

# Git Basics - Commands and Explanations

## Initial Setup

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

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

- Sets your identity for Git commits.

## Create / Initialize Repository

```
git init
```

- Initializes a new Git repository.

```
git clone <repo-url>
```

- Clones a remote repository to your local machine.

## Staging and Committing

```
git status
```

- Shows changes (staged, unstaged, untracked).

```
git add filename.txt
```

- Adds a specific file to staging.

```
git add .
```

- Adds all changes in the directory.

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

- Commits staged changes with a message.

## Remote Repository Commands

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`git remote add origin <url>`

- Connects your repo to a remote GitHub repo.

`git push -u origin main`

- Pushes local 'main' branch to GitHub.

`git pull`

- Fetches and merges changes from remote.

## Branching

`git branch branch-name`

- Creates a new branch.

`git checkout branch-name`

- Switches to a branch.

`git checkout -b branch-name`

- Creates and switches to the branch.

`git merge branch-name`

- Merges the branch into current.

`git branch -d branch-name`

- Deletes the branch.

## Log and History

`git log`

- Shows full commit history.

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`git log --oneline`

- Shows condensed history.

`git blame filename`

- Shows who changed each line.

## Undo & Reset

`git reset filename.txt`

- Removes file from staging.

`git checkout -- filename.txt`

- Discards changes in a file.

`git reset --hard`

- Resets all changes (dangerous).

## Push Local Folder to GitHub

`git init`

`git remote add origin <url>`

`git add .`

`git commit -m "message"`

`git push -u origin main`

- Full process for pushing a local folder to GitHub.

## Other Useful Commands

`git branch`

## Git Basics - Commands and Explanations

- Lists all branches.

`git branch -m new-name`

- Renames the current branch.

`git remote remove origin`

- Removes a remote.