# Learning GitHub – Step-by-Step Guide

## 1️⃣ Understand What GitHub Is

GitHub is a cloud platform for hosting Git repositories.  
It adds features for collaboration, issue tracking, pull requests, and CI/CD.  
  
Why it matters:  
- Work with teams across the world  
- Contribute to open source  
- Manage projects and code reviews  
- Automate workflows (CI/CD, actions)

## 2️⃣ Set Up GitHub

1. Create an account: https://github.com/join  
2. Install GitHub Desktop (optional GUI): https://desktop.github.com/  
3. Connect Git to GitHub:  
 git config --global user.name "Your GitHub Username"  
 git config --global user.email "your\_email@example.com"

## 3️⃣ Learn Basic GitHub Concepts

- Repository (Repo): a project folder on GitHub  
- Remote vs Local: your machine vs GitHub server  
- Commit: a snapshot of changes  
- Branch: parallel versions of code  
- Pull Request (PR): propose changes to be merged  
- Issue: track bugs or tasks  
- Fork: your own copy of someone else's repo

## 4️⃣ Create & Manage Repositories

Create a repository on GitHub.  
Clone to local machine:  
 git clone https://github.com/username/repo.git  
Push local repo to GitHub:  
 git remote add origin https://github.com/username/repo.git  
 git push -u origin main

## 5️⃣ Collaborate with Pull Requests

1. Create a branch locally:  
 git checkout -b feature-xyz  
2. Commit changes and push:  
 git push origin feature-xyz  
3. On GitHub: Open a Pull Request  
4. Review, comment, and merge into main  
  
Tip: Use Draft PRs for work in progress.

## 6️⃣ Work with Issues

- Create an Issue for bugs, enhancements, or tasks.  
- Use labels (bug, enhancement, documentation, etc.).  
- Link Issues to Pull Requests (with 'Closes #issue\_number' in PR description).

## 7️⃣ Explore GitHub Features

- Projects: Kanban boards for tasks  
- Actions: CI/CD pipelines  
- Wiki: documentation inside repo  
- Releases: versioned software packages  
- Discussions: Q&A within the repo

## 8️⃣ Practice Daily

Ideas:  
- Create your own repo for a small project  
- Make a branch, push, open a PR, merge  
- Open an issue and resolve it  
- Contribute to a public open source project

## 9️⃣ Resources

Beginner-Friendly:  
- GitHub Skills: https://skills.github.com/  
- GitHub Docs: https://docs.github.com/en  
  
Interactive:  
- Hello World GitHub Tutorial: https://docs.github.com/en/get-started/start-your-journey/hello-world  
- First Contributions Project: https://github.com/firstcontributions/first-contributions