

**Thadomal Shahani Engineering College, Bandra**  
**Department of Artificial Intelligence & Data Science**

|                               |                                      |
|-------------------------------|--------------------------------------|
| Name: Vinit Bishal Lunia      | Subject: ML Laboratory               |
| TE- 1    Batch: T13    Sem: 6 | Roll No: 2301063    Date: 19-01-2026 |

**Experiment No: 02**

**Aim:** To understand Version Control System / Source Code Management, install git and create a GitHub account

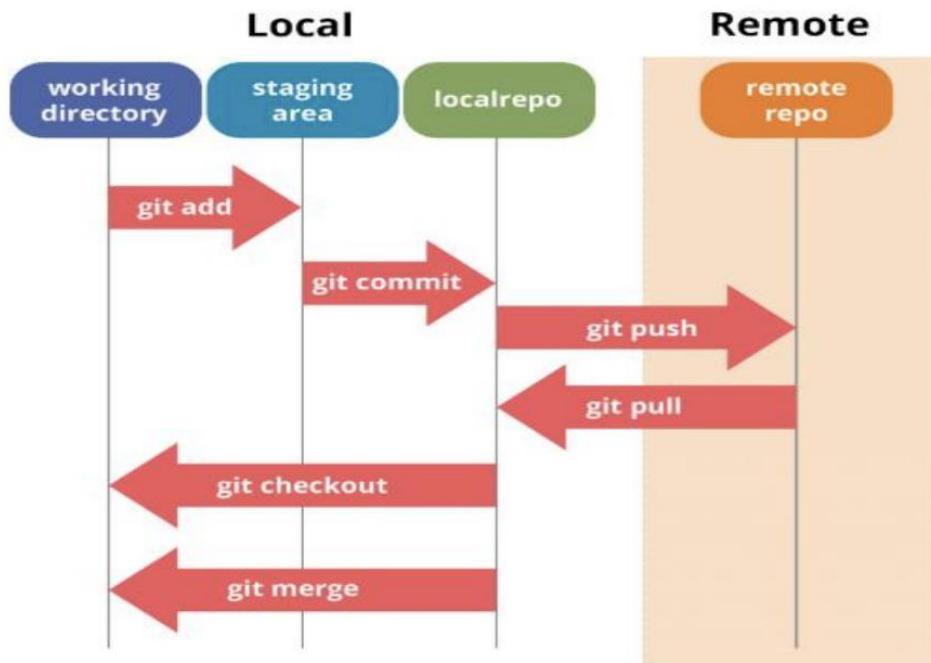
**Theory:**

- Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency. Git is easy to learn and has a tiny footprint with lightning fast performance. It outclasses SCM tools like Subversion, CVS, Perforce, and ClearCase with features like cheap local branching, convenient staging areas, and multiple workflows.
- Some of the basic operations in Git are:
  1. Initialize
  2. Add
  3. Commit
  4. Pull
  5. Push
- Some advanced Git operations are:
  1. Branching
  2. Merging
  3. Rebasing

The following diagram depict the all supported operations in GIT

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- **Installation of GIT**

- 1) In windows, download GIT from <https://git-scm.com/> and perform the straightforward installation.
- 2) In Ubuntu, install GIT using `$sudo apt install git`,  
Confirm the version after installation using command `$git --version`

```
MINGW64:/c/Users/bisha
bisha@Bisha MINGW64 ~
$ git --version
git version 2.49.0.windows.1
bisha@Bisha MINGW64 ~
$ |
```

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**Output:**

```
MINGW64:/c/Users/15L/Desktop/SEPM_63
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ ls
Experiment_02/  SEPM_Sem6/
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ |
```

```
MINGW64:/c/Users/15L/Desktop/SEPM_63
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ ls
Experiment_02/  SEPM_Sem6/
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ mv Experiment_02 SEPM_Sem6/
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ ls SEPM_Sem6/
Experiment_02/ README.md
15L@LAB08-007 MINGW64 ~/Desktop/SEPM_63 (master)
$ |
```

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```

MINGW64/c/Users/1SL/Desktop/SEPM_63/SEPM_Sem6
$ git status
On branch master
Your branch is up to date with 'origin/main'.
nothing to commit, working tree clean

$ git add Experiment_02
$ git commit -m "Added SEPM Experiment 2 - Gite & GitHub"
[master 0e0f3d1] Added SEPM Experiment 2 - Gite & GitHub
 1 file changed, 1 insertion(+)
nothing to commit, working tree clean

