

## Experiment 03 - Git Commands

Roll No.	37
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Class	D15-B
Subject	DevOps Lab
LO Mapped	<p>LO1: To understand the fundamentals of DevOps engineering and be fully proficient with DevOps terminologies, concepts, benefits, and deployment options to meet your business requirements</p> <p>LO2: To obtain complete knowledge of the “version control system” to effectively track changes augmented with Git and GitHub</p>

**Aim:** To Perform various GIT operations on local and Remote repositories using GIT  
Cheat-Sheet

**Introduction:**

1. git config --global user.name "[firstname lastname]" - set a name that is identifiable for credit when reviewing version history
2. git config --global user.email "[valid-email]" - set an email address that will be associated with each history marker
3. git init - initialize an existing directory as a Git repository
4. git clone [url] - retrieve an entire repository from a hosted location via URL
5. git log - show the commit history for the currently active branch
6. git log branchB..branchA - show the commits on branchA that are not on branchB
7. git log --follow [file] - show the commits that changed file, even across renames
8. git diff branchB...branchA - show the diff of what is in branchA that is not in branchB
9. git status - show modified files in working directory, staged for your next commit
10. git add [file] - add a file as it looks now to your next commit (stage)
11. git reset [file] - unstage a file while retaining the changes in working directory
12. git diff - diff of what is changed but not staged
13. git diff --staged - diff of what is staged but not yet committed
14. git commit -m "[descriptive message]" - commit your staged content as a new commit snapshot

**Just getting started – GitHub**

Just using GitHub, please complete each task below. This requires that you have already set up an account.

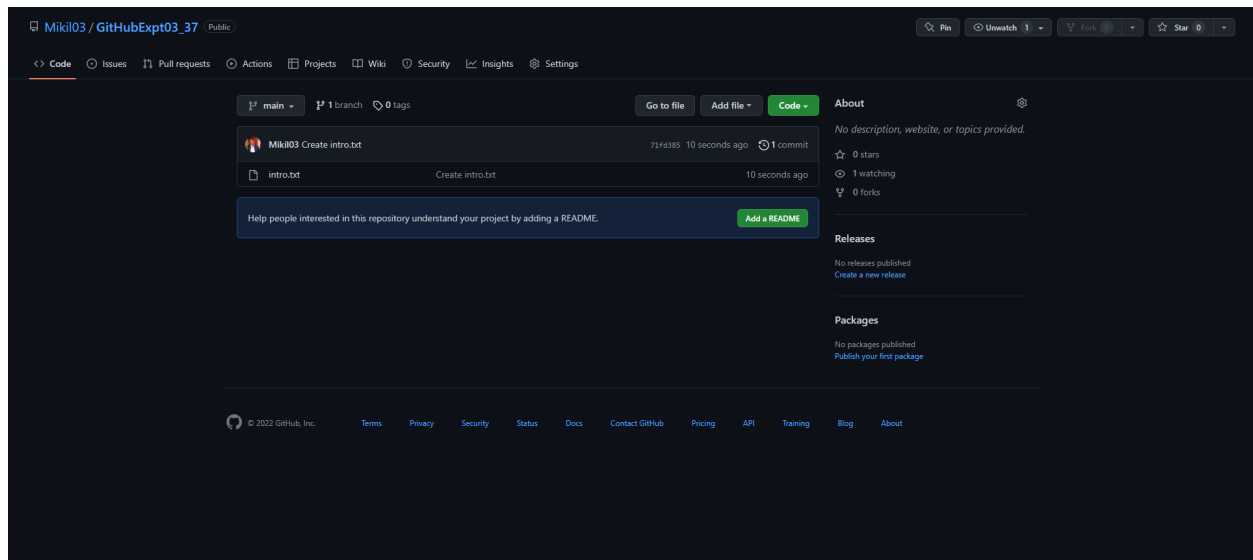
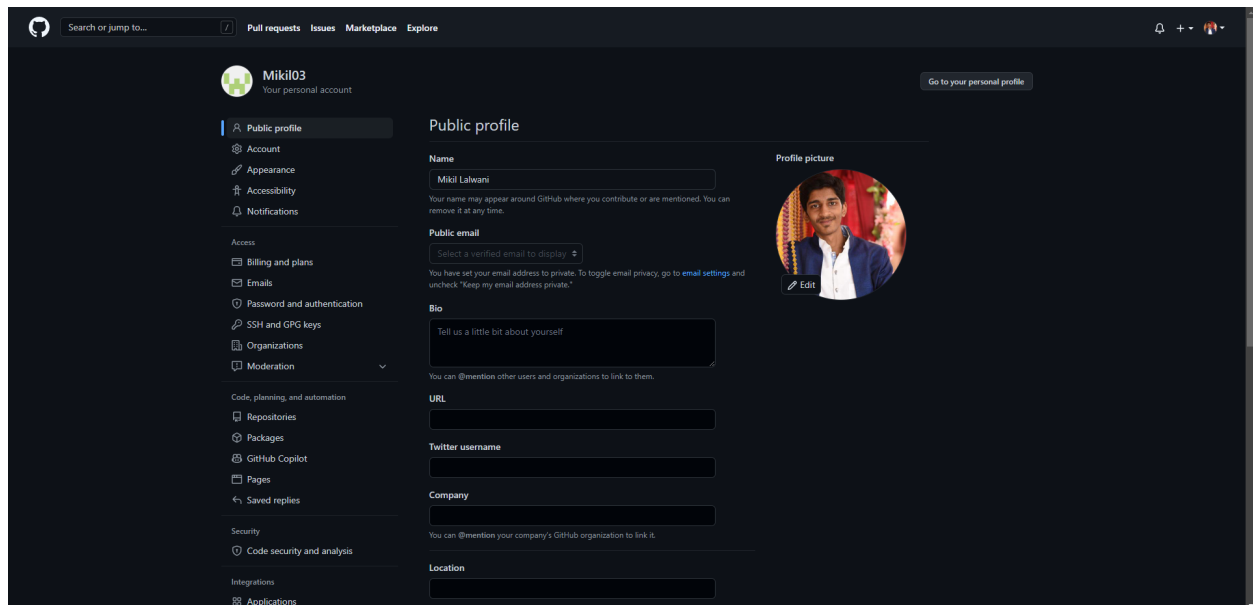
Change your profile picture and name	Go to settings in your github account and change your name and profile picture
Create a repository named GitHubExpt03_grno	Click on the plus icon present on the right side and select create new repository and provide a name

