Workshop on GIT & GITHUB

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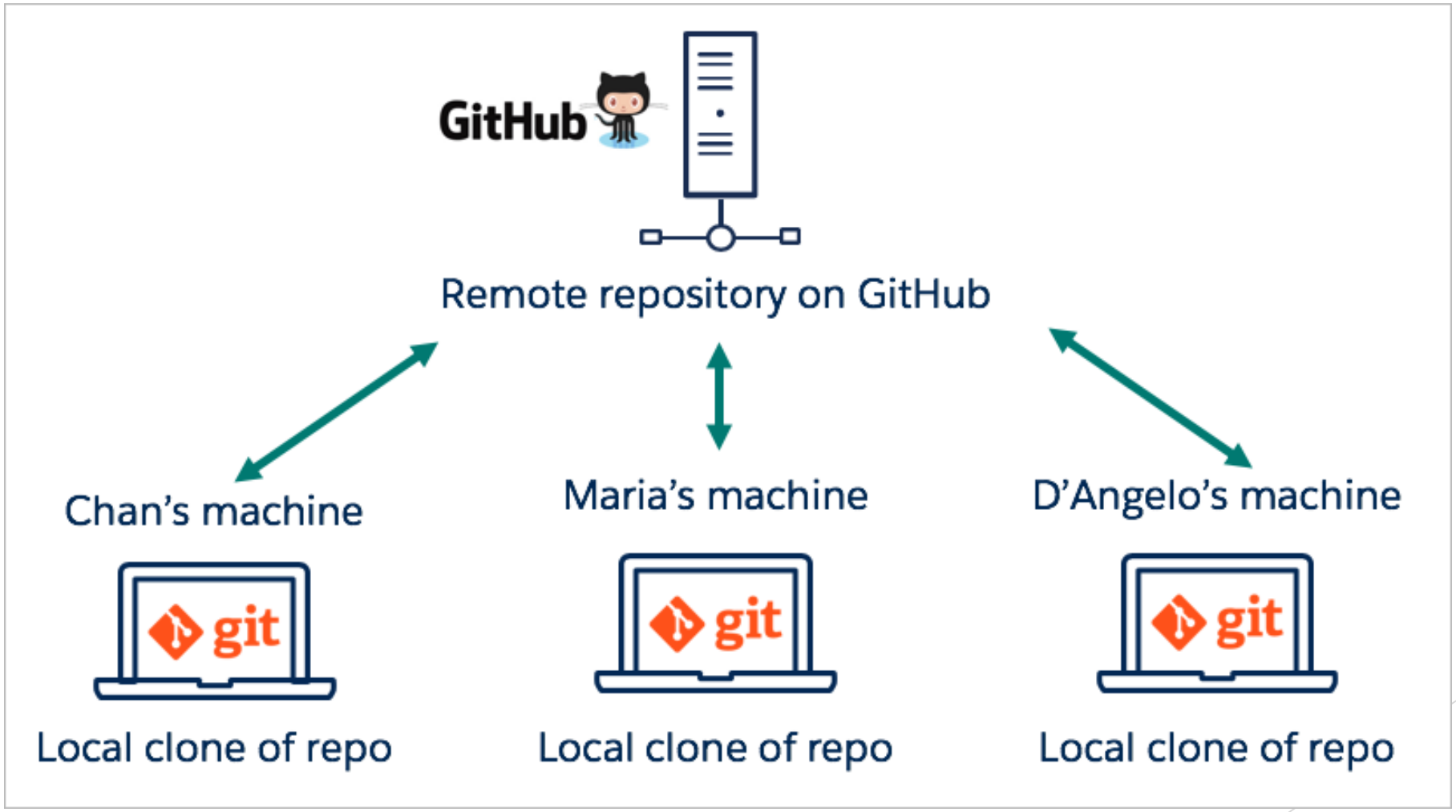
GIT Introduction

- Git is a version-control system for tracking changes in computer files and coordinating work on those files among multiple people.
- GIT is a ***Distributed Version Control System***.
- Git helps you ***keep track of the changes*** you make to your code.

