Complete Git & Github

1. ## What is Git & Github?

   - **Git** - Git is a version control system that tracks changes to files. You can roll back branch & create efficiently.

   - **GitHub** - GitHub is a cloud-based platform where github repositories are hosted.

2. ## Installation & Setup

   - <u>Step 1</u> - Download and install Git using below link
     - link : https://git-scm.com/downloads
   - <u>Step 2</u> - Configure Git (run the below commands)
     - After installation open Git bash & enter below cmd

```
git config --global user.name "Your Name"
git config --global user.email "your@email.com"
```

3. ## Basic Git commands flow
   A. Create a new local Git Repository

```
mkdir my-project
cd my-project
git init
```

   B. Add files & commit changes

```
git status           # Shows changed files
git add index.html   # Stage the file
git commit -m "Add index.html"   # Save the change
```

   <u>Note:</u> Command to add all files within a directory at once we use below command
```
git add .
```

4 Working with Git

- git status → To check what's changed
- git log → To see history of commits

5. Creating Branch
git checkout -b new-branch

Merge Branches
git checkout main
git merge new-branch

6. Real-world Git workflow (summary)

```
# Step 1: Clone
git clone <repo_url>

# Step 2: Create a branch
git checkout -b feature-branch

# Step 3: Work and Commit
git add .
git commit -m "Added feature"

# Step 4: Push
git push origin feature-branch

# Step 5: Open Pull Request on GitHub
```

7 Pulling changes
To pull the latest changes made to repository we use below command
git pull