

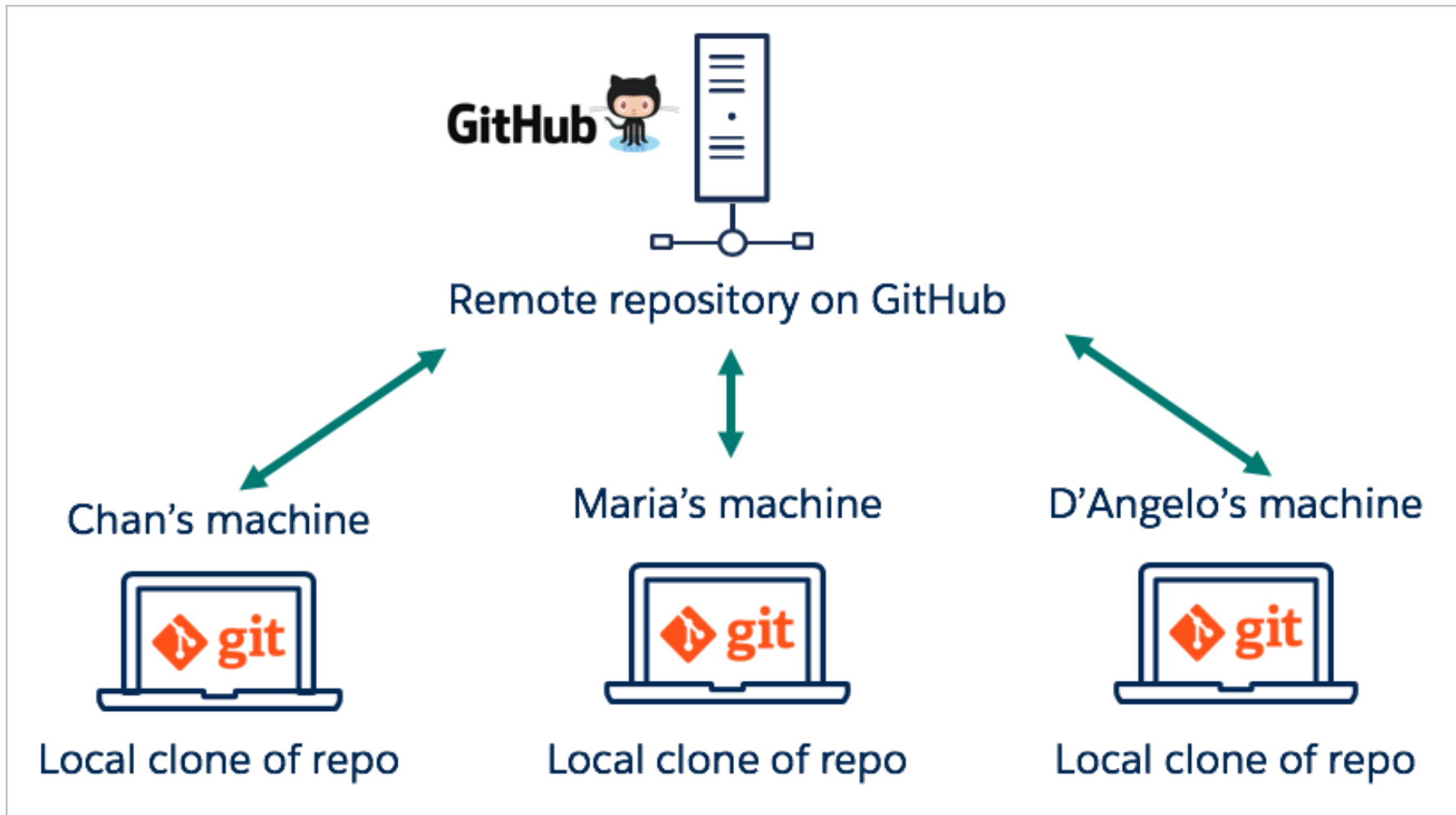
Workshop on GIT & GITHUB

Basanta Chapagain

GIT Introduction

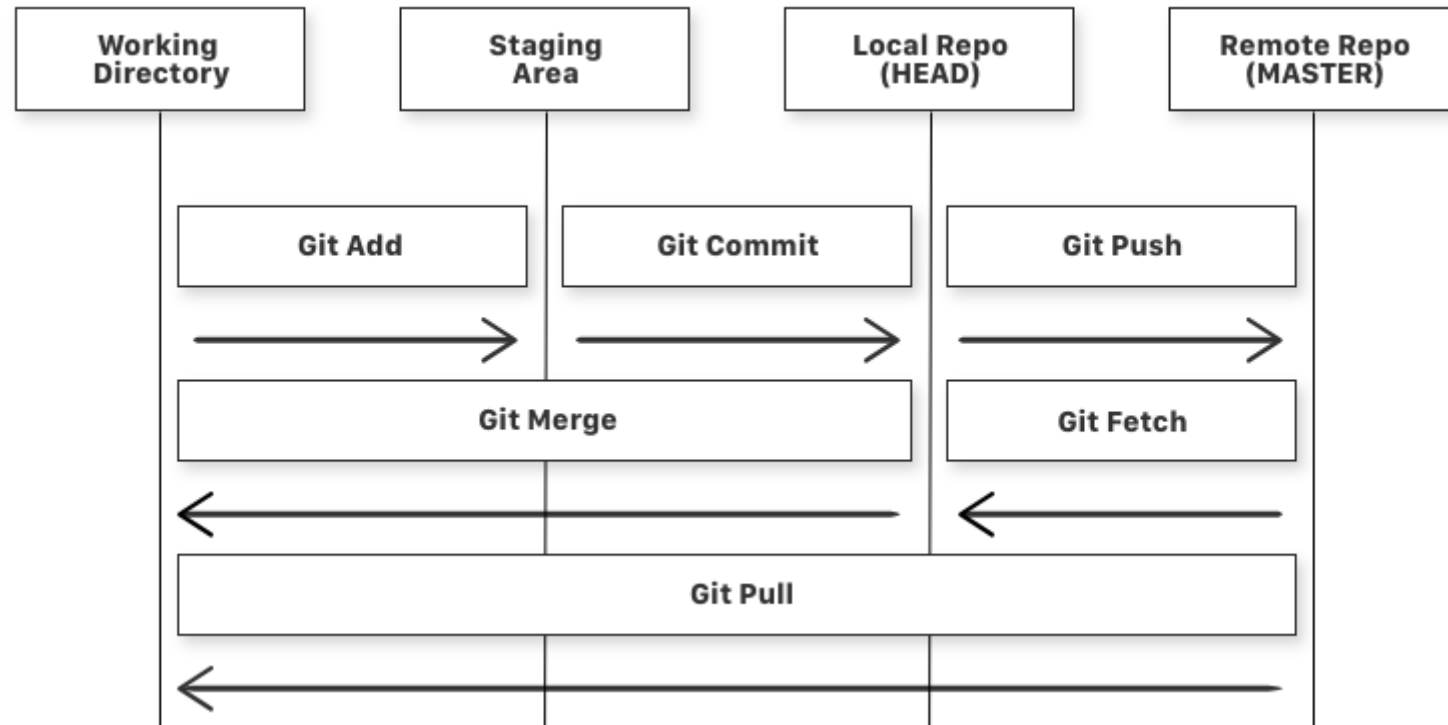
- ▶ Git is a version-control system for tracking changes in computer files and coordinating work on those files among multiple people.
- ▶ GIT is a ***Distributed Version Control System***.
- ▶ Git helps you ***keep track of the changes*** you make to your code.
- ▶ **Github**
- ▶ GitHub, is a service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

