

Name of Student : Yash Mirashi			
Roll Number : 26		Practical Number : 2	
Title of LAB Assignment : To implement Version control for different files/directories using GIT, install git and create a GitHub account			
DOP : 24/01/2024		DOS : 29/01/2024	
CO Mapped : CO1,	PO Mapped: PO2,PO5,PSO1	Faculty Signature:	Marks :

Practical 2 :- To perform Version Control using GIT

Introduction to Git :

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.

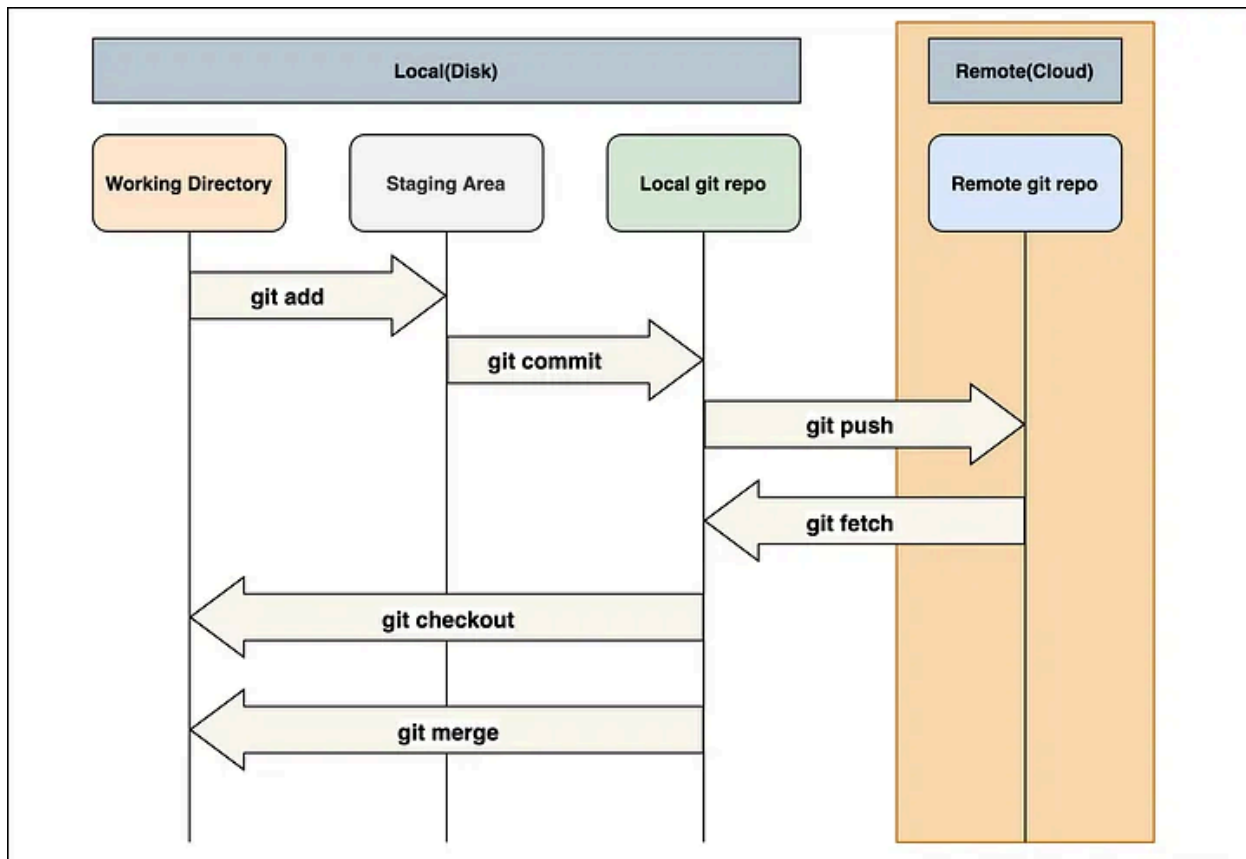
Some of the **basic** operations in Git are:

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

Some **advanced** Git operations are:

