

# GIT AND GITHUB ASSIGNMENTS

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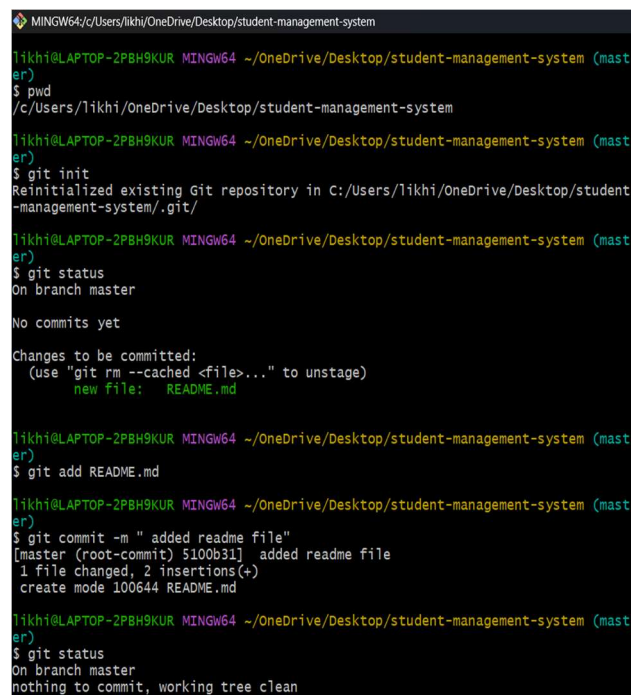
## Assignment 1: Git Basics (Local Repository)

### Problem Statement

You are starting a new project called **Student-Management-System** and want to track code changes using Git.

### Tasks

1. Create a new folder named student-management-system
2. Initialize Git repository
3. Create a file README.md and add project description
4. Check Git status
5. Stage and commit the file



```
MINGW64/c/Users/likhi/OneDrive/Desktop/student-management-system

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ pwd
/c/Users/likhi/OneDrive/Desktop/student-management-system

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git init
Reinitialized existing Git repository in c:/Users/likhi/OneDrive/Desktop/student-management-system/.git/

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   README.md

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git add README.md

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git commit -m "added readme file"
[master (root-commit) 5100b31] added readme file
 1 file changed, 2 insertions(+)
 create mode 100644 README.md

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git status
On branch master

nothing to commit, working tree clean
```

## Assignment 2: Working with Branches

### Problem Statement

You need to add a new feature without affecting the main code.

### Tasks

1. Create a branch named feature-login
2. Switch to the branch
3. Add file login.txt
4. Commit changes
5. Merge branch into main

```
MINGW64:/c/Users/likhi/OneDrive/Desktop/student-management-system

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git branch feature-login

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git branch
* feature-login
  master

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git checkout feature-login
Switched to branch 'feature-login'

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ touch login.txt

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ git add login.txt

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ git commit -m "added login feature file"
[feature-login c265943] added login feature file
1 file changed, 1 insertion(+)
create mode 100644 login.txt

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ git status
On branch feature-login
nothing to commit, working tree clean

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ git checkout main
error: pathspec 'main' did not match any file(s) known to git

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-login)
$ git checkout master
Switched to branch 'master'

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git merge feature-login
Updating 5100b31..c265943
Fast-forward
 login.txt | 1 +
1 file changed, 1 insertion(+)
create mode 100644 login.txt
```

## Assignment 3: GitHub Integration

### Problem Statement

Your project must be stored in GitHub for collaboration.

