Git & GitHub

With NOTES by Tech Jashwanth

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Version Control System

Imp of GIT

GIT Usecases

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Why GIT?

What is GitHub?

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GIT Commands

What is Version Control?

Version control is a system that tracks changes to files over time, allowing developers to revert to previous versions, collaborate efficiently, and manage different code versions.
It prevents data loss and ensures smooth teamwork in software development.

With out Git

Your Laptop

Project 1 Folder

Code

Project 1 Folder

Code

Code V2

Project 1 Folder

Code

Code V2

Code V3

Project 2 Folder

Code

Project 2 Folder

Code

Code V2

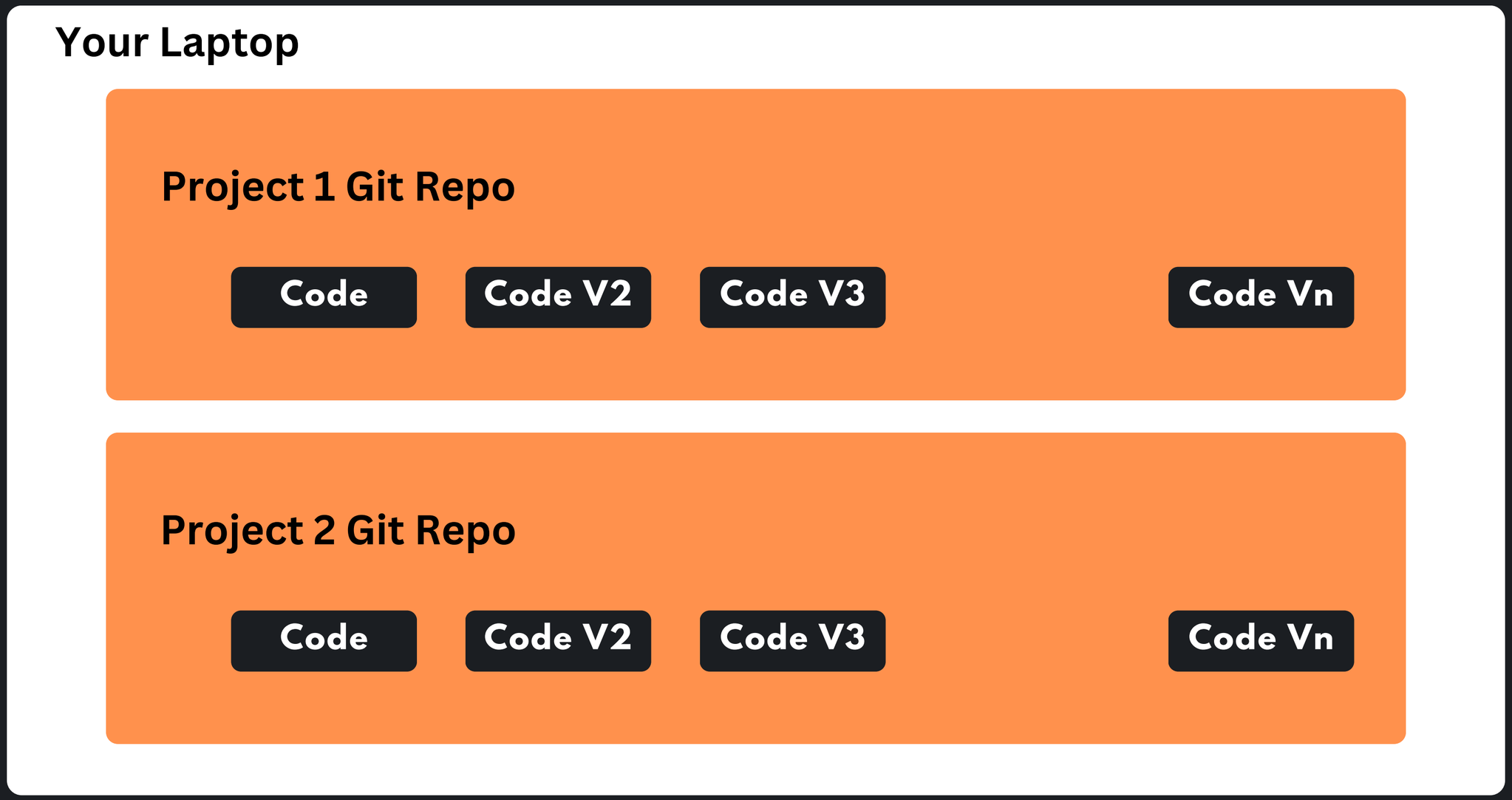
Project 2 Folder

Code

Code V2

Code V3

With Git



Repo: Repo is a folder where git is initialized

What is Git? 

