Git and GitHub integration

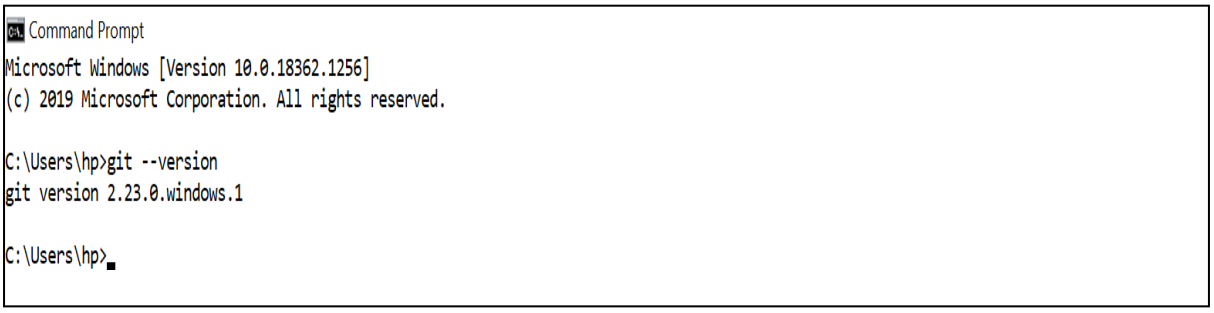
Git Installation Steps:

1. Browse to the official Git website: https://git-scm.com/downloads
2. Click the download link for Windows and allow the download to complete.
3. Browse to the download location (or use the download shortcut in your browser). Double-click the file to extract and launch the installer.
4. Allow the app to make changes to your device by clicking "Yes" on the User Account Control dialog that opens.
5. Review the GNU General Public License, and when you're ready to install, click "Next".
6. The installer will ask you for an installation location. Leave the default, unless you have reason to change it, and click "Next".
7. A component selection screen will appear. Leave the defaults unless you have a specific need to change them and click "Next".
8. The installer will offer to create a start menu folder. Simply click "Next".
9. Select a text editor you'd like to use with Git. Use the drop-down menu to select Notepad++ (or whichever text editor you prefer) and click Next.
10. This installation step allows you to change the PATH environment. The PATH is the default set of directories included when you run a command from the command line. Leave this on the middle (recommended) selection and click "Next".
11. The next option relates to server certificates. Most users should use the default. If you're working in an Active Directory environment, you may need to switch to Windows Store certificates. Click Next.
12. The next selection converts line endings. It is recommended that you leave the default selection. This relates to the way data is formatted and changing this option may cause problems. Click Next.
13. Choose the terminal emulator you want to use. The default MinTTY is recommended, for its features. Click Next.
14. Once the installation is complete, tick the boxes to view the Release Notes or Launch Git Bash, then click Finish.

Git Commands:

