

Hands-On Git & GitHub



A BEGINNER'S JOURNEY TO
VERSION CONTROL

Notes Cloud
PHYSICAL NOTES DIGITALY DELIVERED

~DIWATE YASH

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Thank you for visiting DY Notes Cloud. I hope you find these notes helpful in your studies. Let's learn and grow together!



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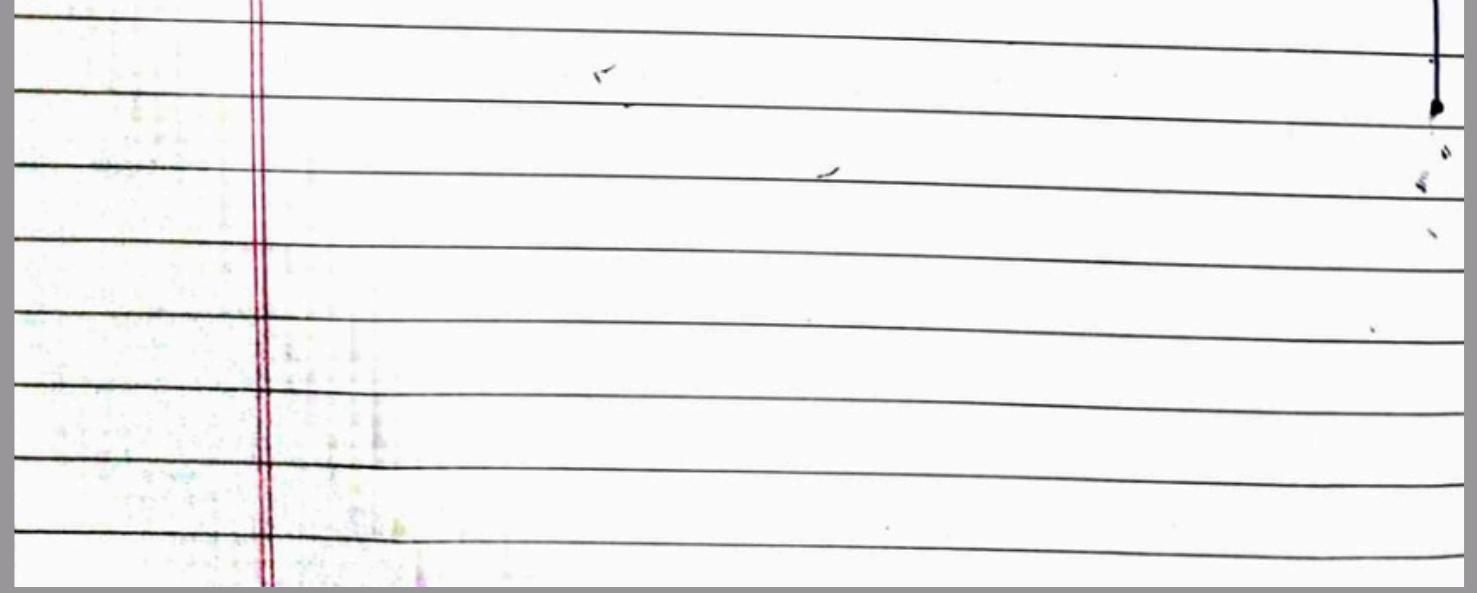
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26/07/24

Git and GitHub

- Yash Diwate

What is Git

- Git is an Version Control tool essential for software development
- It help manage change to code track revision and collaborate with other

Git Allows each developer to have copy of project history on their local machine

What is Repository

Repos is a folder uploaded on Git hub

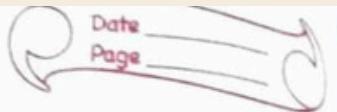
There are Two types of Repository

Local Repo - folder stored on Local PC

Remote Repo folder stored on Github or Server

(1)





Some basic commands of Git

| | |
|----------------------------|---------------|
| To check Version | git --version |
| Clear the terminal | clear |
| To check Working directory | pwd |
| To Change Directory | cd |
| To List files | ls |
| To List hidden files | ls -a |
| To Make Directory | mkdir |

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Every Commands of Git

| Command | Description |
|---|---|
| git --version | To check Version of Git |
| git init | To initialize Git Repository |
| git config --global "User.Name" "User Name" | To config e Username |
| git config --global User.email | To config email |
| git clone [URL] | Retrive an entire Repository |
| git add [File] | Stage a file for Next commit |
| git reset [File] | Unstage a file while retaining |
| git status | Show modified file in working directory |

| Command | Description |
|-----------------------------|-------------------------------|
| git diff | Show changes Not yet staged |
| git commit -m "Des mess" | Commit staged content |
| git branch | List branches |
| git branch [branch Name] | Create a new branch |
| git checkout [branch] | Switch to another branch |
| git merge [branch] | Merge branch into current one |
| git log | Show commit history |
| git remote add [url] | Add a Git url |