Create a file in the above directory named “intro.txt” with your name on the first line.

Click on add a new file and name it and write your name and click on commit the changes

To show ALL of above in one screen, you should be able to go to the URL (or close):

[https://github.com/Mikil03/GitHubExpt03\\_37](https://github.com/Mikil03/GitHubExpt03_37)

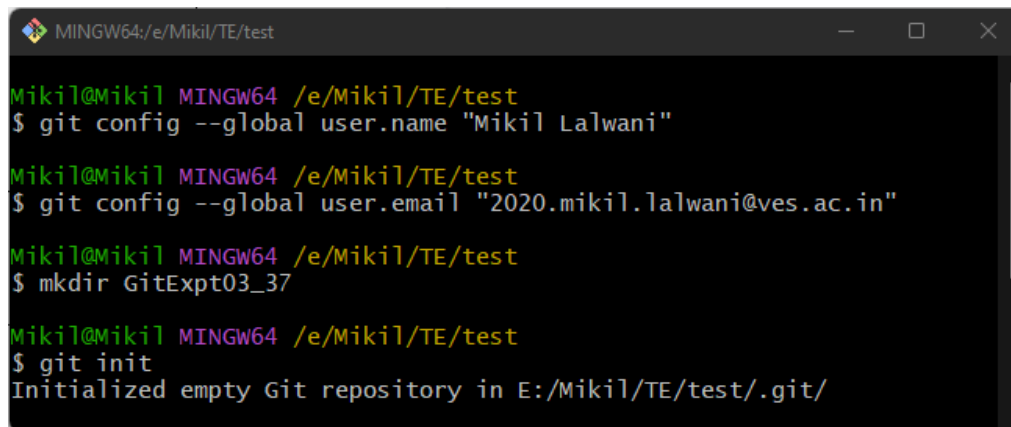


**Just getting started – Git Bash**

Just using Git, please complete each task below and write the answer in the blank box beside the question. This requires that you have already installed Git.

setup user name (Please use your given name)	Git config --global user.name "<user name>"
setup user email (Please use your ves account)	Git config --global user.email "<user email>"
Create your local repository named GitExpt03_grno	Mkdir GitExpt03_grno Git init
Add a file in above local repository named file_grno_rollno and add some content to file  Add it to staging state	Git add <filename>
Commit the files	Git commit -m "<commit message>"
Create a scenario for modifications/additions of the multiple files. Show the advantage of staging state.	Git add . Git commit -m "<commit message>"
Display the log	Git log

