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# Connect a GitHub Repo with AWS



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```
PROBLEMS    OUTPUT    DEBUG CONSOLE    TERMINAL    PORTS
● [ec2-user@ip-172-31-2-89 nextwork-web-project]$ git --version
git version 2.50.1
○ [ec2-user@ip-172-31-2-89 nextwork-web-project]$
```

A circular profile picture of a young woman with dark hair, wearing a blue top.

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## Introducing Today's Project!

In this project, I will demonstrating how to set up a Git repository, for my web app code, this is project 2 of my 7 day devOp project. By the end of this project the code will be stored securly in github

### Key tools and concepts

Services I used were GitHub, Amazon EC2, key pairs and VScode Key concepts I learnt include setting up a Github repository, the difference between a Git and GitHub and the commands for staging, reviewing and pushing the code and Upstream repo & branc

### Project reflection

This project took me approximately two and half hours, including demo time. The most challenging part was learning the different git commands. It was most rewarding part is seeing the code pop up in the github

I did this project to learn more about git and github and its day 2 of the 7 days devops challenge. Exciting!!!



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This project is part two of a series of DevOps projects where I'm building a CI/CD pipeline! I'll be working on the next project soon.



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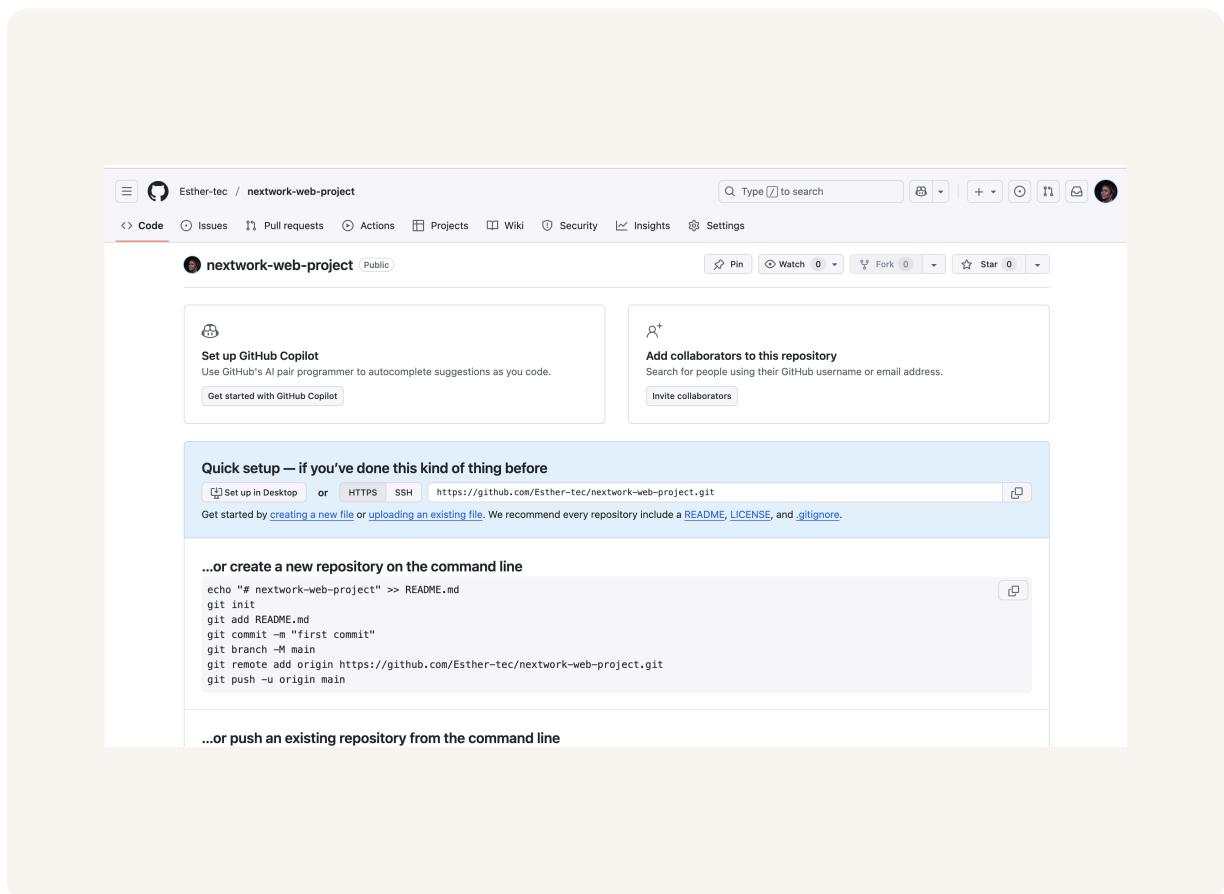
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# Git and GitHub

Git is a version control system used to track changes made to code, it also helps in collaboration. I installed git using the command "sudo dnf update -y sudo dnf install git -y" Sudo is a Linux command that lets you use the root user permission

GitHub is an online platform, for sharing, storing and collaborating on code. It's built around a tool called Git



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# My local repository

A Git repository is a project folder stored in GitHub, it contains my project files, history of all changes made to the files, and collaboration tools like pull requests

Git init is a command that initializes git in my local repository, i ran git init in my web app project folder, which tells the terminal that i want to start tracking changes locally

A branch in Git is like a version of my code, where changes can be made and be merged to the main branch anytime. After running git init, the response from the terminal was the confirmation of initializing git and by default using the main branch.

