

Placement Empowerment Program

Cloud Computing and DevOps Centre

Set Up Git Branching: Create a new branch in your Git repository for testing .

Add a new feature and merge it

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Introduction:

In this Proof of Concept (POC), Git is used for version control to manage the development workflow. Git allows developers to create separate branches for new features, isolate them from the main branch, and merge them back after completion. This ensures organized and collaborative development.

Step-by-Step Overview

Step 1:

Create a folder and name it (poc-5).



Step 2:

Set the path to the folder created in first step (Git_Branching).

```
C:\Users\RANJITHA PRABHA>cd C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5  
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>
```

Step 3:

Initialize Git by typing this command:

git init

This command will create a .git folder inside your folder, which tells Git to start tracking your files.

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git init  
Initialized empty Git repository in C:/Users/RANJITHA PRABHA/OneDrive/Desktop/poc-5/.git/
```

Step 4:

Create a simple file to start the repository:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>echo "Initial file content" > first-file.txt  
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>
```

Step 5:

Add the File to Git

Tell Git to track this file:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git add .  
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>
```

Step 6:

Save this change in Git with a commit message.

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git commit -m "Initial commit"
[master (root-commit) 008fb86] Initial commit
 1 file changed, 1 insertion(+)
 create mode 100644 first-file.txt

C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>|
```

Step 7:

Create and switch to a new branch called testing-feature.

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git checkout -b testing-feature
Switched to a new branch 'testing-feature'
```

Step 8:

Let's add a new file for our feature:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>echo "Initial file content" > first-file.txt

C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>|
```

Step 9:

Now, stage the changes:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git add .

C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>|
```

Step 10:

Commit the changes:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git commit -m "Add new feature file"
On branch testing-feature
nothing to commit, working tree clean
```

Step 11:

Switch to the master Branch

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git checkout master
Switched to branch 'master'
```

Step 12:

Merge Changes from testing-feature to master

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git merge testing-feature
Already up to date.
```

Step 13:

Once the merge is done, you can delete the testing-feature branch:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>git branch -d testing-feature
Deleted branch testing-feature (was 008fb86).
```

Step 14:

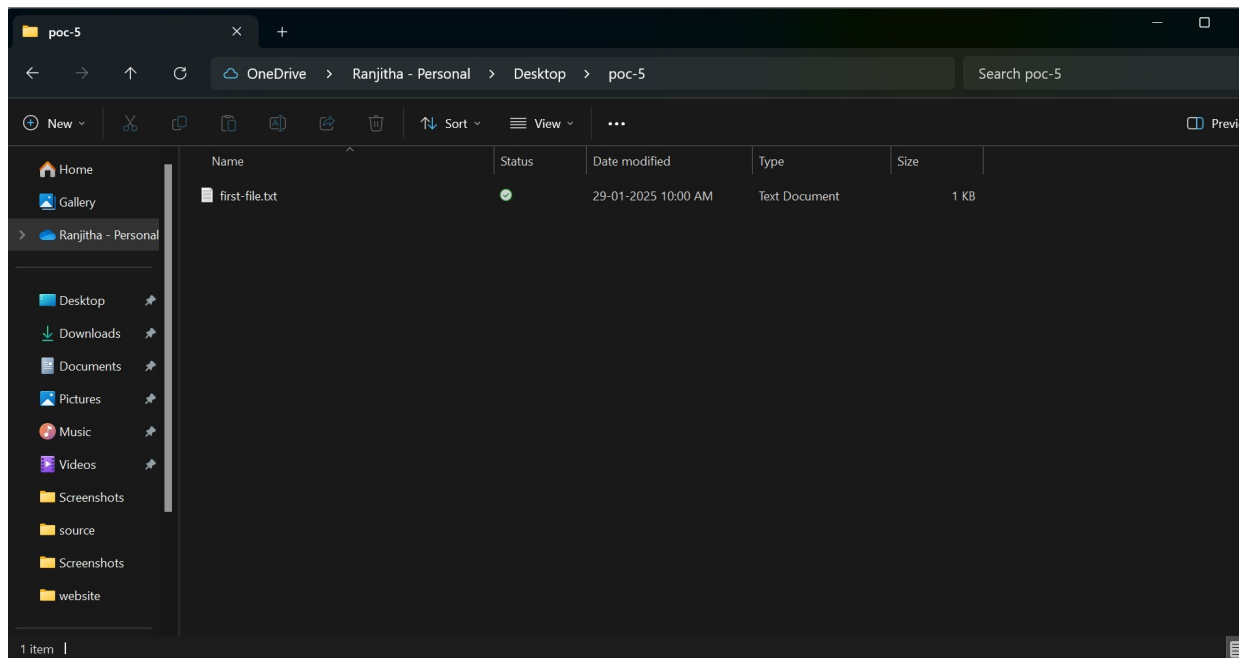
Now, check the files in the folder:

```
C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>dir
Volume in drive C is Windows
Volume Serial Number is FC2D-D9C3

Directory of C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5

29-01-2025  09:55 AM    <DIR>          .
29-01-2025  09:47 AM    <DIR>          ..
29-01-2025  10:00 AM                25 first-file.txt
               1 File(s)                25 bytes
               2 Dir(s)  833,638,621,184 bytes free

C:\Users\RANJITHA PRABHA\OneDrive\Desktop\poc-5>
```



Outcome

By completing this PoC of managing branches in Git for a local repository, you will:

1. Successfully initialize a Git repository in your local project folder.
2. Create and manage multiple branches for feature development and experimentation.
3. Track and commit changes made to files in different branches.
4. Merge feature branches back into the main branch while maintaining project integrity.
5. Gain hands-on experience with key Git commands such as `git init`, `git add`, `git commit`, `git checkout`, and `git merge`.