Git and GitHub

Assignment:2(a)

Create version control account on GitHub and using Git Commands to create a repository and push your code on github.

What is Git?

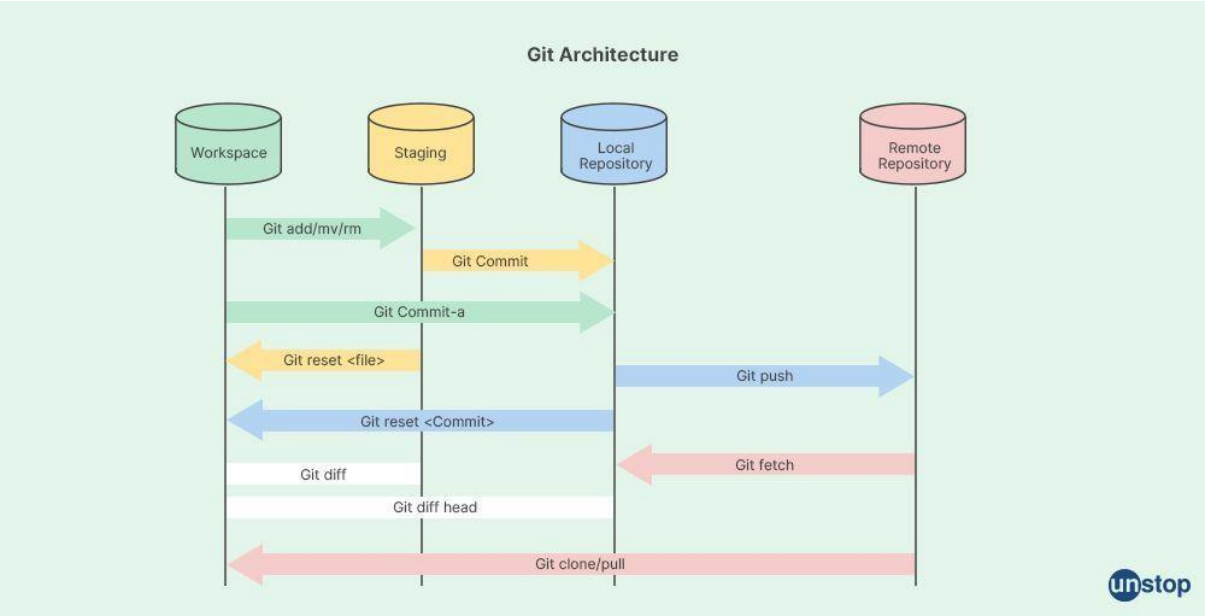
- Git is a **distributed version control system (DVCS)** used for tracking changes in source code during software development.
- It helps developers collaborate efficiently, maintain code history, and manage different versions of a project.
- Key Features:
    - Distributed System
    - Version Control
    - Branching and Merging

What is GitHub?

- GitHub is a cloud-based platform for **version control and collaboration**, built on **Git**.
- It allows developers to **store, manage, and share** their code while working on projects with others.
- Key Features ○ Repository Hosting ○ Security & Access Control ○ Pull Requests & Code Review Difference between Git And Github:

Git	GitHub
Software	Service
Version control	Git repository hosting
Maintained by Linux	Maintained by Microsoft
Open-Source	Free or paid membership
No user management	Built-in user management
Locally installed	Hosted on the web
Minimal external tool configuration	Active marketplace for tool integration
Little to no competition	High competition

Git Architecture



Components of Git architecture:

