

# 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

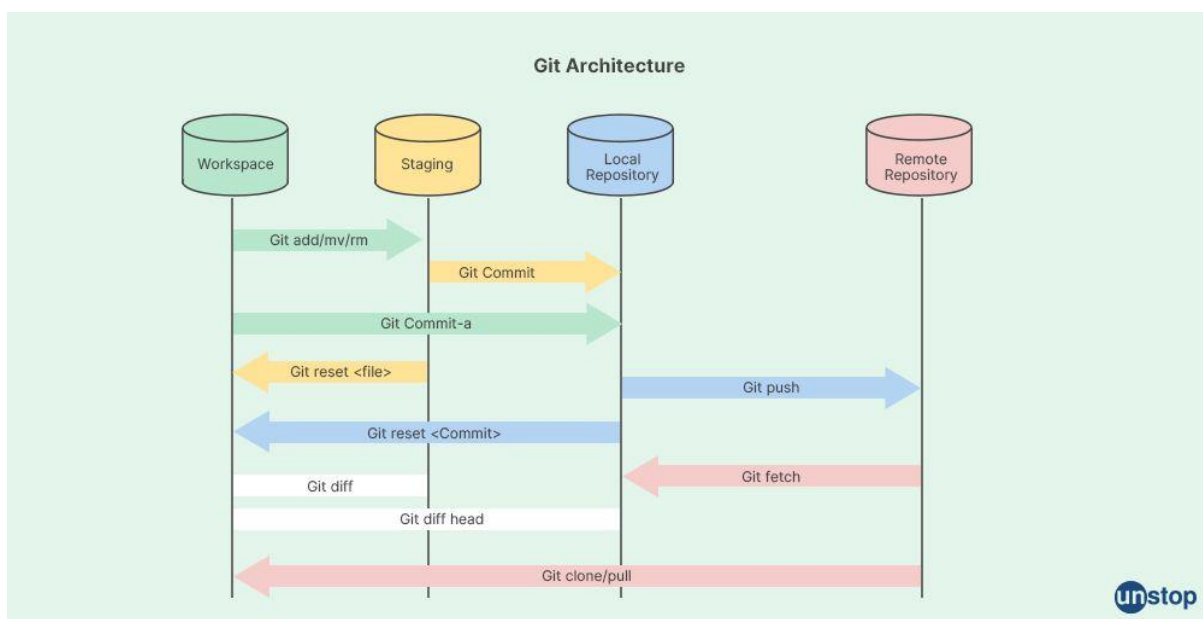
### What is GitHub?

- 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	VERSUS GITHUB
Git is a distributed version control system which tracks changes to source code over time.	GitHub is a web-based hosting service for Git repository to bring teams together.
Git is a command-line tool that requires an interface to interact with the world.	GitHub is a graphical interface and a development platform created for millions of developers.
It creates a local repository to track changes locally rather than store them on a centralized server.	It is open-source which means code is stored in a centralized server and is accessible to everybody.
It stores and catalogs changes in code in a repository.	It provides a platform as a collaborative effort to bring teams together.
Git can work without GitHub as other web-based Git repositories are also available.	GitHub is the most popular Git server but there are other alternatives available such as GitLab and BitBucket. 

## Git Architecture



## **Components of Git architecture:**

### **1. Working Directory**

- Stores the current version of your project files.
- Reflects the current state of the project that developers work on.
- Any modifications made here are untracked until staged for commit

### **2. Staging Area (Index)**

- Temporarily holds changes before committing them to the repository.
- Allows selective commits by staging specific files.
- Acts as a preview of the next commit, ensuring only intended changes are included.

### **3. Local Repository**

- Contains a hidden .git folder where all commit history and metadata are stored.
- Enables full version control capabilities even without an internet connection.
- Provides a safe environment to experiment with changes before pushing them remotely.

### **4. Remote Repository**

- A shared Git repository hosted on platforms like GitHub.
- Used for collaboration and code sharing among developers.
- Ensures backup and centralized access to project history across different systems.

# Commands

```
MINGW64/d/Gitbash
SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git init
Reinitialized existing Git repository in D:/Gitbash/.git/

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git remote add origin https://github.com/YashCodeWizard/WAD_ASSIGNMENT.git
error: remote origin already exists.

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git add .

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git commit -m "Initial commit"
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 'SL -138DESKTOP-8P5SBVU.(none)')

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ ^C

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git remote remove origin
git remote add origin https://github.com/YashCodeWizard/WAD_ASSIGNMENT.git

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git config --global user.name "YashCodeWizard"
git config --global user.email "yashshardul45@gmail.com.com"

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git commit -m "Initial commit"
[master (root-commit) 43f7434] Initial commit
4 files changed, 26 insertions(+)
create mode 100644 README.md
create mode 100644 Temp.txt
create mode 100644 index.html
create mode 100644 index.html.txt

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git push -u origin master
```

```
MINGW64/d/Gitbash
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$ ^C

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
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SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
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git config --global user.email "yashshardul45@gmail.com.com"

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SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git push -u origin master
fatal: User cancelled dialog.

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git push -u origin master
info: please complete authentication in your browser...
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (5/5), 684 bytes | 342.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/YashCodeWizard/WAD_ASSIGNMENT.git
 * [new branch] master -> master
branch 'master' set up to track 'origin/master'.

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$ git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean

SL -138DESKTOP-8P5SBVU MINGW64 /d/Gitbash (master)
$
```

YashCodeWizard / WAD\_ASSIGNMENT

Type 7 to search

<> Code

Issues

Pull requests

Actions

Projects

Wiki

Security

Insights

Settings

master

WAD\_ASSIGNMENT / index.html

Go to file

YashCodeWizard

Initial commit

437434 · 3 minutes ago

History

Code

Blame

21 lines (17 loc) · 493 Bytes

Raw

Download

Copy

```
1 <!DOCTYPE html>
2 <html lang="en">
3 <head>
4   <meta charset="UTF-8">
5   <meta name="viewport" content="width=device-width, initial-scale=1.0">
6   <title>My Simple HTML Page</title>
7 </head>
8 <body>
9
10  <h1>Welcome to My Page</h1>
11  <p>This is a simple HTML page created in Notepad.</p>
12
13  <ul>
14    <li>HTML stands for Hypertext Markup Language</li>
15    <li>It's used to create webpages</li>
16  </ul>
17
18  <button onclick="alert('Hello, world!')">Click me</button>
```

Type here to search

Result

ENG

21:30

14-02-2025

github.com/YashCodeWizard/WAD\_ASSIGNMENT

WAD\_ASSIGNMENT

Pin

Unwatch 1

Fork

Star 0

master

1 Branch

0 Tags

Go to file

Add file

<> Code

About

YashCodeWizard

Initial commit

437434 · 2 minutes ago

1 Commit

README.md

Initial commit

2 minutes ago

Temp.txt

Initial commit

2 minutes ago

index.html

Initial commit

2 minutes ago

index.html.txt

Initial commit

2 minutes ago

README

WAD\_ASSIGNMENT

About

No description, website, or topics provided.

Readme

Activity

0 stars

1 watching

0 forks

Releases

No releases published

Create a new release

Packages

No packages published

Publish your first package

Languages

HTML 100.0%