1. Branching
2. Merging
3. Rebasing

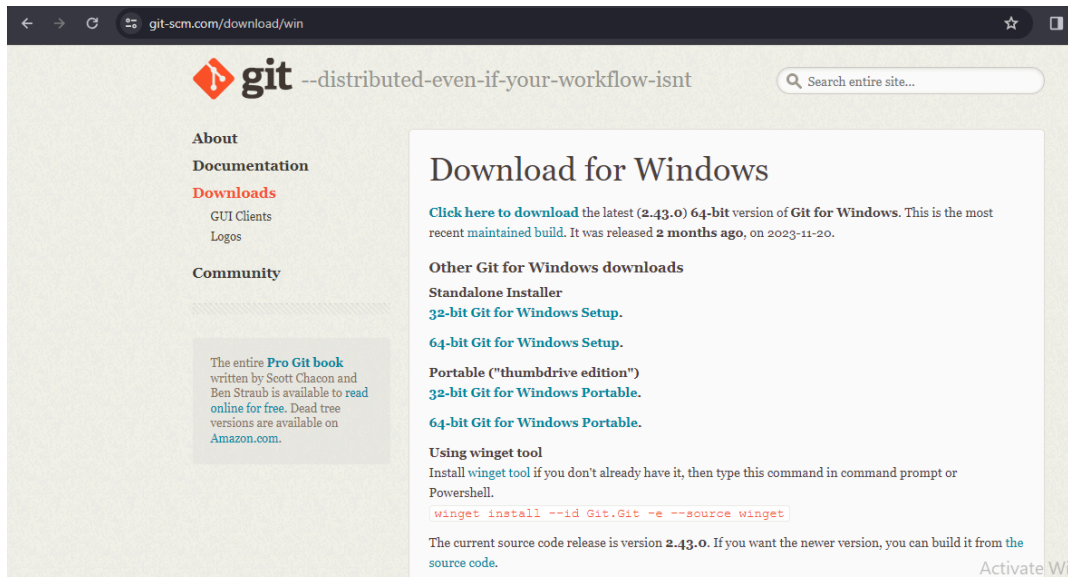
The following diagram depict the all supported operations in GIT :



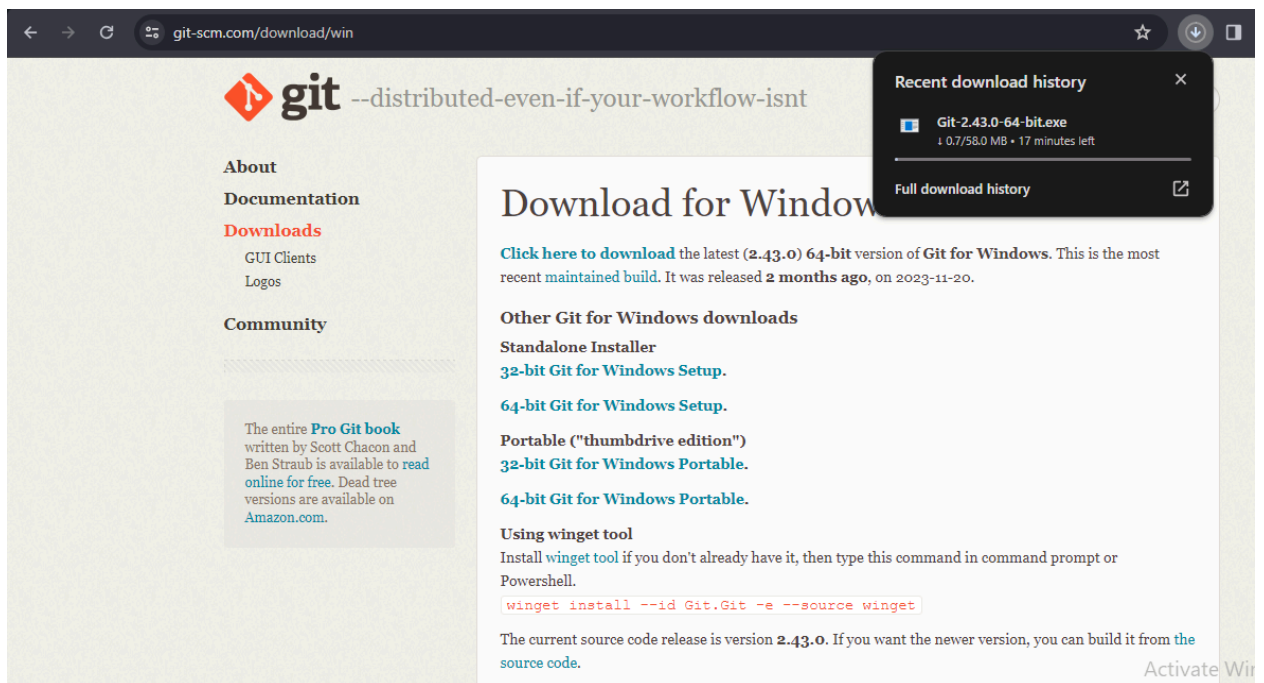
Installation of git:

