

## 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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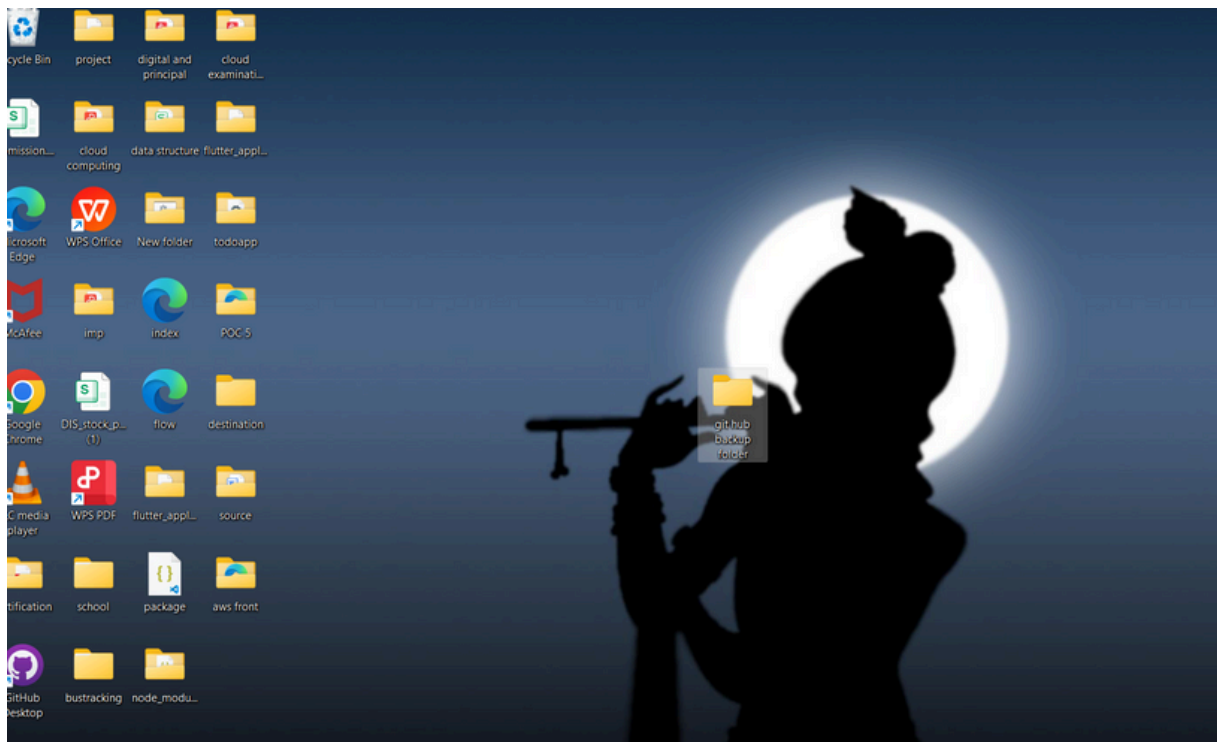
# Introduction:

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\sairam>cd desktop  
  
C:\Users\sairam\Desktop>cd poc
```

## 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\sairam\Desktop\poc>git init  
Initialized empty Git repository in C:/Users/sairam/Desktop/poc/.git/  
C:\Users\sairam\Desktop\poc>
```

## Step 4:

Create a simple file to start the repository:

```
C:\Users\sairam\Desktop\poc>echo "Initial file content" > first-file.txt  
C:\Users\sairam\Desktop\poc>
```

## Step 5:

Add the File to Git

Tell Git to track this file:

```
C:\Users\sairam\Desktop\poc>git add .  
  
C:\Users\sairam\Desktop\poc>
```

## Step 6:

Save this change in Git with a commit message.

```
C:\Users\sairam\Desktop\poc>git commit -m Initial commit
[master (root-commit) 9bd48a9] Initial commit
 1 file changed, 1 insertion(+)
 create mode 100644 first-file.txt

C:\Users\sairam\Desktop\poc>
```

## Step 7:

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

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

C:\Users\sairam\Desktop\poc>
```

## Step 8:

Let's add a new file for our feature:

```
Desktop\poc>echo "Initial file content" > first-file
Desktop\poc>
```

## Step 9:

Now, stage the changes:

```
sers\sairam\Desktop\poc>git add .
sers\sairam\Desktop\poc>
```

## Step 10:

Commit the changes:

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

C:\Users\sairam\Desktop\poc>
```

## Step 11:

Switch to the master Branch

```
C:\Users\sairam\Desktop\poc>git checkout master
Switched to branch 'master'

C:\Users\sairam\Desktop\poc>|
```

## Step 12:

Merge Changes from testing-feature to master

```
C:\Users\sairam\Desktop\poc>git merge testing-feature
Already up to date.

C:\Users\sairam\Desktop\poc>|
```