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| Command | Description |
|----------------------|--|
| Git fetch [alias] | fetch branches from a remote |
| Git merge [alias] | merge changes from a remote branch |

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Steps to Add folder on Git hub Repository

- 1) Make Github Repository
- 2) Make folder or open existing folder on Laptop
- 3) Clone the repository
- Copy Link of Repo
In Terminal
 Git clone < Link >
After Adding Code Use
- 4) Git Add .
- 5) Git commit -m " "
- 6) Git push origin Main

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classmate

Date _____

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What is Github

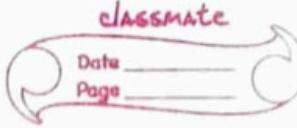
- Github is a platform which is used to store repository
- It is also used to host our project
- It provides graphical representation or interface for managing repos

Git → Version control system
(Tool)

Github → A platform for hosting Git repository

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Setting up Git

Very first step to start Git is Configuring. We have to do:

- 1) Configure username
- 2) configure email

`git config --global "User.Name
"Nano"`

`git config --global User.email
"email"`

To Create repository using Terminal

- Initialize a repository

`git init`

- To Add remote repository to local repo
Github folder → Local

Git Remote Add origin
Command is use

(3)

- To Verify the remote

Git Remote -v

Github Workflow

1) GitHub repository

- Create Repo on GitHub

2) Clone the repository

- Using Git Clone \leftrightarrow Link Comm you can create a local copy of your GitHub Repository

3) Make changes

- Edit files Add features etc

4) Stage Changes

- Using git Add command get prepare to publish on GitHub

5) Commit Change

Git Commit -m "message" Create Snapshot of project



6) push to Github
To push committed change in Github use Git push origin main command

(you can change branch Name that is main to Any branch)

Repeat steps from 3 to 6

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Basic Commands of Github

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Clone:

This creates a local copy of remote Git repository on your computer

Git Clone < Repo link >

Repo links

You will find Repository in github Repo - Click on code -- Copy -- HTTPS link

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Add and commit

Add

This is used to prepare file to staged

Staged - Temporary Git that is

This is a change i have made

Git Add

Git add . filename

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Commit

It tracks or save record of change made

Commit → Ok This is changes

Git Commit -m " message "

push

Send Changes to git hub

Git push origin main

Status

To check Status like which file is modified Staged or Untracked

Git status

Command is use

Type of message you will encounter after Scring Status

Untracked → New file which is Not on github

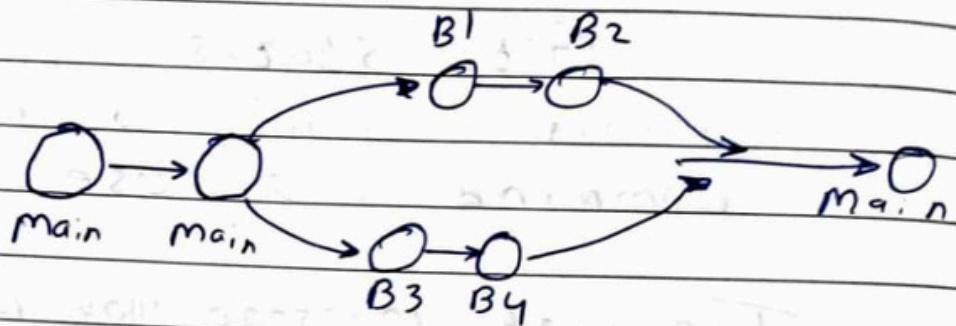
modified → Changes in file which is already exist on git

Staged → file is ready to commit

Unmodified → file is unchanged

Branch

Branches allows to work differently on different device without changing on main code



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BDY Are Branches

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List All Branches

git branch

Create a New branch

git branch <branch name>

Switch to a different branch

git checkout <branch Name>

Create and Switch to a New branch

git checkout -b <New branch Name>

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Rename current branch
git branch -m <new-branch-name>

Delete branch
git branch -d <branch-name>

Merging of branch

After creating different branches once work on every branch finishes To merge every code block into main code

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Git merge <branch-name>

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(Easy way to merge code or branch is creating pull request on Github platform)

Pushing and pulling
To make change in Github or, To take changes from Github
push pull use

⑨

push changes to main branch
git push origin main

Upload Local Commit to Main remote

Pulling changes

git pull origin main

Fetch changes from Github on local

Merge conflict

While Two peoples working on same code and after merge conflicts occur

To resolve this conflict we need to undo changes

Undo stage changes

git reset Head <file>

(10)

Reverting Commit
git revert Commit

What is fork

Fork is personal copy of
Someone else project that
is existing on Github account

- It allows you to make changes
freely without affecting
original project

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Thank You

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