Complete Git Commands Guide

This document compiles all key Git commands with their uses and examples.

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1. git init

Initialize a new Git repository

```
git init
```

Initialize in a specific directory

```
git init my-project
```

Initialize with a specific branch name

```
git init -b main
```

Check initialized repository

```
git status
```

---

2. git add

Add a single file

```
git add file.txt
```

Add all changes

```
git add .
```

Add all changes including untracked files

```
git add -A
```

Add files interactively

```
git add -p
```

Add a directory

```
git add src/
```

---

3. git commit

Basic commit

```
git commit -m "Add new feature"
```

Commit all changes

```
git commit -a -m "Update all modified files"
```

Amend previous commit

```
git commit --amend -m "Correct previous commit message"
```

Commit with verbose output

```
git commit -v
```

Commit only specific files

```
git commit file1.txt file2.txt -m "Commit selected files"
```

---

4. git push

Basic push

```
git push
```

Push a specific branch

```
git push origin main
```

Set upstream for branch

```
git push -u origin feature-branch
```

Force push

```
git push --force origin main
```

Push tags

```
git push --tags
```

---

5. git pull

Basic pull

```
git pull
```

Pull from a specific branch

```
git pull origin main
```

Rebase instead of merge

```
git pull --rebase origin main
```

Pull with verbose output

```
git pull --verbose
```

Pull with specific strategy

```
git pull -s recursive origin main
```

---

6. git branch

List all branches

```
git branch
```

Create a new branch

```
git branch feature-branch
```

Switch to a branch

```
git checkout feature-branch
```

Create and switch to a new branch

```
git checkout -b feature-branch
```

Delete a branch

```
git branch -d feature-branch
```

Force delete a branch

```
git branch -D feature-branch
```

---

7. git log

Basic log

```
git log
```

One-line log

```
git log --oneline
```

Show graph of branches

```
git log --graph --oneline --all
```

Show commits by author

```
git log --author="John Doe"
```

Show changes in commits

```
git log -p
```

8. git checkout

Switch to a branch

```
git checkout main
```

Create and switch to a new branch

```
git checkout -b feature-branch
```

Checkout a specific commit

```
git checkout a1b2c3d4
```

Restore a file from a commit or branch

```
git checkout main -- file.txt
```

Switch back to previous branch

```
git checkout -
```

9. git status

Basic status

```
git status
```

Show branch info

```
git status
```

Short status

```
git status -s
```

Show ignored files

```
git status --ignored
```

Show branch and upstream info

```
git status -b
```

---

10. git reset

Basic reset

```
git reset a1b2c3d4
```

Soft reset

```
git reset --soft a1b2c3d4
```

Mixed reset (default)

```
git reset --mixed a1b2c3d4
```

Hard reset

```
git reset --hard a1b2c3d4
```

Reset a single file

```
git reset HEAD file.txt
```

---

11. git revert

Basic revert

```
git revert a1b2c3d4
```

Revert without committing

```
git revert --no-commit a1b2c3d4
```

Short form revert

```
git revert -n a1b2c3d4
```

Revert multiple commits

```
git revert a1b2c3d4..e5f6g7h8
```

Edit revert commit message

```
git revert --edit a1b2c3d4
```

---

12. git rm

Remove a file

```
git rm file.txt
```

Remove a file from index only

```
git rm --cached file.txt
```

Remove multiple files

```
git rm file1.txt file2.txt
```

Remove files with wildcard

```
git rm *.log
```

Force remove a file

```
git rm -f file.txt
```