

# Assignment 1

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**AIM :** *To learn Git and gitub and Implement git command on respective OS*

## Git :

-Git is an **Open Source Distributed Version Control System**.

-This basically means that Git is a content tracker. So Git can be used to store content it is mostly used to store code due to the other features it provides.

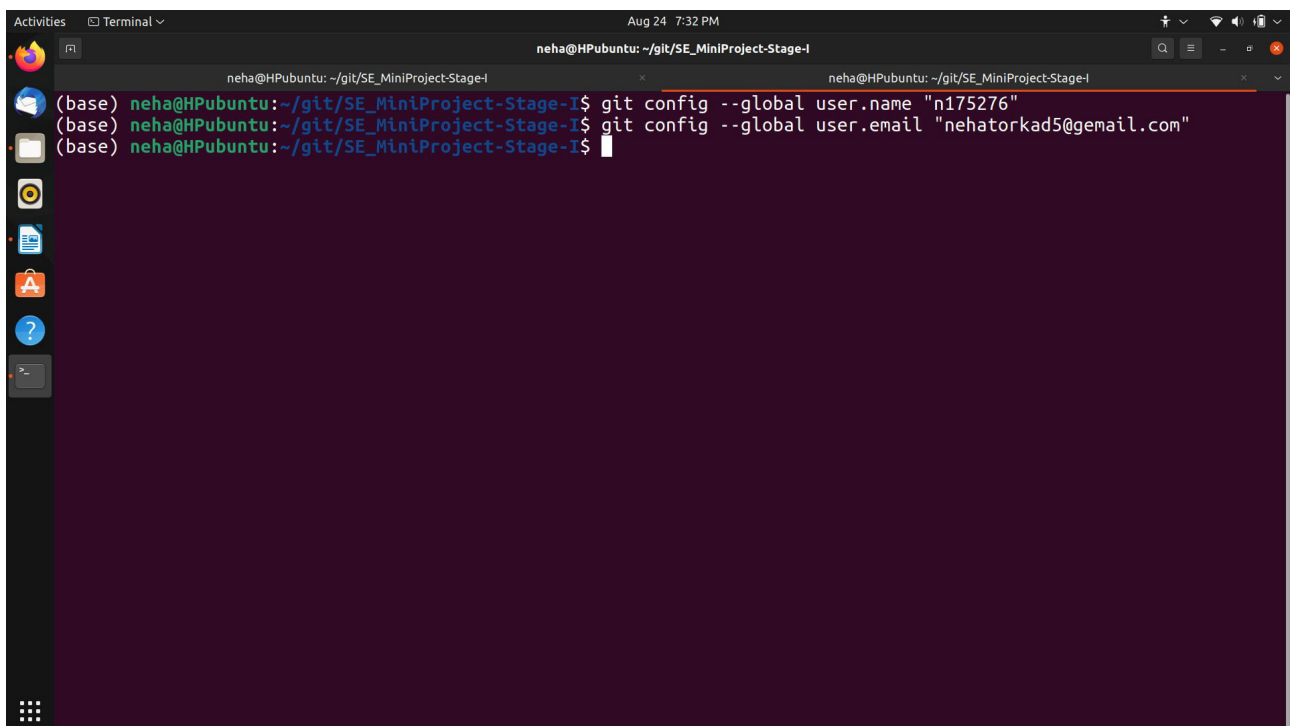
-Git has a remote repository which is stored in a server and a local repository which is stored in the computer of each developer.

### Some Useful Git Coomand

1. **git config** - to set your user name and email address with git.

```
git config --global user.name "username"
```