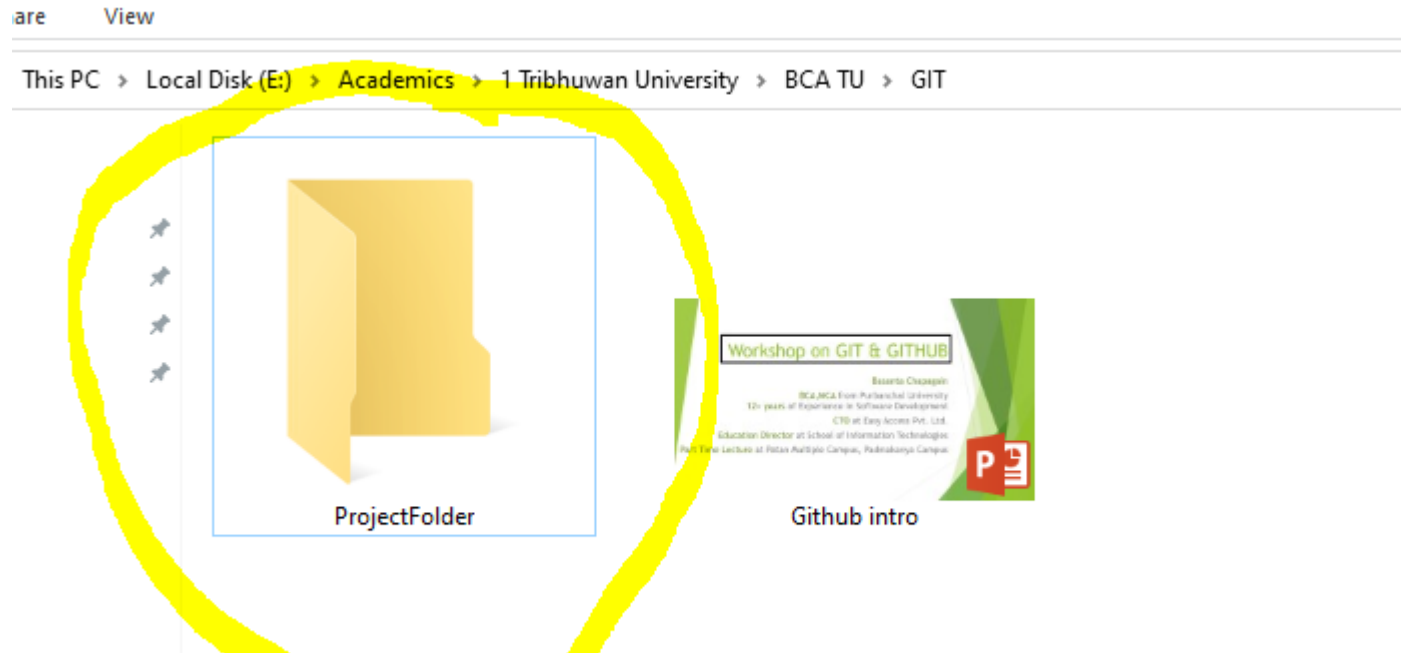
Setup Email

- ▶ `Git config user.email "Youremail"`

Basic Commands

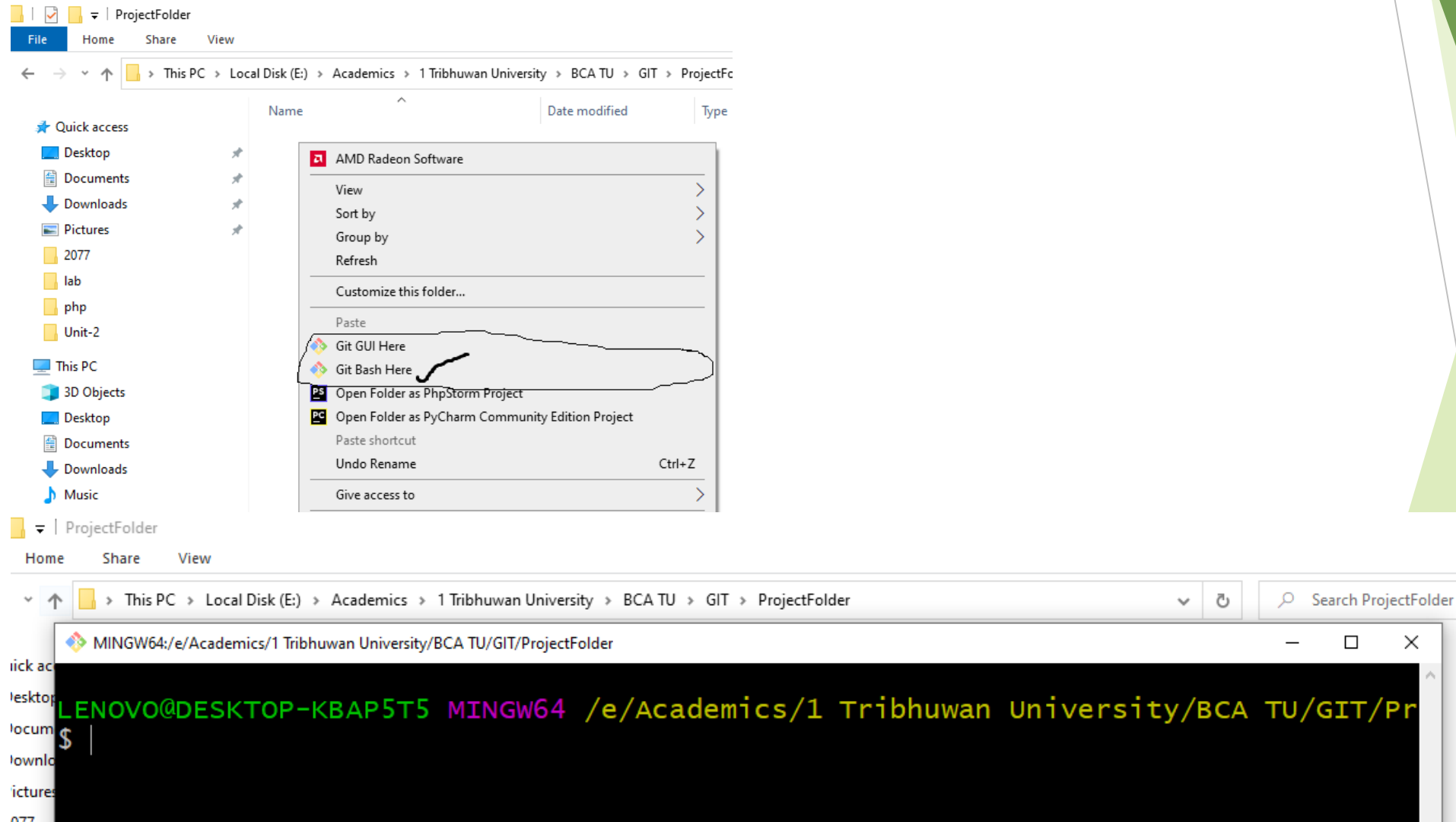
- ▶ **git init** lets you initialize Git in your folder.
- ▶ **git add Readme.md** lets you add the Readme file
- ▶ **git add .** lets you add all files in the present folder
- ▶ **git commit** stores the added files. Use **-m** for message followed by the actual message.
- ▶ **git branch** creates a 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



