

Co 1: - Git Basics Init, Commit, Push, Pull, Merge (VS Code CMD Guide)

Aim

To teach students the fundamental Git commands init, add, commit, push, pull, merge using the VS Code integrated terminal in a clear, step-by-step manner.

Prerequisites

- Git installed on the system
- VS Code installed
- Basic understanding of files/folders
- GitHub account for remote operations
- Ability to open VS Code Terminal (Ctrl + `)

1. Configure Git

Run once per machine:

```
git config --global user.name "Your Name"
```

```
git config --global user.email "you@example.com"
```

2. Create a New Repository (git init)

Steps:

1. Open project folder in VS Code.
2. Open Terminal.
3. Run:

```
git init
```

(Optional) Add remote:

```
git remote add origin <url>
```

3. Check Status → Add → Commit

```
git status
```

```
git add .
```

```
git commit -m "Message"
```

4. Push to Remote

First push:

```
git push -u origin main
```

Future pushes:

```
git push
```

5. Pull From Remote

```
git pull
```

or

fetch + merge:

```
git fetch origin
```

```
git merge origin/main
```

6. Branching & Merging

Create branch:

```
git checkout -b feature-x
```

Switch back:

```
git checkout main
```

Merge:

```
git merge feature-x
```

7. Resolve Merge Conflicts

When conflict appears:

- Open file in VS Code

- Choose Accept Current / Accept Incoming

- Save → git add file → git commit

8. Useful Commands

```
git log --oneline --graph
```

```
git diff
```

`git revert <hash>`

`git reset --soft HEAD~1`

9. Best Practices

- Commit small and often
- Use clear messages
- Pull before starting new work
- Use branches for features