**GIT & GIT HUB**

**What is Git & Architecture of git**

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Git is distributed version control system and it is a software which will support distribution environments, and it’s completely Open source. With help of we can maintain History of Project like when changes are made and who made the changes.

Architecture of git:

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Mainly git is having four different component

1.Working directory

2.Staging /index

3.Local Repository (GIT)

4.Remote Repository (GIT HUB)

**1.Working Directory:**

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The working directory is location where actual project files are present and Those file are called as “**Untracked files”.** We can’t commit directly to local repository , It should go through the staging are . Here we using command as **Add**.

**2.Staging /Index:**

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Staging is a virtual layer between our work space and our git Local repositories. Once if you add files into staging area those files are called “**Tracking file**”. From staging area we can commit those files to Local repositories.

**3. Local Repositories (GIT):**

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Once we commit file from staging area to Local Repositories Than we can call those file are “**Committed Fille**”. If you want to share you files to someone you can push files into GITHUB (Remote Repository).

**4.Remote Repository (GIT HUB):**

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Once we push code or files from Local Repository into Remote Repository, After Every one can Access those files in you team.

* If you want to get the code from remote repository to in your Local Repository you can get by **Pull** Command.
* If you want to get the whole project from Remote Repository to your local Repository you can get by using Clone Command.

Add Commit

Push

Pull

Untracked Files Tracked Files Committed files Remote

**Important GIT Commands:**

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Git init à To create Local Repository

Git status à It will show Untracked File in you local System

Clear à Clearing All the commands

Git add à It will add file From you work Space to staging Area

Git add-a à To add All files

Git add a.txt b.txt àIf you want to add particular files we have to mention file name along with File extension.

Vim index.text àTo create File in your local System.

Before Committing we have to execute some Configuration.

1.Git config --global user.email “We have to write our email address”.

2.Git config --global user.name “We have to write our name”

3.Git Commit -m “We have to send some commit note”

4.Git log àThis command will show How many times committed before

5.Git Commit -a-m “We have to send some committed note”

*Note: These commands are used for only Tracked files.(comman.5).*

6.Git diff index.text àTo see the difference between working directory and staging.

7.Git rm File name à It will remove your file from Local repository

8.Git rm –cached file name à it will remove your file from staging area not from Local Repository.

9.git Pull Origin master Or Main (Branch name) à It will fetch the File from Remote repository to Local Repository.

10.Cat File name à It will show the text of inside file