Git and Github Tutorial:

1. Setup Git user name and email in Git bash to associate Git with Github

$ git config –global user.name “DataEngineer”

$git config –global user.email “[arpitsinha.it23@gmail.com](mailto:arpitsinha.it23@gmail.com)”

To view this:

$ git config –global –list

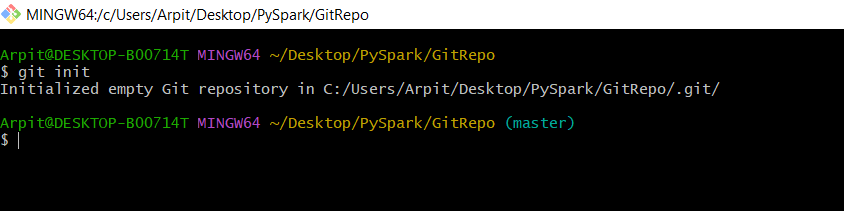
When we create a folder and put one file in local system at that point it is just a normal folder and file (working directory)

Now to convert a working directory to Git Repository, we need to create a .git folder in that same location.

Right Click , choose open git bash here in the same location.

**Type command :**

1. git init



With this now working directory in converted into Git repository. And Git will now continue to store and track all its internal info within .git folder

1. **git status**

**$ git status** ( This provides the current status of the git repository )

1. **git add**

**$ git add <filename>** ( It saves/add all untracked files from working directory to stage directory )

**$ git add \*** (if there are multiple untracked files that needed to be added in stage directory )

**$ git add .** ( this is recommended because it tracked changed, deleted all types of files, directories )

1. **git commit**

$ git commit –m “first commit” ( This permanently saves all the staged files/folders to the git repository )

1. **git log**

**$ git log** ( to view commited history, it shows history in reverse order latest being on the top )

**$ git log –oneline** ( to view short details)

1. **git diff**

**$ git diff <sha1> <sha2>** ( mainly used to review and debug code differences between old and new file)

1. **git clone ( cloning a repository )**

**$ git clone** <https url for the online repository >

It is mainly used to create a copy of existing git repository from remote server ( Like github, gitlab ) to our local machine.

1. **git fetch**

**$ git fetch <>** ( It is used to fetch the latest updated from a remote repository without merging them into local branch)

1. **git merge**

**$ git merge <remote repository>** (It is used to combine the changes between different local repositories or branches. Primarily it is used to merge branches in an online repository)

1. **git pull**

To pull repository and files from remote to local git folder, we need to pull the data.

First we need to clone remote repository into local git

**$ git clone <remote repo url>**

After that if we are making /adding any new changes into remote repo, we can use git pull request to sink our local repo

**$ git pull <remote repo url>**

1. **git push**

To push the files from Git local repo to remote repository Data-Engineering-Project in Github, we need to follow below steps.

By Default, Github create repository in main branch, however our files in Git are in master branch, so we need to switch the branch using below command

**$ git branch –M main**

Now we can add the files from local repo to Github main branch.

**$ git remote add origin** [**https://github.com/arpitsinha89/Data-Engineering-Project.git**](https://github.com/arpitsinha89/Data-Engineering-Project.git)

**$ git push –u origin main**

To check whether local git is connected with remote git repository, we can use below command.

**$ git remote –v**