



# Connect a GitHub Repo with AWS

EA

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```
[ec2-user@ip-172-31-85-236 nextwork-web-project]$ sudo dnf update -y
sudo dnf install git -y
Last metadata expiration check: 0:43:11 ago on Sun Mar  2 13:33:08 2025.
Dependencies resolved.
Nothing to do.
Complete!
Last metadata expiration check: 0:43:12 ago on Sun Mar  2 13:33:08 2025.
Dependencies resolved.
=====
Package      Arch Version       Repository  Size
=====
Installing:
git          x86_64 2.47.1-1.amzn2023.0.2
                           amazonlinux 54 k
Installing dependencies:
amazon... ⑧ 0 ▲ 0 『 0
Ln 12, Col 1  Spaces: 4 1
```



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# Introducing Today's Project!

## What is GitHub?

GitHub is a cloud service that stores codes and tracks changes made to the codes. It uses Git to track those changes and is a great tool for teamwork and collaboration. I used GitHub to track changes to my web app source code files.

## One thing I didn't expect...

One thing i did not expect in this project was to generate a token in place of my password to push changes to my GitHub repo.

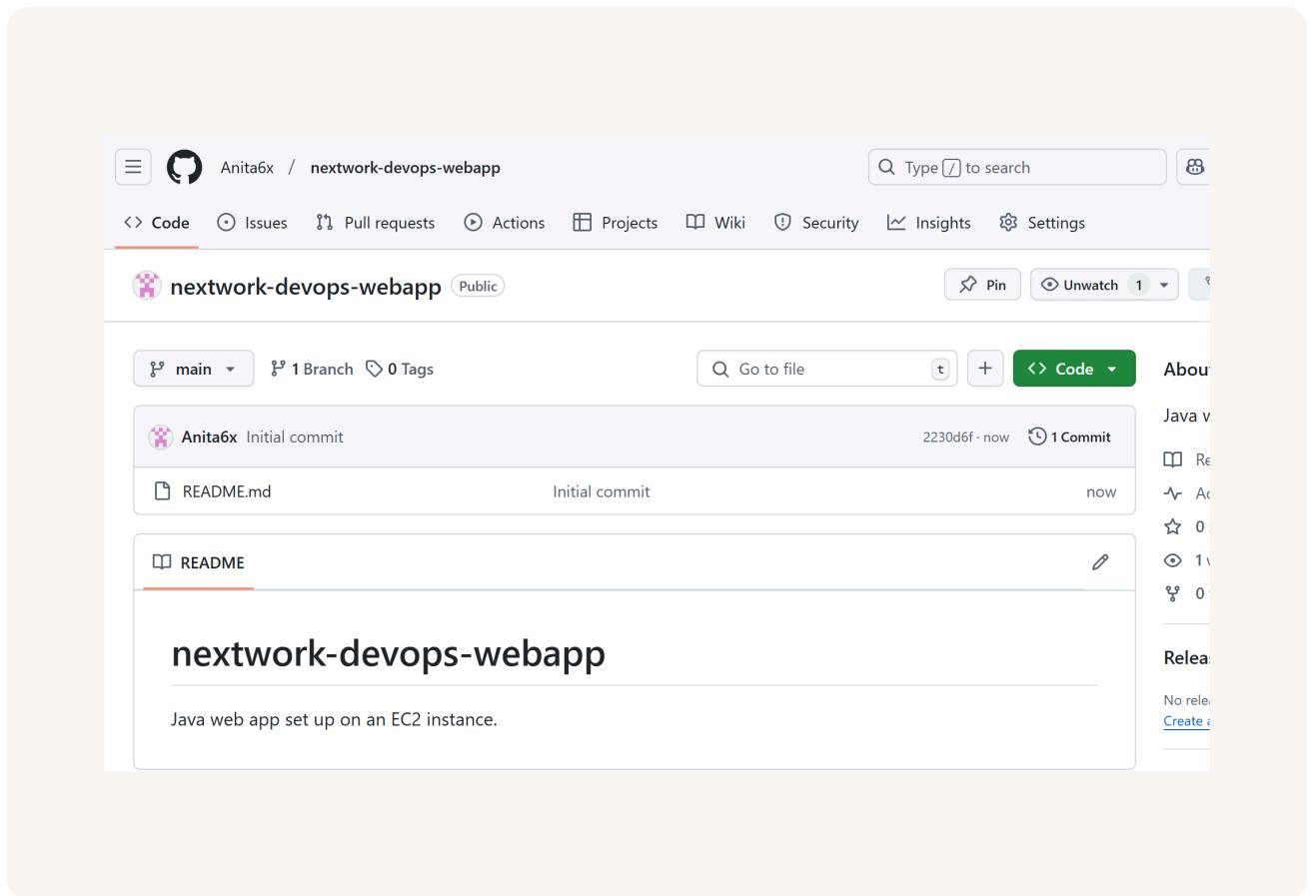
## This project took me...

It took me 5hours to complete this project.

# Git and GitHub

Git is a version control system, which helps to track changes and know who made those changes. I installed Git using the command 'sudo dnf install git -y'.

GitHub is a cloud storage space to keep source codes for projects. GitHub uses Git to track changes and comes with different tools to help with collaboration. I'm using GitHub in this project to interact with Git visually.



# My local repository

A Git repository is a folder in Git that holds the source code of project files and their entire version history.

git init is a command that initializes a local repository. I ran git init in the nextwork-web-project folder.

After running git init, the response from the terminal was that a master branch has been created. A branch in Git is a parallel version of the master branch itself.

