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Connect a GitHub Repo with AWS

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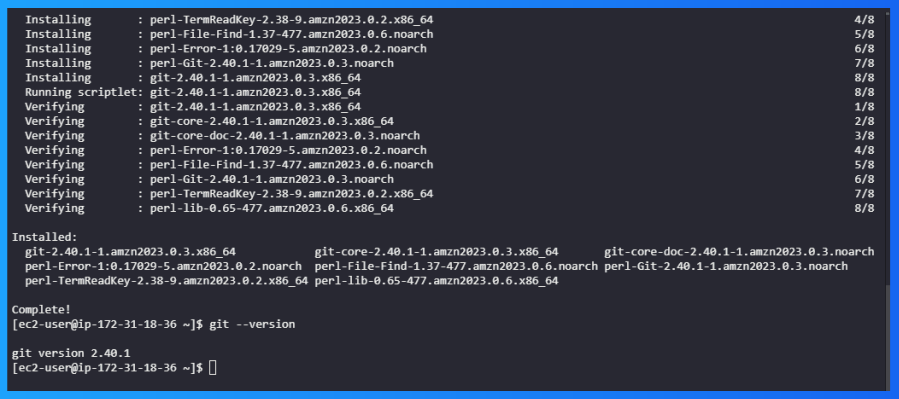

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Introducing Today's Project!

What is GitHub?

GitHub is an online platform for storing and managing code using Git. I used GitHub to create a repository, connect it to my web app, and push changes. This helped me track updates, save my code, and synchronize it securely in the cloud.

One thing I didn't expect...

One thing I didn’t expect in this project was the need to use a GitHub token for authentication instead of a password. This step highlighted GitHub's focus on security and gave me a better understanding of modern authentication practices.

This project took me...

This project took me about 20 minutes to complete as it was a continuation of the previous project. Building on the earlier setup made the process quicker and more seamless, allowing me to focus on learning Git and GitHub integration.

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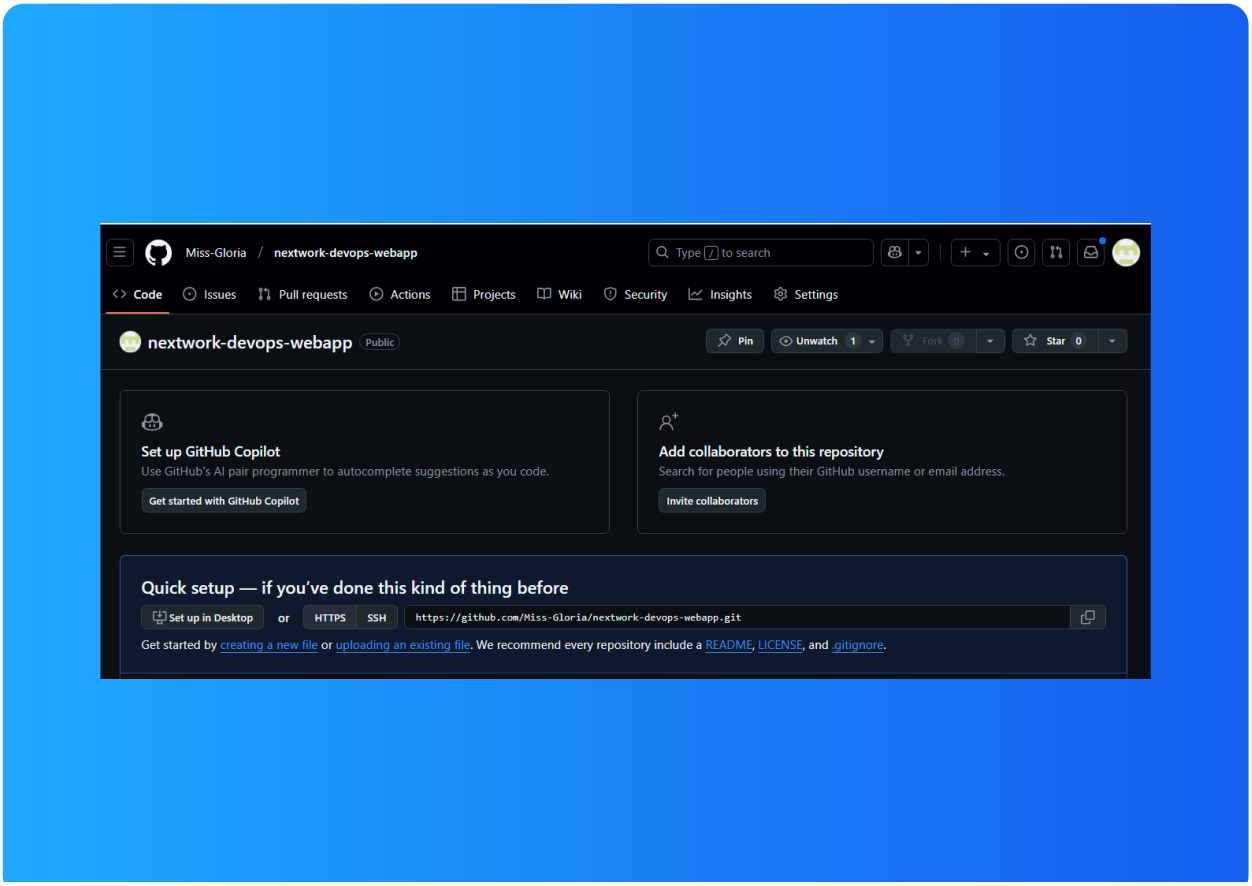
Git and GitHub