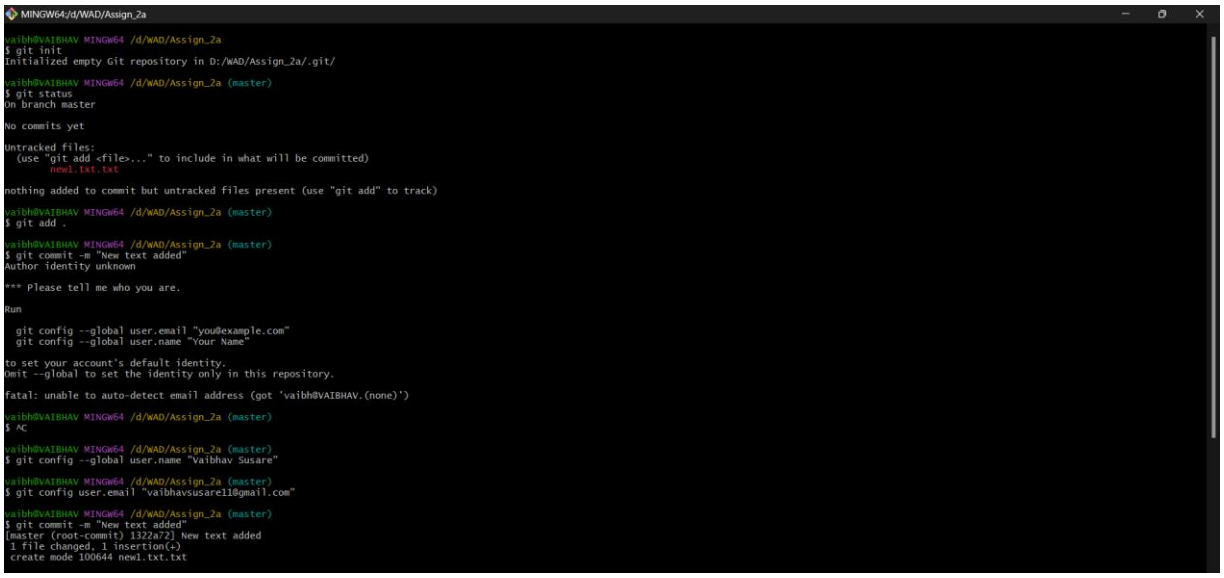
1. **Working Directory**
   - Stores the current version of your project files.
   - Any modifications made here are untracked until staged.

2. **Staging Area (Index)**
   - Holds changes before committing to the repository.
   - Allows selective commits by staging specific files.

3. **Local Repository**
   - A hidden .git folder storing all commit history. • Enables version control even without internet access.

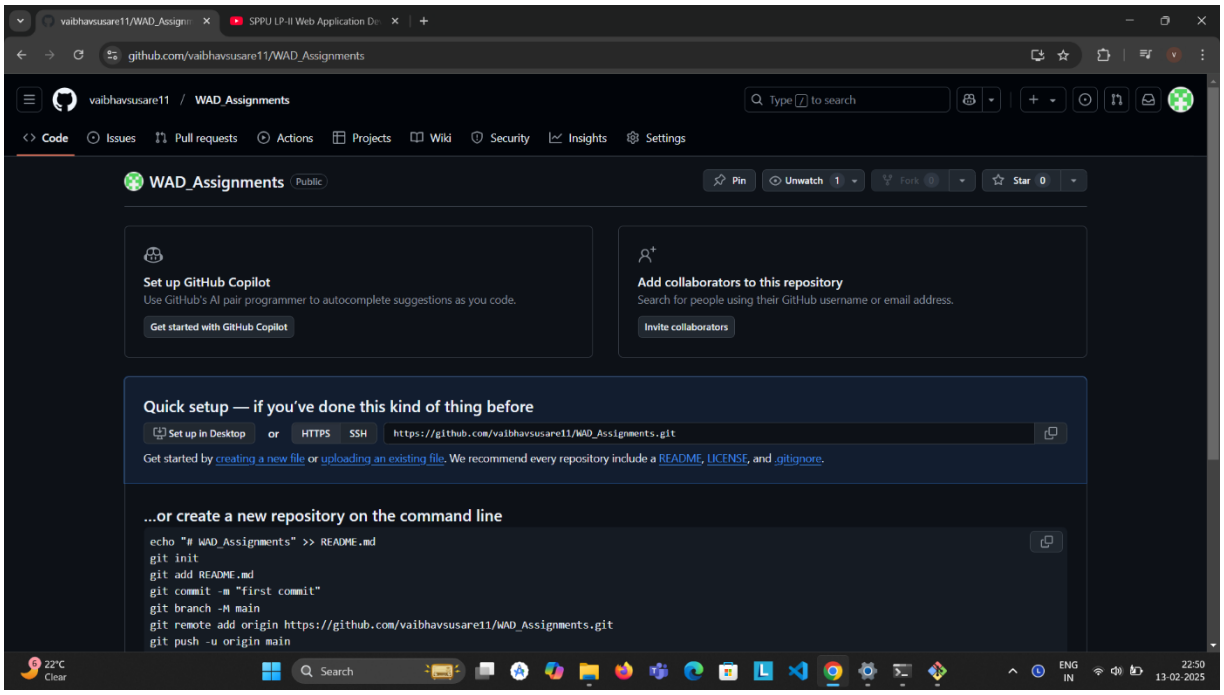
4. **Remote Repository**
   - A shared Git repository hosted on platforms like GitHub.
   - Used for collaboration and code sharing among developers.