```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
● [ec2-user@ip-172-31-2-89 nextwork-web-project]$ mvn
/home/ec2-user/nextwork-web-project
● [ec2-user@ip-172-31-2-89 nextwork-web-project]$ git init
hint: Using 'master' as the name for the initial branch. This default branch name
hint: has been selected to avoid conflicts with existing branch names or
hint: of your new repository, which will suppress this warning, call:
hint:
hint:     git config --global init.defaultBranch <name>
hint:
hint: Name commonly chosen instead of 'master' are 'main', 'trunk' and
hint: 'development'. The just-created branch can be renamed via this command:
hint:
hint:     git branch -m <name>
hint:
hint: Disable this message with "git config set advice.defaultBranchName false"
Initialized empty Git repository in /home/ec2-user/nextwork-web-project/.git/
● [ec2-user@ip-172-31-2-89 nextwork-web-project]$
```

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## To push local changes to GitHub, I ran three commands

### git add

The first command I ran was git add. which adds the changes to a staging area(A place to review all changes made to the code, so i can decide what changes i want to save).

### git commit

The second command I ran was "Git commit -m". which is the command for saving the changes in the staging area. using -m means i'm leaving a message for that comit e.g made changes to index on jsp

### git push

The third command I ran was... Git push -u and Origin master. This command pushes the saved code changes to my remote origin. Using -u is a special feature that makes the remote origin the default upstream repository

# Authentication

When I commit changes to GitHub, Git asks for my credentials to check if i have the right to push any changes to the remote origin my repo is connected with.

## Local Git identity

Git needs my name and email to keep track of makes any changes in the repo.

Running git log showed me the history if commits made and pushed and also which also mentions the name of the person who did the commit

```
Updated index.jsp with new content
○ [ec2-user@ip-172-31-2-89 nextwork-web-project]$
● [ec2-user@ip-172-31-2-89 nextwork-web-project]$ git log
commit 6446b8c55b5fc52a4fd65d90bd82d150d0dbb9ac (HEAD -> master, origin/master)
Author: EC2 Default User <ec2-user@ip-172-31-2-89.eu-west-2.compute.internal>
Date:  Mon Oct 6 19:08:27 2025 +0000

Updated index.jsp with new content
○ [ec2-user@ip-172-31-2-89 nextwork-web-project]$ ■
```

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## GitHub tokens

GitHub authentication failed when I entered my password because there are too many security risks and passwords can get intercepted over the internet, because it's connect with repositories over HTTPS

A GitHub token is temporary password that grants access to my GitHub account. I'm using one in this project because it lets me safely authenticate my GitHub repository while in my EC2 instance

I could set up a GitHub token by visiting the developer setting in GitHub and also set up its expiring date to allow permissions to repositories



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Select scopes

Scopes define the access for personal tokens. [Read more about OAuth scopes.](#)

<input checked="" type="checkbox"/> <b>repo</b>	Full control of private repositories
<input checked="" type="checkbox"/> repo:status	Access commit status
<input checked="" type="checkbox"/> repo_deployment	Access deployment status
<input checked="" type="checkbox"/> public_repo	Access public repositories
<input checked="" type="checkbox"/> repo:invite	Access repository invitations
<input checked="" type="checkbox"/> security_events	Read and write security events
<input type="checkbox"/> workflow	Update GitHub Action workflows
<input type="checkbox"/> write:packages	Upload packages to GitHub Package Registry
<input type="checkbox"/> read:packages	Download packages from GitHub Package Registry
<input type="checkbox"/> delete:packages	Delete packages from GitHub Package Registry

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## Making changes again

I wanted to see Git working in action, so I made another change on my index.jsp file. I couldn't see the changes in my GitHub repo initially because i hadn't added, committed or pushed those changes.

I finally saw the changes in my GitHub repo after running the same three commands and refreshing index.jsp file on my github repository

The screenshot shows a GitHub commit page for the file `index.jsp` in the `nextwork-web-project` repository. The commit was made by `Esther-tec` with the message `Add new line to index.jsp`. The commit was pushed 4 minutes ago. The code editor shows the following content:

```
1 <html>
2
3 <body>
4
5 <h2>Hello Esther</h2>
6
7 <p>This is my NextWork web application working!</p>
8
9 <p>If you see this line in Github, that means your latest changes are getting pushed to your cloud repo :o</p>
10
11
12 </body>
13
14 </html>
```



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