

Git & Git Hub

Git:- It is a distributed version control system (vcs) that helps to track change in code during projects.
It allows multiple developers to collaborate on a project.

Git Hub:- Git Hub is a cloud based Git repository hosting service.

It allows :-

- Storing & sharing code
- Collaboration with other developers
- Issue tracking & project management

Git Setup:-

```
git config --global user.name "Your Name"  
git config --global user.email "Your Email"
```

Basic Command:-

- `ls`:- list files / folder inside folder
- `ls -a`:- all hidden files and folders are shown
- `touch <filename>`:- create a file
- `mkdir <name>`:- makes directory.

Basic Git Commands:-

- `git status`:- checks status of the directory
- `git add .`:- stages all changes in directory
- `git add <filename>`:- stages a file for commit.
- `git restore -staged <file.name>`:- used to unstage a file from staging area.
- `git log`:- used to view history (commit history) of git repository.

- `git reset <commit id>` :- used to undo commit to specified commit.
- `git stash` :- temporarily saves your uncommitted changes without committing.
- `git stash pop` :- restores that stash & removes it from stash list to staging area.
- `git stash clear` :- permanently delete all stashed changes.
- `git remote add origin <link>` :-
 - `git remote add` :- tells git that you want to add a new remote repository
 - `origin` :- name of the remote repository
 - `link` :- link of the repository.
- `git push origin master` :-
 - `git push` :- sends your local commits to remote repository
 - `origin` :- name of the remote repository
 - `master` :- The branch you are pushing on github.
- `git branch <name>` :- This creates a new branch named `<name>`.
- `git checkout <name>` :- This command switches a to existing branch named `<name>`.
- Why to open new branch for each bug fix / feature
 - It's best to create a new branch for each

features/bug fixes instead of working on main branch. This prevents accidental auto merging of further commit after a pull request is merged.

- `git push origin master -f` :- forces the push, overwriting remote changes.

Forking :- It is the process of creating a copy of some one else's github repository in your own git hub account.

- `git pull upstream main` :- This fetches the latest changes from the main branch of original repo.
- `git push origin main` :- Pushes all the commits to the main of forked repository & make it even with upstream repository.
- `git rebase -i <commit id>` :- Allows to edit, squash, delete etc to a specific commit.

Some actions are :-

- pick :- Keep the commit
- reword :- Edit the commit message.
- edit :- Modify the commit
- squash :- Merge this commit into the previous one
- drop :- delete this commit.