Download your GitHub repository created in table-1 named GitHubExpt03_grno	Git clone "<url of repo>"
Make some changes in the GitHub file.  Pull the latest files from your GitHub repository	Git pull
Make some changes in the local file of GitHub repository  Update the changes back to Github Repository	Git add .  Git commit -m "<commit message>"  Git push



```
MINGW64:/e/Mikil/TE/test
Mikil@Mikil MINGW64 /e/Mikil/TE/test
$ git config --global user.name "Mikil Lalwani"

Mikil@Mikil MINGW64 /e/Mikil/TE/test
$ git config --global user.email "2020.mikil.lalwani@ves.ac.in"

Mikil@Mikil MINGW64 /e/Mikil/TE/test
$ mkdir GitExpt03_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test
$ git init
Initialized empty Git repository in E:/Mikil/TE/test/.git/
```

```
MINGW64:/e/Mikil/TE/test/GitExpt03_37
Mikil@Mikil MINGW64 /e/Mikil/TE/test (main)
$ cd GitExpt03_37/

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ touch file_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ ls
file_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ gedit file_37
bash: gedit: command not found

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ cat file_37
Mikil Lalwani
D15B 37
Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$
```

```
MINGW64:/e/Mikil/TE/test/GitExpt03_37
Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git add file_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git commit -m "first commit"
[main (root-commit) 34654d0] first commit
1 file changed, 2 insertions(+)
create mode 100644 GitExpt03_37/file_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ ls
'file 2.txt'  file_37

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git status
On branch main
Untracked files:
  (use "git add <file>..." to include in what will be committed)
    file 2.txt

nothing added to commit but untracked files present (use "git add" to track)

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git add file\ 2.txt

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$
```

```
MINGW64:/e/Mikil/TE/test/GitExpt03_37
Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git log
commit 34654d058eeb6b11237b2a1c66b2e1c0424b4a32 (HEAD -> main)
Author: Mikil Lalwani <2020.mikil.lalwani@ves.ac.in>
Date: Sat Aug 13 21:39:27 2022 +0530

    first commit

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37 (main)
$ git clone https://github.com/Mikil03/GitHubExpt03_37.git
Cloning into 'GitHubExpt03_37'...
remote: Enumerating objects: 3, done.
remote: Counting objects: 100% (3/3), done.
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
Receiving objects: 100% (3/3), done.
```

```
MINGW64:/e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37
Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37 (mai
n)
$ cat intro.txt
Mikil Lalwani
D15B
Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37 (mai
n)
$ git add .

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37 (mai
n)
$ git commit -m "Added Branch"
[main 216a575] Added Branch
1 file changed, 1 insertion(+)

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37 (mai
n)
$ git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Writing objects: 100% (3/3), 269 bytes | 269.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Mikil03/GitHubExpt03_37.git
71fd385..216a575 main -> main

Mikil@Mikil MINGW64 /e/Mikil/TE/test/GitExpt03_37/GitHubExpt03_37 (mai
n)
$
```

## Team set up in GitHub

The screenshot shows the GitHub repository settings page for 'Mikil03 / DevOps-Lab'. The page is divided into several sections:

- Who has access:** This section shows the repository's access level. It indicates that the repository is private and that only those with access can view it. It also shows that 3 people have access to this repository: 2 collaborators and 1 invitation.
- Manage access:** This section allows you to manage the repository's access. It includes a search bar to find collaborators and a list of current collaborators. The list shows three collaborators: `ajinkyat702`, `ragnar-lothbrok9`, and `Shubh8999`. Each collaborator has a 'Remove' button next to their name. The status for `Shubh8999` is 'Awaiting Shubh8999's response'.
- Get team access controls and discussions for your contributors in an organization:** This section promotes the benefits of using GitHub Organizations, such as team access controls and discussions. It includes a 'Create an organization' button.

The left sidebar contains navigation links for various repository settings, including General, Access, Code and automation, Branches, Tags, Actions, Webhooks, Pages, Security, Code security and analysis, Deploy keys, Secrets, Integrations, GitHub apps, and Email notifications.



```
MINGW64:/c/Users/Lenovo/OneDrive/Desktop/New folder/DevOps-Lab/Project

Lenovo@LAPTOP-CQAHQ6H1 MINGW64 ~/OneDrive/Desktop/New folder/DevOps-Lab/Project
(main)
$ git add 30.txt

Lenovo@LAPTOP-CQAHQ6H1 MINGW64 ~/OneDrive/Desktop/New folder/DevOps-Lab/Project
(main)
$ git commit -m "Added file 30"
[main 22c8c3c] Added file 30
1 file changed, 2 insertions(+)
create mode 100644 Project/30.txt

Lenovo@LAPTOP-CQAHQ6H1 MINGW64 ~/OneDrive/Desktop/New folder/DevOps-Lab/Project
(main)
$ git push
Enumerating objects: 6, done.
Counting objects: 100% (6/6), done.
Delta compression using up to 12 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (4/4), 374 bytes | 374.00 KiB/s, done.
Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/Mikil03/DevOps-Lab.git
39300f2..22c8c3c main -> main

Lenovo@LAPTOP-CQAHQ6H1 MINGW64 ~/OneDrive/Desktop/New folder/DevOps-Lab/Project
(main)
$ git log
commit 22c8c3c6991f065782671b1b51fb1c434aa5e0b3 (HEAD -> main, origin/main, origin/HEAD)
Author: Shubham Kamodkar <shubhamkamodkar262@gmail.com>
Date: Sat Aug 13 22:26:23 2022 +0530

    Added file 30

commit 39300f22ef32bc775f2019eac8d3ed0fa8b7217b
Author: Mikil Lalwani <83916946+Mikil03@users.noreply.github.com>
Date: Sat Aug 13 22:04:05 2022 +0530

    Create 37

commit eeb79323b444c414fbcf852111a5cca0d7efe5ca
Author: Mikil03 <83916946+Mikil03@users.noreply.github.com>
Date: Thu Aug 11 10:11:01 2022 +0530

    Initial commit

Lenovo@LAPTOP-CQAHQ6H1 MINGW64 ~/OneDrive/Desktop/New folder/DevOps-Lab/Project
(main)
$ |
```

## Conclusion

Successfully performed the experiment.