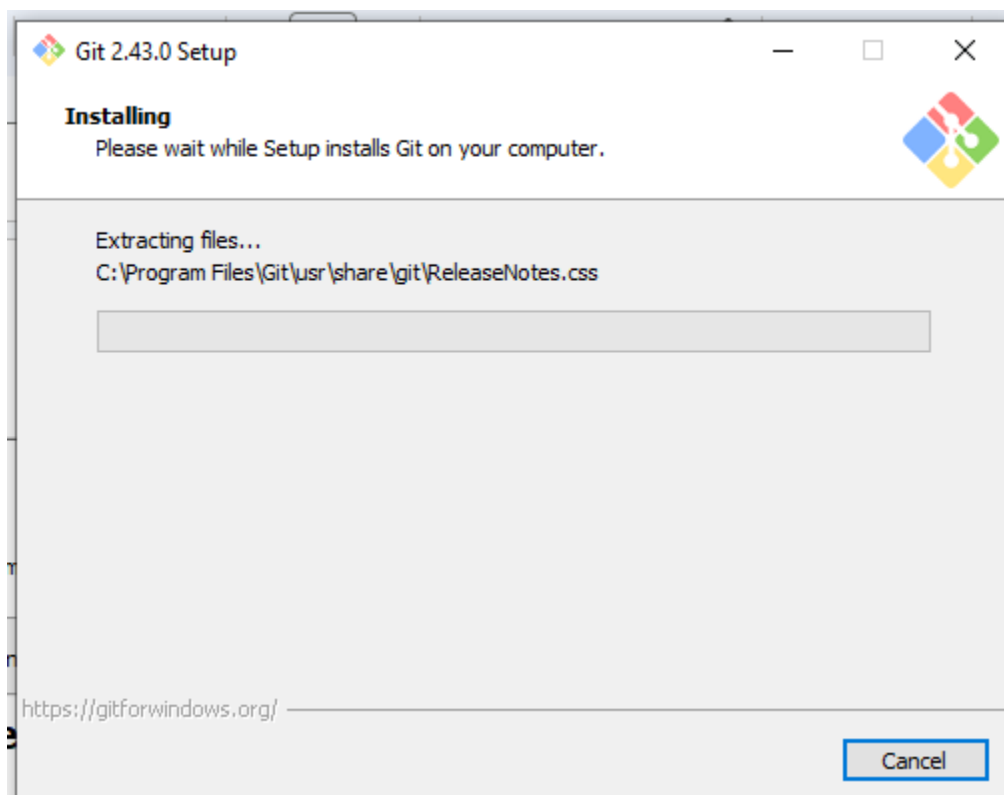
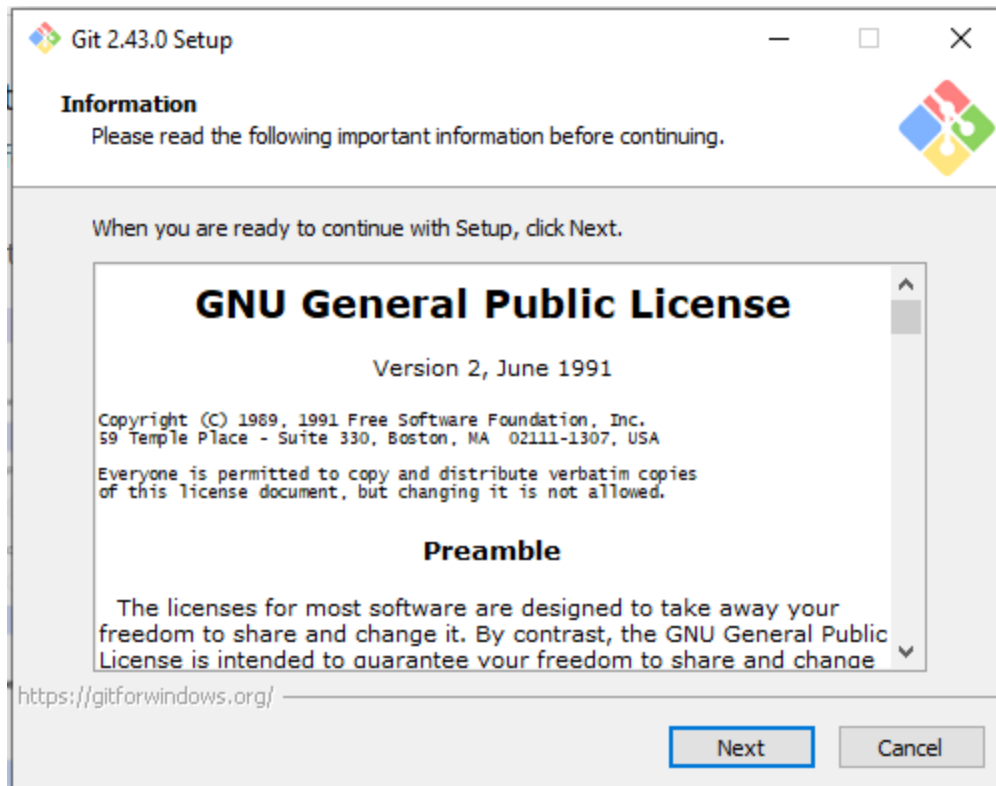
1. Go to git official website :- <https://git-scm.com/>



