# 🗂️ Git Notes – Basic Workflow and Commands

## 📁 Directory Setup

- `mkdir myProjectDir`

Creates a new directory named `myProjectDir`.

- `cd myProjectDir/`

Navigates into the newly created directory.

- `pwd`

Prints the current working directory path.

- `ls -la`

Lists all files, including hidden ones like `.git`.

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## 🧱 Git Initialization

- `git init`

Initializes a new Git repository in the current directory. Creates a `.git` folder.

- `git init newProjectDir`

Initializes a Git repo directly in a new directory named `newProjectDir`.

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## 📌 Git Status and Tracking

- `git status`

Shows the current branch and the state of the working directory (tracked/untracked files, staged changes, etc.).

- `git add .`

Stages all changes (new, modified, deleted files) in the current directory.

- `git commit -m "Commit message"`

Commits staged changes with a descriptive message.

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## 🚀 Pushing to Remote Repository

- `git push origin main`

Pushes local commits to the `main` branch of the remote repository named `origin`.

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## 📄 File Operations

- `touch filename.txt`

Creates a new empty file named `filename.txt`.

- `git rm filename.txt`

Removes a tracked file from the working directory and stages the deletion.

⚠️ Error occurs if the file is not yet tracked (i.e., not added and committed).

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## 📜 Viewing Commit History

- `git log`

Displays the commit history in reverse chronological order.

- `git log --stat`

Shows commit history along with file changes (insertions/deletions).

- `git log -n 2`

Shows the last 2 commits.

- `git log -n 1`

Shows the most recent commit.

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## ✅ Summary of Actions Performed

| Action | Description |

|------------------------|---------------------------------------------|

| Created directories | `myProjectDir`, `newProjectDir` |

| Initialized Git repos | Using `git init` |

| Created and committed files | `git.txt`, `SDLC.txt` |

| Pushed commits to GitHub | Using `git push origin main` |

| Viewed commit history | With `git log`, `git log --stat`, `git log -n` |

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## 🧠 Tips

- Always check `git status` before committing to ensure your working tree is clean or staged correctly.

- Use meaningful commit messages to track changes effectively.

- If a file is newly created and not yet tracked, `git rm` will throw an error—use `git add` and `git commit` first.