

■ Setup & Configuration

```
git config --global user.name "Your Name" # Set username
git config --global user.email "you@example.com" # Set email
git config --global core.editor "code --wait" # Set default editor
git config --list # Show all config
```

■ Starting a Repository

```
git init # Initialize a new repo
git clone # Clone from remote
```

■ Basic Snapshotting

```
git status # Show changed files
git add # Stage file
git add . # Stage all files
git reset # Unstage file
git commit -m "message" # Commit staged changes
git commit -am "message" # Add & commit tracked files
git rm # Remove file & stage deletion
git mv # Rename file & stage
```

■ Branching & Merging

```
git branch # List branches
git branch # Create branch
git checkout # Switch to branch
git checkout -b # Create & switch
git merge # Merge branch into current
git branch -d # Delete branch
git switch # Switch (new command)
git switch -c # Create & switch (new command)
```

■ Viewing History

```
git log # Full history
git log --oneline --graph # Compact history with graph
git show # Show commit details
```

```
git diff # Changes in working dir
git diff --staged # Changes staged for commit
```

■ Undoing Changes

```
git checkout -- # Discard changes in file
git restore # (new) Discard changes
git reset HEAD # Unstage file
git reset --hard HEAD # Reset all to last commit
git revert # Make new commit that undoes
```

■ Remote Repositories

```
git remote -v # Show remotes
git remote add origin # Add remote
git remote remove # Remove remote
git fetch # Fetch from remote
git pull # Fetch + merge
git push # Push to remote
git push -u origin main # Push & set upstream
```

■ Stashing (Save Work Temporarily)

```
git stash # Save changes
git stash list # Show stashes
git stash pop # Apply latest & remove
git stash apply # Apply latest & keep
git stash drop # Remove latest stash
```

■ Tags (Mark Releases)

```
git tag # List tags
git tag # Create tag
git tag -a -m "msg" # Annotated tag
git push origin # Push tag
git push origin --tags # Push all tags
```

■ Collaboration & Workflow

```
git fetch origin # Get changes
git pull origin main # Update local main
git push origin main # Push local changes
git rebase main # Reapply commits on main
git cherry-pick # Apply specific commit
```

■ Advanced

```
git reflog # Show history of HEAD
git reset --soft HEAD~1 # Undo last commit (keep changes staged)
git reset --hard HEAD~1 # Undo last commit (discard changes)
git clean -fd # Remove untracked files & dirs
```