Experiment No. 3

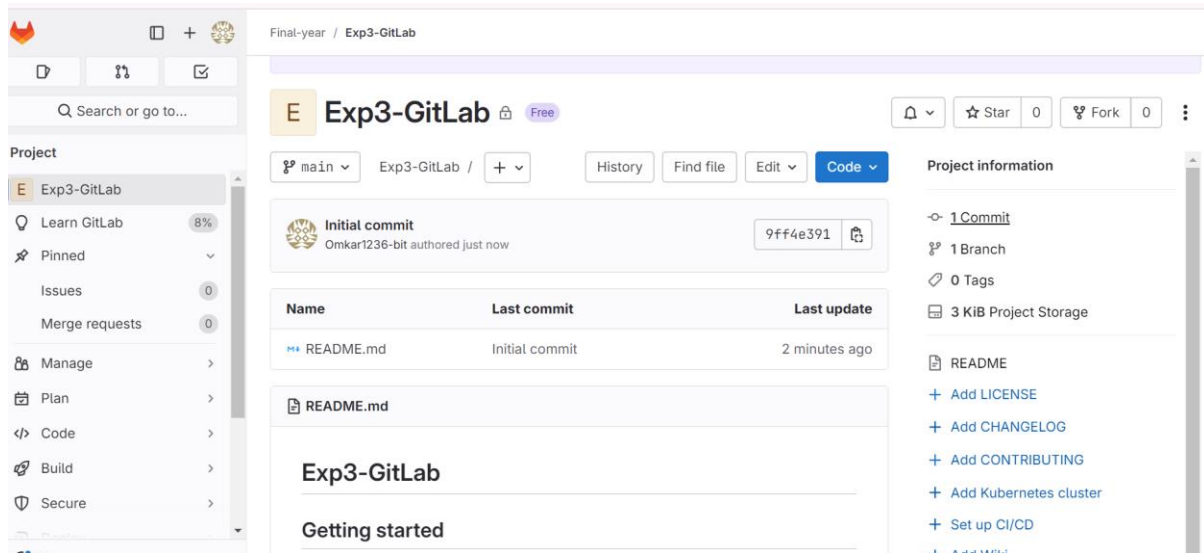## Title: Implement GitLab Operations using Git.

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Step 1: Creating a Repository in GitLab :

Step 2: Cloning the Repository

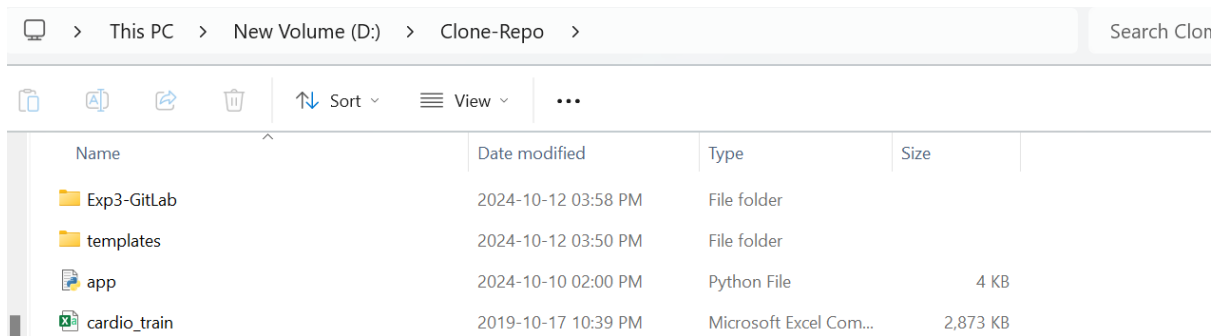Navigate to the directory where you want to clone the repository:

Clone the repository by running the following command:

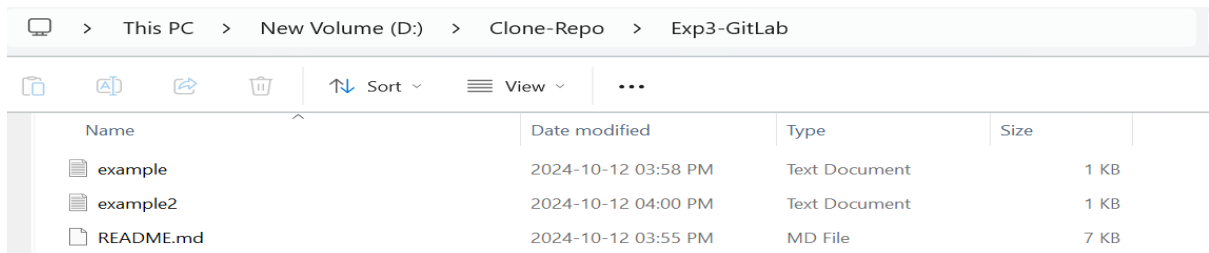| Name	Date modified	Type	Size
📁 Exp3-GitLab	2024-10-12 03:58 PM	File folder	
📁 templates	2024-10-12 03:50 PM	File folder	
📄 app	2024-10-10 02:00 PM	Python File	4 KB
📊 cardio_train	2019-10-17 10:39 PM	Microsoft Excel Com...	2,873 KB