Git is a distributed version control system that tracks changes in code, allowing multiple developers to collaborate efficiently.

Use Cases of Git

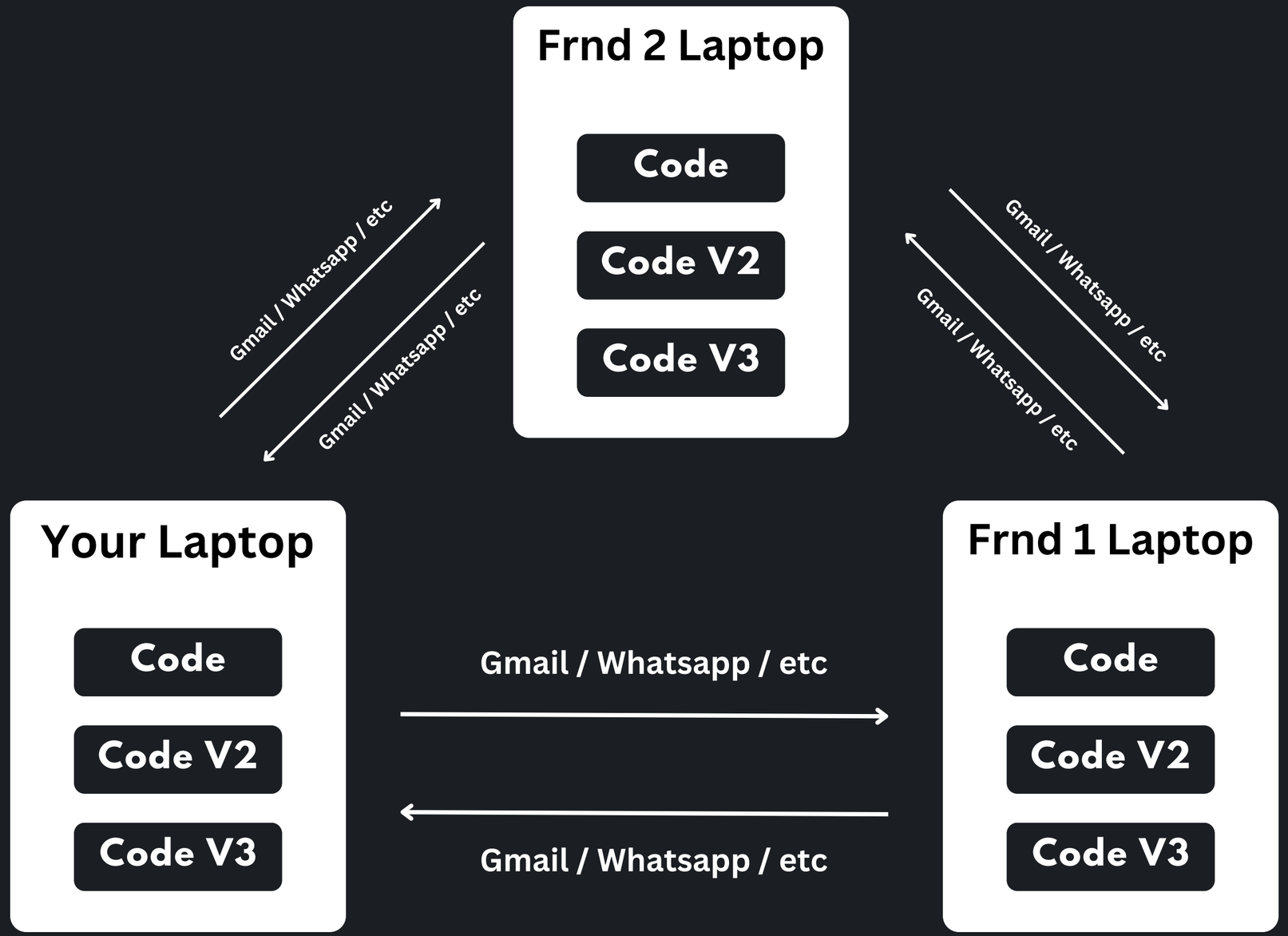
Software Development

Project Management

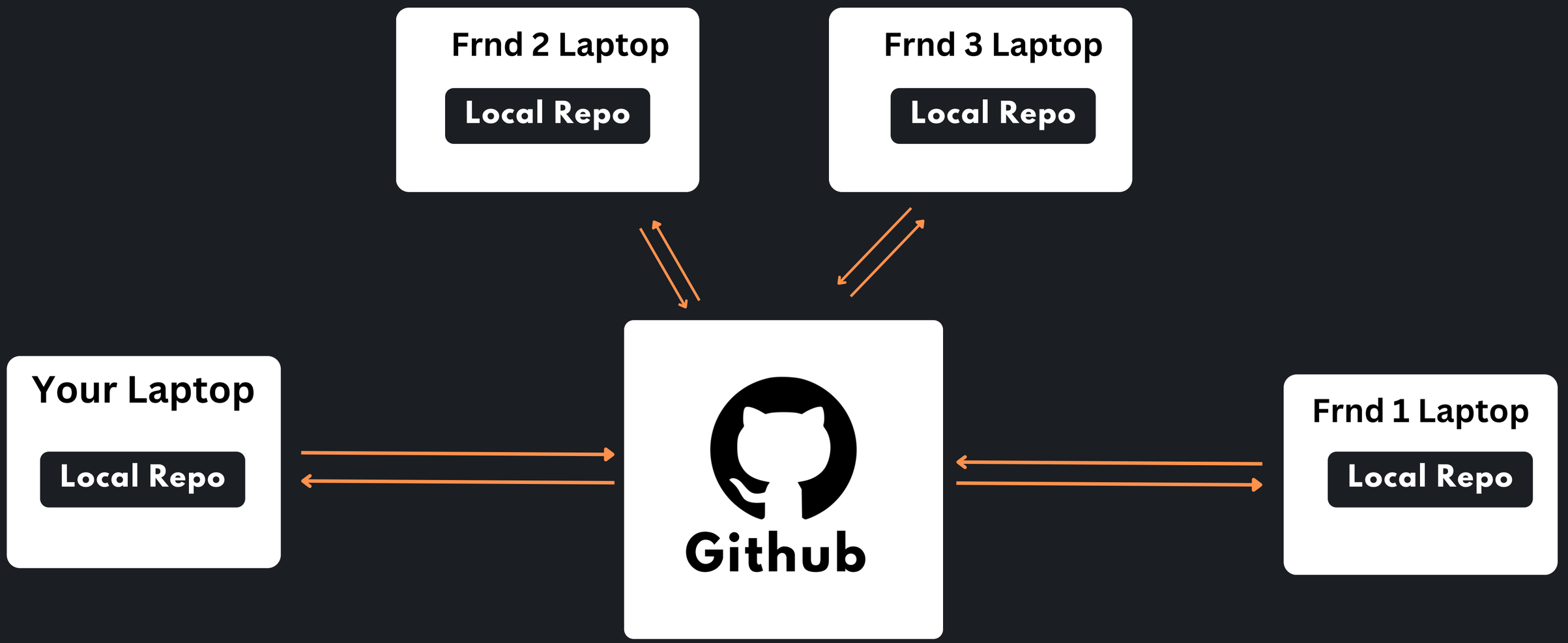
Tracking Versions

With out GitHub

With out GitHub



With GitHub


Frnd 2 Laptop
Local Repo
Frnd 3 Laptop
Local Repo
Your Laptop
Local Repo
Github
Frnd 1 Laptop
Local Repo

What is GitHub? 

GitHub is a cloud-based platform that hosts Git repositories, enabling developers to collaborate, manage code, and track changes efficiently.

Diff between GIT & GitHub

Git:

Git works locally to track the changes in folders and Files. helps in organizing the code with the help of Branches.

