

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.

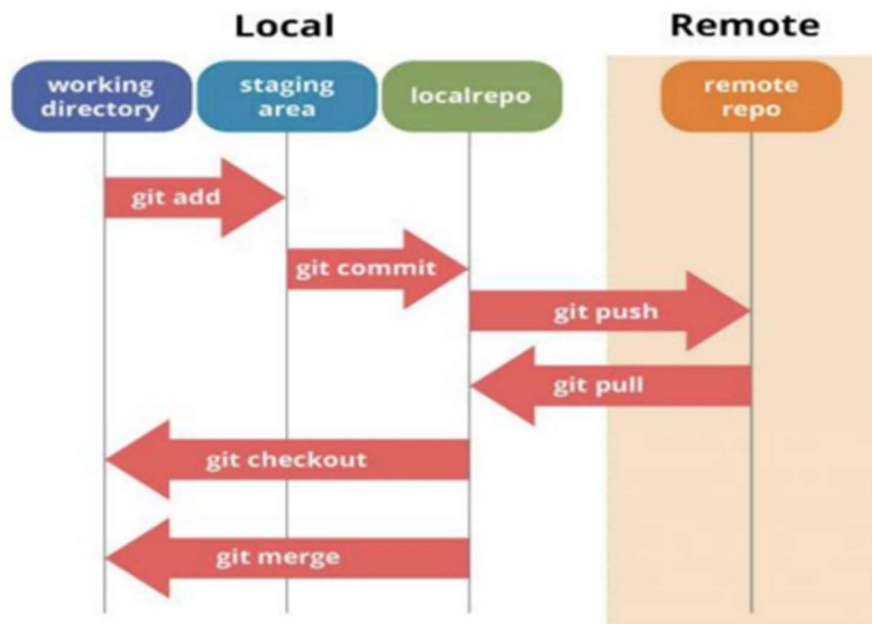
- Some of the basic operations in Git are:

1. Initialize
2. Add
3. Commit
4. Pull
5. Push

- Some advanced Git operations are:

1. Branching
2. Merging
3. Rebasing

The following diagram depicts the all supported operations in GIT



- 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@Bisha1 MINGW64 ~
$ git --version
git version 2.49.0.windows.1
bisha@Bisha1 MINGW64 ~
$ |
```

```
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)
$ |
```

```
15L@LAB08-007 MINGW64 ~/desktop/SEPM_63
$ ls
Experiment_02/  SEPM_Sem6/
15L@LAB08-007 MINGW64 ~/desktop/SEPM_63 (master)
$ cd Experiment_02/
15L@LAB08-007 MINGW64 ~/desktop/SEPM_63 (master)
$ cd SEPM_Sem6/
15L@LAB08-007 MINGW64 ~/desktop/SEPM_63 (master)
$ cd ..
15L@LAB08-007 MINGW64 ~/desktop/SEPM_63 (master)
$
```

```

MHCORBA/Team7/Running/TEMP_01/TEMP_Sand
~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ cd ~/Running/TEMP_01/TEMP_Sand
~/Running/TEMP_01/TEMP_Sand (main)
$ ls
Experiment_02/  README.md
~/Running/TEMP_01/TEMP_Sand (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)
  Experiment_02

nothing added to commit but untracked files present (use "git add" to track)
~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)

```

```

MHCORBA/Team7/Running/TEMP_01/TEMP_Sand
~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ cd ~/Running/TEMP_01/TEMP_Sand
~/Running/TEMP_01/TEMP_Sand (main)
$ ls
Experiment_02/  README.md
~/Running/TEMP_01/TEMP_Sand (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)
  Experiment_02

nothing added to commit but untracked files present (use "git add" to track)
~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ git add Experiment_02
~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
    new file   : Experiment_02/Experiment_02.pdf

~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ git commit -m "Added TEMP Experiment 2 pdf"
[main 6b1c1d1] Added TEMP Experiment 2 pdf
 2 files changed, 8 insertions(+), 0 deletions(-)
 create mode 100644 Experiment_02/Experiment_02.pdf

~/MHCORBA/Team7/Running/TEMP_01/TEMP_Sand (main)
$ git push origin main
Enumerating objects: 3, done.
Counting objects: 300 (3.7%), done.
Compressing objects: 100% (3.7%), done.
Writing objects: 100% (3.7%), done.
Total 3 (3.7% of 8), reused 0 (0.0%), push-received 3
To https://github.com/karshejwal/TEMP_Sand.git
   3 files pushed, 0 new

```

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