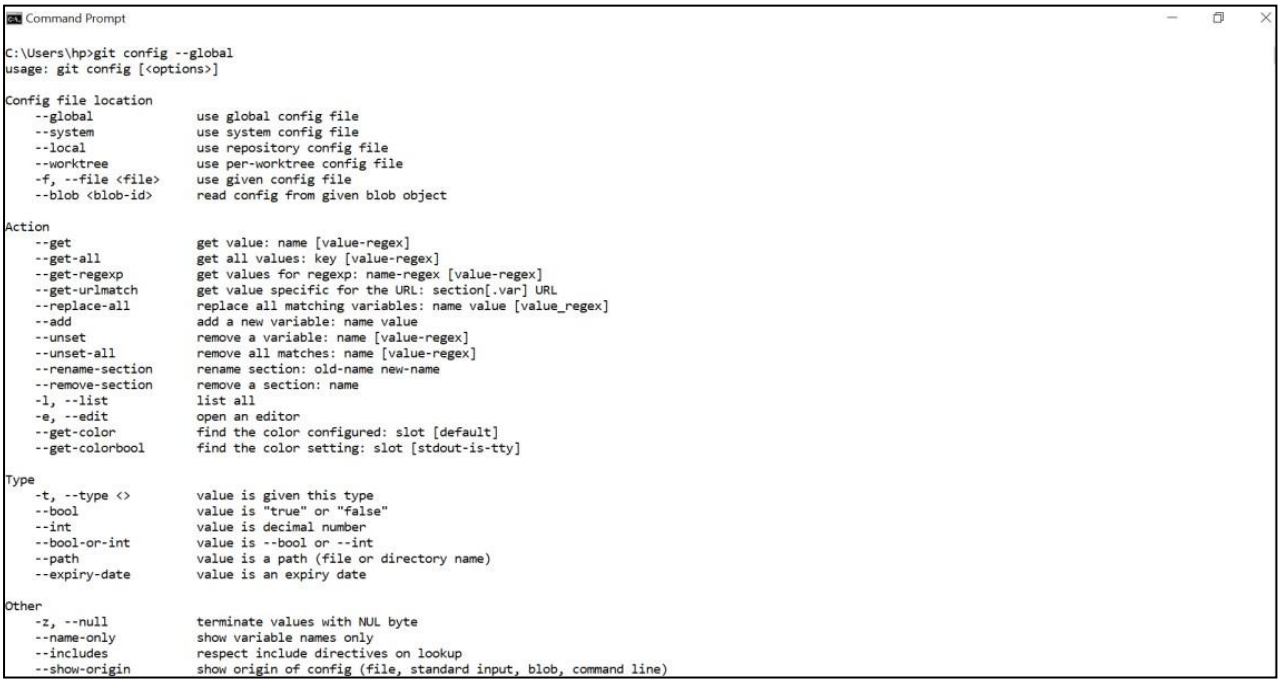
>git –version

This command provides the version of the git installed



>git –global

This command lists out all the possible commands that we can execute under git



>mkdir git-demo-project

>cd git-demo-project

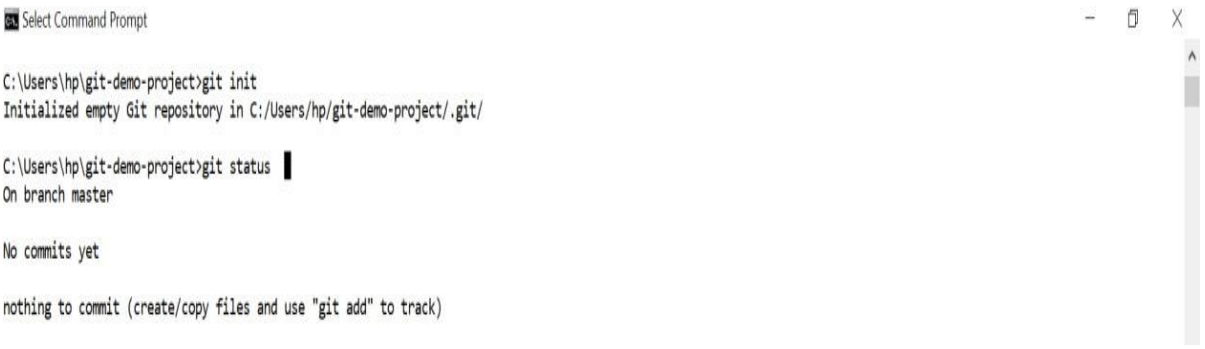
This command will make a new working directory on the local machine

>git init

This command is used to start a new repository.

>git status

This command lists all the files that have to be committed.



>git add <file name with extension>

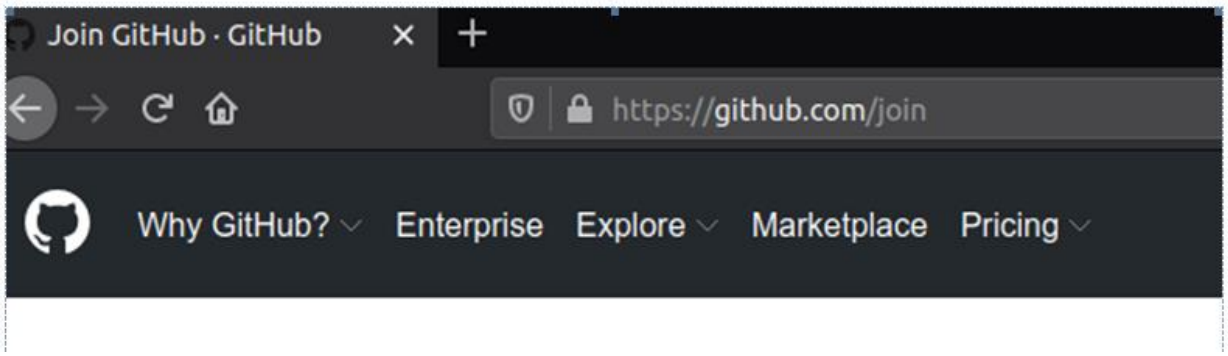
This command adds a file to the staging area.