GIT COMMANDS

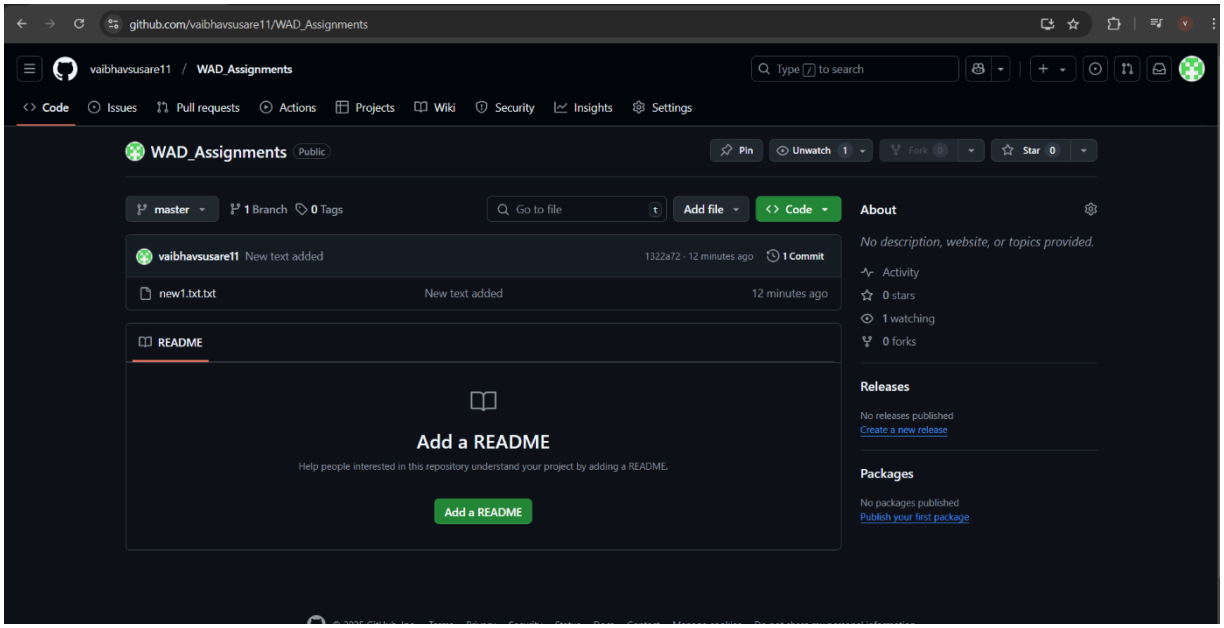

MINGW64:/d/WAD/Assign_2a
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a
$ git init
Initialized empty Git repository in D:/WAD/Assign_2a/.git/
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git status
On branch master
No commits yet
Untracked files:
(use "git add <file>..." to include in what will be committed)
new1.txt.txt
nothing added to commit but untracked files present (use "git add" to track)
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git add .
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git commit -m "New text added"
Author identity unknown
*** Please tell me who you are.
Run
git config --global user.email "you@example.com"
git config --global user.name "Your Name"
to set your account's default identity.
Omit --global to set the identity only in this repository.
fatal: unable to auto-detect email address (got 'vaibh@VAIBHAV.(none)')
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ AC
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git config --global user.name "Vaibhav Susare"
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git config user.email "vaibhavsusare11@gmail.com"
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git commit -m "New text added"
[master (root-commit) 1322a72] New text added
1 file changed, 1 insertion(+)
create mode 100644 new1.txt.txt

vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git remote add origin https://github.com/vaibhavsusare11/WAD_Assignments.git
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git commit -m "new commit"
On branch master
nothing to commit, working tree clean
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git push -u origin master
info: please complete authentication in your browser...
fatal: Access is denied
vaibh@VAIBHAV MINGW64 /d/WAD/Assign_2a (master)
$ git push -u origin master
info: please complete authentication in your browser...
Enumerating objects: 3, done.
Counting objects: 100% (3/3), done.
Writing objects: 100% (3/3), 241 bytes | 241.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/vaibhavsusare11/WAD_Assignments.git
* [new branch] master -> master
branch 'master' set up to track 'origin/master'.

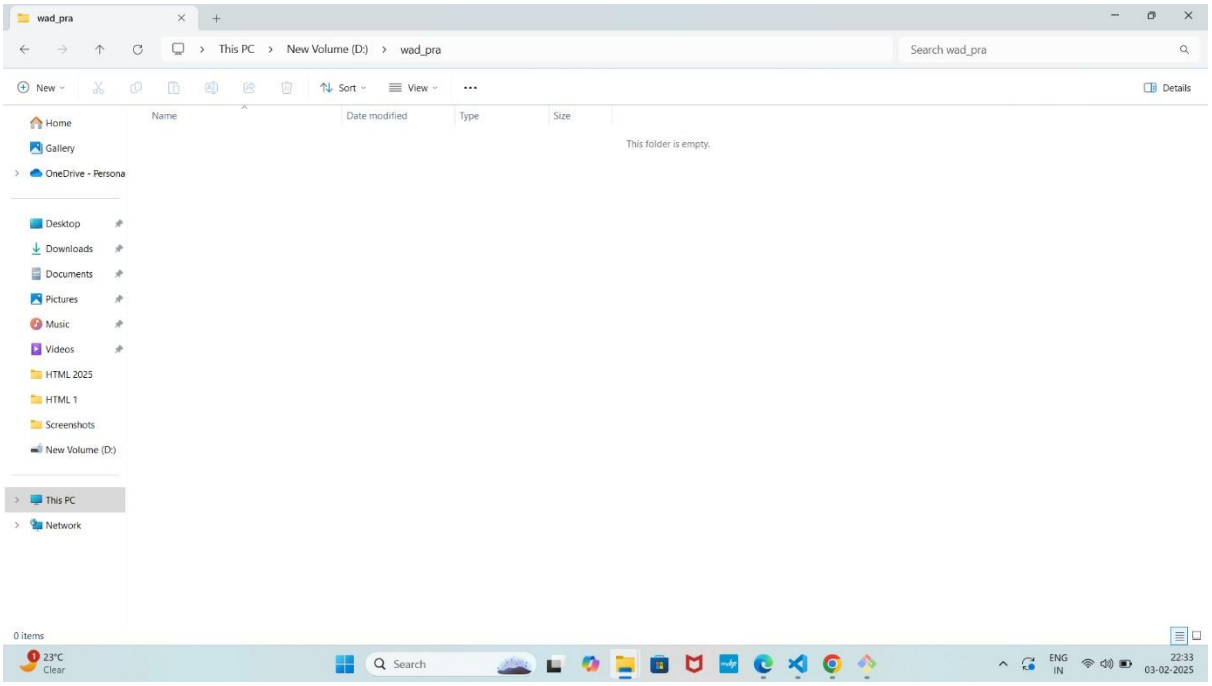
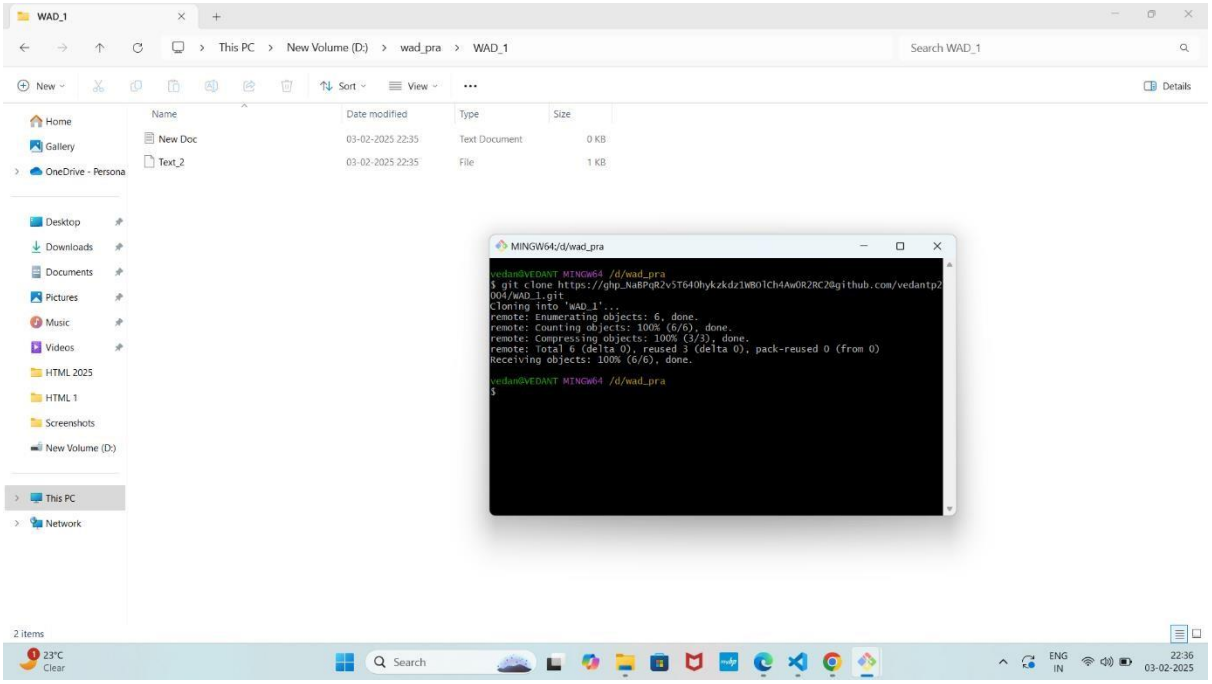
PUSH(Before)