Github

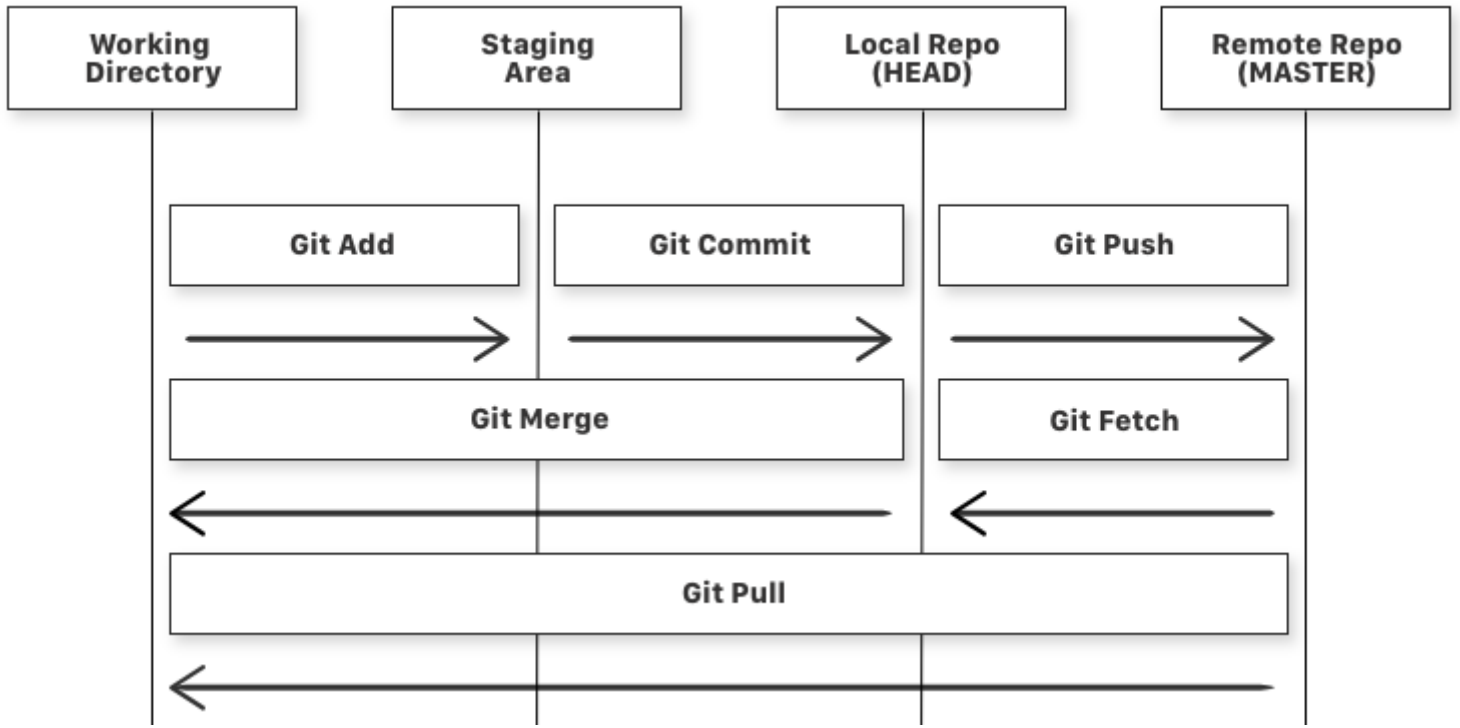
- GitHub, is a service that let you host, share, and manage your code files on the internet.

GIT Introduction



GIT Workflow

- There are four fundamental elements in the Git Workflow.
- Working Directory, Staging Area, Local Repository and Remote Repository.