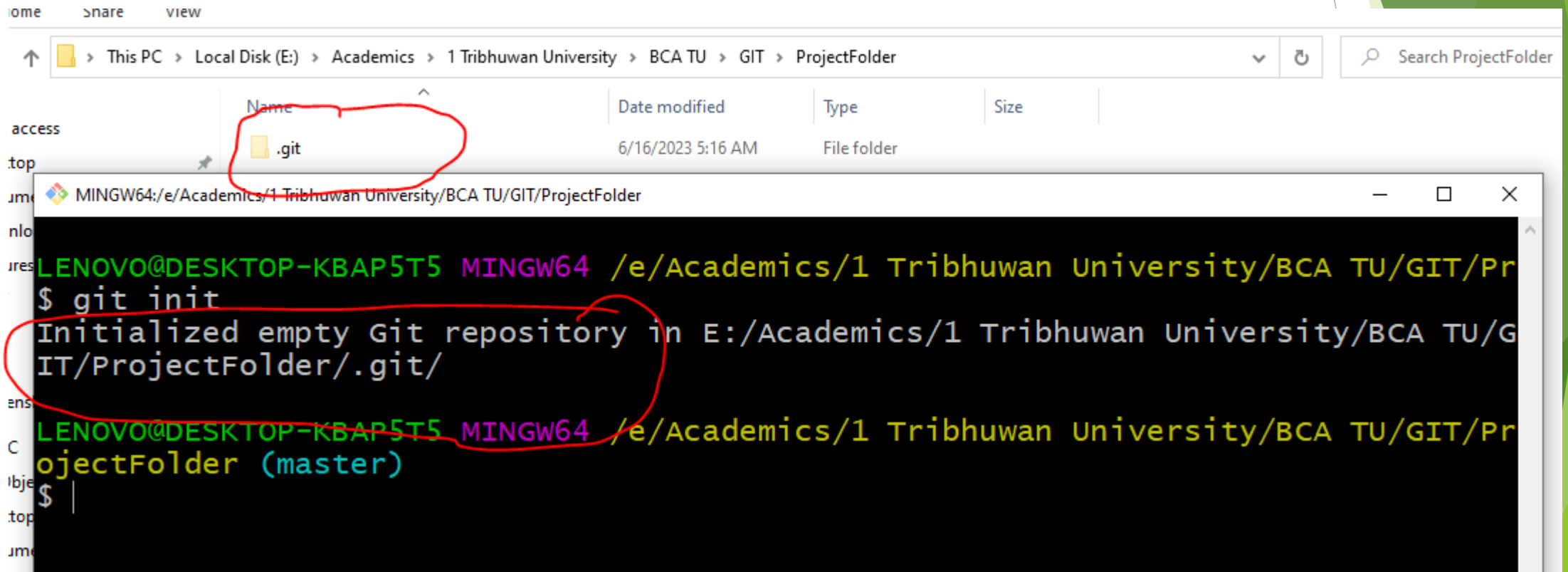
Open Gitbash

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



git init

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



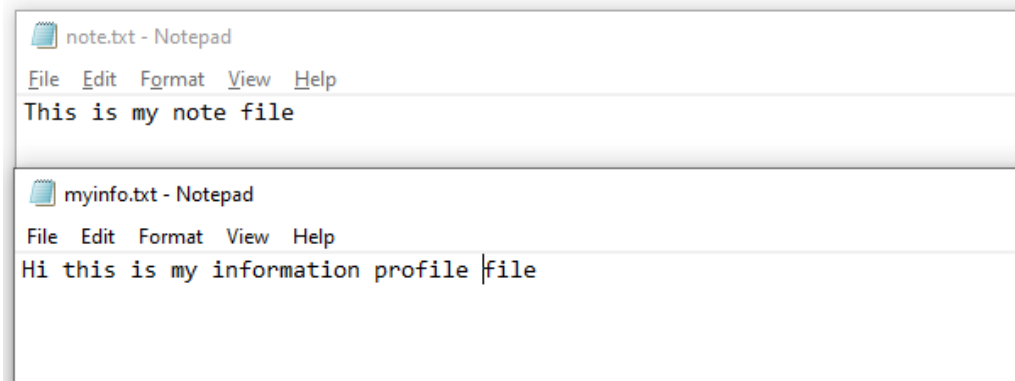
The image shows a Windows File Explorer window and a Windows Command Prompt window. The File Explorer window displays the path `This PC > Local Disk (E:) > Academics > 1 Tribhuwan University > BCA TU > GIT > ProjectFolder`. In the file list, a folder named `.git` is highlighted with a red circle, indicating it has been created. The Command Prompt window shows the command `git init` being executed, with the output `Initialized empty Git repository in E:/Academics/1 Tribhuwan University/BCA TU/GIT/ProjectFolder/.git/` also circled in red. The prompt then shows `ProjectFolder (master)` and a new line for input.

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

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

Name	Date modified	Type	Size
.git	6/16/2023 5:16 AM	File folder	
myinfo.txt	6/16/2023 5:19 AM	Text Document	1 KB
note.txt	6/16/2023 5:18 AM	Text Document	1 KB



```
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 TU/GI/ProjectFolder/.git/

LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GI/ProjectFolder (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
objectFolder (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
objectFolder (master)
$ git add .

LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Trib
objectFolder (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
objectFolder (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
objectFolder (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.

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository.](#)

Required fields are marked with an asterisk ().*

Owner *

 instructorbasanta ▾

Repository name *

/ testproject

✓ testproject is available.

Great repository names are short and memorable. Need inspiration? How about [legendary-journey?](#)

Description (optional)

Quick setup — if you've done this kind of thing before



Set up in Desktop

or

HTTPS

SSH

`https://github.com/instructorbasanta/testproject.git`

```
LENOVO@DESKTOP-KBAP5T5 MINGW64 /e/Academics/1 Tribhuwan University/BCA TU/GIT/ProjectFolder (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

