**What is GIT?**

GIT 🡪 Global Infromation Tracker

GIT is a free and open-source distributed version control system designed to handle everything from small to large projects with speed and efficiency. Git is very fast with most operations that are we performing.

The code commit can be done in three ways:

1. By using command prompt or GIT Command prompt.
2. By using visual studio.
3. By using GIT GUI.

**Source control options:**

* Centralized 🡪 Requires connection to central server.
* Distributed 🡪 local central servers are not required.

On comparing both centralized and distributed sources Distributed is the best.

**Repository:**

A repository would contain all the files related to a specific project or application , repository also contains the history of changes and any special configuration.

**Local Git areas:**

Three main states of Git:

* Working Directory 🡪 The files in the directory are pulled out of the compressed database in the Git directory are pulled out of the compressed database in the Git directory and placed on disk to edit and use.
* Staging Area 🡪 pre commit holding area i.e., that stores information about the next commit.
* Git Directory 🡪 Stores the metadata and object database for the project

**Some of the Commands used in git are:**

* **git init**

Creates an empty repository or reinitialize an existing one.

* **git add**

This command is used to add file contents to the index (i.e., Staging Area).

* **git commit -m “message”**

This commit command performs a commit and the -m “message” adds a message.

* **git add remote origin <URL>**

This command is used to add remote repository URL to push files.

* **git push**

Push your local changes to the remote repository.

* **git pull**

Fetch from a remote repo and try to merge into the current branch.

git pull=git fetch + merge.

* **git branch**

List branches from the remote repository.

* **git checkout -b <branch\_name>**

Used the specified name for the initial branch in the newly created

repository.

* **git clone <URL>**

This command is used to clone all the data from remote repository to local repository.

* **git fetch**

It retrieves any commits, branches and files from a remote repository, along with any other objects.

* **git log**

Prints commit history of repository.

* **git reset**

is for undoing local private changes.

* **git commit --amend**

Modify last commit instead of creating a new one. Useful for fixing small mistakes.

* **git status**

Lists changes in working directory, and staged files.