

Git & GitHub

Command Tutorial



2141019389_Git and GitHub Command Tutorial

What is Git?

Git is a popular, free and open source version control system that is fast, scalable intelligently tracks changes in files and source code.

What is GitHub?

GitHub is a website that allows developers to store, manage and collaborate on their code using Git, in addition to hosting repositories and testing services.

GitHub Link - <https://github.com>

Using Git with command Line :

To start using Git, we are first going to open up our Command shell.

Setting up Git :

- Visual Studio Code
- Windows (Git Bash)
- Mac / Linux (Terminal)

Git Installation Commands :

- **For Linux :**
- **sudo apt update** - Updates the list of available packages and their versions from the repositories.
- **sudo apt install git** - Installs Git, a version control system, on your system.
- **For MacOS :**
- **brew install git** –
- **brew:** This is the Homebrew package manager, used primarily on macOS to install, update, and manage software packages.
- **install:** Tells Homebrew you want to install something.
- **git:** This is the name of the software package you want to install.

Git Commands :

- **git --version** - to check if Git is properly installed

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git --version
git version 2.40.1.windows.1
```

- **pwd** – It gives the full path of the current working directory.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ pwd
/c/Users/sneha/Documents/2141019389/2141019389_LOS_Git_CommandTutorial
```

- **git init** – It initiates a hidden .git folder in the directory.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git init
Initialized empty Git repository in C:/Users/sneha/Documents/2141019389/21410193
89_LOS_Git_CommandTutorial/Git/.git/
```

- **Set up git with own name and email.**

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git config --global user.name "sneha subhashree"

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git config --global user.email "snehasubhashree.19389@gmail.com"

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git config --global user.name
sneha subhashree

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git config --global user.email
snehasubhashree.19389@gmail.com
```

- **git config --list** – display all the git configuration settings.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ git config --list
diff.astextplain.textconv=astextplain
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
http.sslbackend=openssl
http.sslcainfo=C:/Program Files/Git/mingw64/etc/ssl/certs/ca-bundle.crt
core.autocrlf=true
core.fscache=true
core.symlinks=false
pull.rebase=false
credential.helper=manager
credential.https://dev.azure.com.usehttppath=true
init.defaultbranch=master
filter.lfs.clean=git-lfs clean -- %f
filter.lfs.smudge=git-lfs smudge -- %f
filter.lfs.process=git-lfs filter-process
filter.lfs.required=true
user.name=sneha subhashree
user.email=snehasubhashree.19389@gmail.com
color.ui=auto
core.repositoryformatversion=0
core.filemode=false
core.bare=false
core.logallrefupdates=true
core.symlinks=false
core.ignorecase=true
```

- **mkdir** – It creates new directory.
- **cd** – It displays that current working directory.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ mkdir Git

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial (master)
$ cd Git
```

- **cat** – It is used for creating, displaying, combining, and manipulating text files.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ cat > file.txt
sneha subhashree
2141019389
iter
```

- **echo** – It is used for displaying lines of text or string which are passed as arguments on the command line.
- Append argument line within same txt file, echo “some message” >> txt file name

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ echo "wipro training" >> file.txt
```

- **git add < - filename - >** – It adds new or changed file in working directory to the Git staging area.
- **git commit -m “some message”** – It is the record of change.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git add file.txt
warning: in the working copy of 'file.txt', LF will be replaced by CRLF the next
time Git touches it

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git commit -m "file updated"
[master (root-commit) 3c57100] file updated
1 file changed, 4 insertions(+)
create mode 100644 file.txt
```

- **ls** – It is used to list files & directories.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ ls
file.txt
```

- **git status** – It displays the state of the code.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git status
On branch master
nothing to commit, working tree clean
```

- **git log** – It shows the commit history of a Git repository.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git log
commit 3c571001378af8ae97119184ac8fe57371f8994a (HEAD -> master)
Author: sneha subhashree <snehasubhashree.19389@gmail.com>
Date: Sun Apr 6 18:58:38 2025 +0530

    file updated
```

- **git branch** – It lists branches. (after branch space & double tab)

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git branch
* master

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git branch
HEAD      master
```

- **git branch <name>** - It creates branch.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git branch "wipro"
```

