GitHub Basics 101

Git commands

ISTE-GRIET-GitHub

Types of repositories

1. **Local Repositories.**

Repositories which can be created within system. Whatever the folder you use for project, that can be used directly. No update happens in GitHub.

2. **Remote Repositories.**

Repositories when you upload code into your GitHub account repository created using GitHub website. Since it is a server folder (where you upload code), that is “Remote” repository.

Local Repositories - Commands

These are very important commands. Hope you all are using it while listening to this.... "lecture" :-P

git init:

We run this command while in the folder where the project is to be started.

This command creates an "empty" repository in the folder you are working on. This is not connected to any other service like GitHub or something else...

git add:

Once an “empty” repository is actually created, then we can start adding / modifying / deleting / killing the files.

All of these are tracked automatically by Git from “initializing an empty repo” till the “last commit in the local repo”.

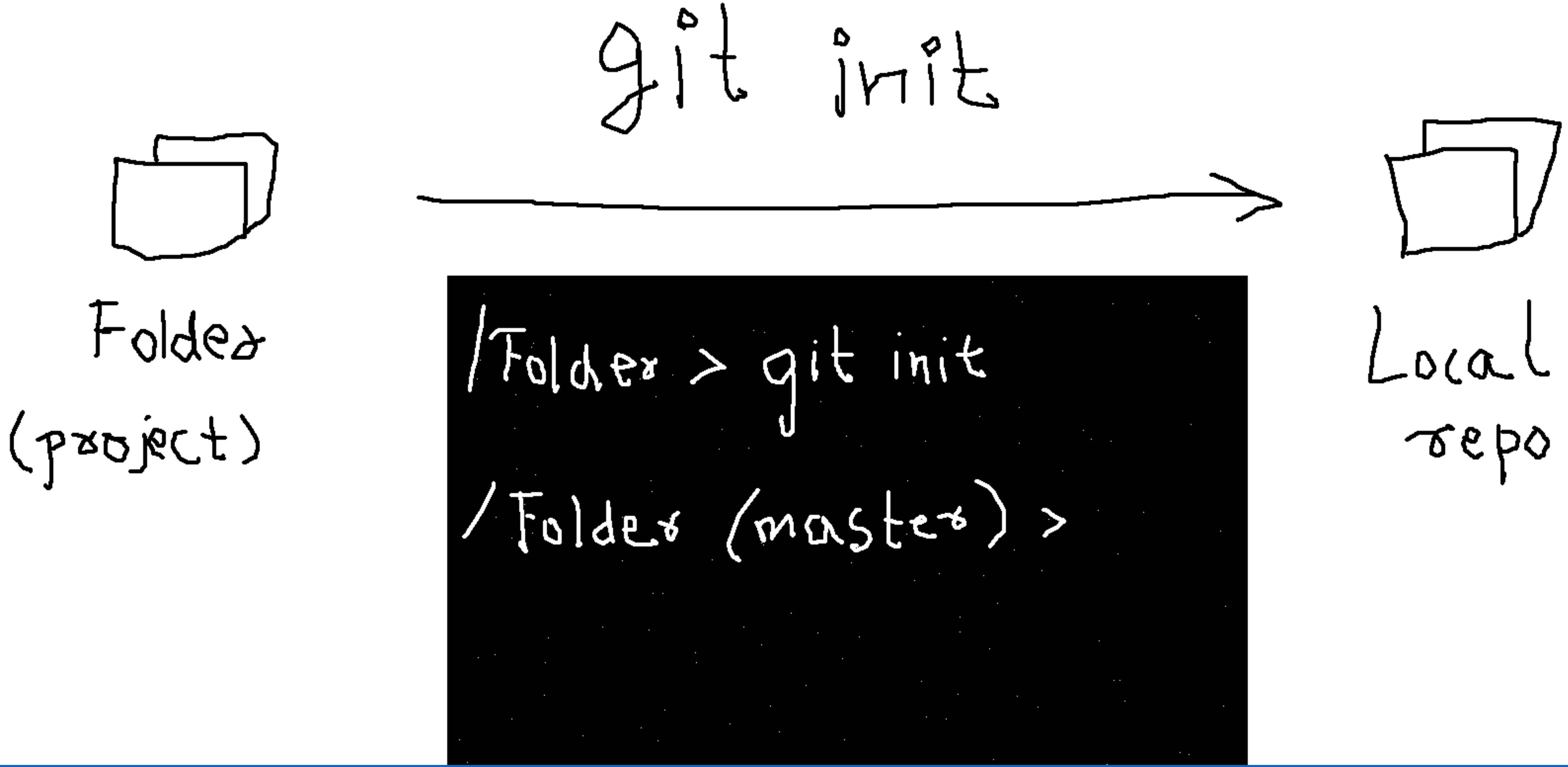
We use the above command to all files to create a new copy of modified files.

git commit:

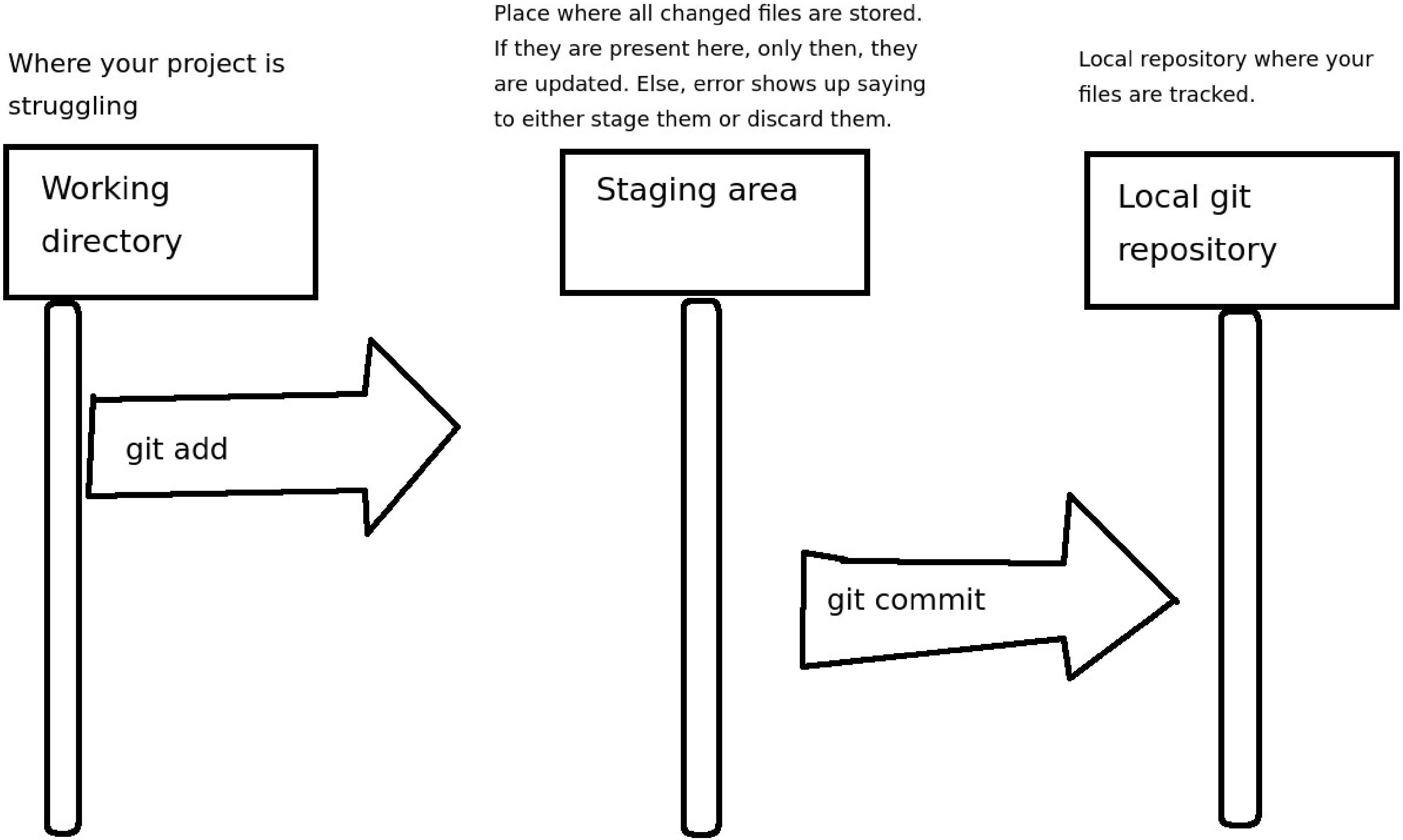
This command is the main ones which adds the changes of “copy” created earlier to the “original project”.

This is most important ones since we make a local copy of changes happening the project.

Just in case you are bit confused, the next picture clarifies that. (hoping so). xD



```
/Folder > git init
/Folder (master) >
```



Where your project is struggling

Working directory

git add

Place where all changed files are stored. If they are present here, only then, they are updated. Else, error shows up saying to either stage them or discard them.

Staging area

git commit

Local repository where your files are tracked.

Local git repository

git status:

Shows the status of files tracked, untracked, staged, not staged, and status of each file (whether they are updated, deleted, created or added)

git config:

Adding settings for Git repositories are done through this. Most important of them are “user.name” and “user.email”. These values say that “this person” owns this repository.

git branch:

This creates a branch to avoid all updates into “main” branch. This helps in easier deletions when some errors occur in project. Just delete that branch and voila. “main” branch is safe.

git checkout:

Simply, it moves to the branch created above. Using “-b” creates a new branch and checks into that branch in one go.

git merge:

So… I have created a branch and modified files in it. Now, I want to add this branch to “master/main” branch. How..?

git merge <branch_name> merges it. That’s it. ☺

Now… we are done with “Local repos”. Now jumping into “remote repos” or so called as “server-side repos”.

git remote:

To connect a local repository with a remote repository. A remote repository can have a name set to avoid having to remember the URL of the repository.

Every remote repository has a URL link (when we create a repository within website) which is added to our local repo to sync all files to that “remote repository”.

git clone:

Copying someone’s remote repository is done by using this command. This downloads the whole code from his repository to your account with same repository name.

git pull:

We should have initially copied a version from another person. What if he made some changes and released a new version? So, this commands updates the repository with the latest changes from the original repo.

git push:

I have updated changes in the repository by making some changes in it. Now I want to push these changes in my remote repository.

Then I use this command to let that happen. “push” command pushes all the files (including updated ones) into the remote repository.

Some more commands which are a bit advanced.

These look advanced. Just “look” advanced.

Writing them here doesn’t make sense. I’ll just add the command.

Description.... I’ll explain right away.

```
git log
git stash
git reset <commit_sha>
```

So, that’s it guys. We have more commands but these are the important ones.

We can explain them too if you insist but they might go over-the-head because we rarely / never use these commands.

Thank you ☺

I know that emoji is a bit scary. But, it’s a smiling face.