## Step 13:

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

```
C:\Users\sairam\Desktop\poc>git branch -d testing-feature
Deleted branch testing-feature (was 9bd48a9).

C:\Users\sairam\Desktop\poc>
```

## Step 14:

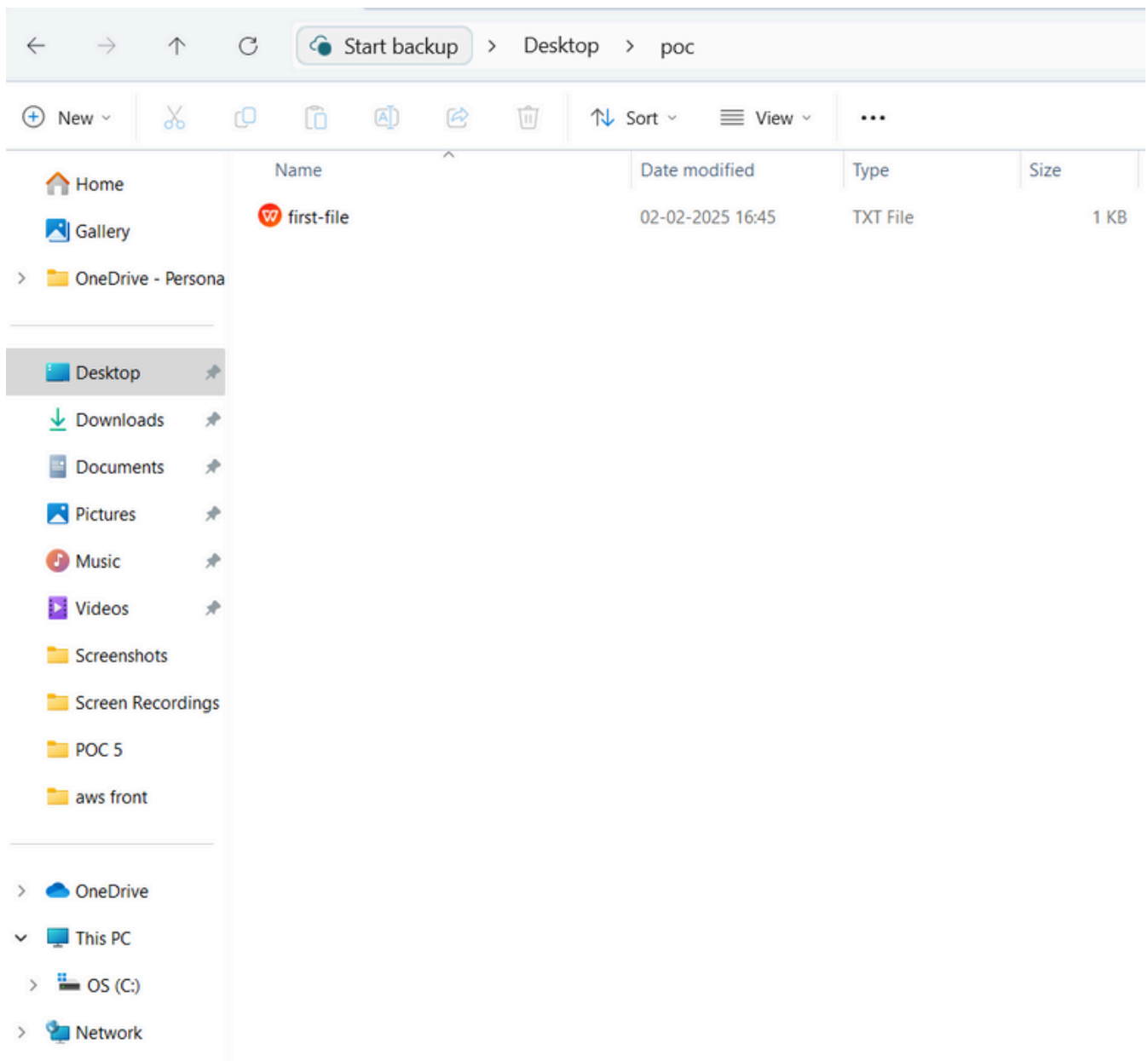
Now, check the files in the folder:

```
C:\Users\sairam\Desktop\poc>dir
Volume in drive C is OS
Volume Serial Number is 14EC-8F7B

Directory of C:\Users\sairam\Desktop\poc

02-02-2025  16:41    <DIR>          .
02-02-2025  16:38    <DIR>          ..
02-02-2025  16:45                25 first-file.txt
               1 File(s)                25 bytes
               2 Dir(s)  329,955,803,136 bytes free

C:\Users\sairam\Desktop\poc>
```



# 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`.