>git commit –m “First Commit”

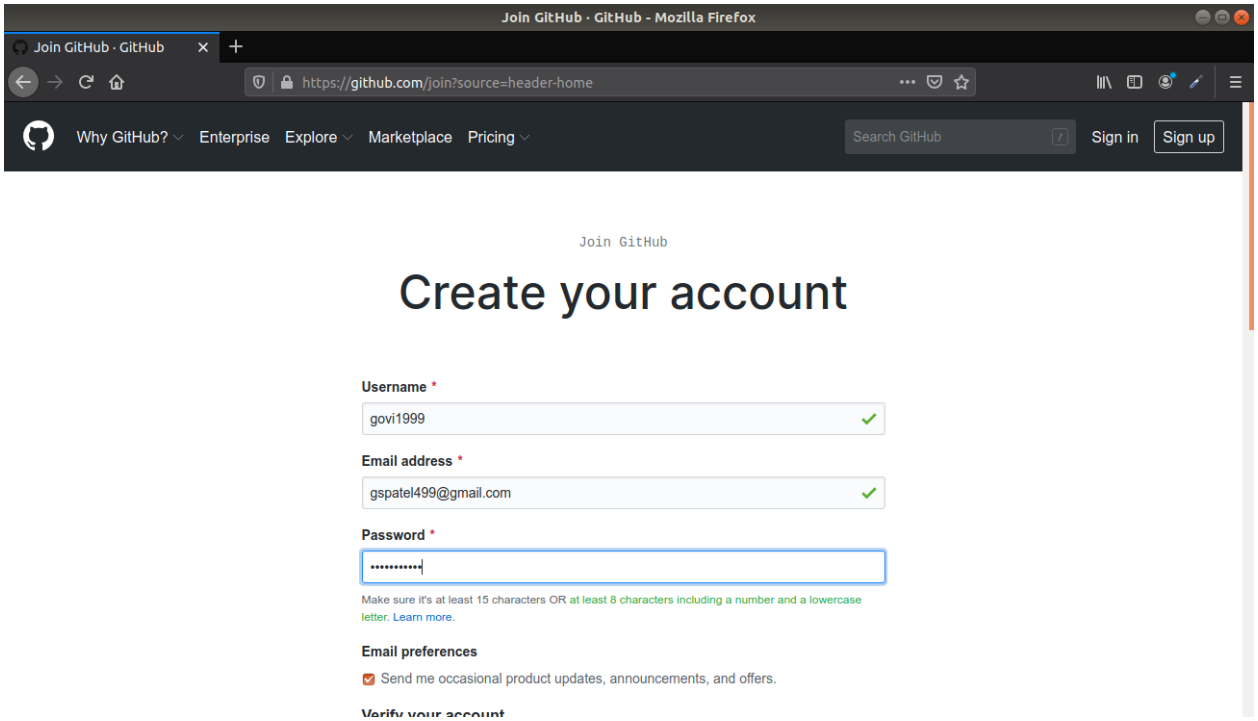
This command records or snapshots the file permanently in the version history.

Creation of GitHub Account

Go to https://github.com/join in a web browser. You can use any web browser on your computer, phone, or tablet to join.