GitHub:

A cloud platform that hosts the local repo online. so that anyone with the repo link can access the project and contribute changes

GIT Setup

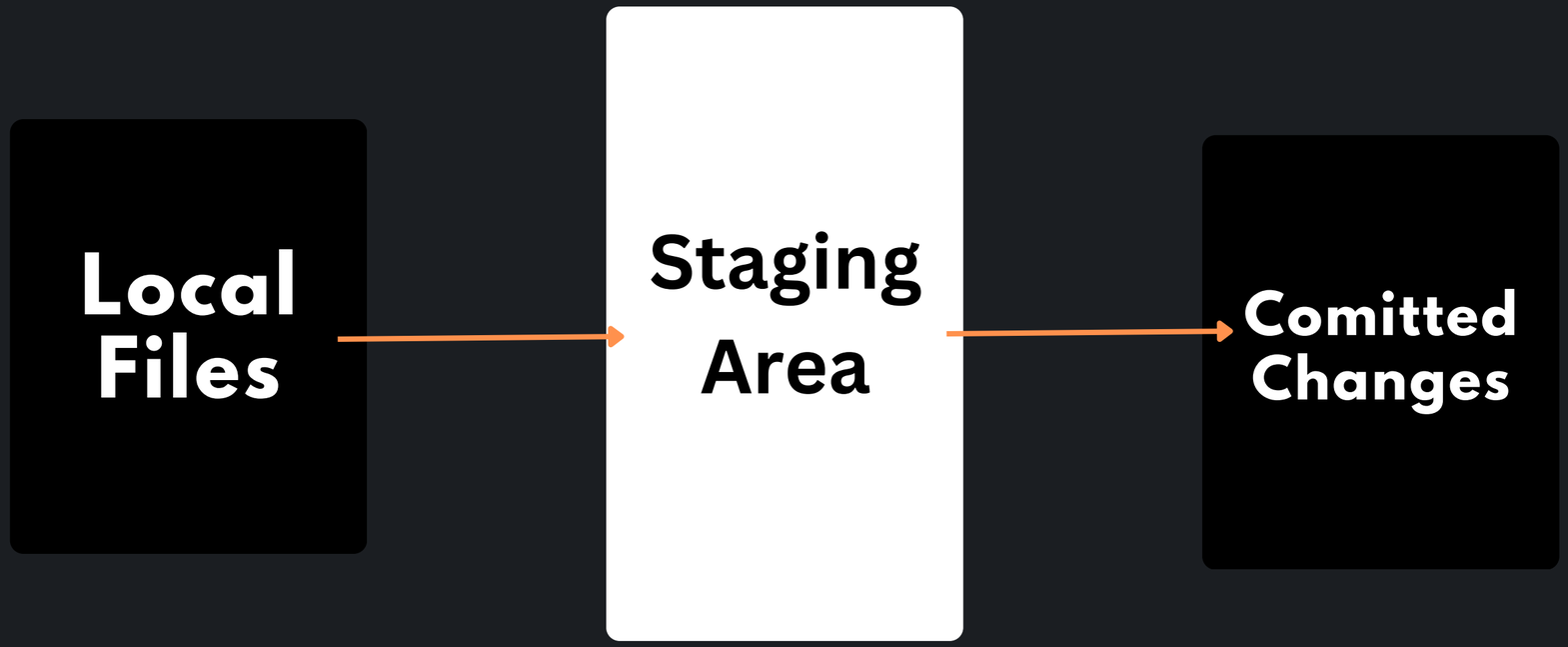
In Local System

GitHub Setup

Git Configuration

GIT
Demo

Git Workflow



Git Workflow 

1. git add --all / git add .