Git is a version control tool that tracks code changes and helps manage collaboration. I installed Git using the commands `sudo dnf update -y` to update the system and `sudo dnf install git -y` to download and install Git on my EC2 instance.

GitHub is an online platform for storing and managing code repositories using Git. I'm using GitHub in this project to securely store my web app's source code, track changes, and enable collaboration, making it easier to manage and share the project.



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My local repository

A Git repository is a storage space where your project's code and its change history are saved. It allows you to track, manage, and revert changes, making collaboration and version control easier.It can be on your computer or hosted on Github.

git init is a command that initializes a new Git repository in a folder, enabling version control for the project.I ran git init in my web app folder on the EC2 instance to start tracking changes and prepare it for connection to my GitHub repository.

After running git init, the terminal response showed that an empty Git repository was launched, with master as the default branch. A branch in Git is a model of the project where changes can be made seperate, ensuring the main code remain unaffected.

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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 stages all modified files in my project. A staging area is where Git collects changes for review before committing them. This step ensures I can check for mistakes or unwanted edits before saving them.

git commit

The second command I ran was git commit -m Updated index.jsp with new content.Using -m means I added a message describing the changes. This helps track and understand updates in the project's version history, making it easier to review changes later.

git push

The third command I ran was git push -u origin master. Using -u means I set an upstream branch, so Git remembers to push changes to the specified GitHub repository (origin) and branch (master).This simplifies future pushes, making it simple and fast.

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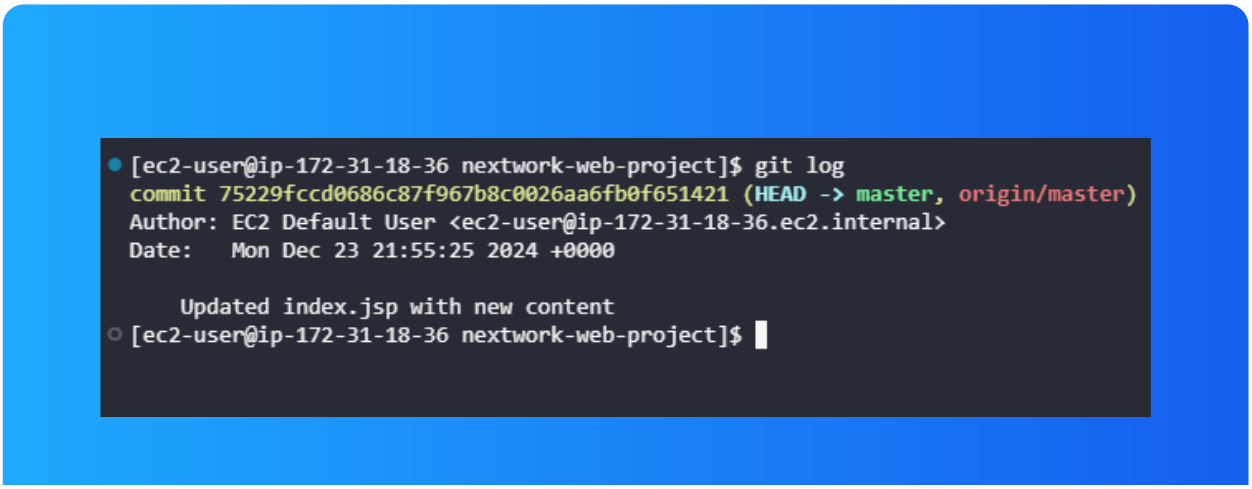
Authentication