GIT Config Setup

Setting your Git username for *every* repository on your computer

- Open Git Bash.

Setup Name

- Git config --global user.name “Yourname”

Setup Email

- Git config --global user.email “Youremail”

Check Name/Email

- Git config --global user.name
- Git config --global user.email

Setting your Git username for a single repository

Setup Name

- Git config user.name “Yourname”

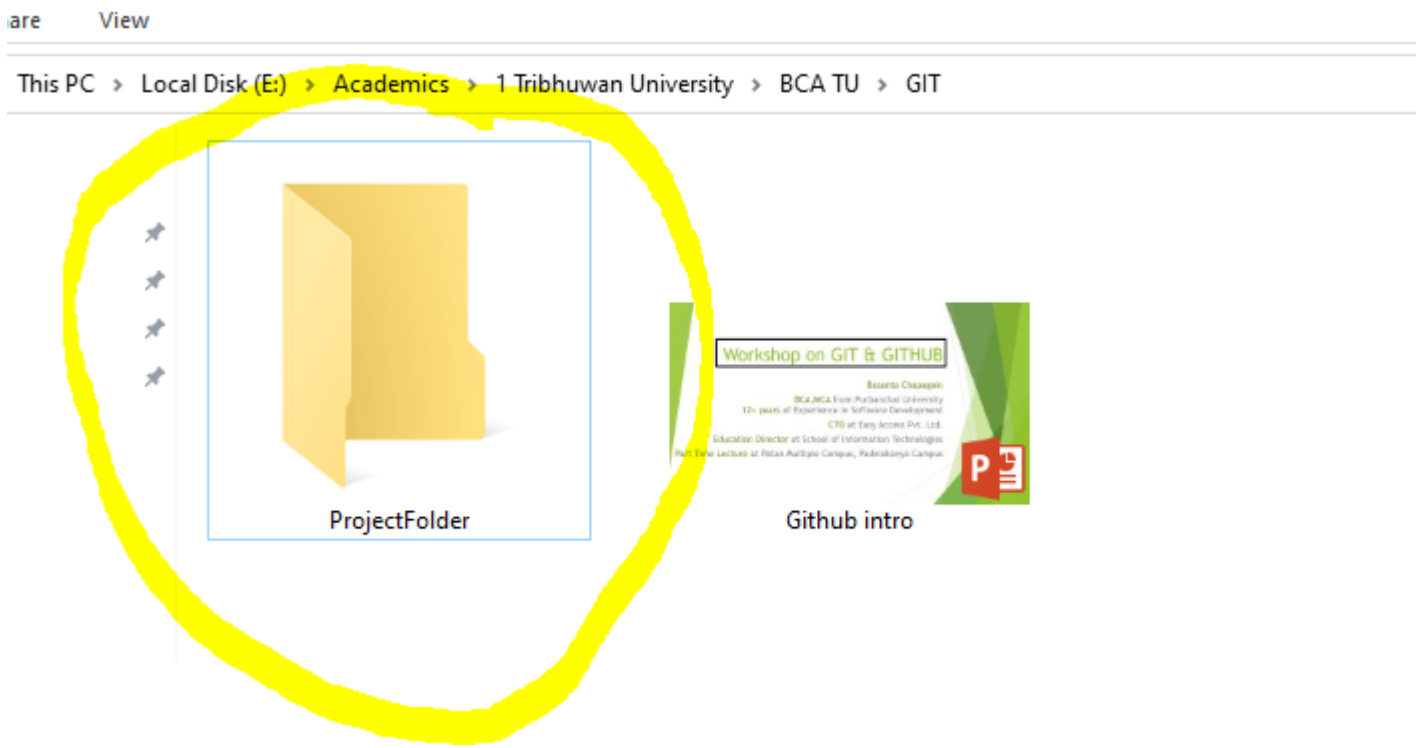
Setup Email

- Git config user.email “Youremail”

