

① What is git for version Control System? How git works? How we can push file into github repo through ubuntu terminal? Elaborate Git & Github concept in details in linux operating system.

Sol<sup>n</sup>: • Git is a distributed version Control System installed on local machines which allow developers to keep track of commit histories and supports collaborative work.

- Versioning Control allows us to keep track of our software at the source level. We can track changes, revert to previous stages, and branch to create alternate versions of files and directories.

- Many software Projects files are maintained in Git repositories and Platforms like GitHub, GitLab, and Bitbucket help to facilitate software development Project sharing and collaboration.

→ Now, we can install Git with the Ubuntu default Package manager APT.

- First, we use the apt Package management tools to update our local Package index.  
\$ sudo apt <sup>get</sup> update

- With the update Complete, we can install Git:  
\$ sudo apt install git

- We can confirm that we have installed Git correctly by running the following Command and checking that we receive relevant output.  
\$ git --version  
git version 2.25.1

→ After that, we have to create repo in github Profile.



→ For generating Ssh Key in Ubuntu OS.

Command ↓

```
$ ssh-keygen -t ed25519 -C "Pexu@mail18@gmail.com"
```

• # Here, after creating Public & Private key we have to search Pub file in Particular directory where we have executed the above commands.

• Then we have to open key.Pub file & copy the key and ~~open~~ github login into github Profile.

• Next, click to Settings & then Ssh & GPG keys.

• After that we have to click into New Ssh key (on right side) & copied key we have Paste over key description along with Title & then New Ssh key will be associated with the respected account.

→ Now to clone a repository into terminal.

(a) Open terminal.

(b) Change the current working directory to the location where we want to cloned directory.

(c) Type git clone, and then Paste the URL as we copied earlier from the Particular repo.

```
$ git clone https://github.com/Picodess1/
LSS-remedial-class-notes
```

→ Now we have Pass the Command ↓ ~~# We have to Present the~~ # We have to Present the  
~~directory where file is been~~ there  
~~there~~

# Initialized empty git repository in home/Pexu@mail18/Desktop  
/test/.git

• Then for login remotely, Use command.

```
$ git remote add origin "https://github.com/Picodess1/
LSS-remedial-class-notes.git"
```



- `$ git remote -v` (# for checking what are the operations are allowed)
- `https://github.com/Picodex1/LSS-remedial-class-notes.git` (Fetch)
- `https://github.com/Picodex1/LSS-remedial-class-notes.git` (Push)

→ Now for Pushing file into github repository necessary steps

- `$ git add emp.sh`
- Now for Committing into that file.  
`$ git commit -m "my first commit"`
- Here in 3rd steps will have create token in github account. For that,  
We have to go to settings → Developer settings  
→ Personal access token & Generate new token  
by selecting repo. & token number will be generated.
- Then, back to terminal & type command  
`$ git push -u origin master`

Eg: username for 'https://github.com' : Picodex1  
Password for 'https://Picodex1@github.com': ---  
Enumerating objects: 3, done.

Counting objects: 100% (3/3), done.

Total 3 (delta 0), reused 0 (delta 0).