### Tasks

1. Create a GitHub repository
2. Connect local repo to GitHub
3. Push code to GitHub
4. Verify files online

```
MINGW64:/c/Users/likhi/OneDrive/Desktop/student-management-system
README.md  login.txt

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (master)
$ git branch -M main

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (main)
$ git remote add origin https://github.com/Likhi161/student-management-system.git

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (main)
$ git push -u origin main
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 16 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (6/6), 582 bytes | 291.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/Likhi161/student-management-system.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.

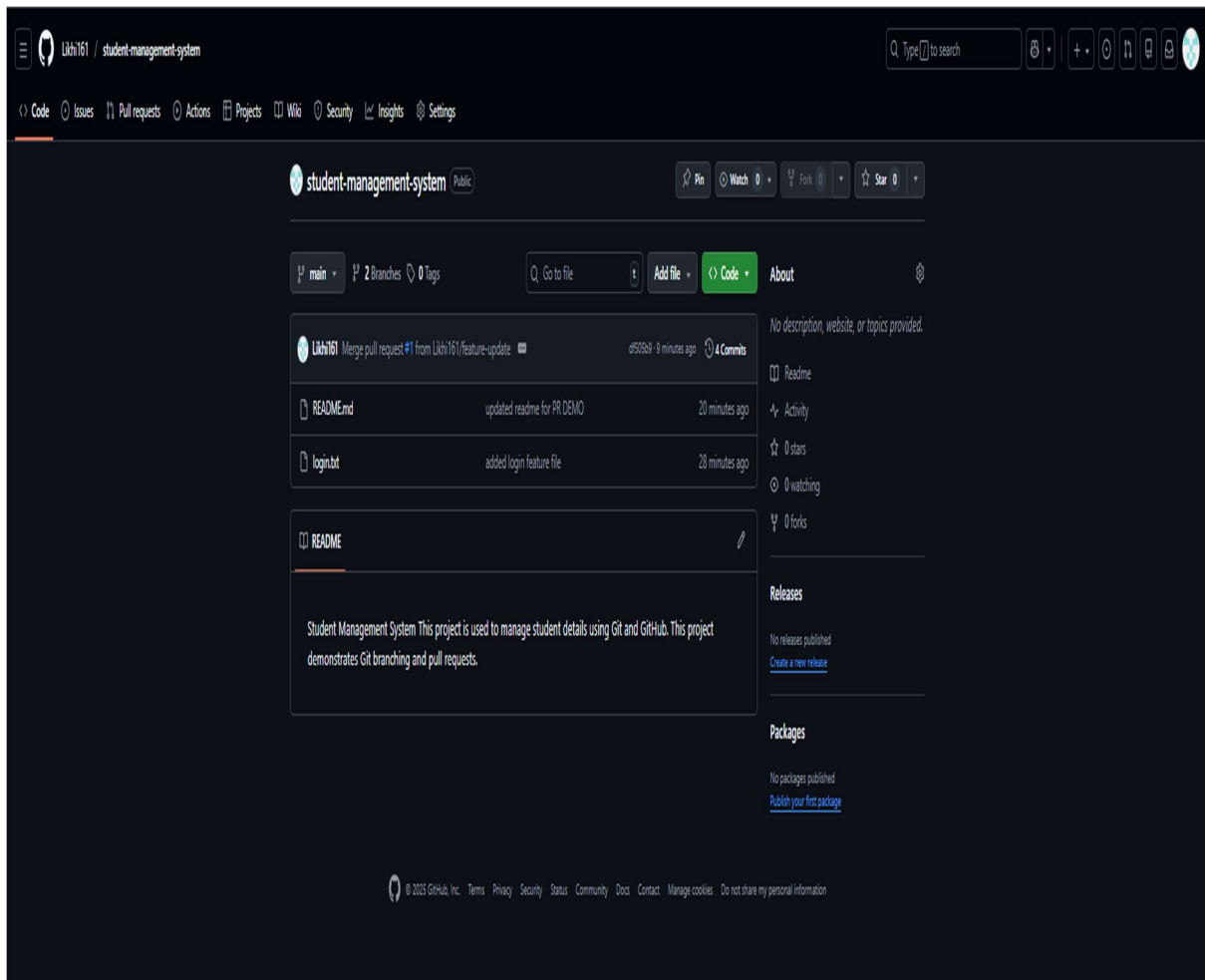
likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (main)
$ git checkout -b feature-update
Switched to a new branch 'feature-update'

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ nano README.md

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git commit -m "updated readme for PR DEMO"
[feature-update 3d66aec] updated readme for PR DEMO
 1 file changed, 1 insertion(+)

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git push origin feature-update
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 397 bytes | 397.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'feature-update' on GitHub by visiting:
remote:      https://github.com/Likhi161/student-management-system/pull/new/feature-update
remote:
To https://github.com/Likhi161/student-management-system.git
 * [new branch]      feature-update -> feature-update
```



## Assignment 4: GitHub Pull Request (PR)

### Problem Statement

Changes must be reviewed before merging.

### Tasks

1. Create a branch
2. Push branch to GitHub
3. Create Pull Request
4. Merge PR

```

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (main)
$ git checkout -b feature-update
Switched to a new branch 'feature-update'

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ nano README.md

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git add README.md
warning: in the working copy of 'README.md', LF will be replaced by CRLF the next time Git touches it

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git commit -m "updated readme for PR DEMO"
[feature-update 3d66aec] updated readme for PR DEMO
1 file changed, 1 insertion(+)

likhi@LAPTOP-2PBH9KUR MINGW64 ~/OneDrive/Desktop/student-management-system (feature-update)
$ git push origin feature-update
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 397 bytes | 397.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
remote:
remote: Create a pull request for 'feature-update' on GitHub by visiting:
remote:   https://github.com/Likhi161/student-management-system/pull/new/feature-update
remote:
To https://github.com/Likhi161/student-management-system.git
 * [new branch]      feature-update -> feature-update

```

The screenshot shows a GitHub pull request interface. At the top, the title is "updated readme for PR DEMO #1". Below the title, it says "Merged" and "Likhi161 merged 1 commit into main from feature-update 8 minutes ago". The main content area shows a conversation with a comment from Likhi161: "updated readme for PR DEMO". Below the comment, there is a message: "Pull request successfully merged and closed. You're all set — the feature-update branch can be safely deleted." On the right side, there are sections for "Reviewers" (No reviews), "Assignees" (No one—assign yourself), "Labels" (None yet), "Projects" (None yet), "Milestone" (No milestone), and "Development" (Successfully merging this pull request may close these issues). At the bottom, there is a "Comment" section with a text area and a "Comment" button. The footer includes a reminder to follow GitHub Community Guidelines and a note about adding comments to specific lines under "Files changed".