Step 3: Making Changes and Creating a Branch

Navigate into the cloned repository:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo
$ cd Exp3-GitLab
```

Create a new text file named example.txt using a text editor :

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ nano example.txt

OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ nano example2.txt
```

| ☐ > This PC > New Volume (D:) > Clone-Repo > Exp3-GitLab | | | |

Name	Date modified	Type	Size
📄 example	2024-10-12 03:58 PM	Text Document	1 KB
📄 example2	2024-10-12 04:00 PM	Text Document	1 KB
📄 README.md	2024-10-12 03:55 PM	MD File	7 KB

Check the status of the repository:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        example.txt
        example2.txt

nothing added to commit but untracked files present (use "git add" to track)
```

Stage the changes for commit:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git add example.txt
warning: in the working copy of 'example.txt', LF will be replaced by CRLF the n
ext time Git touches it

OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git add example2.txt
warning: in the working copy of 'example2.txt', LF will be replaced by CRLF the
next time Git touches it
```

Commit the changes with a descriptive message:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git commit -m "Adding example.txt and example2.txt"
[main b8183cf] Adding example.txt and example2.txt
 2 files changed, 3 insertions(+)
 create mode 100644 example.txt
 create mode 100644 example2.txt
```

Create a new branch named feature:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git branch feature
```

Switch to the "feature" branch:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git checkout feature
Switched to branch 'feature'
```

Step 4: Pushing Changes to GitLab

Add the GitLab repository URL as a remote:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (feature)
$ git remote add origin https://gitlab.com/final-year2161841/Exp3-GitLab.git
error: remote origin already exists.
```

Push the "feature" branch to GitLab:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (feature)
$ git push origin feature
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (4/4), 386 bytes | 386.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: To create a merge request for feature, visit:
remote:   https://gitlab.com/final-year2161841/Exp3-GitLab/-/merge_requests/new?merge_request%5Bsource_branch%5D=feature
remote:
To https://gitlab.com/final-year2161841/Exp3-GitLab.git
 * [new branch]      feature -> feature
```

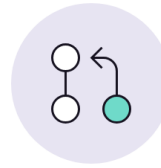**Check your GitLab repository** to confirm that the new branch feature is available :

Step 5: Collaborating through Merge Requests

Click on **"Merge Requests"** and then **"New Merge Request."**

Select the **source branch** (feature) and the **target branch** (main or master).

Review the changes and click **"Submit merge request."**

Step 6: Syncing Changes

After the merge request has been merged, update your local repository:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (feature)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
```

pull the latest changes from the main branch in GitLab into your local repository :

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 279 bytes | 55.00 KiB/s, done.
From https://gitlab.com/final-year2161841/Exp3-GitLab
 * branch            main        -> FETCH_HEAD
   9ff4e39..ba5e37d  main        -> origin/main
Updating b8183cf..ba5e37d
Fast-forward
```

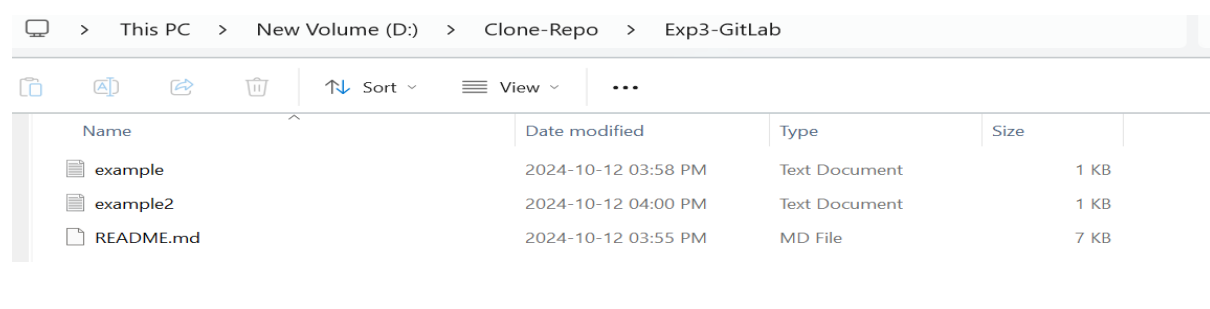**Switch to the main branch** (if you're not already on it):

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (feature)
$ git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)

OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
```

Pull the latest changes from the main branch on GitLab:

```
OMKAR@LAPTOP-UU9CTA9O MINGW64 /d/Clone-Repo/Exp3-GitLab (main)
$ git pull origin main
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (1/1), 279 bytes | 55.00 KiB/s, done.
From https://gitlab.com/final-year2161841/Exp3-GitLab
 * branch            main        -> FETCH_HEAD
   9ff4e39..ba5e37d  main        -> origin/main
Updating b8183cf..ba5e37d
Fast-forward
```

This command fetches and merges the latest changes from the remote main branch into your local main branch.

	This PC > New Volume (D:) > Clone-Repo > Exp3-GitLab			
	↑↓ Sort ⌄ ≡ View ⌄ •••			
Name	Date modified	Type	Size	
example	2024-10-12 03:58 PM	Text Document	1 KB	
example2	2024-10-12 04:00 PM	Text Document	1 KB	
README.md	2024-10-12 03:55 PM	MD File	7 KB	

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