**Git**

**Git:** is a **source code hosting platform** for **version control and collaboration.** It lets **programmer** to **work together on projects anywhere.** It is **designed** for **tracking changes** in **source code** during **software development.**

**GitHub:** acts as remote storage for Git repositories and provides a simple and neat way for people to collaborate and contribute to development projects.

**Branching:** is the way to work on different versions of repository at one time. By default, your repository has one branch named *master* which is considered to be the definitive branch. When we create a branch off the *master* branch. We are making a copy or snapshot of the master as it was at that point in time.

Branches are used for keeping bug fixes and feature work separate from the master branch( production) branch. When the change is ready they merge with these branches into master branch.

Setting up >

* Download and Install latest version of Git.
* Set username in Git > open Git bash

Git config –global user.name “ username”

* To set email

Git config –global user.email “youremail@yahoo.com”

* Next: authenticating with GitHub from Git (can be done by HTTPS OR SSH) open Git Bash, use below commands

ssh -keygen -t rsa -b 4096 -C “youremail@yahoo.com”

* Got to GitHub and the ssh key from rsa\_pub file

**Git basic commands**

**git init** ---->To initialize a local repository, it will create a .git folder in the local machine.

**git add < file name>** ----> To add files and folders to staging area.

**git add .** ----> To add all files and folders to staging area.

**git status** ----> To check the status of the staging area.

**git commit -m “ must add comments”** ----> to commit changes to Index.

**git remote** ----> to check the origin/remote repository.

**git remote add origin < https/------- .git>** ----> to link the local repository to remote repository.

**git pull origin master** ----> To pull code from remote repository to local repository.

**git push -u origin master** ----> To push code from local repository to remote repository

**touch <filename>** ----> to create a tile in local repository.

**git –version** ----> to find the version and check whether properly installed.

**Use escape and :wq** ----> to exit from commit screen.

**Branching**

**git branch <branchname>** ----> to create a branch

**git checkout <branchname>** ----> to move to the branch

**git checkout -b <branchname>** ---🡪 creates branch branchname

git push -u origin master “comments” ---🡪 to push to origin master

**git merge <branchname>** ----> to merge branch with master.\*we must be master branch.

**Very important git command to resolve push:**

**Git pull origin master – - allow-unrelated-histories** 🡪 if it rejects push

**Rebase**

**Git rebase <branchname>** ----> similar to merge but it is pull + merge.

**Global Configuration**

**git config - - global user.name “ your name”**

**git config - - global user.email “your email “**

**ssh-keygen** ----> to generate ssh key.