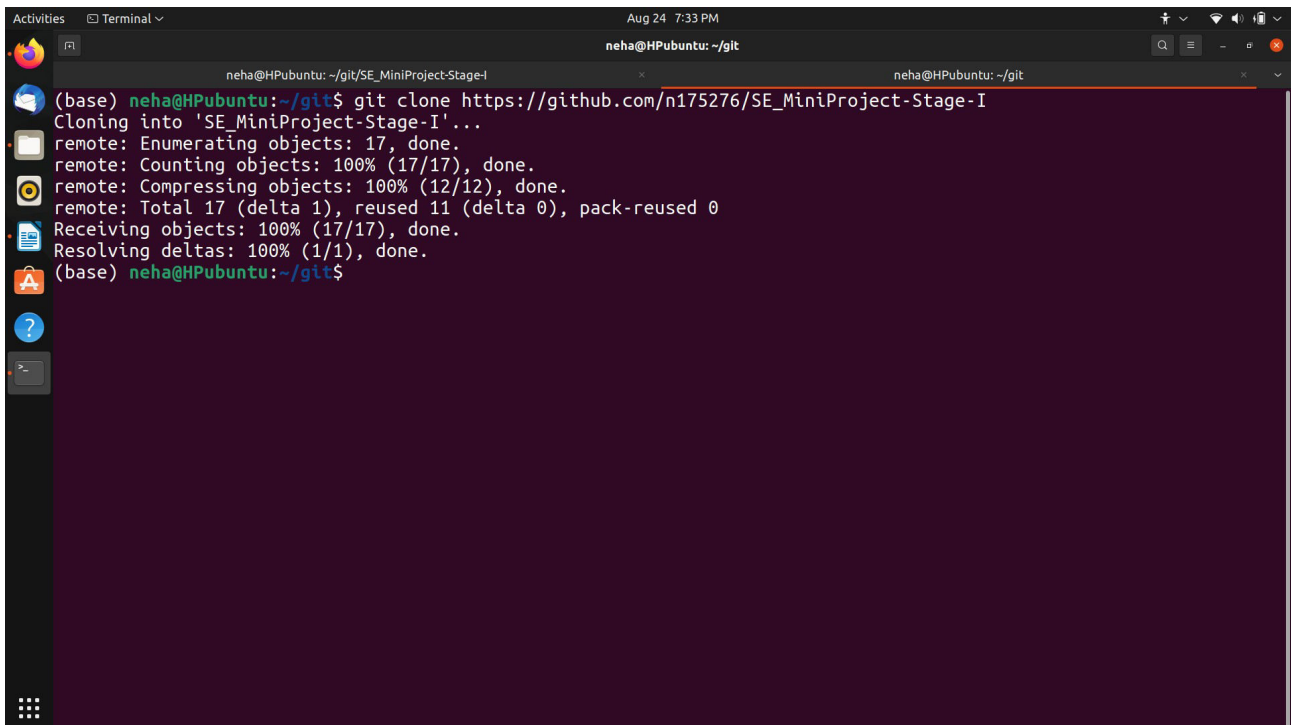
```
git config --global user.email xyz@xyz.com
```

A screenshot of a terminal window on a Linux system. The terminal shows the user 'neha' at the prompt 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I'. The user has entered two commands: 'git config --global user.name "n175276"' and 'git config --global user.email "nehatorkad5@gmail.com"'. The terminal output shows the commands being executed successfully. The terminal window has a dark background and a light-colored text. The top of the window shows the system clock as 'Aug 24 7:32 PM' and the window title as 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I'. The left side of the window shows a sidebar with various application icons.

```
Aug 24 7:32 PM
neha@HPubuntu: ~/git/SE_MiniProject-Stage-I
(base) neha@HPubuntu: ~/git/SE_MiniProject-Stage-I$ git config --global user.name "n175276"
(base) neha@HPubuntu: ~/git/SE_MiniProject-Stage-I$ git config --global user.email "nehatorkad5@gmail.com"
(base) neha@HPubuntu: ~/git/SE_MiniProject-Stage-I$
```

2. **git clone** - clone the git repository for your project to start with and only then you can commit your changes.