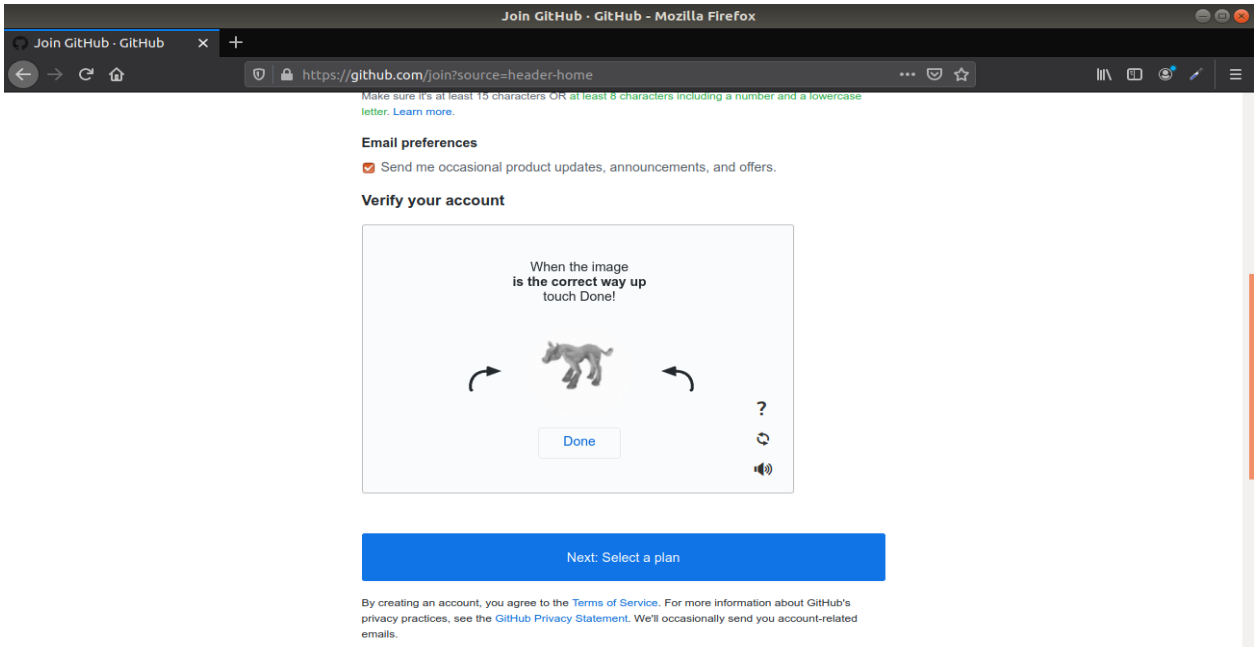


2.Enter your personal details. In addition to creating a username and entering an email address, you'll also have to create a password. Your password must be at least 15 characters in length *or* at least 8 characters with at least one number and lowercase letters.



3.Complete the CAPTCHA puzzle.

The instructions vary by puzzle, so just follow the on-screen instructions to confirm that you are a human.



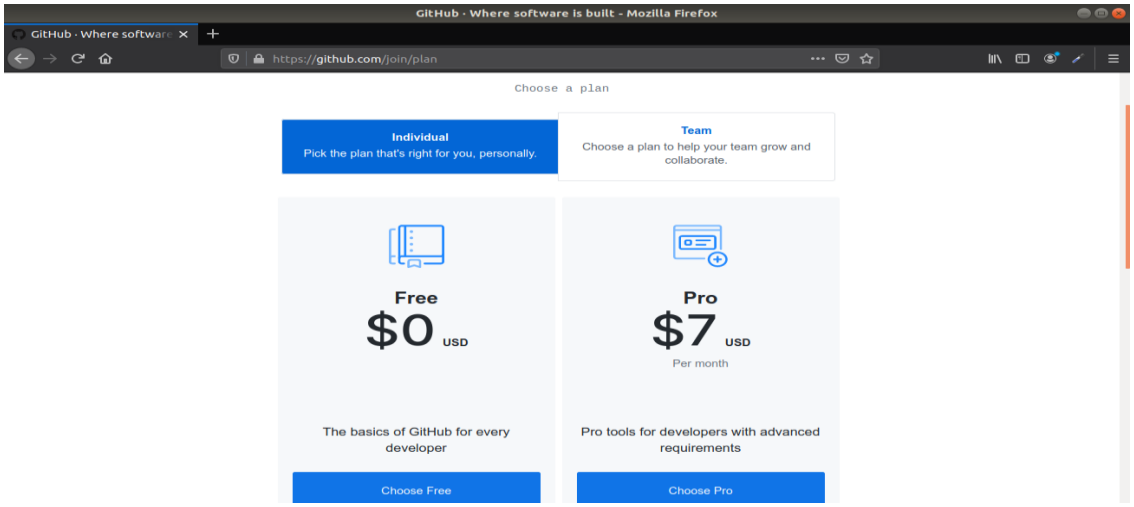
4. Click on Next Select a plan

5.**Click the Choose button for your desired plan.** One you select a plan, GitHub will send an email confirmation message to the address you entered.

