

Git & GitHub Practical Guide

1. Git Introduction

Check Git version:

```
git --version
```

Set user details:

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

```
git config --global user.email "youremail@example.com"
```

View config:

```
git config --list
```

2. Create & Manage Git Repositories

Create a new local repo:

```
mkdir my-project
```

```
cd my-project
```

```
git init
```

Check status:

```
git status
```

3. Repository Settings

Change remote origin:

```
git remote set-url origin https://github.com/username/repo.git
```

View remote:

```
git remote show origin
```

4. Adding & Committing

Add and commit:

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`touch index.html`

`git add index.html`

`git commit -m "Initial commit"`

Add all:

`git add .`

`git commit -m "Updated all files"`

5. Branches

Create and switch:

`git checkout -b feature-login`

Switch back:

`git checkout main`

Delete branch:

`git branch -d feature-login`

6. Stashing

Save changes:

`git stash`

Apply latest:

`git stash apply`

List stashes:

`git stash list`

7. GitHub

Add GitHub remote:

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git remote add origin <https://github.com/username/my-project.git>

git push -u origin main

8. Fetching & Pulling

Fetch remote changes:

git fetch

Pull latest:

git pull

9. Git Collaboration

Clone repo:

git clone <https://github.com/organization/project.git>

Create branch:

git checkout -b bugfix-123

Push branch:

git push origin bugfix-123

10. Git Tags

Create tag:

git tag v1.0.0

Push tag:

git push origin v1.0.0

List tags:

git tag

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11. Git Clone

Clone repository:

```
git clone https://github.com/username/repo.git
```

12. Git Forking

After forking on GitHub:

```
git clone https://github.com/your-username/forked-repo.git
```

```
git remote add upstream https://github.com/original-owner/repo.git
```

```
git fetch upstream
```

```
git merge upstream/main
```

13. Merge Requests (Pull Requests)

Push your branch:

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

Go to GitHub and open a Pull Request from your branch to the original repository.

Bonus: .gitignore

Example .gitignore:

```
node_modules/
```

```
.env
```

```
*.log
```

Summary Flow

```
git clone URL
```

```
git checkout -b new-feature
```

```
git add .
```

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

```
git push origin new-feature
```

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Create PR on GitHub