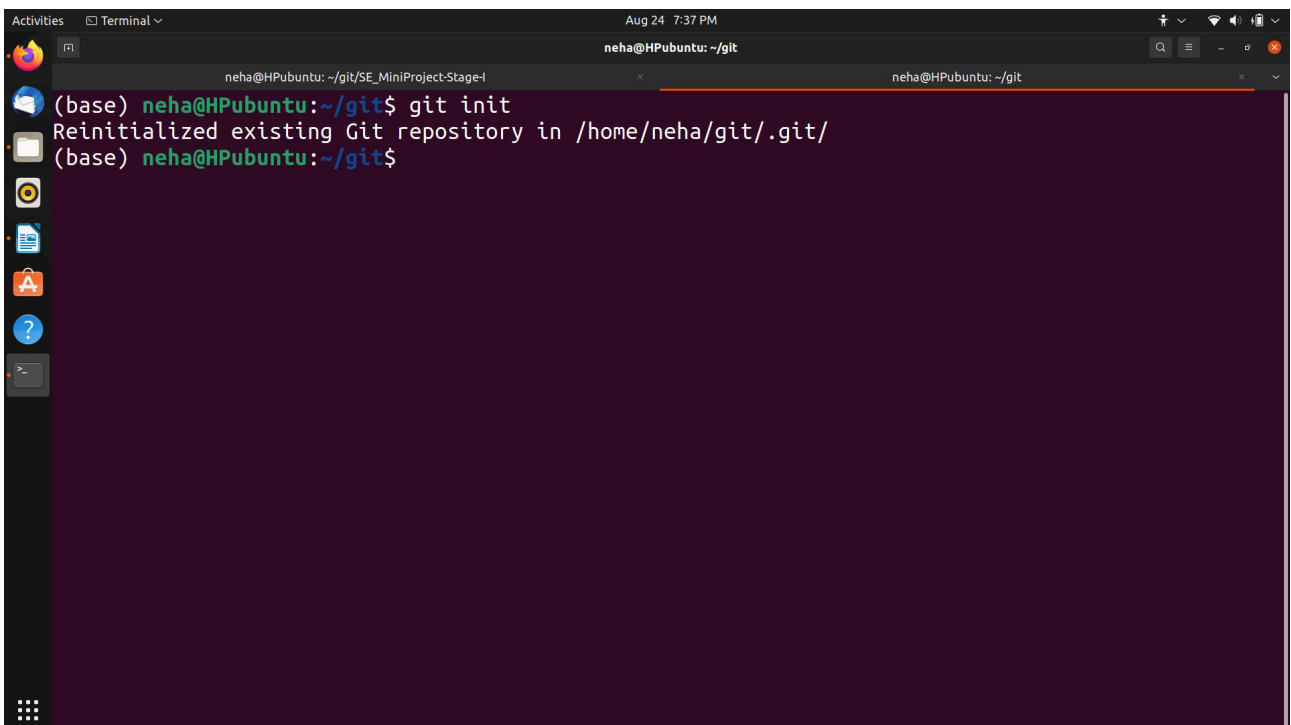
```
git clone https://gitlab.com/xyz/abc.git
```

A terminal window titled 'neha@HPubuntu: ~/git' showing the execution of the 'git clone' command. The command is 'git clone https://github.com/n175276/SE\_MiniProject-Stage-I'. The output shows the cloning process: 'Cloning into 'SE\_MiniProject-Stage-I'...', 'remote: Enumerating objects: 17, done.', 'remote: Counting objects: 100% (17/17), done.', 'remote: Compressing objects: 100% (12/12), done.', 'remote: Total 17 (delta 1), reused 11 (delta 0), pack-reused 0', 'Receiving objects: 100% (17/17), done.', and 'Resolving deltas: 100% (1/1), done.'. The prompt returns to '(base) neha@HPubuntu:~/git\$'.

```
(base) neha@HPubuntu:~/git$ git clone https://github.com/n175276/SE_MiniProject-Stage-I
Cloning into 'SE_MiniProject-Stage-I'...
remote: Enumerating objects: 17, done.
remote: Counting objects: 100% (17/17), done.
remote: Compressing objects: 100% (12/12), done.
remote: Total 17 (delta 1), reused 11 (delta 0), pack-reused 0
Receiving objects: 100% (17/17), done.
Resolving deltas: 100% (1/1), done.
(base) neha@HPubuntu:~/git$
```