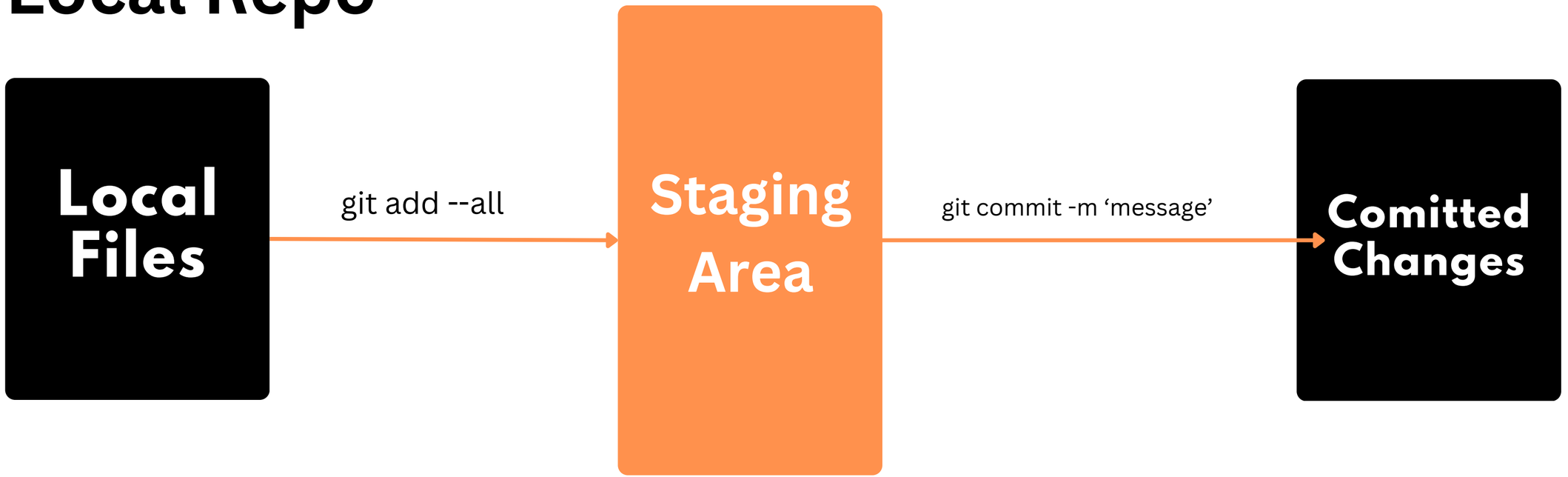
This command will add the files to the staging area

2. git commit -m ‘message’

This command will Commit the Changes locally.

Git Workflow

Local Repo



Git Workflow

1. git add --all / git add .

This command will add the files to the staging area

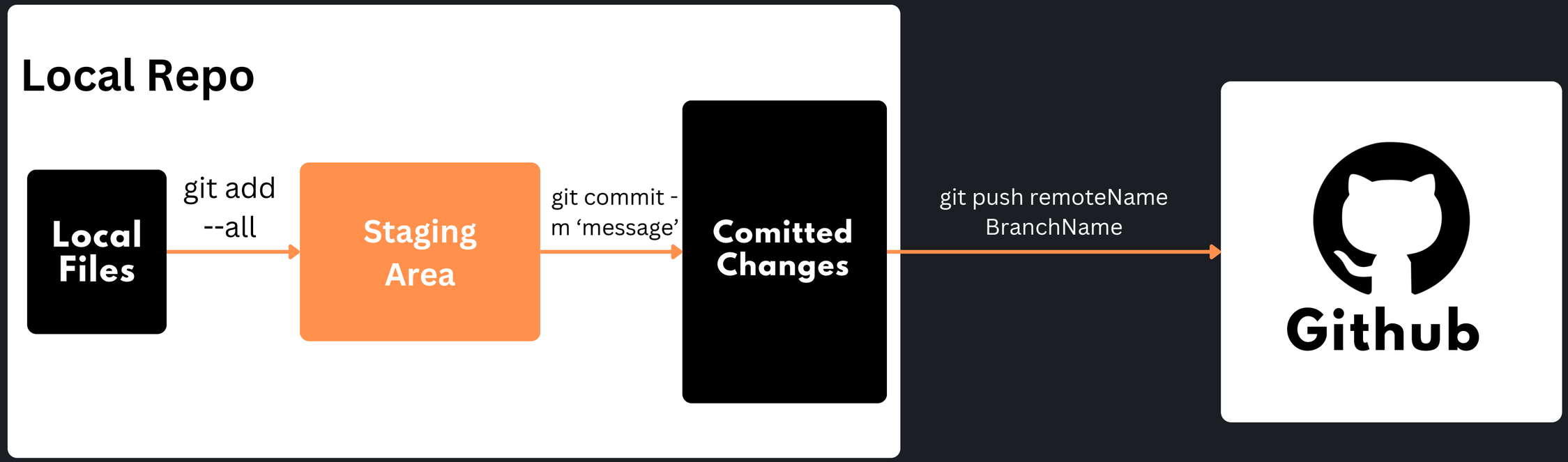
2. git commit -m ‘message’

This command will Commit the Changes locally.

