

# GIT & GIT HUB

## GIT:

- Git is a software free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.
- Git stands for "Global Information Tracker".
- The latest version of Git is 2.48.1
- How to download it?
  - First go to the browser and search for the git download then open the first page which is appear as given below image



- Now for the windows download the 64 bit for windows setup
- After downloading the software install that software
- Then you will get the git bash icon on your dektop or search for git



- Now we see some commands of git bash
  - git init (optional)
  - git clone
  - git add file name / git add .
  - git commit -m "msg"
  - git push
  - git status
  - git remote add origin main

- `cd foldername/` (change directory)
  - `git push -u origin main`
  - `ls`-list of files
  - `git config --global user.name "user name"`
  - `git config --global user.email "email"`
- Here are the some steps how to push the file from local to remote
    - Where we can push in two ways as when we create a repository with a readme file where in that we can select through the adding new file then we can add from our local files.
    - Another process is with commands in git bash software in this we have two methods with clone, without clone we learn about now without clone
    - Without clone process
      1. First create a folder on desktop ,ex-GITHUB
      2. Create a respositorie without add readme file
      3. Open the created folder and right click and open with git hub bash
      4. Then we come to the GitHub bash window
      5. Now type `git init` then enter
      6. Nxt type `ls` for list the files in folder note: we have to add file in folder which we want to push
      7. Nxt type `git add filename`-for single file or `git add .` - for multiples files
      8. Nxt type `git status` to check the status
      9. Nxt type `git branch -M main` to transfer from master to main branch
      - 10.Nxt type `git commit -m "msg"` where in place of msg we can write any of the word related to file
      - 11.Nxt type `git remote add origin https link`- where the hhttp link is located at our respositorie file then paste here because to link local and remote
      - 12.after this type `git push -u origin main`
      - 13.hence the file in the local as added to remote go to browser and refersh it then u see added file

## GIT HUB:

### What is GitHub?

GitHub is an **online platform** where developers **store, manage, and collaborate** on code using **Git** (a version control system).

### Think of it Like This:

- **Library for Code** → Stores and organizes code like books.
- **Time Machine** → Tracks every change so you can go back if needed.

- **Team Workspace** → Developers work together, review code, and merge changes.

### **Main Features:**

- ✓ **Repositories (Repos)** – Code storage.
- ✓ **Commits** – Saves every code change.
- ✓ **Branches** – Test features without affecting the main code.
- ✓ **Pull Requests (PRs)** – Suggest and review changes before adding them.
- ✓ **Issues** – Report bugs or request improvements.

### **Why Should You Use GitHub?**

- Showcase your projects
- Collaborate with others
- Keep backups of your code
- Automate testing & deployment

We have three stages in git hub:

#### **1. Working Directory :**

This is where you **create or edit files** on your local system. Any changes you make are **not yet tracked** by Git.

#### **2. Staging Area :**

After making changes, you **add them to the staging area** using git add. This means Git is now tracking these changes but hasn't saved them permanently.

#### **3. Repository (Committed) :**

When you run git commit, your staged changes are **saved permanently** in the local Git repository. You can later push them to **GitHub** for collaboration.

How to create a repository file :

- We have two ways to create repository file.
  - First way is we can create direct on home page only when we open the Github site we can observe there left side new option click that to create.
  - Second way is we can go through out to our profile then in that we observe the your repositories then click on that and open the another window then same click new option.