

Aim - Demonstration of various git operations on local and remote repository using git cheat-sheet.

Theory –

Some git commands are –

1. git --version: Displays the installed version of Git.
2. mkdir<dir name>: Creates a new directory named.
3. git init : Initialize the new git repository in the current directory.
4. nano <file name> : Opens the nano text editor to create or edit the file.
5. git status : Shows the status of the working directory and staging area, including untracked files.
6. git add –all : Adds all changes in the working directory to the staging area.
7. git commit -m "some message" : Commits the staged changes with the some message.
8. git remote add origin <url> : Adds a remote repository named origin with the specified URL.
9. git push -u origin main : Pushes the committed changes to the main branch of the remote repository and sets the upstream branch.
10. git log : Displays the commit history.
11. ls : Lists the files in the current directory.
12. git rm --cached <file name>: Removes the file from the staging area but keeps it in the working directory.

Commands -

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ git --version
```

```
git version 2.46.0.windows.1
```

```
nura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ mkdir Experiment3
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ cd Experiment3/
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git init
```

```
Initialized empty Git repository in D:/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/.git/
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (master)
```

```
$ git remote add origin https://github.com/boss2412/Experiment3.git
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (master)
```

```
$ git remote -v
```

```
origin https://github.com/boss2412/Experiment3.git (fetch)
```

```
origin https://github.com/boss2412/Experiment3.git (push)
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (master)
```

```
$ git branch
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (master)
```

```
$ git branch -M main
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git branch
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ ls -a
```

```
./ ../ .git/
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ cd ..
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ git push origin main
```

```
Everything up-to-date
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ git submodule add https://github.com/boss2412/Experiment3.git
```

```
Adding existing repo at 'Experiment3' to the index
```

```
warning: in the working copy of '.gitmodules', LF will be replaced by CRLF the next time Git touches it
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (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: .gitmodules
```

```
new file: Experiment3
```

```
new file: Experiment_3
```

```
Changes not staged for commit:
```

```
(use "git add/rm <file>..." to update what will be committed)
```

```
(use "git restore <file>..." to discard changes in working directory)
```

```
deleted: Experiment_3
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
```

```
$ git add .
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
$ git commit -m "Experiment 3 Added to DevOps_Lab"
[main 822dbae] Experiment 3 Added to DevOps_Lab
2 files changed, 4 insertions(+)
create mode 100644 .gitmodules
create mode 160000 Experiment3
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab (main)
$ git push origin main
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 16 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (3/3), 423 bytes | 423.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
To https://github.com/boss2412/DevOps_Lab.git
e197133..822dbae main -> main
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
$ git log
commit 3c5e41f2d5f99c7f1d1f4bb8cc6154c461feafd1 (HEAD -> main, origin/main)
Author: Anurag Tiwari <tiwarianurag2412@gmail.com>
Date: Fri Aug 30 20:27:58 2024 +0530
```

Readme Added

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
$ git pull origin main
remote: Enumerating objects: 5, done.
remote: Counting objects: 100% (5/5), done.
remote: Compressing objects: 100% (2/2), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0 (from 0)
Unpacking objects: 100% (4/4), 1001 bytes | 125.00 KiB/s, done.
From https://github.com/boss2412/Experiment3
* branch      main      -> FETCH_HEAD
3c5e41f..2c58039 main    -> origin/main
Updating 3c5e41f..2c58039
Fast-forward
 New_Folder/temp | 1 +
1 file changed, 1 insertion(+)
create mode 100644 New_Folder/temp
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
$ ls
```

New_Folder/ README.md

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git branch
```

```
* main
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git branch new_branch
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git branch
```

```
* main
```

```
new_branch
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3 (main)
```

```
$ git checkout new_branch
```

```
Switched to branch 'new_branch'
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
```

```
(new_branch)
```

```
$ git checkout -b second_branch
```

```
Switched to a new branch 'second_branch'
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
```

```
(second_branch)
```

```
$ git branch
```

```
main
```

```
new_branch
```

```
* second_branch
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
```

```
(second_branch)
```

```
$ git checkout new_branch
```

```
Switched to branch 'new_branch'
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
```

```
(new_branch)
```

```
$ git branch -d second_branch
```

```
Deleted branch second_branch (was 2c58039).
```

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
```

```
(new_branch)
```

```
$ git branch
```

```
main
```

* new_branch

```
anura@Boss2412 MINGW64 /d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3
(new_branch)
$ cd New_Folder/
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (new_branch)
$ ls
temp
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (new_branch)
$ rm temp
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (new_branch)
$ ls
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (new_branch)
$ git diff main
diff --git a/New_Folder/temp b/New_Folder/temp
deleted file mode 100644
index 9a17a7a..0000000
--- a/New_Folder/temp
+++ /dev/null
@@ -1 +0,0 @@
-Temporary file to show pull command.
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (new_branch)
$ git checkout main
Switched to branch 'main'
D    New_Folder/temp
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (main)
$ git branch -d new_branch
Deleted branch new_branch (was 2c58039).
```

```
anura@Boss2412 MINGW64
/d/College/3_Third_Year/Semester_5/DevOps_Lab/Experiment3/New_Folder (main)
$ git branch
```

* main

.....