Basic Commands

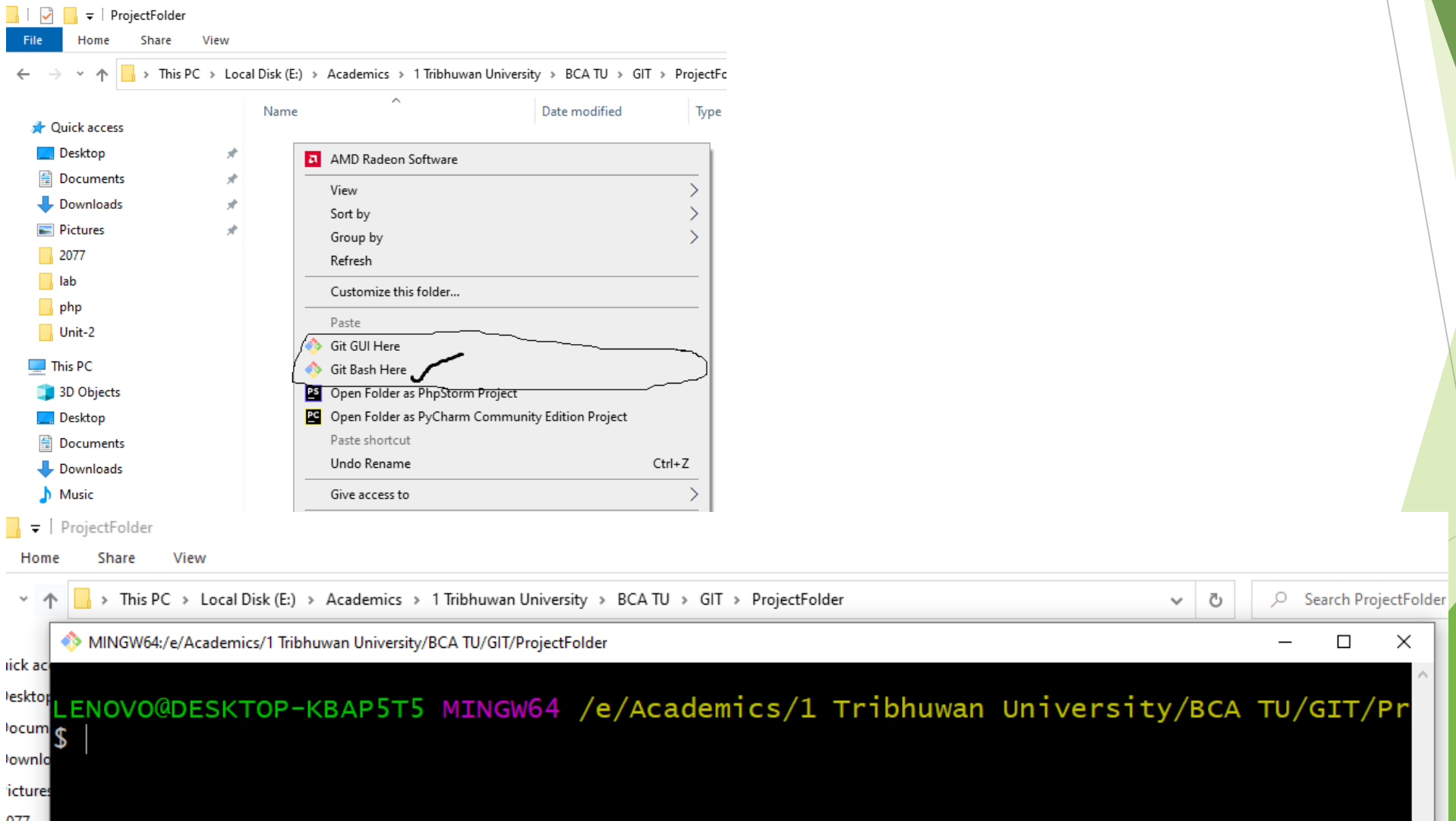
- **git init** lets you initialize Git in your folder.
- **git add Readme.md** lets you add the Readme file
- **git add .** lets you add all files in the present folder
- **git commit** stores the added files. Use **-m** for message followed by the actual message.
- **git branch** creates a new branch which is a new version of the repository as it appears when added, and -M to move the name to main.
- **git remote add origin** finally connects the local folder to the repository on GitHub. It is followed by the repository's link.
- **git push -u origin main** pushes the code to GitHub. The -u flag creates a tracking reference for the branch, and origin main puts the code in the main branch.

