



School: Campus:

Academic Year: Subject Name: Subject Code:

Semester: Program: Branch: Specialization:

Date:

Applied and Action Learning (Learning by Doing and Discovery)

Name of the Experiment : Team Dev – Git and Collaboration in Projects

Objective/Aim:

Perform basic collaborative development operations using Git: create a repository, clone it locally, make commits, push changes, create branches, and merge team contributions. Record steps and observations.

Apparatus/Software Used:

- a. Git (installed locally)
- b. GitHub / GitLab / Bitbucket account
- c. VS Code or any code editor
- d. Web browser
- e. Internet connection

Theory/Concept:

Git: A distributed version control system used for tracking changes in source code. It enables multiple developers to work on the same project without overwriting each other's work.

Repository: A storage location where project files and their version history are maintained.

Branching: Allows developers to work on features independently without affecting the main project.

Merging: Combines changes from different branches into a single unified version.

Collaboration: Team members clone the same repository, push their own commits, and raise pull requests for review and merge.

Procedure:

1. Create Repository
 - o Log in to GitHub.
 - o Click New Repository → enter project name → click Create Repository.
2. Clone Repository
 - o Copy the repository URL.
 - o Open terminal and run:
 - o `git clone <repo_url>`
3. Configure Git (only first-time setup)
4. `git config --global user.name "Your Name"`
5. `git config --global user.email "your@email.com"`
6. Create a New Branch
7. `git checkout -b feature-branch`
8. Make Changes
 - o Modify files using VS Code.
 - o Save changes.
9. Stage and Commit Changes
10. `git add .`
11. `git commit -m "Added new feature"`
12. Push Branch to Remote
13. `git push -u origin feature-branch`
14. Create Pull Request (PR)
 - o Open GitHub → navigate to repository.
 - o Click Compare & pull request.
 - o Add comments and submit PR for review.
15. Merge PR
 - o Reviewer checks changes.
 - o Click Merge Pull Request → Confirm.
16. Update Local Repository
 - `git checkout main`
 - `git pull`

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● PS C:\Users\HP\Desktop\New folder (3)> git clone https://github.com/Gautam-37/Task_04_To-Do-List.git
Cloning into 'Task_04_To-Do-List'...
remote: Enumerating objects: 11, done.
remote: Counting objects: 100% (11/11), done.
remote: Compressing objects: 100% (9/9), done.
remote: Total 11 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (11/11), 6.74 KiB | 627.00 KiB/s, done.
● PS C:\Users\HP\Desktop\New folder (3)> git config --global user.name "gautam"
PS C:\Users\HP\Desktop\New folder (3)> git config --global user.name "Your Name"
>> git config --global user.email "your@email.com"
>>
● PS C:\Users\HP\Desktop\New folder (3)> git config --global user.email "usecase@gmail.com"
● PS C:\Users\HP\Desktop\New folder (3)> git checkout -b feature-branch
>>                               git add .
>> git commit -m "Added new feature"anch
④ >> C:\Users\HP\Desktop\New folder (3)>
fatal: Unable to create 'C:/Users/HP/Desktop/.git/index.lock': File exists.

Another git process seems to be running in this repository, e.g.
an editor opened by 'git commit'. Please make sure all processes
are terminated then try again. If it still fails, a git process
may have crashed in this repository earlier:
remove the file manually to continue.
fatal: Unable to create 'C:/Users/HP/Desktop/.git/index.lock': File exists.

Another git process seems to be running in this repository, e.g.
an editor opened by 'git commit'. Please make sure all processes
are terminated then try again. If it still fails, a git process
may have crashed in this repository earlier:
remove the file manually to continue.
diamond PS C:\Users\HP\Desktop\New folder (3)> █

```

Observation

Action Performed	Status	Remarks
Repository Created	<input checked="" type="checkbox"/>	Successfully created on GitHub
Clone Operation	<input checked="" type="checkbox"/>	Local copy created
Branch Created	<input checked="" type="checkbox"/>	feature-branch created
Commit & Push	<input checked="" type="checkbox"/>	Changes synced to remote
Pull Request	<input checked="" type="checkbox"/>	Visible in GitHub interface
Merge	<input checked="" type="checkbox"/>	Feature merged into main branch

ASSESSMENT

Rubrics	Full Mark	Marks Obtained	Remarks
Concept	10		
Planning and Execution/ Practical Simulation/ Programming	10		
Result and Interpretation	10		
Record of Applied and Action Learning	10		
Viva	10		
Total	50		

Signature of the Student:

Signature of the Faculty:

Name :

Regn. No.