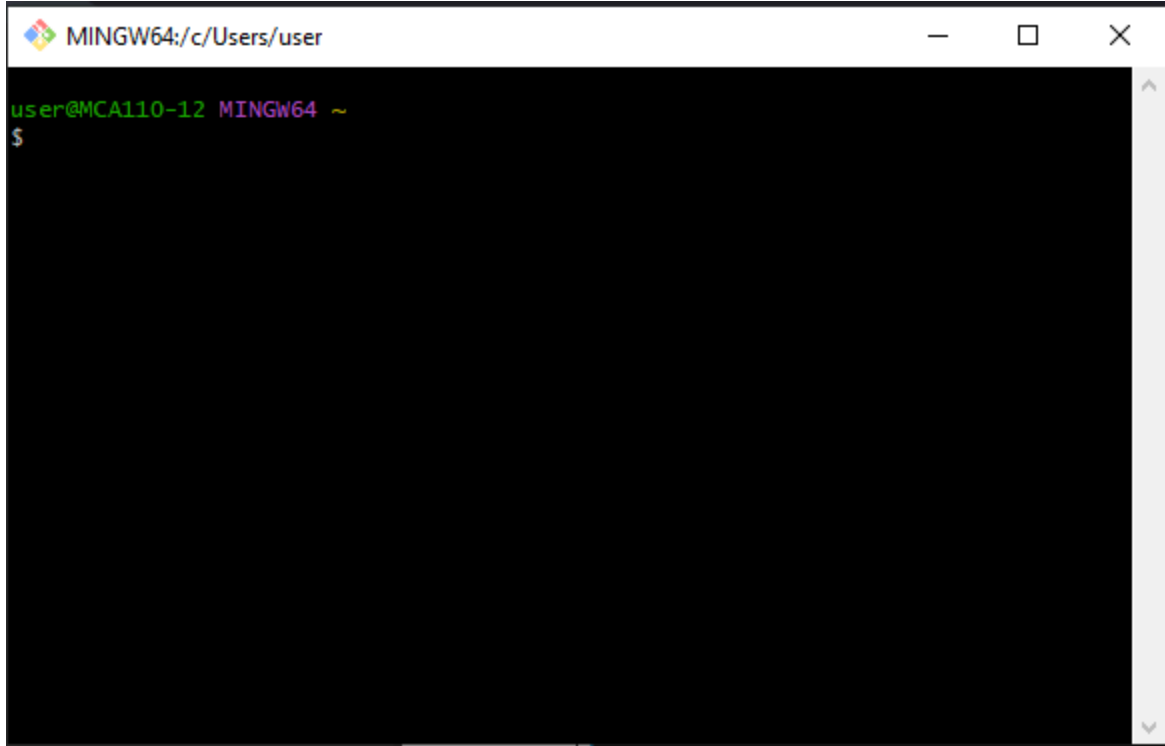


Download the 64-bit windows setup.

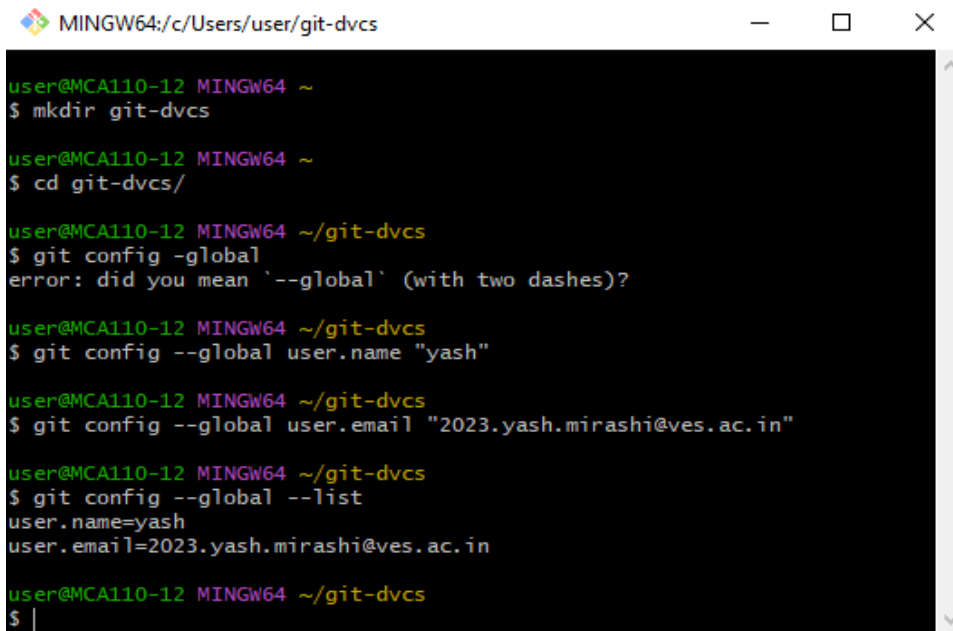




After installation the Git Bash will open:

A screenshot of a Git Bash terminal window. The title bar shows 'MINGW64:/c/Users/user'. The terminal content shows the prompt 'user@MCA110-12 MINGW64 ~' followed by a '\$' symbol on a new line, indicating the shell is ready for input.

Now performing version control, let us create a directory dvcs (Distributed version control system) and change directory to dvcs.

A screenshot of a Git Bash terminal window. The title bar shows 'MINGW64:/c/Users/user/git-dvcs'. The terminal content shows the following commands and output:
user@MCA110-12 MINGW64 ~
\$ mkdir git-dvcs
user@MCA110-12 MINGW64 ~
\$ cd git-dvcs/
user@MCA110-12 MINGW64 ~/git-dvcs
\$ git config -global
error: did you mean '--global' (with two dashes)?
user@MCA110-12 MINGW64 ~/git-dvcs
\$ git config --global user.name "yash"
user@MCA110-12 MINGW64 ~/git-dvcs
\$ git config --global user.email "2023.yash.mirashi@ves.ac.in"
user@MCA110-12 MINGW64 ~/git-dvcs
\$ git config --global --list
user.name=yash
user.email=2023.yash.mirashi@ves.ac.in
user@MCA110-12 MINGW64 ~/git-dvcs
\$ |