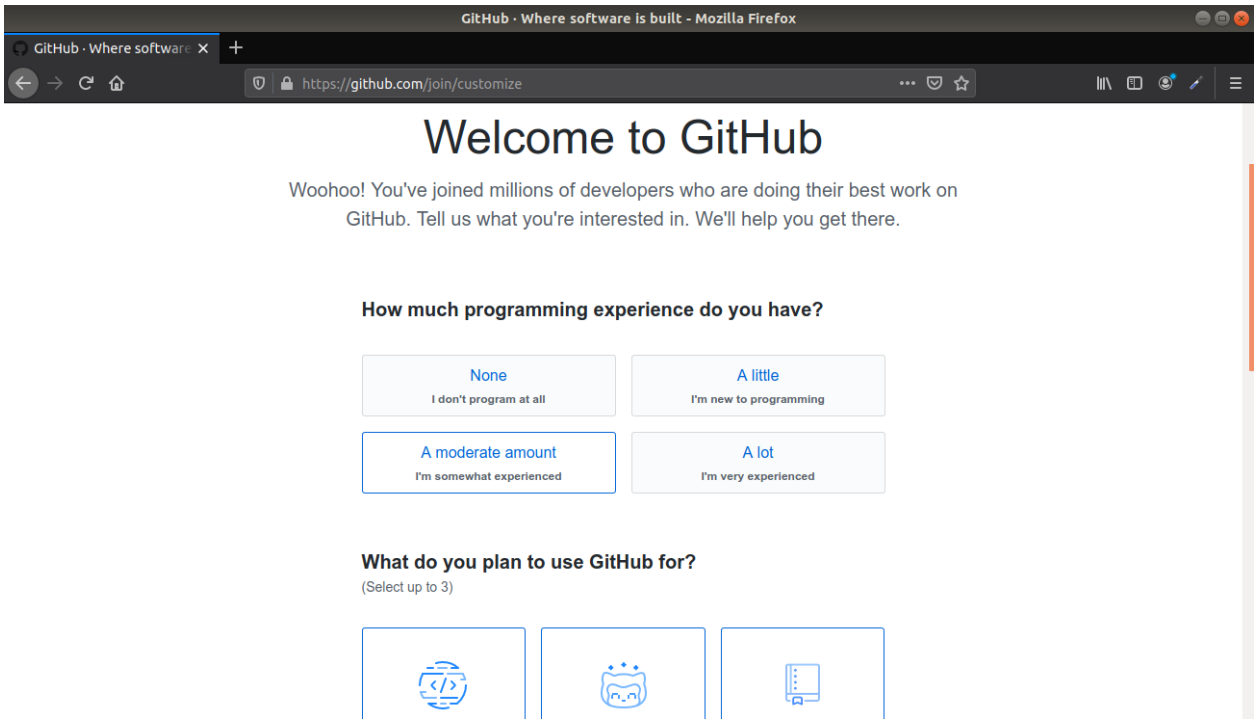
The plan options are

Free: Unlimited public and private repositories, up to 3 collaborators, issues and bug tracking, and project management tools.

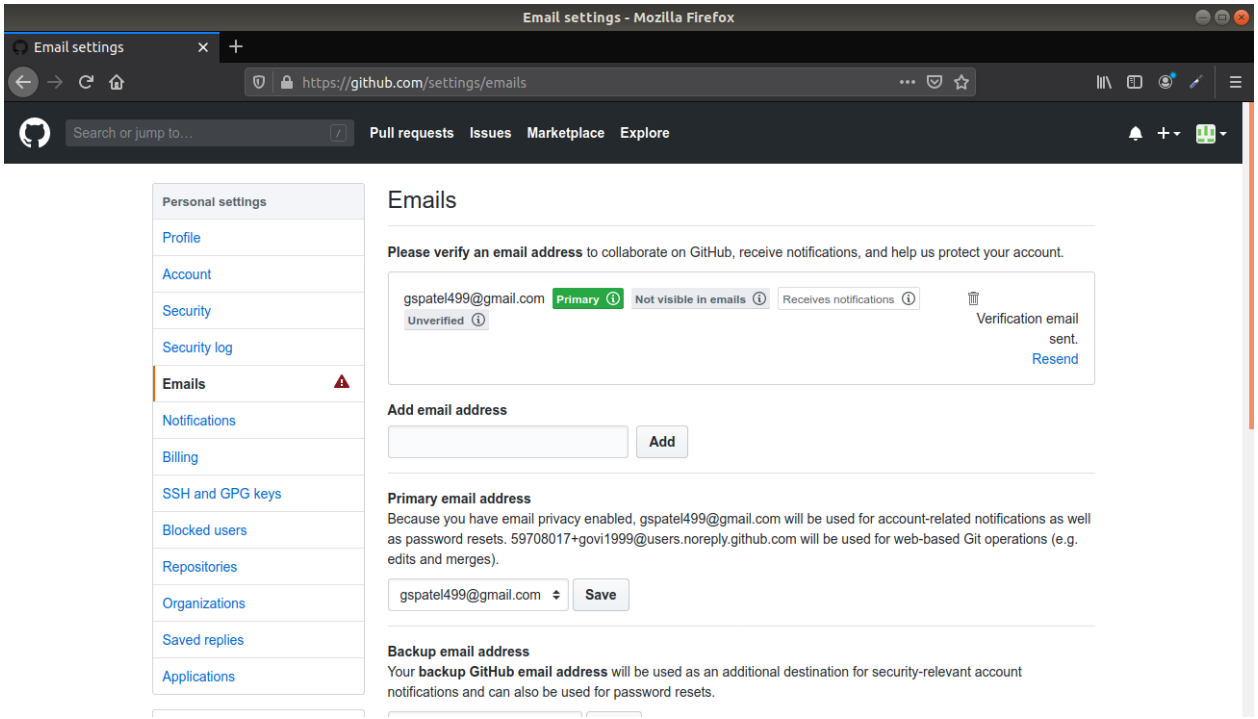
Pro: Unlimited access to all repositories, unlimited collaborators, issue & bug tracking, and advanced insight tools.

