

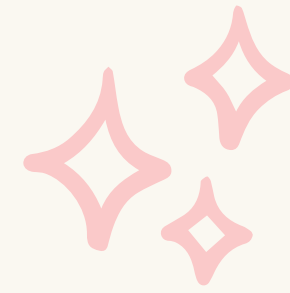
# PFC

# lec 21

**git & github**

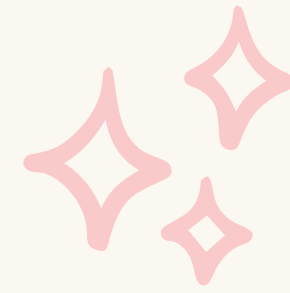


# Lecture Flow



1. what is version control
2. what is git
3. what is github
4. workflow in git/github
5. setup
6. basic commands

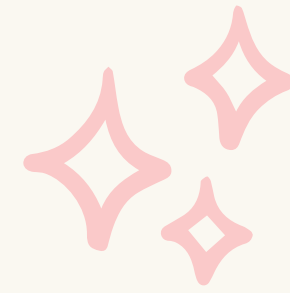
# version control



Version control is a system that:

- ✓ Tracks changes in files
- ✓ Helps restore previous versions
- ✓ Supports collaboration among multiple developers

# git



Git is a distributed version control system used to track changes in source code. **Must have skill for every developer.** You need to know at least the basics ( add commit push etc. )

1. Version Tracking
2. Collaboration
3. Open Source & free
4. Speed



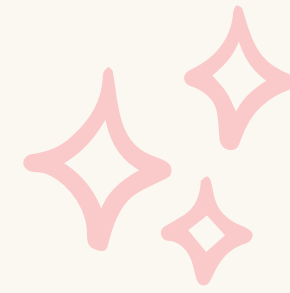
GitHub is a cloud platform that hosts Git repositories and enables sharing, teamwork, and project management.

Git = Tool

GitHub = Storage + Collaboration platform

**HOSTING - STORING IT AT A PLACE WHERE  
OTHERS CAN ACCESS IT [ ONLINE ]**

# installing



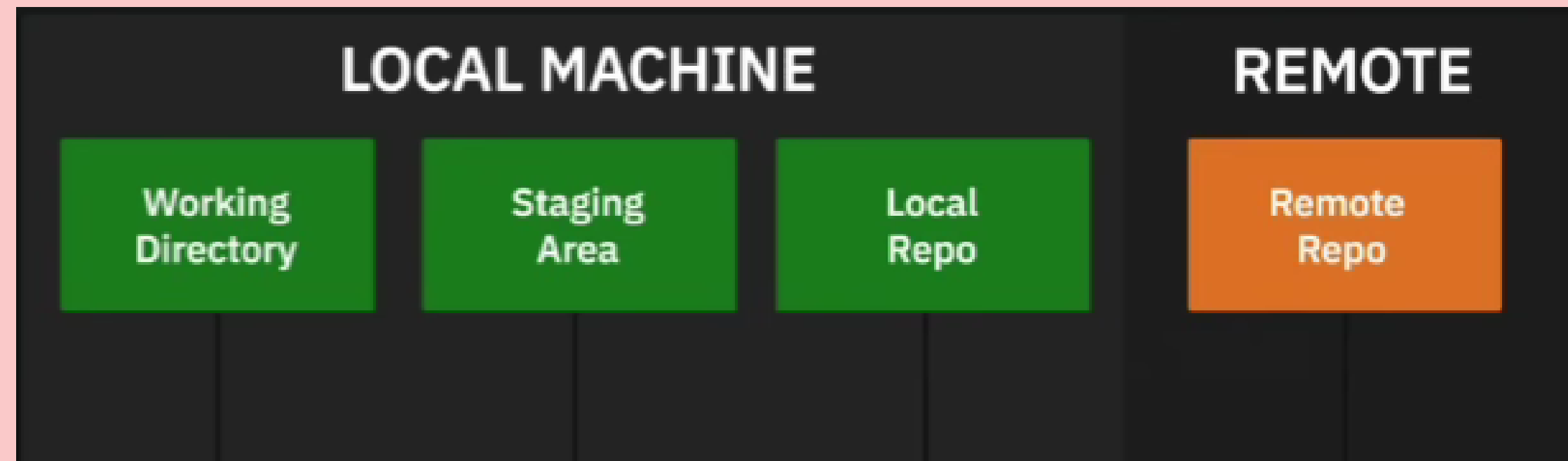
[git-scm.com/downloads](https://git-scm.com/downloads)