Choose your project or create folder



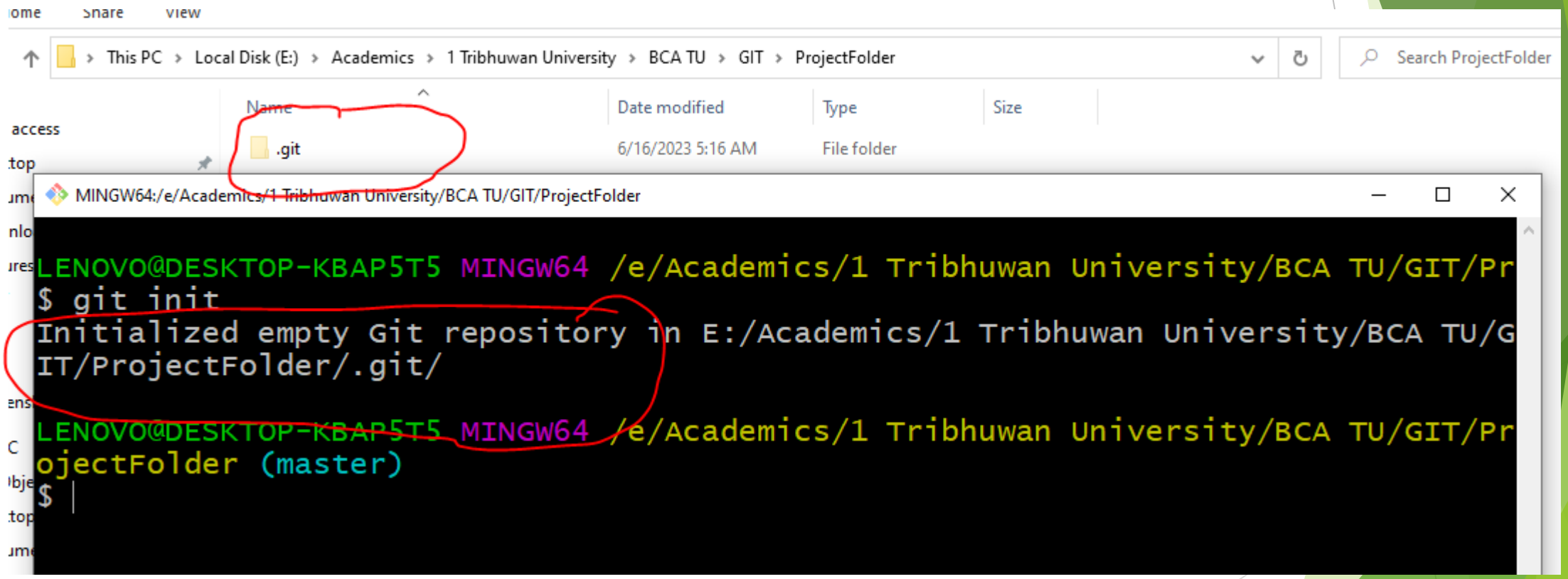
Open Gitbash

- Right click and click on gitbash option on context menu from your folder



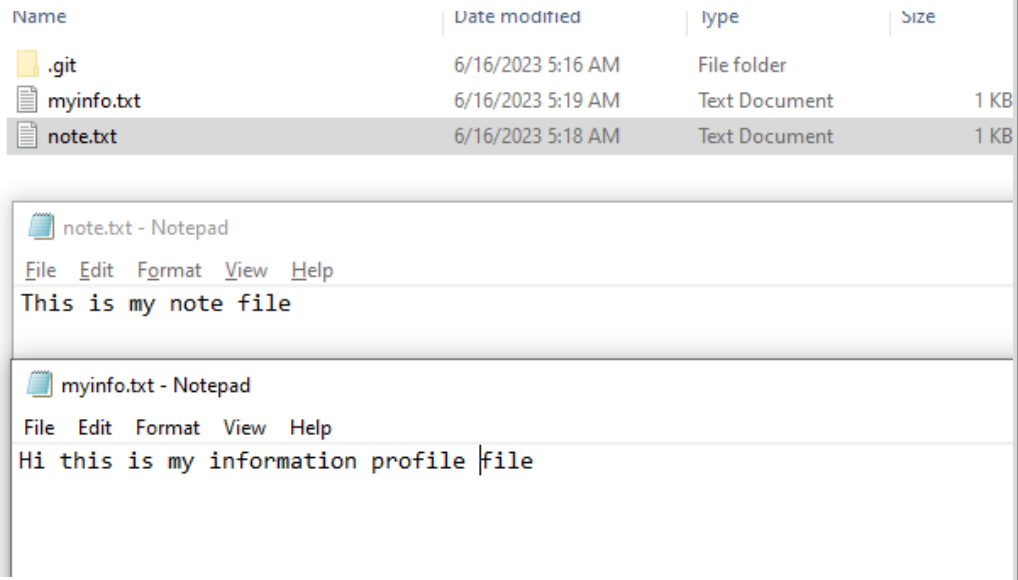
git init

- **git init** lets you initialize Git in your folder



Create file/folder into your directory and check git status

- Let's create two file myinfo.txt and note.txt and add some text information into your file




```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GI
$ git init
Initialized empty Git repository in E:/Academics/1 Tribhuwan University/BCA
IT/ProjectFolder/.git/

LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GI
ojectFolder (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        myinfo.txt.txt
        note.txt.txt

nothing added to commit but untracked files present (use "git add" to track)
```

Index or add file into git using git add

- git add filename (for specific file)
- git add . (for all file)

```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Aca
ojectFolder (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include
        myinfo.txt.txt
        note.txt.txt
```

```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Trib
ojectFolder (master)
$ git add .

LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Trib
ojectFolder (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   myinfo.txt.txt
        new file:   note.txt.txt
```

