**1. Configuration (first-time setup)**

git --version # Check installed Git version

git config --global user.name "Your Name" # Set username

git config --global user.email "your@email.com" # Set email

git config --list # Show all configurations

**2. Creating & Initializing Repositories**

git init # Initialize a new Git repository in current folder

git clone <repo-url> # Clone (download) a repository from GitHub

**3. Checking Repository Status**

git status # Show status of changes (modified, staged, untracked files)

git log # Show commit history

git log --oneline # Show short version of commit history

**4. Working with Files**

git add <file> # Stage a file for commit

git add . # Stage all changes in the directory

git reset <file> # Unstage a file (remove from staging area)

git commit -m "message" # Commit staged changes with a message

git commit -am "message" # Add & commit tracked files in one step

**5. Branches**

git branch # List all branches

git branch <branch-name> # Create a new branch

git checkout <branch-name> # Switch to another branch

git switch <branch-name> # (Newer way) Switch branch

git checkout -b <branch-name> # Create and switch to new branch

git merge <branch-name> # Merge another branch into current branch

git branch -d <branch-name> # Delete a branch

**6. Remote Repositories (GitHub)**

git remote -v # Show linked remote repositories

git remote add origin <url> # Connect local repo to GitHub repo

git push -u origin main # Push code to GitHub (first time, sets upstream)

git push # Push committed changes

git pull # Fetch + merge changes from remote

git fetch # Fetch changes (without merge)

git clone <url> # Clone repository from GitHub

**7. Undo & Fix Mistakes**

git restore <file> # Discard local changes (unstaged file)

git reset --hard # Remove all changes and reset to last commit

git reset HEAD~1 # Undo last commit (keep changes)

git revert <commit-id> # Create a new commit that undoes a previous commit

**8. Stashing (Temporary Save)**

git stash # Save uncommitted changes temporarily

git stash list # Show stashed changes

git stash apply # Reapply the last stash

git stash pop # Apply last stash and remove from stash list

**9. GitHub-Specific (via command line)**

gh auth login # Login to GitHub (if GitHub CLI installed)

gh repo create # Create new GitHub repo from CLI

gh repo clone <repo> # Clone a GitHub repo

**✅ Typical Workflow Example**

git init

git add .

git commit -m "first commit"

git branch -M main

git remote add origin https://github.com/username/repo.git

git push -u origin main