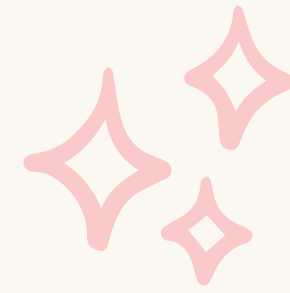
```
git config --global user.name "Your Name"
```

```
git config --global user.email "your.email@example.com"
```

# WORKFLOW



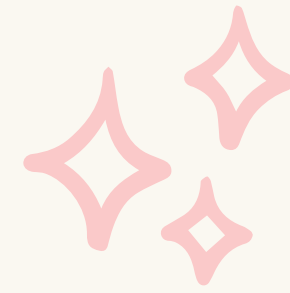
# imp. terms



1. **Repository** - folder where git tracks project files
2. **Working Directory** - your project files on your computer
3. **Staging Area** - safe checkpoint for your code, prepares your code for commit step
4. **Commit** - staging area to local repository
5. **Remote Repository** - online repository like github



# git init

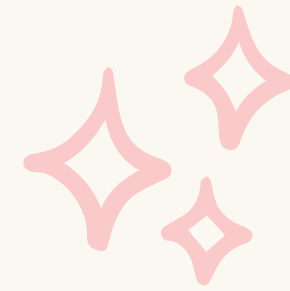


Initializes a new Git repository in your project folder. It tells Git to start tracking this folder.

eg- Mera project ready hai, ab ise track karo ki mai kya changes ya karta jaa rha hu

**command - git init**

# git add



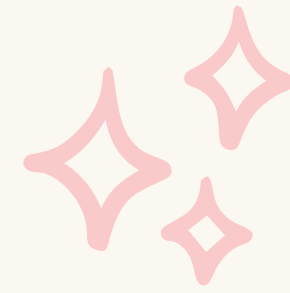
Moves files from working directory to staging area.  
It prepares them for commit.

eg- Yeh homework final ho gaya, ab notebook me chipka do.

*command - git add index.html [ single file add karne ke liye ]*

*command - git add . [ multiple files add karne ke liye ]*

# git status



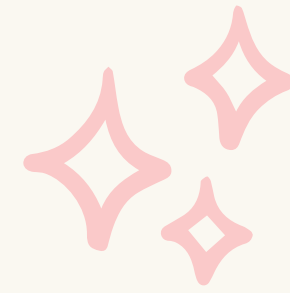
Shows the current state of the repository —  
Which files are **modified, untracked, or staged**.  
eg- *Abhi project ki kya condition hai? Kaunse files pending hain? Kaunse ready hain?*

*command - git status*

*red* - *unstaged*

*green* - *staged*

# git commit

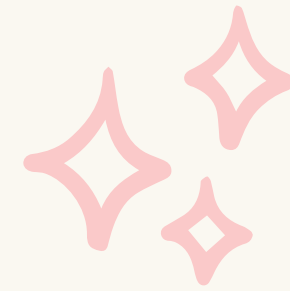


Saves tracked/staged changes permanently in the local repository with a message.

eg- *“Aaj ka kaam complete hua.” [diary enry bana di ki aaj kya kya hua hai]*

*command - git commit -m "homepage completed" [ “Message likh kar save kar diya — homepage complete.”] [ inside “ we write the message“ ]*

# git push



**Uploads your local commits to a remote repository (e.g., GitHub).**

**eg- Assignment/Lab Record ki photocopy  
teacher ko submit kardo**

***command - git push origin main [ “mera project github pe upload ho gaya” ]***

