**GIT :** World’s most popular version control system (VCS).

**VCS :** It is the software which is used to track and manage changes to the file over time.

We need to learn git because 90% projects use it and it is clear winner.

**What exactly GIT do for us?**

1. Track changes across multiple files.
2. Compare version of the project.
3. Time travel back to older versions.
4. Revert back to previous version.
5. Collaborate with other developers and share changes and merge those changes.

**Linus Torvalds deve≠loped GIT.**

**Who uses GIT?**

1. Engineers
2. Software Developers.
3. Tech Giants.
4. Governments etc.

**GIT VS GitHub**

|  |  |
| --- | --- |
| GIT | GITHUB |
| GIT is the VCS which runs locally on your machine. | GitHub is the service that hosts GIT repositories over the cloud and makes it easier to collaborate with other software developers. |
| GIT ≠ GitHub | GitHub is an online place to share work that is done using GIT. |

***To check the git version.***

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ git --version

git version 2.29.1.windows.1

------------------------------------------------------------------------­------------------------------

***To set username and useremail in git because it is needed for commit.***

srikantvs@srikantvs MINGW64 /f/Test (master)

$ git config --global user.name "srikant"

srikantvs@srikantvs MINGW64 /f/Test (master)

$ git config --global user.email "srikantvs26@gmail.com"

------------------------------------------------------------------------­------------------------------

***To check what the current username and email the git is configured.***

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ git config user.name

srikant

------------------------------------------------------------------------­------------------------------

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ git config user.email

[srikantvs26@gmail.com](mailto:srikantvs26@gmail.com)

------------------------------------------------------------------------­------------------------------

***To check the full configurations of git.***

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ 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/ssl/certs/ca-bundle.crt

core.autocrlf=true

core.fscache=true

core.symlinks=false

pull.rebase=false

credential.helper=manager-core

credential.https://dev.azure.com.usehttppath=true

user.email=srikantvs26@gmail.com

user.name=srikant

core.repositoryformatversion=0

core.filemode=false

core.bare=false

core.logallrefupdates=true

core.symlinks=false

core.ignorecase=true

remote.origin.url=https://github.com/srikantvs/wallah.git

remote.origin.fetch=+refs/heads/\*:refs/remotes/origin/\*

branch.main.remote=origin

branch.main.merge=refs/heads/main

------------------------------------------------------------------------­------------------------------

***To open file explorer where this repository is located.***

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ start .

***To create multiple files in repository.***

srikantvs@srikantvs MINGW64 ~/Desktop/dogs/wallah (main)

$ touch one.txt two.txt three.txt last\_file.txt

***To initialize a git repository.***

srikantvs@srikantvs MINGW64 ~/Desktop/animals

$ mkdir my-new-repo

srikantvs@srikantvs MINGW64 ~/Desktop/animals

$ cd my-new-repo/

srikantvs@srikantvs MINGW64 ~/Desktop/animals/my-new-repo

$ git init

Initialized empty Git repository in C:/Users/srikantvs/Desktop/animals/my-new-repo/.git/

------------------------------------------------------------------------­------------------------------

***To see the status of a git repository***

srikantvs@srikantvs MINGW64 ~/Desktop/animals/my-new-repo (master)

$ git status

On branch master

No commits yet

nothing to commit (create/copy files and use "git add" to track)

------------------------------------------------------------------------­------------------------------

What is git repository(repo)?

A git repository is a folder in which GIT can do version control. It contains one .git folder.

We can create a git repository using this command : git init.

DO NOT CREATE REPOSITORY INSIDE OF ANOTHER REPOSITORY.

------------------------------------------------------------------------­------------------------------

What is git commit?

This is the changes that we have made eg. Line changes, file added, file removed, new folder created deleted etc. We club them together to what we call as commit, It is basically a set of changes we made.

------------------------------------------------------------------------­------------------------------

***To show the commit logs***

srikantvs@srikantvs MINGW64 /e/Saviour (master)

$ git log

commit 865eadf0f55b5894f110fca6b49f3aba07f53229 (HEAD -> master, origin/master, origin/HEAD)

Author: srikant <srikantvs26@gmail.com>

Date: Wed Nov 10 11:03:29 2021 +0530

usecase added for letter frequency demo

commit 922fec4cdc00c6d8c06912de5360974b30586ee7

Author: srikantvs <srikantvs26@gmail.com>

Date: Sun Oct 24 15:04:40 2021 +0530

comments added.

commit fd0697431ee6aea9a3eee630619835ecc92e975d

Author: srikantvs <srikantvs26@gmail.com>

Date: Sun Oct 24 15:01:14 2021 +0530

@ConfigurationProperties Spring Boot Example

------------------------------------------------------------------------­------------------------------

***To show the commit logs in single line.***

$ git log --oneline

865eadf (HEAD -> master, origin/master, origin/HEAD) usecase added for letter frequency demo

922fec4 comments added.

fd06974 @ConfigurationProperties Spring Boot Example

------------------------------------------------------------------------­------------------------------

***To show the last 3 commit logs in single line.***

srikantvs@srikantvs MINGW64 /e/Saviour (master)

$ git log -3 --oneline

865eadf (HEAD -> master, origin/master, origin/HEAD) usecase added for letter frequency demo

922fec4 comments added.

fd06974 @ConfigurationProperties Spring Boot Example

------------------------------------------------------------------------­------------------------------

***To show the last 3 commit logs in single line with given author name.***

$ git log --author="srikant" -3

commit 865eadf0f55b5894f110fca6b49f3aba07f53229 (HEAD -> master, origin/master, origin/HEAD)

Author: srikant <srikantvs26@gmail.com>

Date: Wed Nov 10 11:03:29 2021 +0530

usecase added for letter frequency demo

commit 922fec4cdc00c6d8c06912de5360974b30586ee7

Author: srikantvs <srikantvs26@gmail.com>

Date: Sun Oct 24 15:04:40 2021 +0530

comments added.

commit fd0697431ee6aea9a3eee630619835ecc92e975d

Author: srikantvs <srikantvs26@gmail.com>

Date: Sun Oct 24 15:01:14 2021 +0530

@ConfigurationProperties Spring Boot Example

------------------------------------------------------------------------­------------------------------