3. **git init**- Initialize a new Git repository

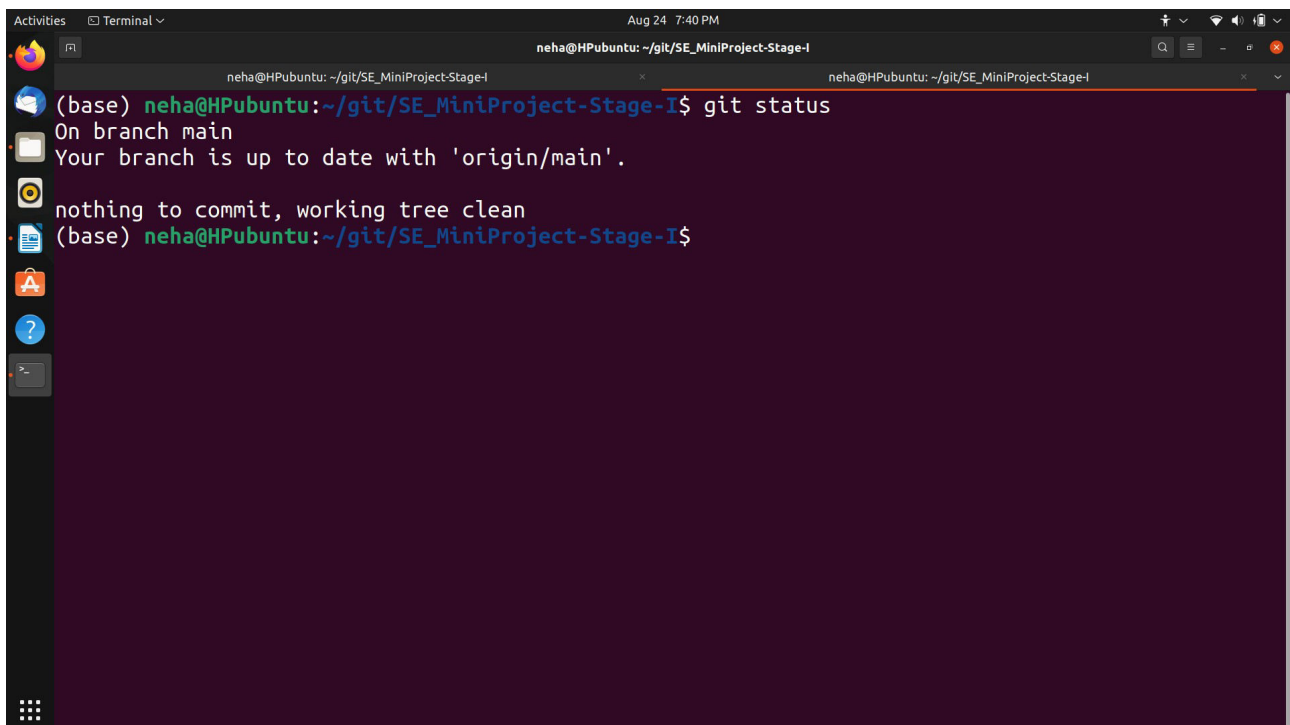
```
git init
```

A terminal window titled 'neha@HPubuntu: ~/git' showing the execution of the 'git init' command. The output is 'Reinitialized existing Git repository in /home/neha/git/.git/'. The prompt returns to '(base) neha@HPubuntu:~/git\$'.

```
(base) neha@HPubuntu:~/git$ git init
Reinitialized existing Git repository in /home/neha/git/.git/
(base) neha@HPubuntu:~/git$
```