When I commit changes to GitHub, Git asks for my credentials because it needs to verify that I'm authorized to make changes to the repository. This ensures security by confirming that only authorized users can push updates to the GitHub repository.

Local Git identity

Git needs my name and email because they are used to identify the author of each commit. This information is added to the project's history, helping collaborators track who made changes and when, ensuring clear and organized version control.

Running `git log` showed me the commit history, including a unique commit ID, the author's name and email, the date of the commit, and the commit message. This information helps track changes and provides a clear history of updates in the project.



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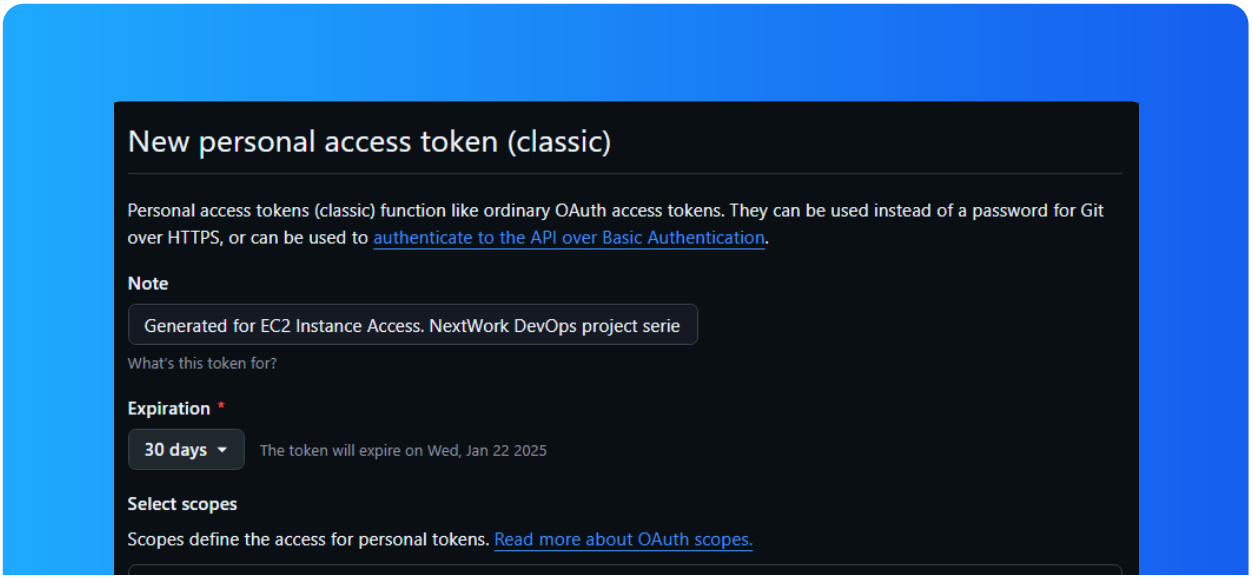
GitHub tokens

GitHub authentication failed when I entered my password because GitHub no longer supports password authentication for Git operations. Instead, it requires the use of a personal access token for secure authentication when pushing or pulling changes.

A GitHub token is a secure, personal access key used to authenticate with GitHub instead of a password.I'm using one in this project because GitHub no longer supports passwords for operation, and it ensures secure and seamless access to my repo.

