

Git & GitHub Cheat Sheet

1. Git Configuration

- Set username

```
git config --global user.name "Your Name"
```

- Set email

```
git config --global user.email "your@email.com"
```

- Show global config

```
git config --list
```

2. Initialize & Clone a Repository

- Initialize a local repository

```
git init
```

- Clone a remote repository

```
git clone <repo_url>
```

3. Check Repository Status

- Check current status

```
git status
```

- View commit history

```
git log
```

- Compact commit history

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

4. Staging & Committing

- Stage a file

```
git add <file>
```

- Stage all changes

```
git add .
```

- Commit changes

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```
git commit -m "message"
```

- Modify last commit message

```
git commit --amend -m "new message"
```

5. Branching & Merging

- List branches

```
git branch
```

- Create a new branch

```
git branch <branch_name>
```

- Switch to a branch

```
git switch <branch_name>
```

- Merge a branch

```
git merge <branch_name>
```

- Delete a branch

```
git branch -d <branch_name>
```

6. Undoing Changes

- Discard unstaged changes

```
git restore <file>
```

- Unstage a file

```
git reset HEAD <file>
```

- Reset to a commit (Dangerous!)

```
git reset --hard <commit_hash>
```

- Revert a commit

```
git revert <commit_hash>
```

7. Working with Remote Repositories

- List remote repositories

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```
git remote -v
```

- Connect local repo to remote

```
git remote add origin <repo_url>
```

- Push changes

```
git push origin <branch_name>
```

- Pull latest changes

```
git pull origin <branch_name>
```

- Fetch changes without merging

```
git fetch origin
```

8. Stashing Changes

- Save changes temporarily

```
git stash
```

- Apply last stashed changes

```
git stash pop
```

- List all stashes

```
git stash list
```

9. Tagging Releases

- Create a new tag

```
git tag <version>
```

- Push a tag to GitHub

```
git push origin <tag>
```

10. GitHub Collaboration

- Fork a repository (GitHub UI)

```
git fork
```

- Clone the fork

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```
git clone <your-fork-url>
```

- Open a pull request (GitHub UI)

```
git pull-request
```