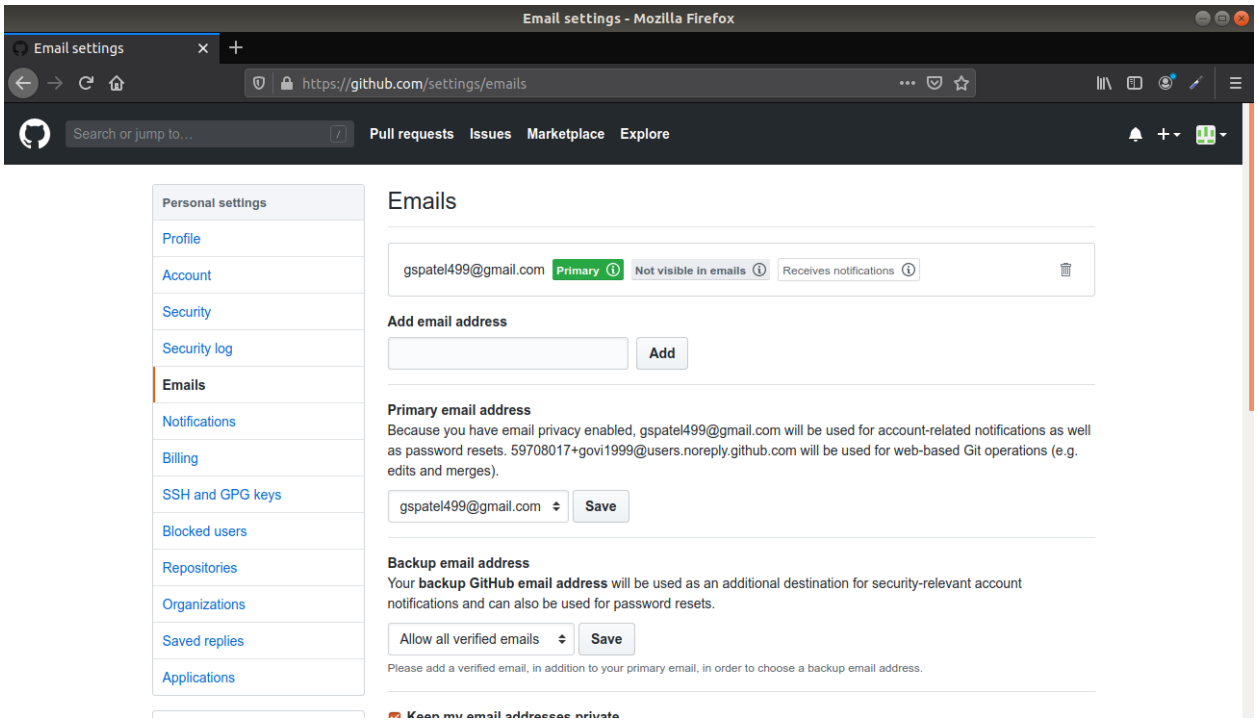


6.Select your preferences and click on the submit button.



7.Verify Your Email Address.