- **git checkout <name>** - switch to branch.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git checkout wipro
Switched to branch 'wipro'
```

- **git merge <branch>** - merge into current branch.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master)
$ git merge wipro
Auto-merging Git/file.txt
CONFLICT (content): Merge conflict in Git/file.txt
Automatic merge failed; fix conflicts and then commit the result.

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master|MERGING)
$ echo -e "heyyy" > file.txt

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master|MERGING)
$ git add file.txt
warning: in the working copy of 'Git/file.txt', LF will be replaced by CRLF the
next time Git touches it

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandT
utorial/Git (master|MERGING)
$ git commit -m "file updated"
[master 920c8ee] file updated
```

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/Git (master)
$ git log
commit 920c8ee206d76962f9427205a26a959c880f24d3 (HEAD -> master)
Merge: 66b7a22 08eca70
Author: sneha subhashree <snehasubhashree.19389@gmail.com>
Date: Mon Apr 7 00:02:13 2025 +0530

    file updated

commit 66b7a220cc6199ba269df0f50d798fc93dedb6b5
Author: sneha subhashree <snehasubhashree.19389@gmail.com>
Date: Mon Apr 7 00:00:23 2025 +0530

    file updated

commit 08eca706edbb05a7bc90cd578bdab88a15495139 (wipro)
Author: sneha subhashree <snehasubhashree.19389@gmail.com>
Date: Sun Apr 6 23:59:08 2025 +0530

    file updated

commit d3710166dc868fefda123a3e3113becbb71e42b8
Author: sneha subhashree <snehasubhashree.19389@gmail.com>
Date: Sun Apr 6 23:55:21 2025 +0530

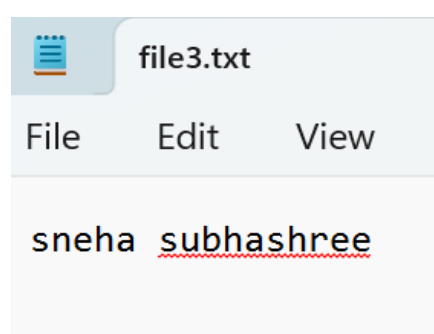
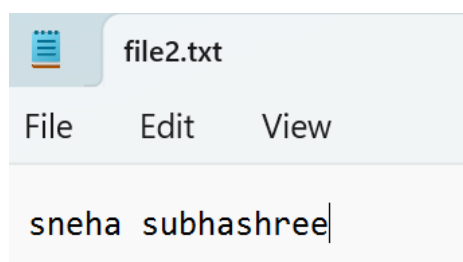
    file updated
```

- **git branch -d <name>** - It deletes branch.

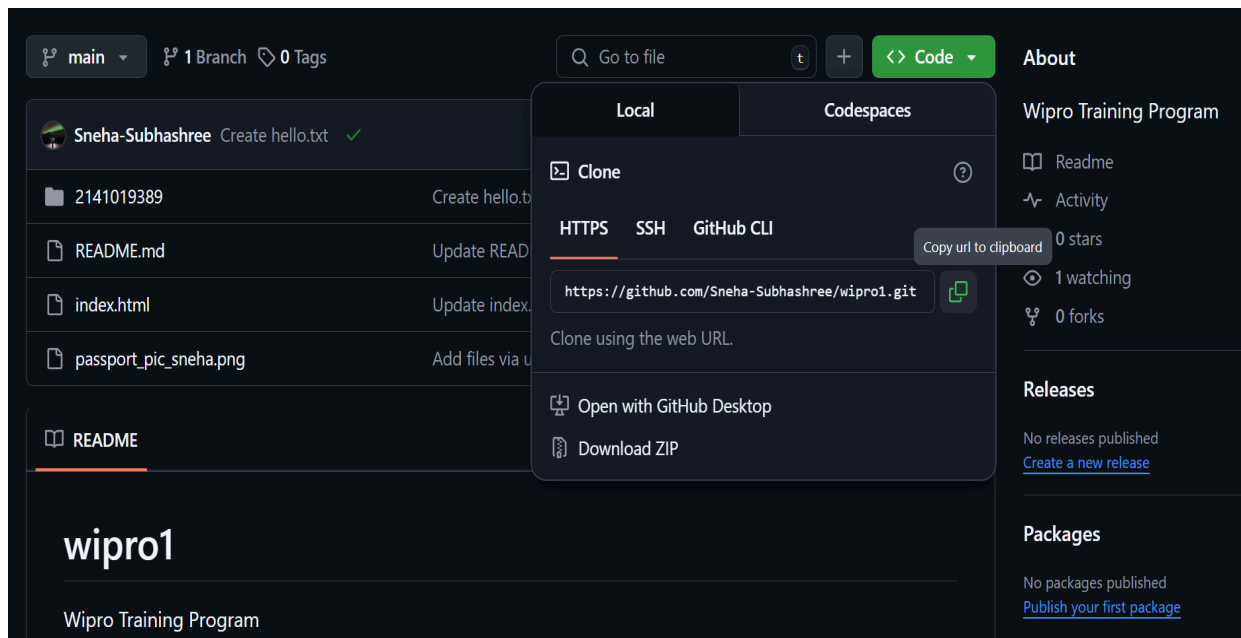
```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/Git (master)
$ git branch -d wipro
Deleted branch wipro (was 08eca70).
```

- **git mv <old filename> <new filename>** - rename or move a file .

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/Git (master)
$ git mv file2.txt file3.txt
```



