GitHub Tutorial

1. **Install and Check Git**

Make sure Git is installed by checking its version:

```
$ git --version
```

2. **Set Your Identity (once)**

Configure your global Git identity so your commits are associated with you:
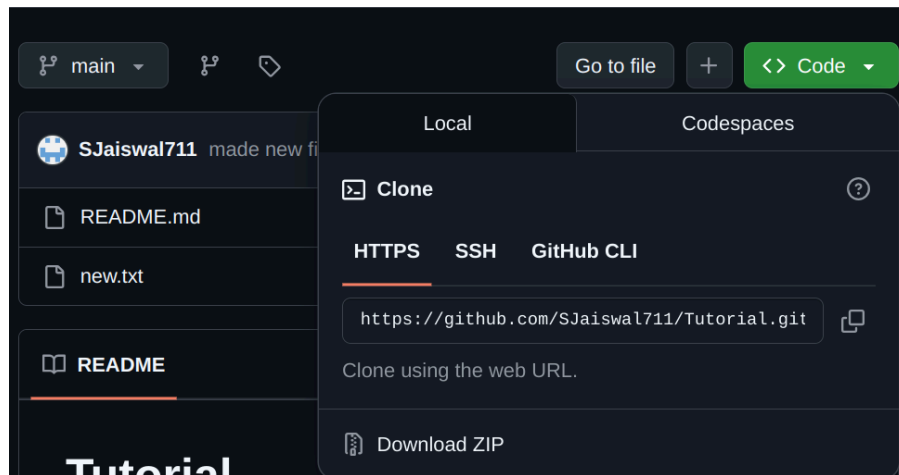
```
$ git config --global user.name <username>
$ git config --global user.email <email_id>
```

You can confirm your settings with:

```
$ git config --list
```

3. **Work with an Existing Remote Repository**

- First create a repository named "Tutorial".
- Copy HTTPS URL of that repo.
- **Clone** it to your local system:

- Clone that repository.

```
$ git clone https://github.com/SJaiswal711/Tutorial.git
$ cd Tutorial/
```

Check Git status:

```
$ git status
```

If everything is clean, you'll see:

```
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

Make and Stage Changes

- Let's make some changes in the README.md file. (add new lines, make modifications etc.) or make a new file "new.txt"

```
$ gedit README.md
$ gedit new.txt
```

- Add files to the staging area:

```
$ git add README.md
```

Or to add all changed files:

```
$ git add .
```

Commit Your Changes:

```
$ git commit -m "Made new file, modified README.md"
```

Push to GitHub:

```
$ git push origin main
```

4. Create a Local Repository and Link It to GitHub

Make and Init Local Repo:

```
$ mkdir LocalRepo
$ cd LocalRepo/
$ git init
```

Add files and commit:

```
$ gedit Check.py
$ git add .
$ git commit -m "Add Check.py"
```

Connect to a GitHub Repo:

```
$ git remote add origin https://github.com/SJaiswal711/LocalRepo.git
$ git branch -M main  # Rename default branch to main
```

Push to GitHub:

```
$ git push -u origin main
```

From now on, you can simply use:

```
$ git push origin main
```

5. Update Your Remote Repository

Make changes to files:

```
$ gedit README.md
```

Stage and commit the changes:

```
$ git add .
$ git commit -m "Updated README"
$ git push origin main
```

6. Avoid Entering Password Every Time

To temporarily cache your GitHub credentials (default: 15 minutes):

```
$ git config --global credential.helper cache
```

To store credentials **permanently** (in plain text):

```
$ git config --global credential.helper store
```

7. Pull Latest Changes from GitHub

If you or someone else made changes on GitHub:

```
$ git pull origin main
```