$ git push origin master
remote: Invalid username or token. Password authentication is not supported for Git operations.
fatal: Authentication failed for 'https://github.com/itsvinitlunia/SEPM_Sem6.git'

MINGW64 ~/Desktop/SEPM_63/SEPM_Sem6 (main)
$ git push origin main
Everything up-to-date

$ git push origin main
fatal: User cancelled dialog.


```

```

MINGW64/c/Users/1SL/Desktop/SEPM_63/SEPM_Sem6
$ git status
On branch master
Your branch is up to date with 'origin/main'.
nothing to commit, working tree clean

$ git add -A
$ git commit -m "Experiment_02 README.md"
[master 0e0f3d1] Experiment_02 README.md
 1 file changed, 1 insertion(+)

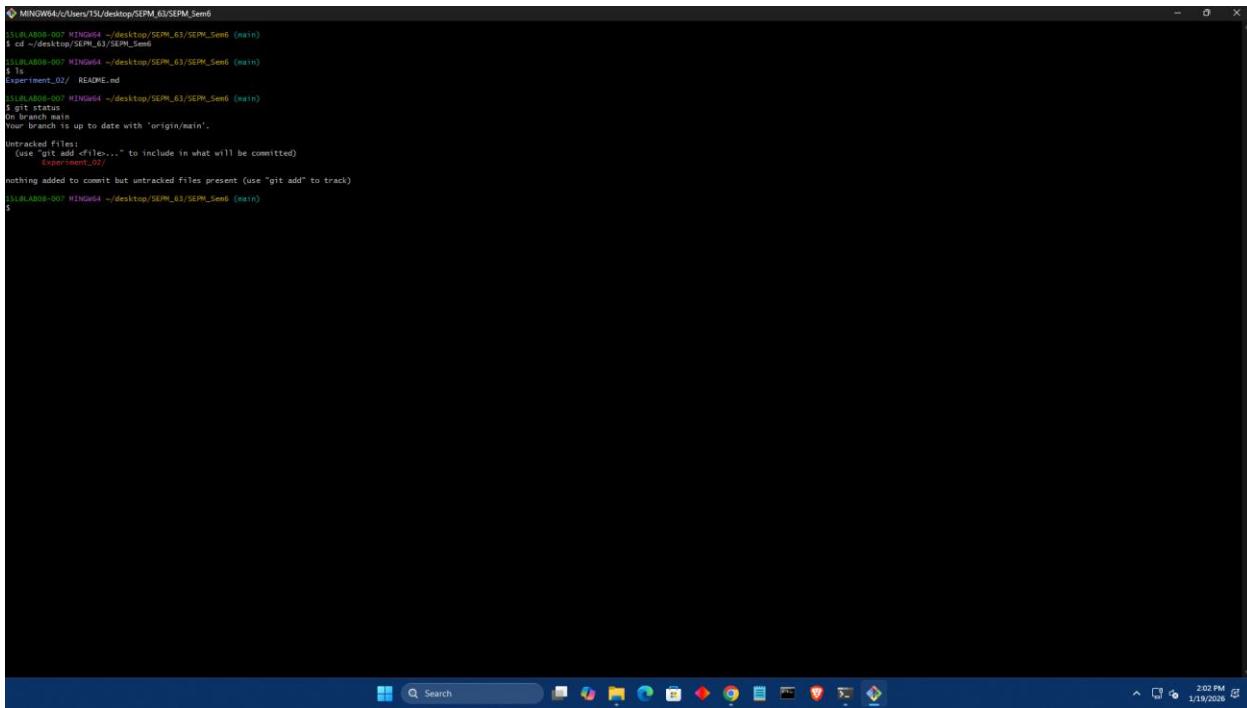
$ git push origin master
remote: bash: command not found
fatal: Authentication failed for 'https://github.com/itsvinitlunia/SEPM_Sem6.git'