vaibhavsusare11 / WAD_Assignments
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
WAD_Assignments
Public
Pin
Unwatch 1
Star 0
Set up GitHub Copilot
Use GitHub's AI pair programmer to autocomplete suggestions as you code.
Get started with GitHub Copilot
Add collaborators to this repository
Search for people using their GitHub username or email address.
Invite collaborators
Quick setup — if you've done this kind of thing before
Set up in Desktop
or
HTTPS
SSH
https://github.com/vaibhavsusare11/WAD_Assignments.git
Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.
...or create a new repository on the command line
echo "# WAD_Assignments" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/vaibhavsusare11/WAD_Assignments.git
git push -u origin main

PUSH(After)


vaibhavsusare11 / WAD_Assignments
Code
Issues
Pull requests
Actions
Projects
Wiki
Security
Insights
Settings
WAD_Assignments
Public
Pin
Unwatch 1
Star 0
master
1 Branch
0 Tags
Go to file
Add file
Code
vaibhavsusare11 New text added
1322a72 · 12 minutes ago
1 Commit
new1.txt.txt
New text added
12 minutes ago
README
Add a README
Help people interested in this repository understand your project by adding a README.
Add a README
About
No description, website, or topics provided.
Activity
0 stars
1 watching
0 forks
Releases
No releases published
Create a new release
Packages
No packages published
Publish your first package

CLONE(Before)



CLONE(After)