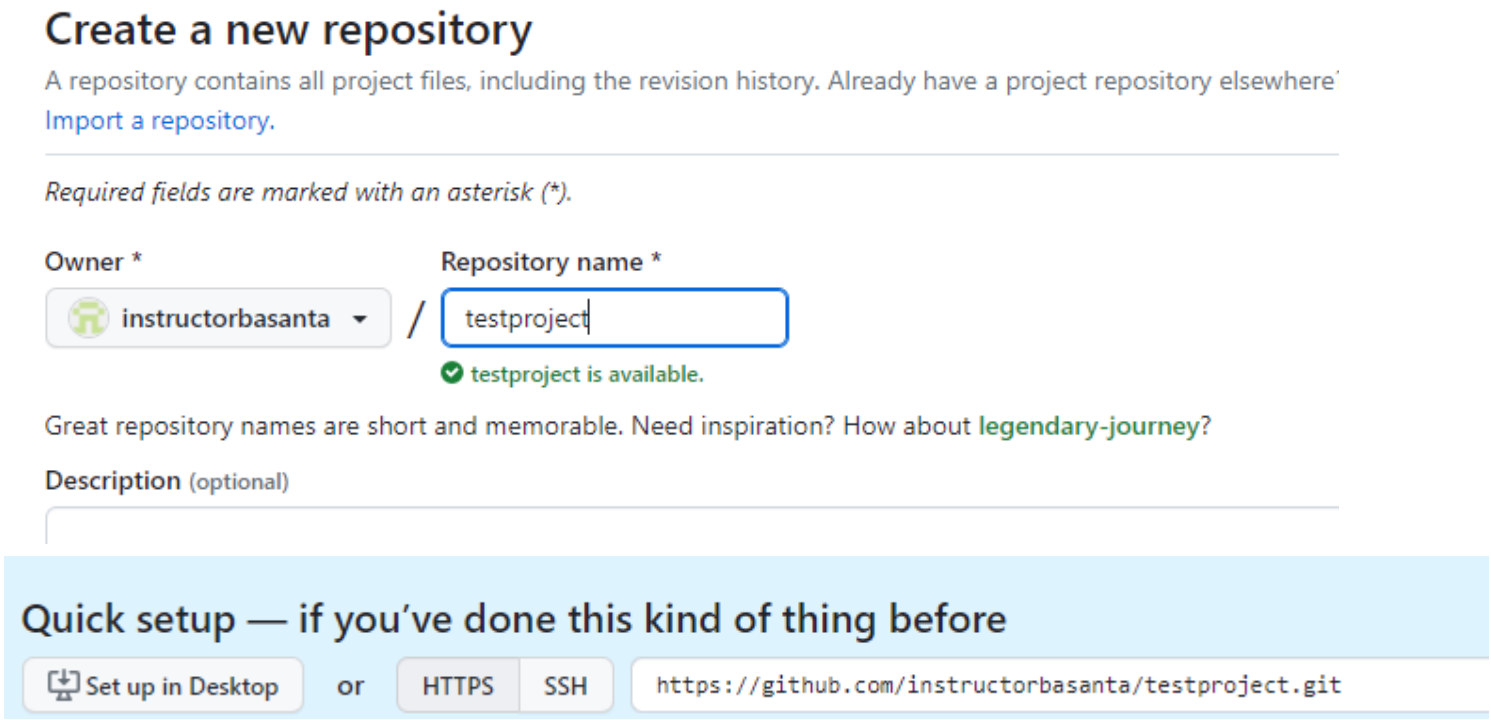
Commit your file into localrepo

- git commit –m “My commit message”

```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/B
ojectFolder (master)
$ git commit -m "New project created with two file"
[master (root-commit) 5e12603] New project created with two file
 2 files changed, 2 insertions(+)
 create mode 100644 myinfo.txt.txt
 create mode 100644 note.txt.txt

LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/B
ojectFolder (master)
$ git status
On branch master
nothing to commit, working tree clean
```

connect your folder to remote repo

- **git remote add origin** finally connects the local folder to the repository on GitHub. It is followed by the repository's link.




```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GIT/Pr
ojectFolder (master)
$ git remote add origin https://github.com/instructorbasanta/testproject.git
```