MINGW64 ~/Desktop/SEPM_63/SEPM_Sem6 (main)
$ git push origin main
fatal: User cancelled dialog.


```

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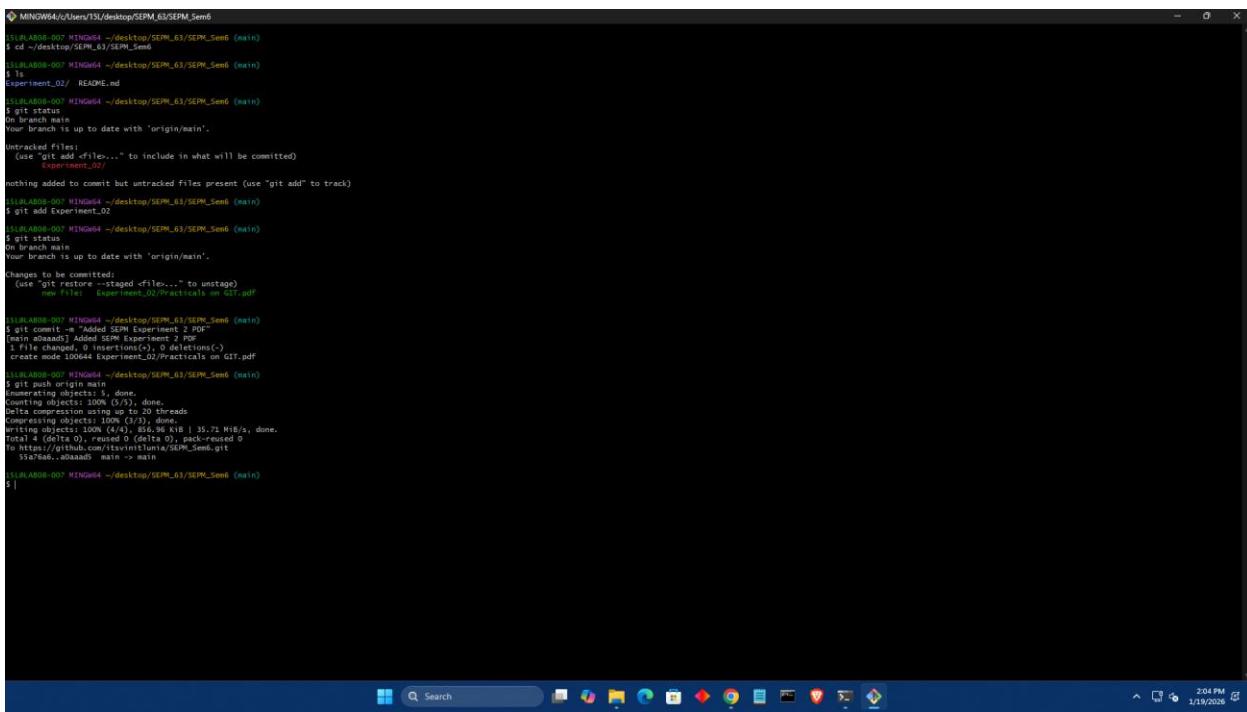
|                                   |  |
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```

MINGW64 /c/Users/1SL/Desktop/SEPM_63/SEPM_Sem6
$ cd ~/Desktop/SEPM_63/SEPM_Sem6 (main)
$ ls
Experiment_02 README.md
$ git status
On branch main
Your branch is up to date with 'origin/main'.
nothing added to commit but untracked files present (use "git add" to track)
$ git add .
$ git commit -m "Experiment_02"
[master 1e0944e] Experiment_02
 1 file changed, 1 insertion(+), 0 deletions(-)
$ git push
Counting objects: 5, done.
Delta compression using up to 20 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/itsvinitlunia/SEPM_Sem6.git
 ! [new branch] main -> main
$ 

```



```

MINGW64 /c/Users/1SL/Desktop/SEPM_63/SEPM_Sem6
$ cd ~/Desktop/SEPM_63/SEPM_Sem6 (main)
$ ls
Experiment_02 README.md
$ git status
On branch main
Your branch is up to date with 'origin/main'.
nothing added to commit but untracked files present (use "git add" to track)
$ git add .
$ git commit -m "Experiment_02/Practicals on GIT.pdf"
[master 1e0944e] Experiment_02/Practicals on GIT.pdf
 1 file changed, 0 insertions(+), 0 deletions(-)
  create mode 100644 Experiment_02/Practicals on GIT.pdf
$ git push
Counting objects: 5, done.
Delta compression using up to 20 threads.
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/itsvinitlunia/SEPM_Sem6.git
 ! [new branch] main -> main
$ 

```

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**Conclusion:** Successfully performed Version Control System / Source Code Management, install git and create a GitHub account