#### 4.git status-Checking Git status

```
git status
```

A terminal window titled 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I' showing the output of the 'git status' command. The output indicates the user is on the 'main' branch, which is up to date with 'origin/main', and that the working tree is clean with nothing to commit.

```
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```

#### 5.git add-Add a new file to Git repository

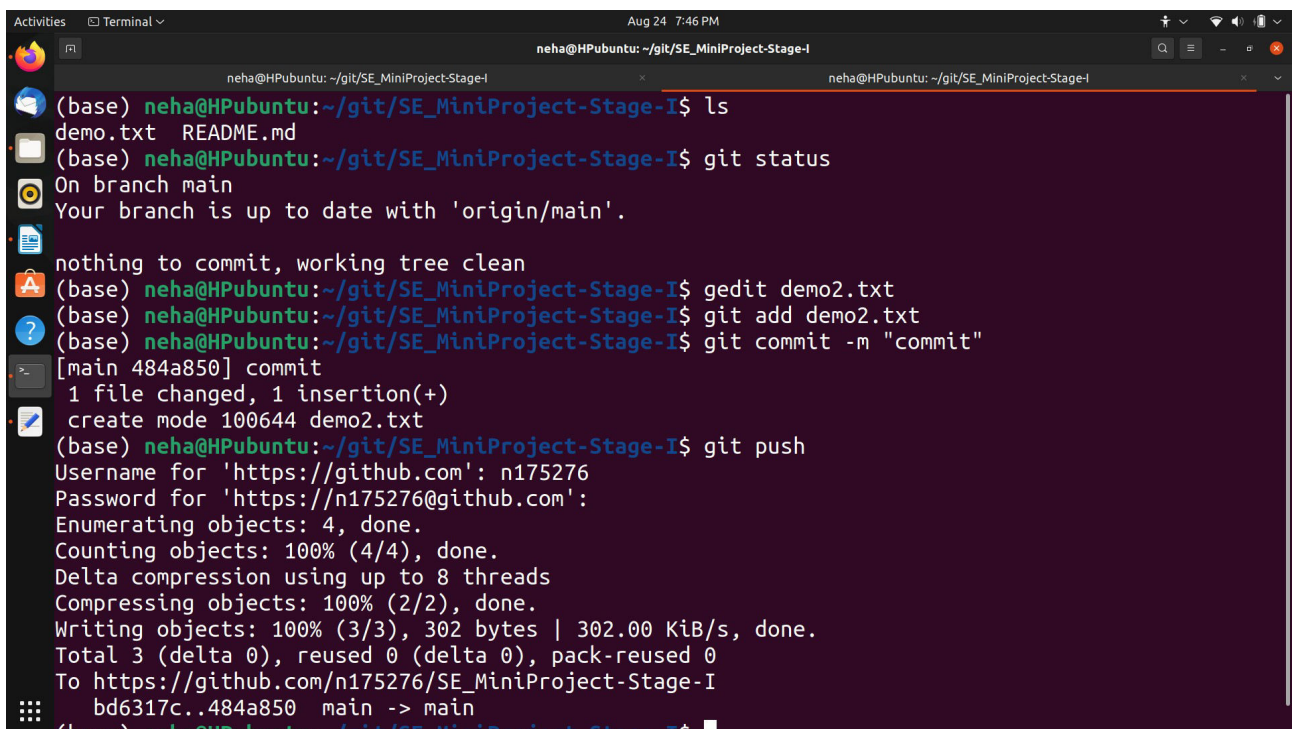
```
git add demo.txt
```

#### 6.git commit-Now, we need to commit this to your git repo by using

```
git commit -m 'first commit'
```

#### 7.git push-Now, push the changes to the repository.

```
git push
```

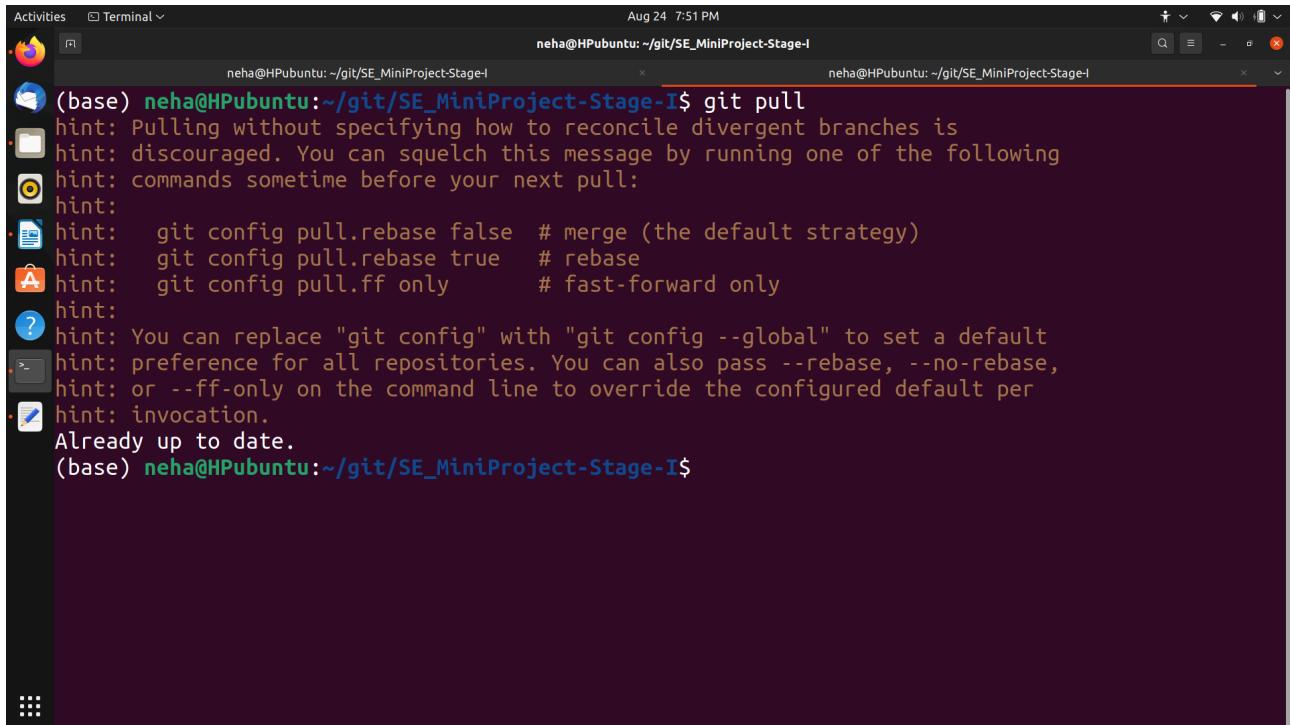
A terminal window titled 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I' showing a sequence of git commands and their outputs. The user lists files, checks status, creates a new file 'demo2.txt', adds it, commits it with the message 'commit', and then pushes it to the remote repository. The push is successful, showing object counting and writing progress.