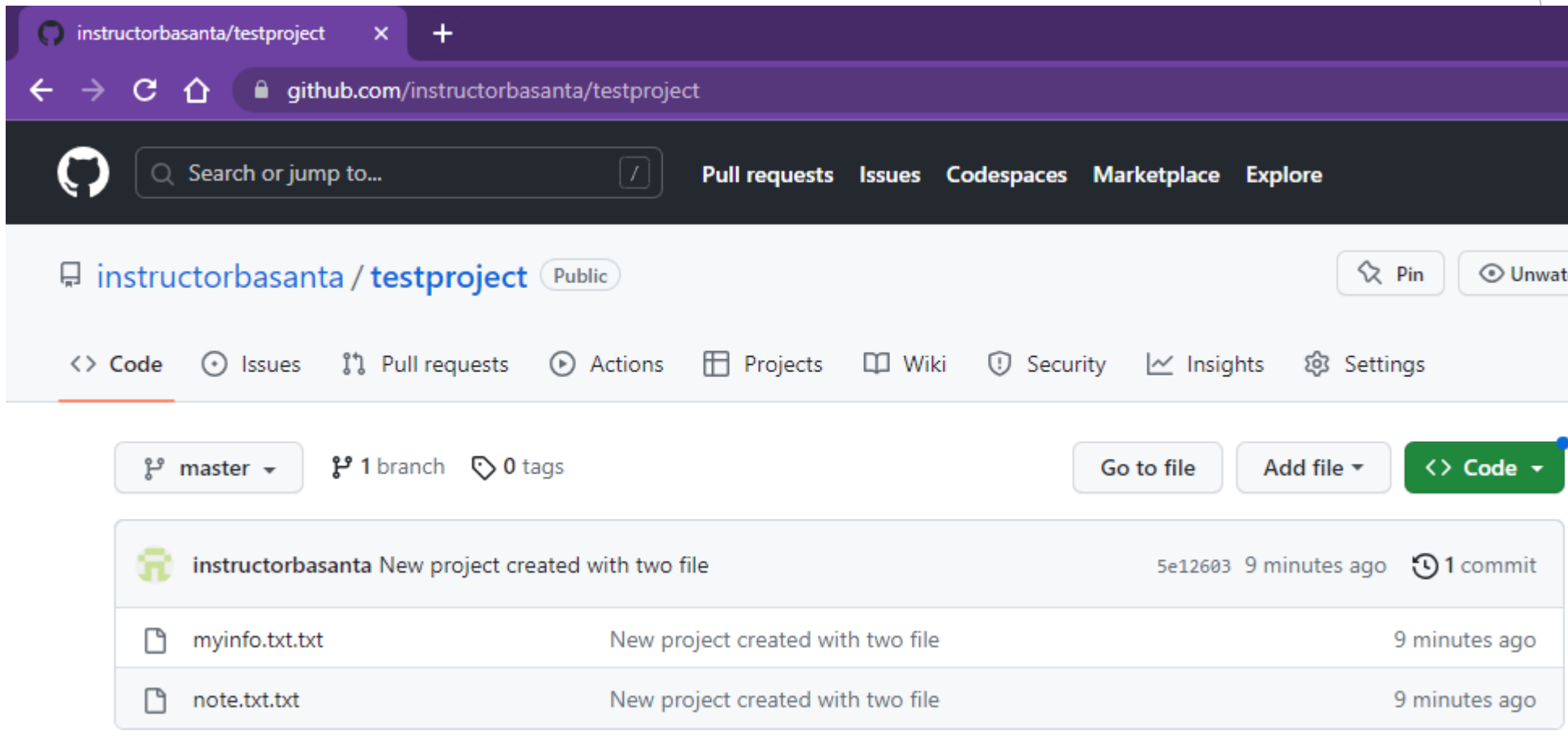
    New project created with two file
```

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 Tribhuvan University/BCA TU/GIT/P
objectFolder (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



The screenshot shows a web browser window with the GitHub repository page for 'instructorbasanta/testproject'. The browser's address bar shows 'github.com/instructorbasanta/testproject'. The repository page header includes the repository name, a 'Public' badge, and buttons for 'Pin' and 'Unwatch'. Below the header is a navigation bar with links for 'Code', 'Issues', 'Pull requests', 'Actions', 'Projects', 'Wiki', 'Security', 'Insights', and 'Settings'. The 'Code' tab is selected. Below the navigation bar, there are buttons for 'Go to file', 'Add file', and a green 'Code' button. The main content area shows a commit by 'instructorbasanta' with the message 'New project created with two file', commit hash '5e12603', and '9 minutes ago' with '1 commit'. Below the commit message is a table of files added in the commit.

File	Commit Message	Time
myinfo.txt.txt	New project created with two file	9 minutes ago
note.txt.txt	New project created with two file	9 minutes ago

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