

■ Git CLI Cheat Sheet — With Deep Explanations & Differences

1. Configuration

| Command | Description |
|--|-------------------------|
| git config --global user.name "Hemant Singh" | Set username globally |
| git config --global user.email "you@example.com" | Set email globally |
| git config --list | Show all configurations |

2. Repository Setup

| Command | Description |
|-----------------------------|-----------------------|
| git init | Initialize a new repo |
| git clone <url> | Clone existing repo |
| git clone -b <branch> <url> | Clone specific branch |

3. File Operations

| Command | Description |
|--------------------|-----------------------------------|
| git status | Check current status |
| git add . | Stage all files |
| git restore <file> | Undo changes in working directory |

4. Committing

| Command | Description |
|-------------------------|------------------------|
| git commit -m "message" | Commit staged files |
| git commit --amend | Amend last commit |
| git log --oneline | Compact commit history |

5. Branching

| Command | Description |
|-------------------------------|------------------------|
| git branch | List branches |
| git checkout -b feature/login | Create & switch branch |
| git branch -d feature/login | Delete branch safely |

6. Merge vs Rebase

| Command | Description |
|---------------------|--|
| git merge <branch> | Combine branches (preserves history) |
| git rebase <branch> | Move commits on top of another branch (rewrites history) |
| Difference: | Merge keeps history, Rebase makes it linear |

7. Remote Operations

| Command | Description |
|-------------------|---|
| git remote -v | List remotes |
| git fetch | Download remote updates without merging |
| git pull --rebase | Fetch + rebase instead of merge |

8. Undoing & Resetting

| Command | Description |
|---------------------------|--------------------------------------|
| git reset --soft <commit> | Undo commit but keep changes staged |
| git reset --hard <commit> | Undo everything |
| git revert <commit> | Safely undo a commit in shared repos |

9. Stashing

| Command | Description |
|-----------------|--------------------------------------|
| git stash | Temporarily save uncommitted changes |
| git stash apply | Apply stashed changes |
| git stash pop | Apply and remove from stash list |

10. Real Workflow Example

| Command | Description |
|-------------------------------------|-----------------------------------|
| git clone <repo> | Clone project |
| git checkout -b feature/api-upgrade | Work on a feature |
| git rebase origin/main | Rebase on latest main before push |