```
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ ls
demo.txt  README.md
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ gedit demo2.txt
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git add demo2.txt
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git commit -m "commit"
[main 484a850] commit
1 file changed, 1 insertion(+)
create mode 100644 demo2.txt
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git push
Username for 'https://github.com': n175276
Password for 'https://n175276@github.com':
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 302 bytes | 302.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/n175276/SE_MiniProject-Stage-I
   bd6317c..484a850  main -> main
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```

8.**git pull**-It will fetches files from the remote repository and merges it with your local one.

*git pull*



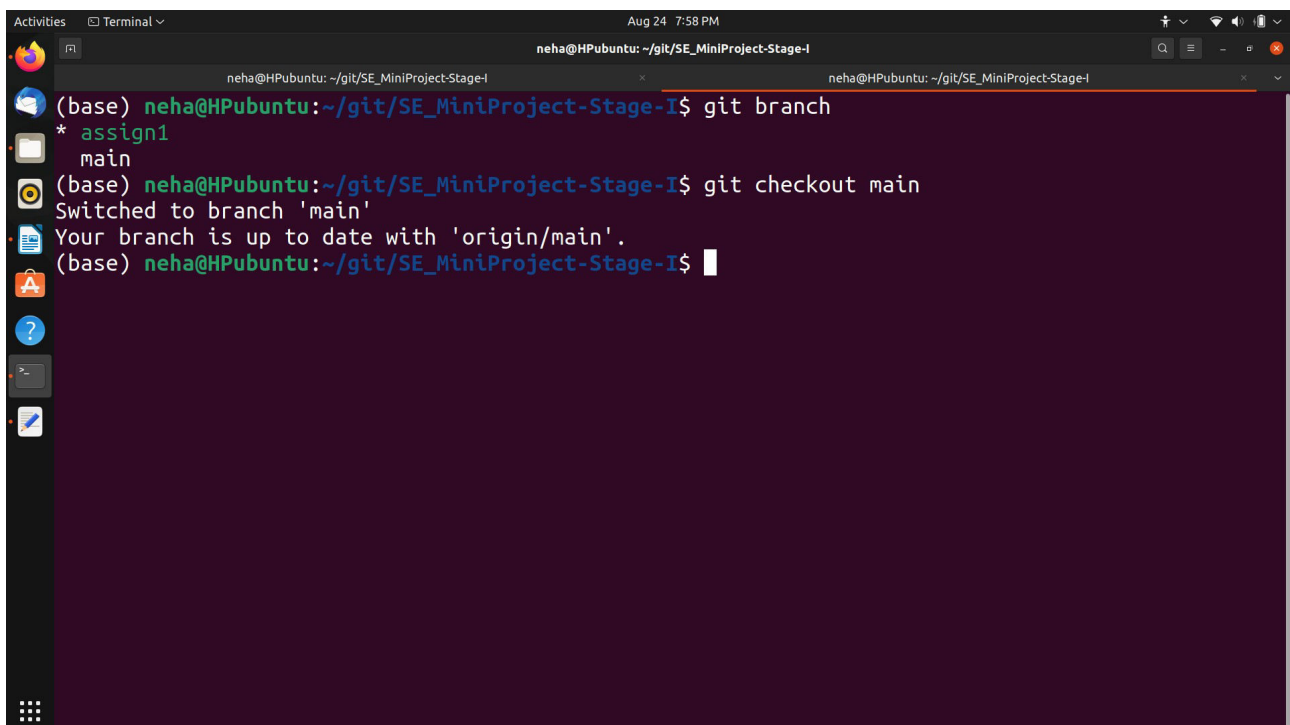
```
Activities Terminal Aug 24 7:51 PM
neha@HPubuntu: ~/git/SE_MiniProject-Stage-I
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git pull
