a pull request
In github we will see a msg like the below

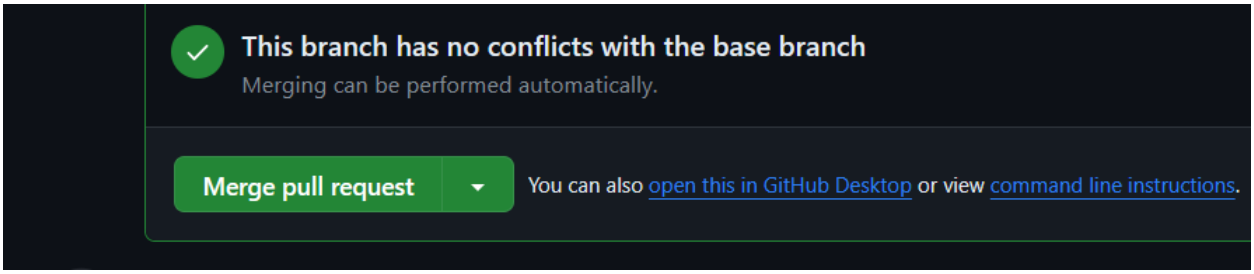
Now we have to click on pull request, after clicking we will see something like below



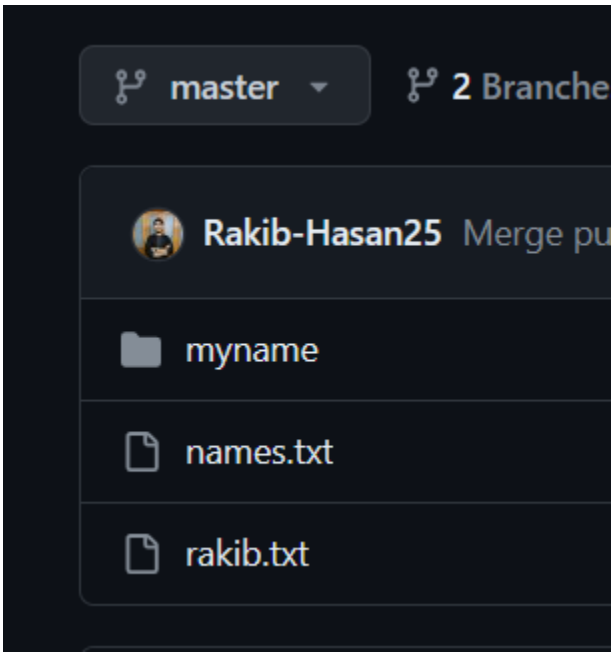

After making a pull request , our master branch or (owner of the repository) we get request




If everything alright master branch /other owner will accept the pull request and our file will be added in master branch