Email settings - Mozilla Firefox
Email settings
https://github.com/settings/emails
Search or jump to…
Pull requests
Issues
Marketplace
Explore
Personal settings
Profile
Account
Security
Security log
Emails
Notifications
Billing
SSH and GPG keys
Blocked users
Repositories
Organizations
Saved replies
Applications
Emails
Please verify an email address to collaborate on GitHub, receive notifications, and help us protect your account.
gspatel499@gmail.com
Primary
Not visible in emails
Receives notifications
Unverified
Verification email sent.
Resend
Add email address
Add
Primary email address
Because you have email privacy enabled, gspatel499@gmail.com will be used for account-related notifications as well as password resets. 59708017+govi1999@users.noreply.github.com will be used for web-based Git operations (e.g. edits and merges).
gspatel499@gmail.com
Save
Backup email address
Your backup GitHub email address will be used as an additional destination for security-relevant account notifications and can also be used for password resets.


Email settings - Mozilla Firefox
Email settings
https://github.com/settings/emails
Search or jump to…
Pull requests
Issues
Marketplace
Explore
Personal settings
Profile
Account
Security
Security log
Emails
Notifications
Billing
SSH and GPG keys
Blocked users
Repositories
Organizations
Saved replies
Applications
Emails
gspatel499@gmail.com
Primary
Not visible in emails
Receives notifications
Add email address
Add
Primary email address
Because you have email privacy enabled, gspatel499@gmail.com will be used for account-related notifications as well as password resets. 59708017+govi1999@users.noreply.github.com will be used for web-based Git operations (e.g. edits and merges).
gspatel499@gmail.com
Save
Backup email address
Your backup GitHub email address will be used as an additional destination for security-relevant account notifications and can also be used for password resets.
Allow all verified emails
Save
Please add a verified email, in addition to your primary email, in order to choose a backup email address.

Git and GitHub Commands:

1) Create a new branch: git checkout -b <branch-name>

```
C:\Users\admin\git-demo-project>git checkout -b newbranch
Switched to a new branch 'newbranch'

C:\Users\admin\git-demo-project>
```

2) Pushing changes to the branch:

Add a new file in the new branch.

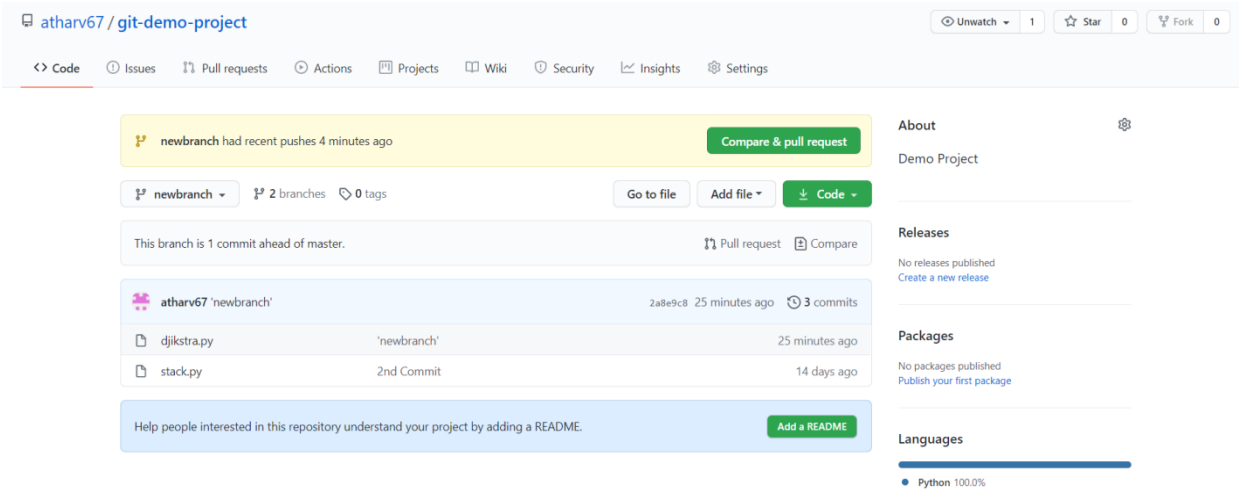
```
C:\Users\admin\git-demo-project>git add djikstra.py
```