hint: Pulling without specifying how to reconcile divergent branches is
hint: discouraged. You can squelch this message by running one of the following
hint: commands sometime before your next pull:
hint:
hint:   git config pull.rebase false # merge (the default strategy)
hint:   git config pull.rebase true  # rebase
hint:   git config pull.ff only      # fast-forward only
hint:
hint: You can replace "git config" with "git config --global" to set a default
hint: preference for all repositories. You can also pass --rebase, --no-rebase,
hint: or --ff-only on the command line to override the configured default per
hint: invocation.
Already up to date.
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```

9.**git branch**-To know your git branch

*git branch*

11.**git checkout**-ets you navigate between the branches created by git branch

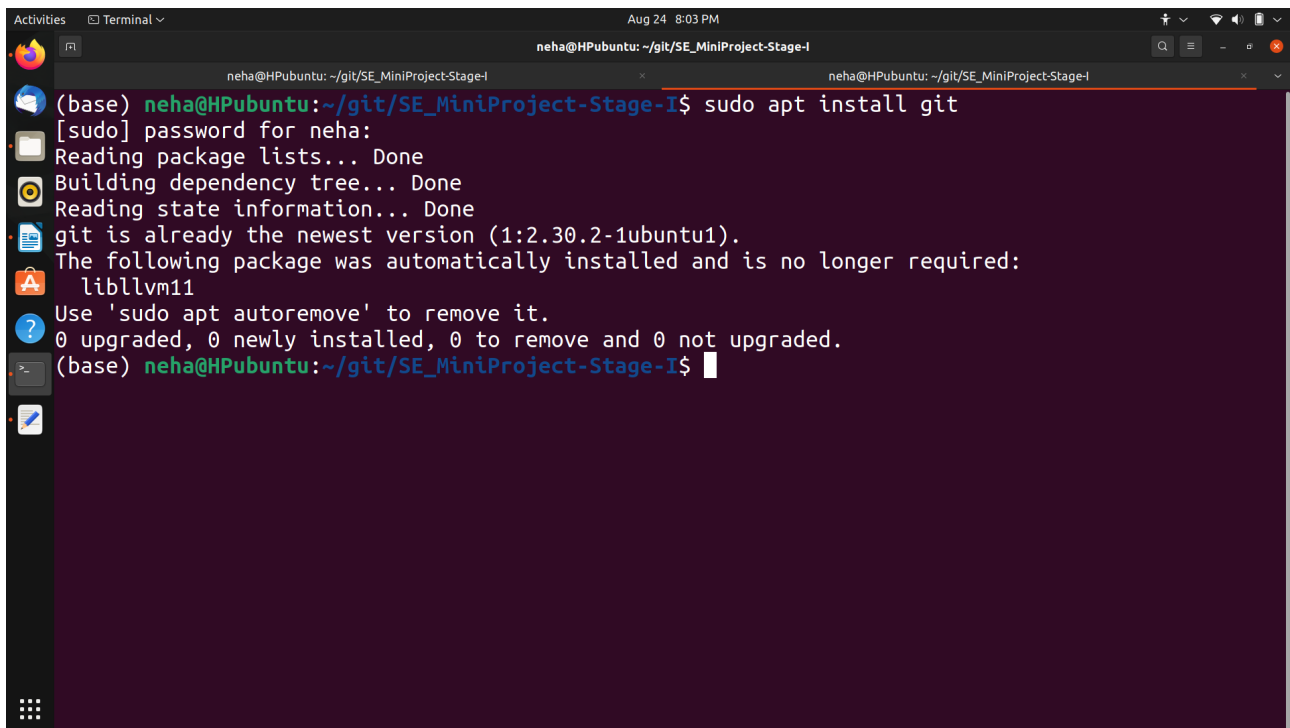
*git checkout brachname*



```
Activities Terminal Aug 24 7:58 PM
neha@HPubuntu: ~/git/SE_MiniProject-Stage-I
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git branch
* assign1
  main
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```