Our feature-branch file now visible in master branch

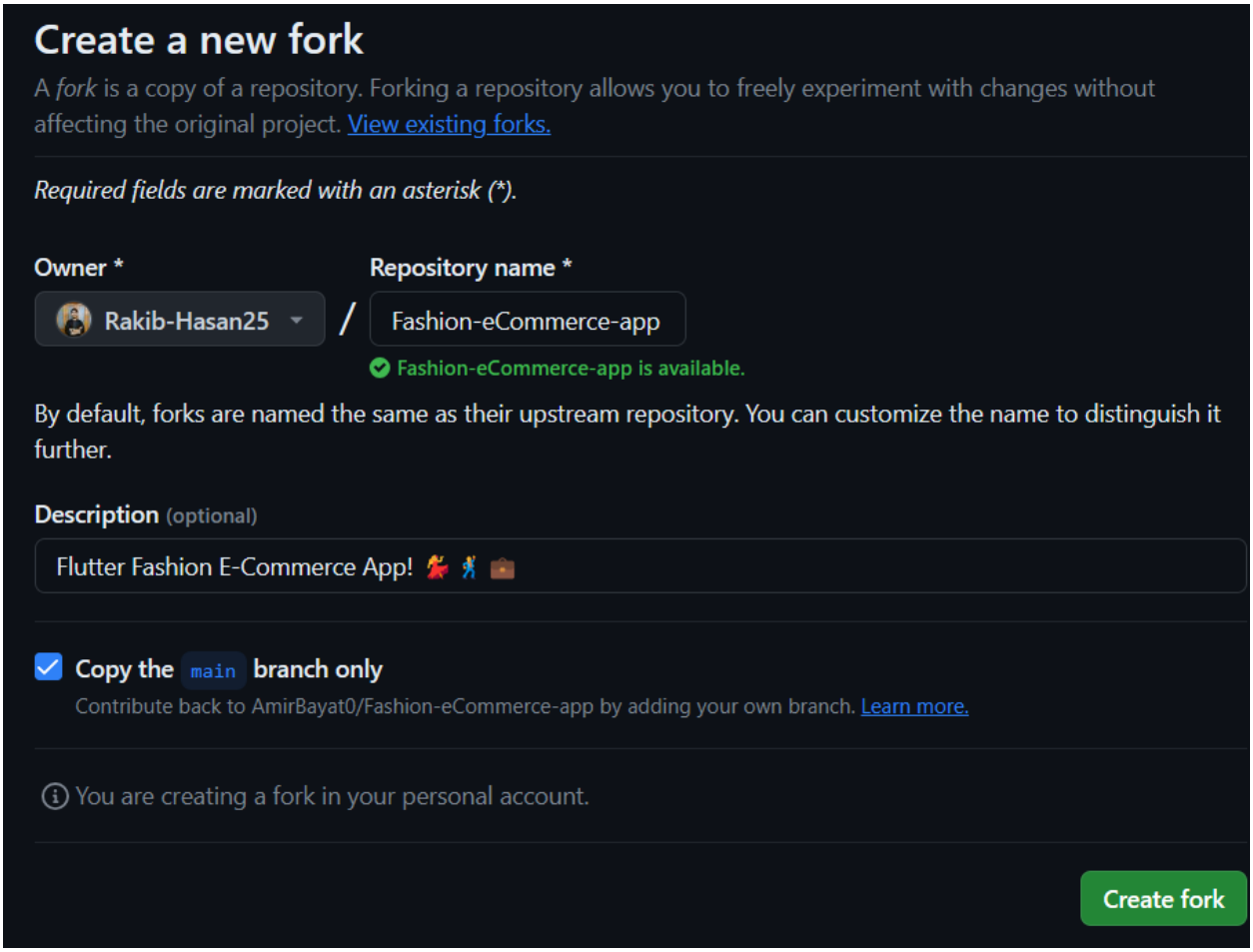



## How to work on other public repository

1. We have to fork other repository in easy words we copy other project
   For example

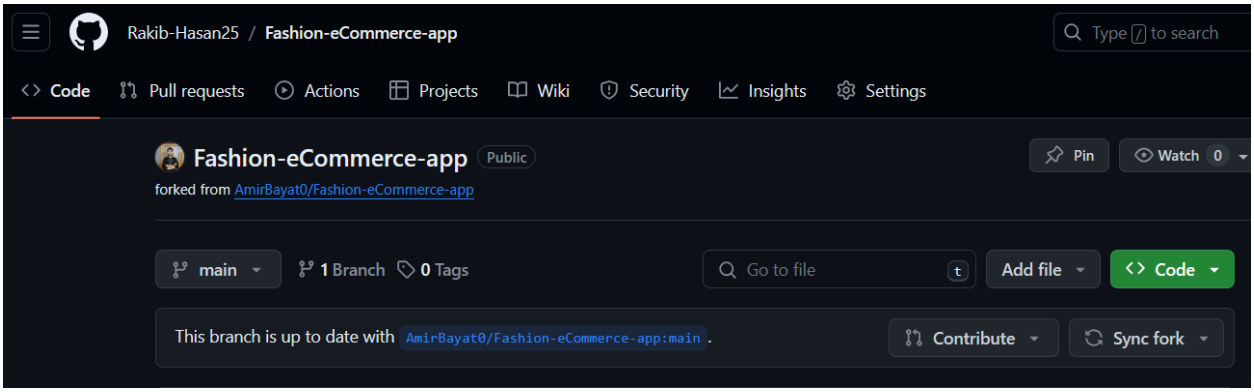
   

   It is an public project and we can Fork / copy this repository
   By clicking on fork , we can see a page which can be look like below

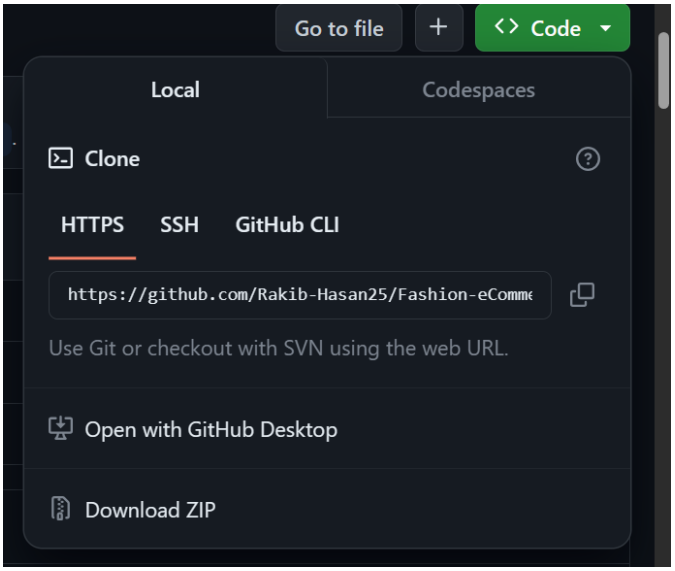



After clicking on create fork :

Clone the project in local:



In their I have to click on code




Copy this url

```
rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop
$ mkdir ProjectClone

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop
$ cd ProjectClone

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/ProjectClone
$ git clone https://github.com/Rakib-Hasan25/Fashion-eCommerce-app.git
Cloning into 'Fashion-eCommerce-app'...
fatal: unable to access 'https://github.com/Rakib-Hasan25/Fashion-eCommerce-app.git

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/ProjectClone
$ git init
Initialized empty Git repository in C:/Users/rakib/Desktop/ProjectClone/.git/

rakib@rakibhasan MINGW64 /c/Users/Rakib/Desktop/ProjectClone (master)
$ git clone https://github.com/Rakib-Hasan25/Fashion-eCommerce-app.git
Cloning into 'Fashion-eCommerce-app'...
remote: Enumerating objects: 149, done.
remote: Counting objects: 100% (149/149), done.
remote: Compressing objects: 100% (119/119), done.
remote: Total 149 (delta 10), reused 134 (delta 8), pack-reused 0
Receiving objects: 100% (149/149), 9.20 MiB | 1.14 MiB/s, done.
Resolving deltas: 100% (10/10), done.
```

We create a folder and initialized the folder with git

And “git clone projecturl” it will clone this project

Important thing to note ; when we working on new features of a forked project and we have to make pull requests, for every pull request make a branch

If the forked project , main repository owner make some changes and I want to update my forked project with the Main repository changes

**We have to click on fetch upstream**

**Home Task: merge Conflict .**