- **git clone** - It creates a local copy of the repository in a folder named repo including all logging and version of files.



```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1 (master)
$ git clone https://github.com/Sneha-Subhashree/wipro1.git
Cloning into 'wipro1'...
remote: Enumerating objects: 19, done.
remote: Counting objects: 100% (19/19), done.
remote: Compressing objects: 100% (14/14), done.
remote: Total 19 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (19/19), 184.16 KiB | 1.50 MiB/s, done.
Resolving deltas: 100% (2/2), done.

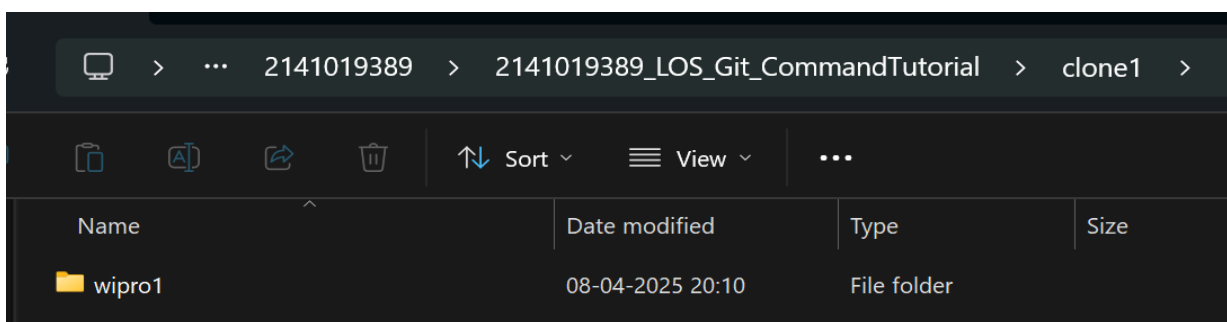
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1 (master)
$ git status
On branch master

No commits yet

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

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

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1 (master)
$ ls
wipro1/
```



- **git ls-files** - It gives a list of all files currently tracked by Git in the repository.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1 (master)
$ cd wipro1/

sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1/wipro1 (main)
$ git ls-files
2141019389/hello.txt
README.md
index.html
passport_pic_sneha.png
```

Name	Date modified	Type	Size
.git	08-04-2025 20:10	File folder	
2141019389	08-04-2025 20:10	File folder	
index	08-04-2025 20:10	Chrome HTML Do...	1 KB
passport_pic_sneha	08-04-2025 20:10	PNG File	179 KB
README	08-04-2025 20:10	Markdown Source...	1 KB

- **ls -a** - It lists all files and directories in the current directory, including hidden files.

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/clone1 (master)
$ ls -a
./ ../ wipro1/
```

- **git rm <file>** - It removes files.

file	07-04-2025 00:07	Text Document	1 KB
file1	07-04-2025 00:08	Text Document	1 KB

```
sneha@LAPTOP-R8L1NU4R MINGW64 ~/Documents/2141019389/2141019389_LOS_Git_CommandTutorial/Git (master)
$ git rm file.txt
rm 'Git/file.txt'
```

file1	07-04-2025 00:08	Text Document	1 KB
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