Check your log using git log command

- Git log command allows to check your log history

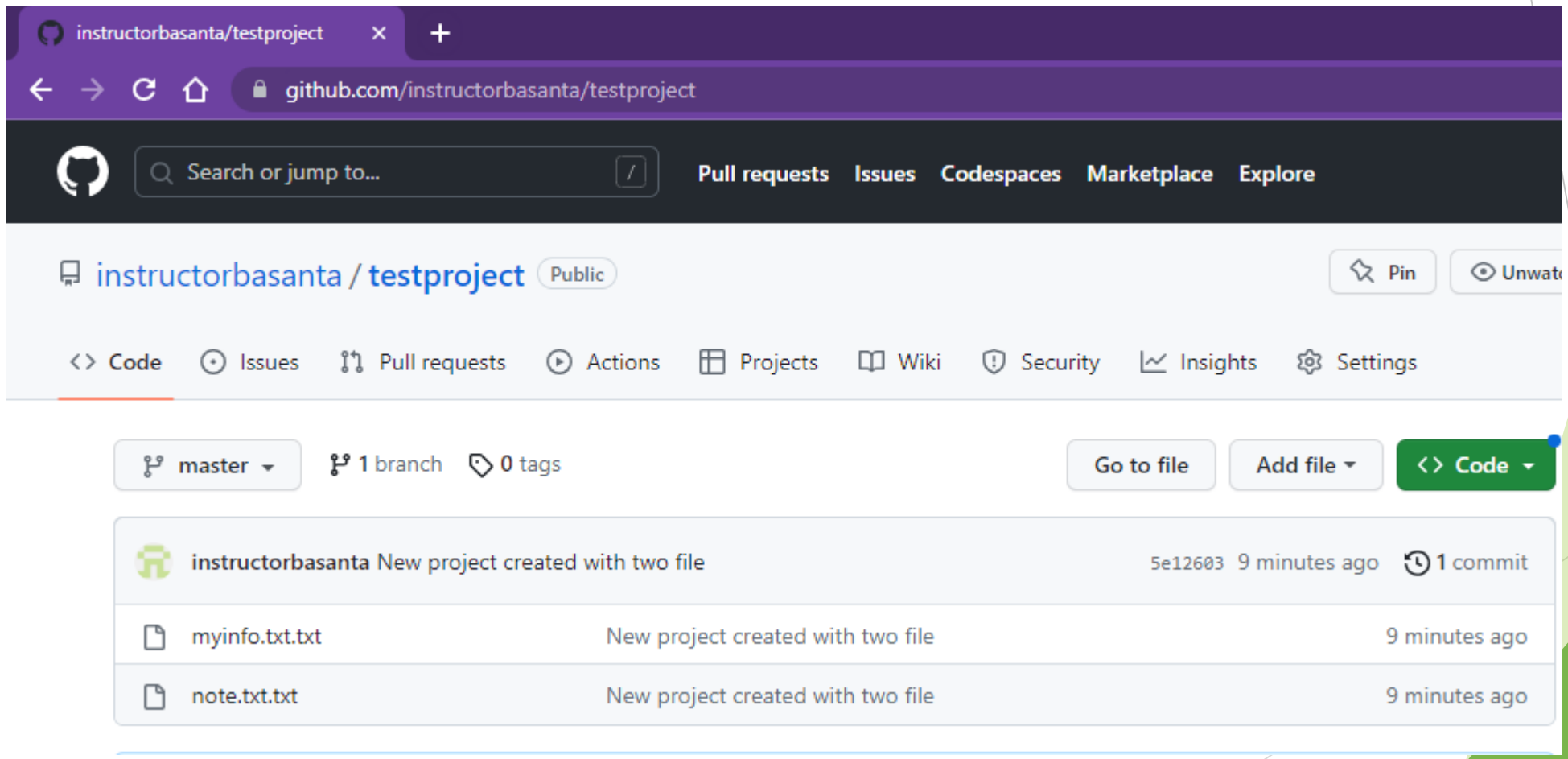
```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GIT/Pr
ojectFolder (master)
$ git log
commit 5e12603501b707f8f17d4c64105cc9dbd173f142 (HEAD -> master)
Author: Basanta Chapagain <instructor.basanta@gmail.com>
Date:   Fri Jun 16 05:28:35 2023 +0545

    New project created with two file
```

Finally send your code into remote repo

- Git push –u origin branch name / git push –u origin master
- You can change branch name according to your project feature or developer

```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GIT/P
ojectFolder (master)
$ git push -u origin master
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 333 bytes | 166.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/instructorbasanta/testproject.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
```

Finally check your code into remote repo using GUI



Basic Command Example

- echo "# sample-code" >> README.md
- git init
- git add .
- git commit -m "first commit"
- git branch -M main
- git remote add origin https://github.com/user/sample-project.git
- git push -u origin main

Any Questions?

Thank you