Commit the changes.

```
C:\Users\admin\git-demo-project>git commit -m 'newbranch'
[newbranch 2a8e9c8] 'newbranch'
 1 file changed, 136 insertions(+)
 create mode 100644 djikstra.py
```

git push origin <branchname> : Pushes the new branch changes to the repository.

```
C:\Users\admin\git-demo-project>git push origin newbranch
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 1.02 KiB | 349.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0)
remote:
remote: Create a pull request for 'newbranch' on GitHub by visiting:
remote:      https://github.com/atharv67/git-demo-project/pull/new/newbranch
remote:
To https://github.com/atharv67/git-demo-project.git
 * [new branch]      newbranch -> newbranch
```



3) Opening a pull request: git pull <remote>

```
C:\Atharv\Sem 8\Devops>git pull https://github.com/atharv67/git-demo-project
remote: Enumerating objects: 6, done.
remote: Counting objects: 100% (6/6), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 6 (delta 1), reused 6 (delta 1), pack-reused 0
Unpacking objects: 100% (6/6), done.
From https://github.com/atharv67/git-demo-project
 * branch            HEAD       -> FETCH_HEAD
```

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4) Merging pull request: git merge newbranch

```
C:\Users\admin\git-demo-project>git merge newbranch
Updating c14ed61..2a8e9c8
Fast-forward
 djikstra.py | 136 ++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++++
 1 file changed, 136 insertions(+)
 create mode 100644 djikstra.py
```

5)Fetch command :

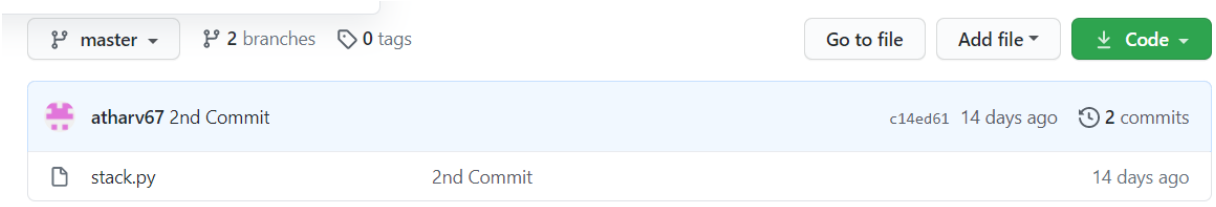
```
C:\Users\admin\git-demo-project>git fetch origin newbranch
From https://github.com/atharv67/git-demo-project
 * branch            newbranch  -> FETCH_HEAD
```

6)Switch to master branch:

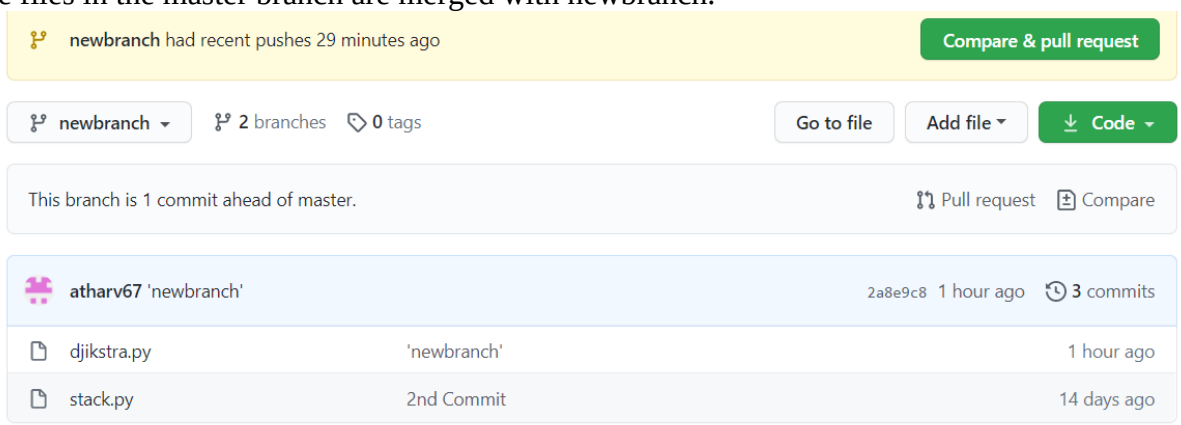
```
C:\Users\admin\git-demo-project>git checkout master
Switched to branch 'master'
```

Result:

Files in master branch:



The files in the master branch are merged with newbranch.



>git clone “project url link on Github”

This command will help us clone any public project posted on github on our local machines