Let us create a repository for version control named "git-demo-project"

```
user@MCA110-12 MINGW64 ~/git-dvcs
$ mkdir git-demo-project

user@MCA110-12 MINGW64 ~/git-dvcs
$ cd git-demo-project/

user@MCA110-12 MINGW64 ~/git-dvcs/git-demo-project
$
```

Now, initialize the repository using following command

```
user@MCA110-12 MINGW64 ~/git-dvcs/git-demo-project
$ git init
Initialized empty Git repository in C:/Users/user/git-dvcs/git-demo-proje
ct/.git/
```

Now, let us add some files inside our repository "git-demo-project"

To add files in the repository by create or copy some doc,html,image files inside current directory to see index and staging area. The add command is used along with dot (. Dot means current directory) for adding files in current repository i.e. making them in staging mode. They are untracked until we commit them.

```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git init
Reinitialized existing Git repository in C:/Users/Yash/git-dvcs/git-demo-project
/.git/

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
    UI_P2_B-26.pdf

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

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git add .

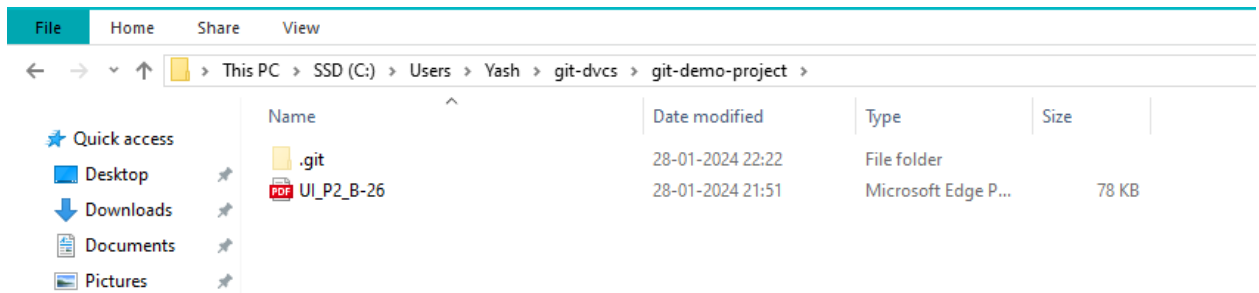
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   UI_P2_B-26.pdf

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git commit -m "first commit"
[master (root-commit) 2ae4de9] first commit
 1 file changed, 0 insertions(+), 0 deletions(-)
```

After executing above command we get,



```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ touch teststatus

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git status
On branch master
Untracked files:
  (use "git add <file>..." to include in what will be committed)
        teststatus

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

```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git add teststatus

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git status
On branch master
Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        new file:   teststatus
```

```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git log
commit 2ae4de9ff50f84c7d231d7b05ca7c65134b923f1 (HEAD -> master)
Author: yash <2023.yash.mirashi@ves.ac.in>
Date:   Sun Jan 28 22:22:28 2024 +0530

    first commit

Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ |
```



```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git log --oneline
2ae4de9 (HEAD -> master) first commit
```

```
Yash@DESKTOP-DN9LPV7 MINGW64 ~/git-dvcs/git-demo-project (master)
$ git log --oneline UI_P2_B-26.pdf
2ae4de9 (HEAD -> master) first commit
```

Github Account created,

The screenshot shows the GitHub Dashboard for a user named 'imgituser'. The dashboard includes a sidebar with navigation links like 'Your profile', 'Add account', 'Your repositories', 'Your projects', 'Your organizations', 'Your enterprises', 'Your stars', 'Your sponsors', and 'Your gists'. The main content area features a 'Join GitHub Global Campus!' banner, a 'Create your first project' section with 'Create repository' and 'Import repository' buttons, and a 'Recent activity' section. The 'Home' section displays 'Updates to your homepage feed' and a 'Start writing code' button. The bottom of the dashboard shows a 'Start a new repository for imgituser' button and an 'Introduce yourself with a profile README' button.