```
[ec2-user@ip-172-31-85-236 nextwork-web-project]$ pwd  
/home/ec2-user/nextwork-web-project  
[ec2-user@ip-172-31-85-236 nextwork-web-project]$ git init  
hint: Using 'master' as the name for the initial branch. This default branch name  
hint: is subject to change. To configure the initial branch name to use in all  
hint: of your new repositories, which will suppress this warning, call:  
hint:  
hint:   git config --global init.defaultBranch <name>  
hint:  
hint: Names 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>  
Initialized empty Git repository in /home/ec2-user/nextwork-web-project/.git/  
[ec2-user@ip-172-31-85-236 nextwork-web-project]$ █
```

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

## **git add**

The first command I ran was 'git add .' which puts all changes into a staging area. A staging area is a spot for Git to collate/highlight all changes made for review.

## **git commit**

The second command I ran was git commit -m "Updated index.jsp with new content" . Using -m means I can leave a message about the work I saved into the Git history.

## **git push**

The third command I ran was git push -u origin master. Using '-u' means upstream, so Git remembers every git push run should automatically push local changes into the master branch of the GitHub repo.

# Authentication

When I commit changes to GitHub, Git asks for my credentials because it wants to know that I have authorization to push changes to the GitHub repo.

## Local Git identity

Git needs my name and email because it needs to assign changes I made to the local repo with a name and email address.

Running git log showed me that the author name has been set to EC2 default user.

```
[ec2-user@ip-172-31-85-236 nextwork-web-project]$  
git log  
commit 7a05939c31c1aef6a3f792e03437fb35b21d6408 (HEAD → master, origin/master)  
Author: EC2 Default User <ec2-user@ip-172-31-85-236.ec2.internal>  
Date:  Sun Mar 2 15:20:06 2025 +0000  
  
        Updated index.jsp with new content
```

# GitHub tokens

GitHub authentication failed when I entered my password because password authentication is no longer supported and I need to use a token instead.

A GitHub token is a replacement for passwords in terms of authentication. I'm using one in this project because I'm unable to grant the EC2 instance access to my GitHub account until I provide a valid non-password authentication method.

I could set up a GitHub token by visiting the developer settings in my GitHub account.

## New personal access token (classic)

Personal access tokens (classic) function like ordinary OAuth access tokens. They can be used instead of a password for Git over HTTPS, or can be used to [authenticate to the API over Basic Authentication](#).

### Note

Generated for EC2 Instance Access. NextWork DevOps project serie

What's this token for?

### Expiration \*

30 days ▾

The token will expire on Tue, Apr 1 2025

### Select scopes

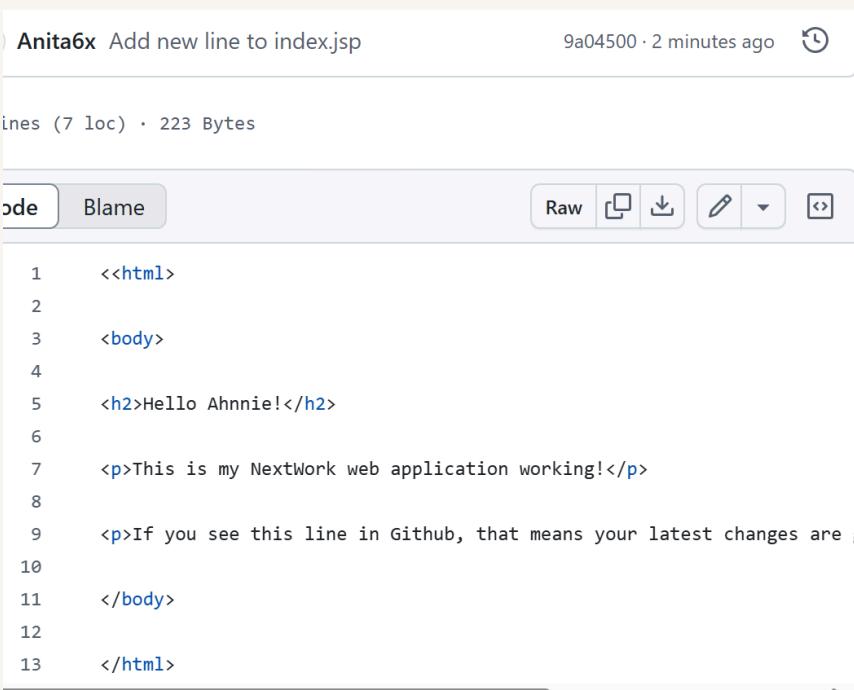
Scopes define the access for personal tokens. [Read more about OAuth scopes](#).

<input checked="" type="checkbox"/> repo	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

# Making changes again

I wanted to see Git working in action, so I updated index.jsp by adding a new line. I couldn't see the changes in my GitHub repo initially because I had not committed and pushed those changes yet.

I finally saw the changes in my GitHub repo after running git add, git commit and git push again. I also had to enter my GitHub username and personal access token to push changes upstream.



A screenshot of a GitHub commit page. The commit is titled "Anita6x Add new line to index.jsp" and was made 9a04500 · 2 minutes ago. The commit message is "Add new line to index.jsp". The code tab is selected, showing the following content:

```
1 <<html>
2
3 <body>
4
5 <h2>Hello Ahnnie!</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
10
11 </body>
12
13 </html>
```



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