I could set up a GitHub token by going to my GitHub account settings, selecting Developer settings, then Personal access tokens, and clicking Generate new token.I chose the necessary permissions, generated the token, and copied it for Git operations.



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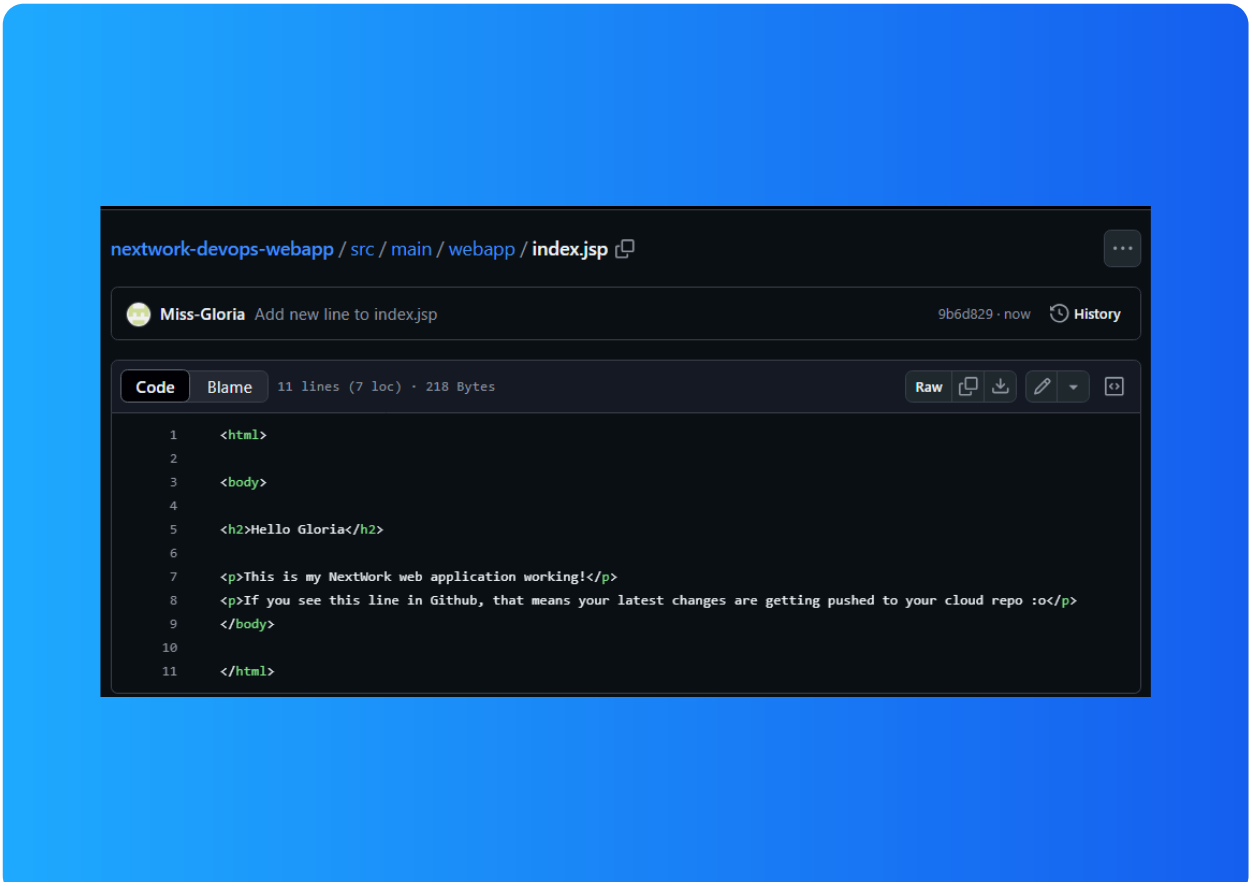
Making changes again

I wanted to see Git working, so I updated the index.jsp file in the nextwork-web-project. I couldn't see the changes in my GitHub repo at first because the updates had to be committed locally and then pushed to the GitHub repository to appear there.

I finally saw the changes in my GitHub repo after committing the updates to the index.jsp file locally using git commit and then pushing them to the remote repository with git push.This ensured the changes were saved and reflected in the GitHub repo



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