

**Git & GitHub Command Reference Table :**

Category	Action	Command	Notes
<b>Setup</b>	Initialize Git	git init	Starts tracking changes in the current folder.
	Clone a repo	git clone https://github.com/username/repo. git	Downloads repo to your local machine.
	Connect to remote	git remote add origin https://github.com/username/repo. git	Links local repo to GitHub.
<b>Basic Workflow</b>	Check status	git status	Shows modified/untracked files.
	Stage all changes	git add .	Prepares all changes for commit.
	Stage specific file	git add file.py	Stages only file.py.
	Commit changes	git commit -m "Your message"	Saves changes with a description.
	Push to GitHub	git push origin main (or master)	Updates remote repo. Default branch: main (newer) or master (older).
<b>Folder/File Ops</b>	Rename folder	git mv old-name new-name	Tracks rename in Git.
	Move folder	git mv folder/ new-path/folder/	Tracks move in Git.

	Delete folder	git rm -r folder/	Stages deletion. Commit + push to apply.
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	Undo delete/renam e	git restore folder/ or git checkout HEAD -- folder/	Recovers files before commit.
<b>Branching</b>	Create branch	git branch new-feature	Creates a new branch.
	Switch branch	git checkout new-feature	Moves to newfeature branch.
	Merge branch	git checkout main + git merge newfeature	Merges newfeature into main.
	Delete branch (local)	git branch -d branch-name	Deletes local branch.
	Delete branch (remote)	git push origin --delete branch-name	Deletes remote branch.
<b>Sync &amp; Update</b>	Pull latest changes	git pull origin main	Fetches + merges remote changes.
	Resolve merge conflicts	Edit files → git add . → git commit m "Fixed conflicts"	Manually edit conflicted files.
<b>Undoing Changes</b>	Unstage file	git reset file.py	Removes file from staging area.
	Amend last commit	git commit --amend -m "New message"	Edits the most recent commit.
	Revert a commit	git revert commit-hash	Creates a new commit undoing the changes.

	Hard reset (Dangerous!)	git reset --hard commit-hash	<b>WARNING:</b> Deletes all changes after the commit.
<b>Advanced</b>	Ignore files (.gitignore)	Add patterns to .gitignore (e.g., *.pyc, __pycache__/_/)	Prevents tracking unwanted files.

	View commit history	git log --oneline	Compact list of commits.
	Stash changes	git stash → git stash pop	Temporarily shelves changes.
<b>Troubleshooting</b>	"Branch does not exist"	Commit first (git commit creates the branch).	Branches are created upon first commit.
	"Updates rejected"	Pull before push: git pull origin main	Ensures you have the latest version.
	Accidental push to wrong branch	git push origin --delete branchname + re-push to correct branch.	Fixes misdirected pushes.