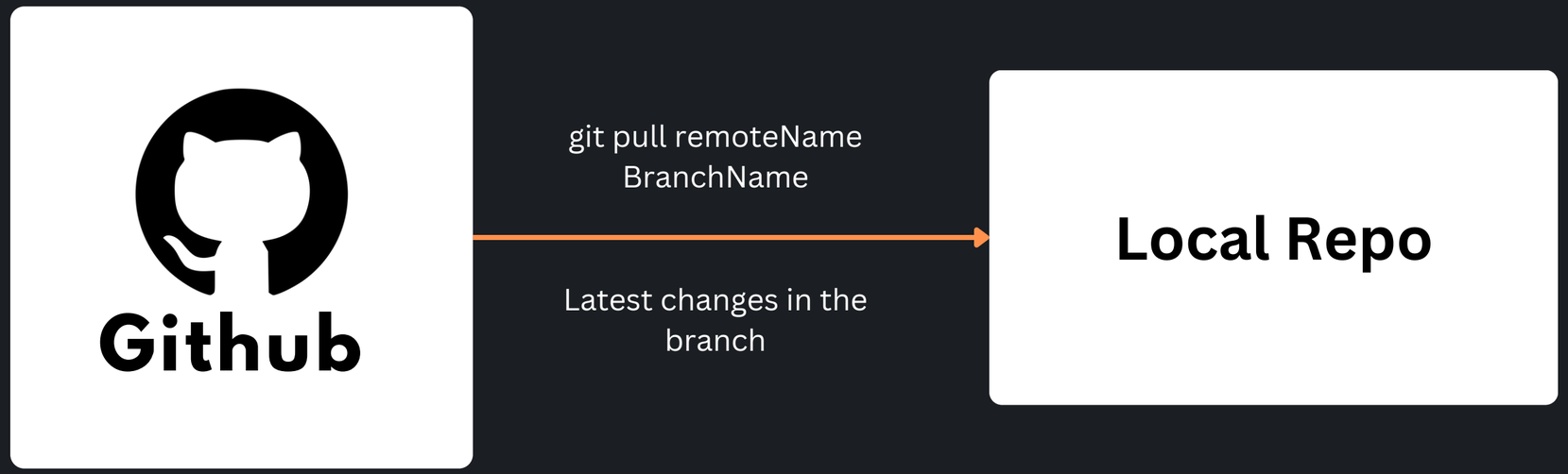
3. git push remoteName BranchName

This command will push the changes from local repo to GitHub

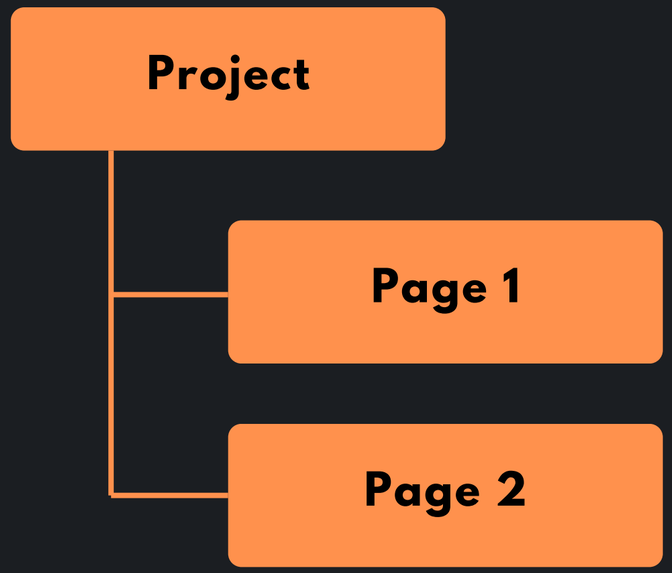
Git Workflow



Git Workflow



Git Branches



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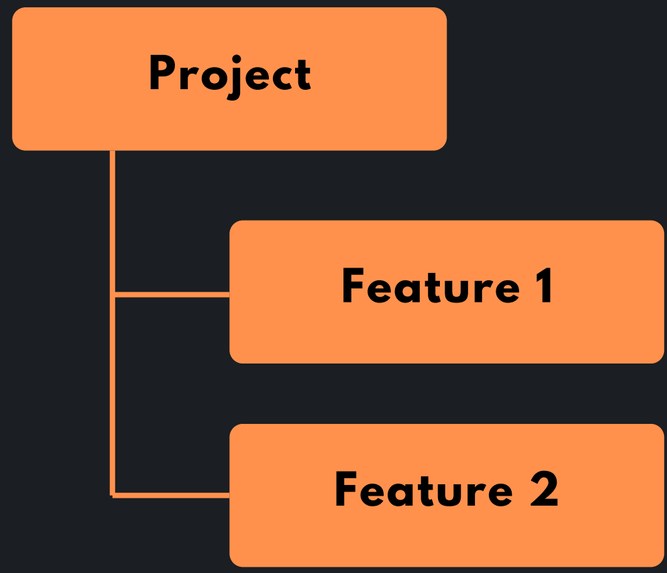
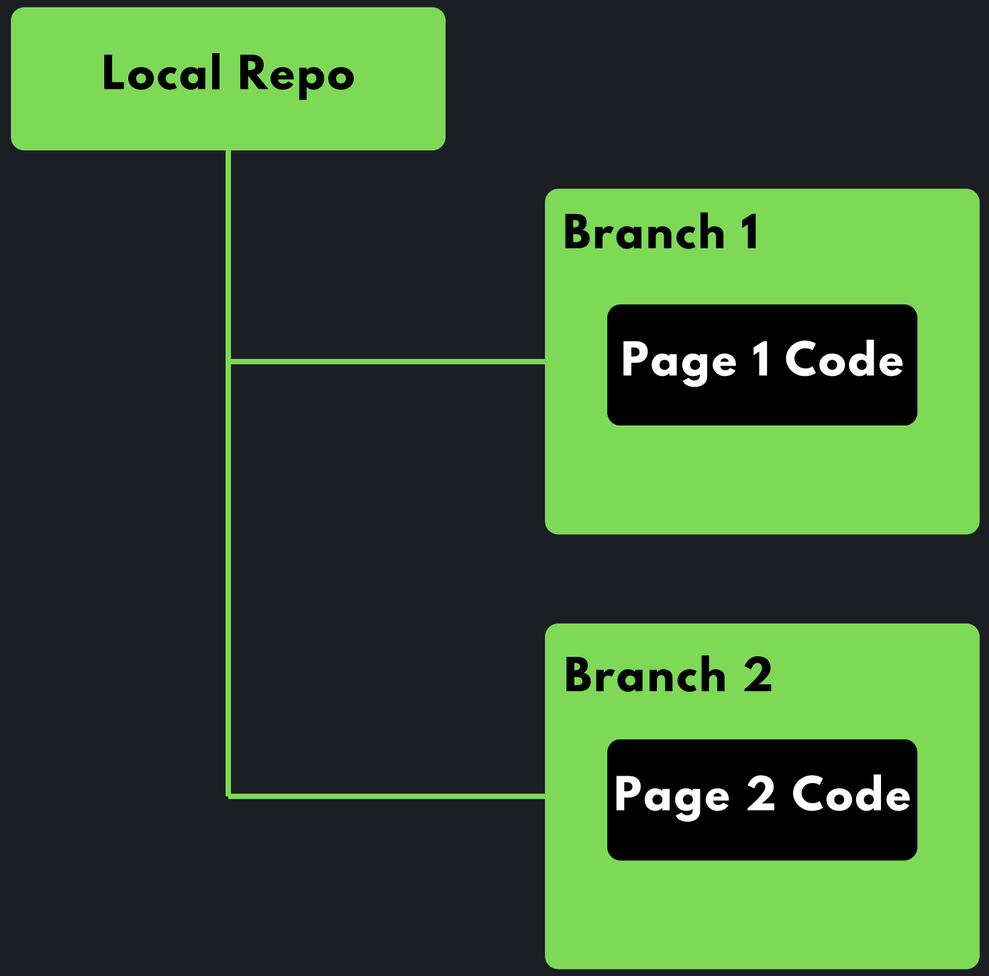


Git Branches



Git Branch Commands

1. git branch – Lists all local branches in the repository.
2. git branch <branch-name> – Creates a new branch with the specified name.
3. git checkout <branch-name> / git switch <branch-name> – Switches to the specified branch.
4. git checkout -b <branch-name> / git switch -c <branch-name> – Creates and switches to a new branch.
5. git merge <branch-name> – Merges the specified branch into the current branch.
6. git branch -d <branch-name> – Deletes a local branch (only if fully merged).
7. git branch -D <branch-name> – Force deletes a local branch.
8. git push origin --delete <branch-name> – Deletes a remote branch.
9. git branch -m <old-name> <new-name> – Renames a branch.
10. git branch -r – Lists remote branche