## 10.install git-

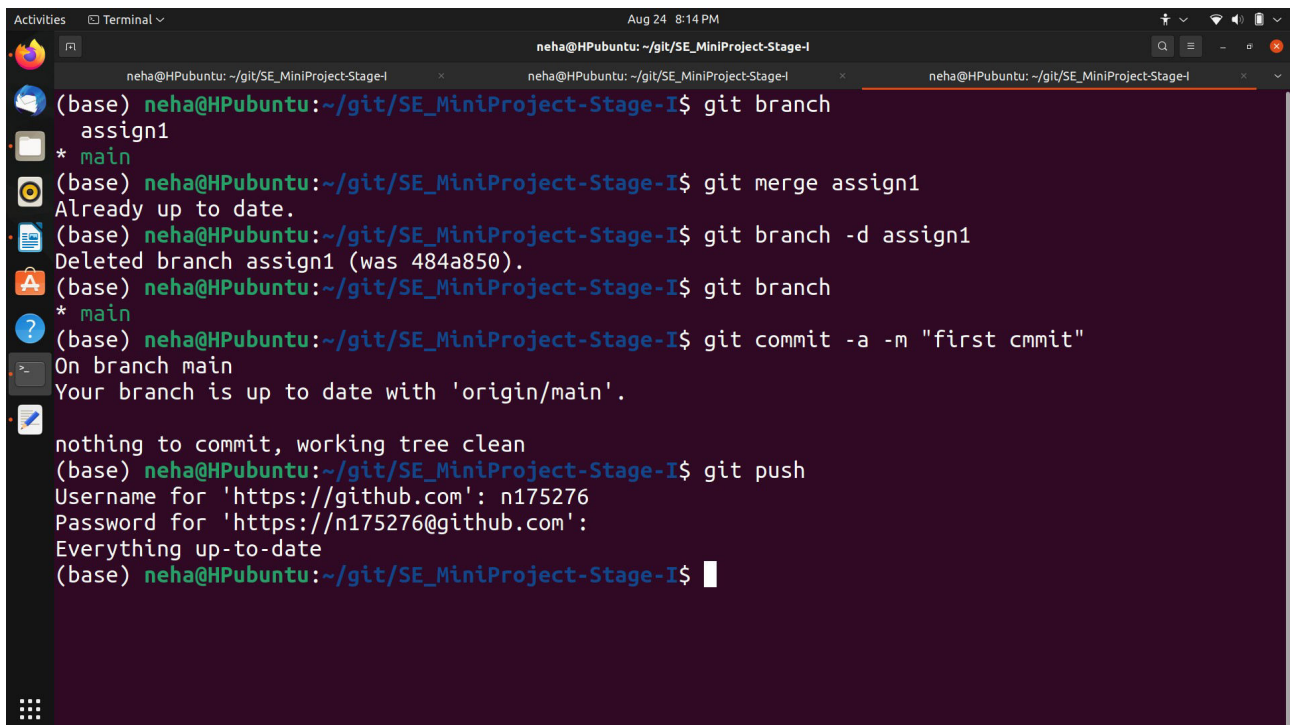
```
sudo apt-get install git
```

A terminal window titled 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I' showing the command 'sudo apt install git' being executed. The output indicates that git is already installed at version 1:2.30.2-1ubuntu1 and that no further action is required. The terminal also shows the password prompt for 'neha' and the status of the package installation.

```
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ sudo apt install git
[sudo] password for neha:
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.30.2-1ubuntu1).
The following package was automatically installed and is no longer required:
  libllvm11
Use 'sudo apt autoremove' to remove it.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```

## 12.merge-ets you navigate between the branches created by git branch

```
git merge branchname
```

A terminal window titled 'neha@HPubuntu: ~/git/SE\_MiniProject-Stage-I' showing a series of git commands. The user creates a branch named 'assign1', merges it back into 'main', and then creates a new commit on 'main'. The terminal output shows the status of the repository and the successful execution of the commands.

```
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git branch
assign1
* main
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git merge assign1
Already up to date.
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git branch -d assign1
Deleted branch assign1 (was 484a850).
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git branch
* main
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git commit -a -m "first cmmitt"
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$ git push
Username for 'https://github.com': n175276
Password for 'https://n175276@github.com':
Everything up-to-date
(base) neha@HPubuntu:~/git/SE_MiniProject-Stage-I$
```