

# Experiment 2

## Version Control with Git

### Objective:

To understand how to initialize a Git repository, track file changes, commit them, and push the repository to GitHub for remote storage and collaboration.

### Software and Tools Used:

- **Git** → Version control system to manage changes.
- **GitHub** → Online platform to host repositories.
- **VS Code** → Editor and terminal to create and manage files.
- **PowerShell/Command Line** → To run Git commands.

### Theory Overview:

Git is a version control system that helps track and manage changes made to code. It runs locally on computers using commands. GitHub is an online platform that hosts Git repositories, enabling users to share their projects and collaborate with others using Git. In this work, we used VS Code, a code editor for writing, editing, and managing code. We created a folder using the `cd` command and added content to a file using the `echo` command. The `git log` command was used to view the history of commits in the repository, showing details such as the author's name and email, the date and time of each commit, and the commit message describing the changes.

### Procedure:

1. Open VS Code and navigate to the location where you want to create your project.
2. Make a new folder for the project and move inside it using: • `mkdir myproject` • `cd myproject`
3. Start a new Git repository in this folder by running: • `git init`
4. Create an HTML file and add some sample text with: • `echo "text content that you want to add" > file_name.html`
5. Stage, commit, and link the file to your GitHub repository using: • `git add file_name.html` • `git commit -m "my second commit"` • `git branch -M main` • `git remote add origin "github repository link"` • `git push -u origin main`
6. To view all previous commits and their details, run: • `git log`

## Code:

```
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab> mkdir myproject

Directory: C:\Users\TANISHA\OneDrive\Desktop\ost_lab

Mode                LastWriteTime         Length Name
----                -
d-----          20-08-2025         01:58         myproject

PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab> cd myproject
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git init
Initialized empty Git repository in C:/Users/TANISHA/OneDrive/Desktop/ost_lab/myproject/.git/
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git branch -M main
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> echo "These are some of my hobbies" > review.html
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> type review.html
These are some of my hobbies
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git add review.html
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git commit -m "Secound commit : add review.html"
[main (root-commit) 70959a2] Secound commit : add review.html
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 review.html
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git remote add origin https://github.com/TanishaKundalwal/OST_Lab.git

PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git push -u origin main
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 12 threads
Compressing objects: 100% (5/5), done.
Writing objects: 100% (6/6), 611 bytes | 203.00 KiB/s, done.
Total 6 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/TanishaKundalwal/OST_Lab.git
 16f5a09..d54f70f  main -> main
branch 'main' set up to track 'origin/main'.
PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject>

PS C:\Users\TANISHA\OneDrive\Desktop\ost_lab\myproject> git log
commit d54f70f42340282c3cb3882a6ee48832d94d7e4d (HEAD -> main, origin/main)
Merge: 70959a2 16f5a09
Author: Tanisha Kundalwal <0tanishaa.0@gmail.com>
Date:   Wed Aug 20 02:11:38 2025 +0530

    2nd commit entered

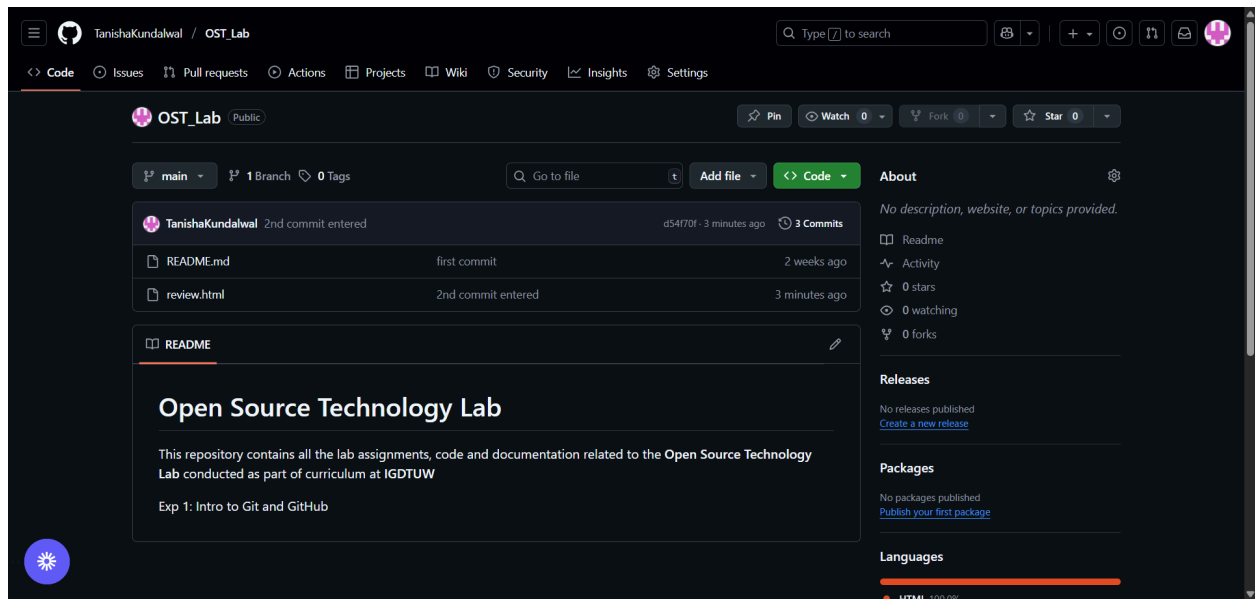
commit 70959a2a7564092f3b24f1c6f8ec904bc5f868da
Author: Tanisha Kundalwal <0tanishaa.0@gmail.com>
Date:   Wed Aug 20 02:01:14 2025 +0530

    Secound commit : add review.html

commit 16f5a09509f5c0ea6143b68711ad521fbe9c028e
Author: Tanisha Kundalwal <0tanishaa.0@gmail.com>
Date:   Thu Aug 7 01:46:09 2025 +0530

    first commit
```

## Output:



## New file added:

