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Connect a GitHub Repo with AWS

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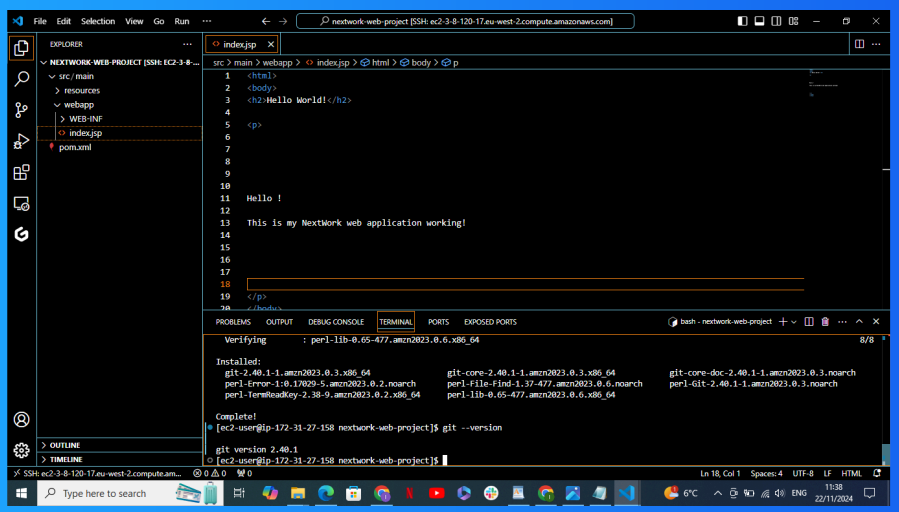


Introducing Today's Project!

What is GitHub?

GitHub is a cloud-based platform for version control and collaboration using Git. In today's project, I used GitHub to store my web app's code, track changes, and sync updates from my EC2 instance to a remote repository for easier access.

One thing I didn't expect...

the level of ease

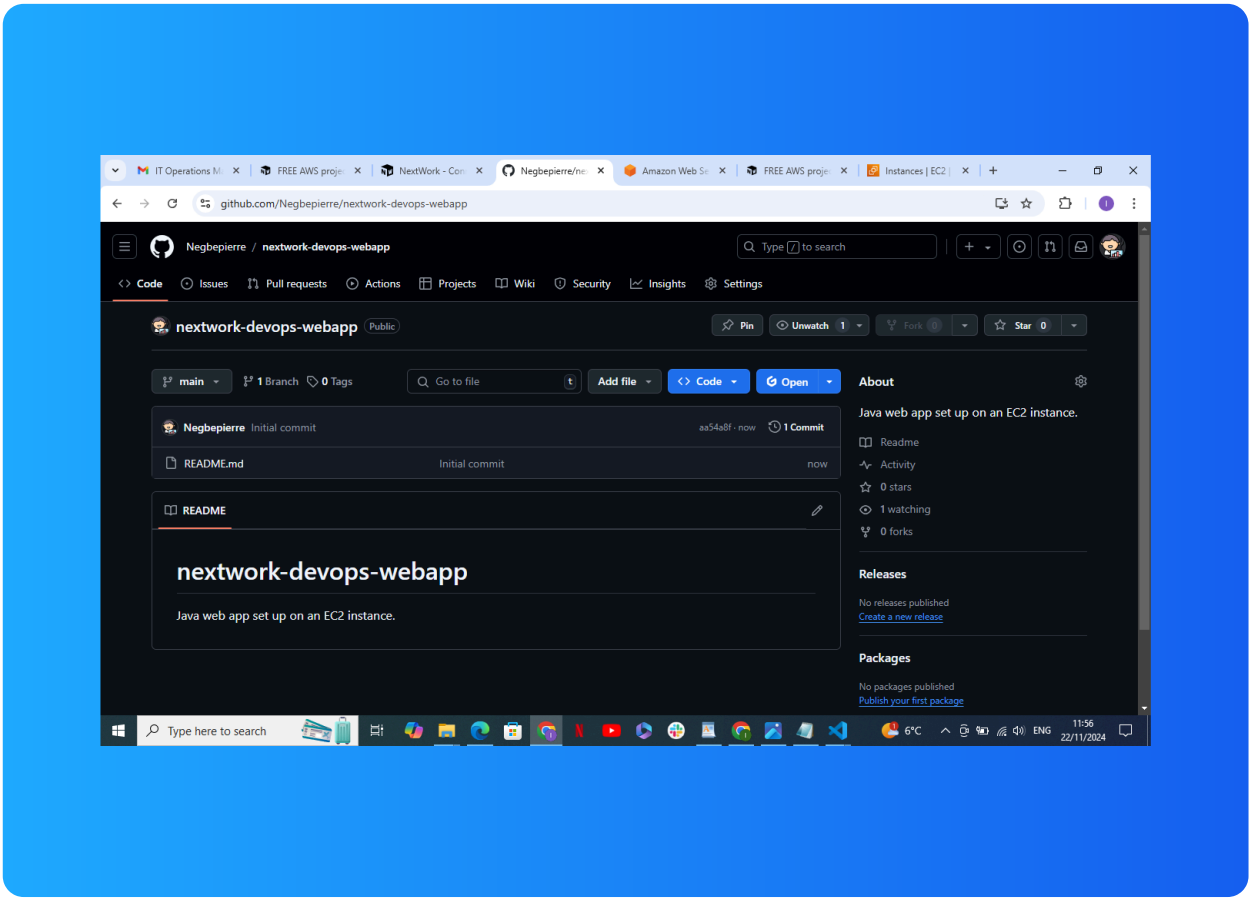
This project took me...

3 hours

Git and GitHub

Git is a version control system that helps developers track code changes, collaborate on projects, and manage code versions. I installed Git using the commands sudo yum update -y to update packages and sudo yum install git -y to install Git on my EC2

GitHub is a cloud-based platform for version control and collaboration. I'm using GitHub in this project to store and manage my project's code remotely, track changes, and collaborate with others easily.

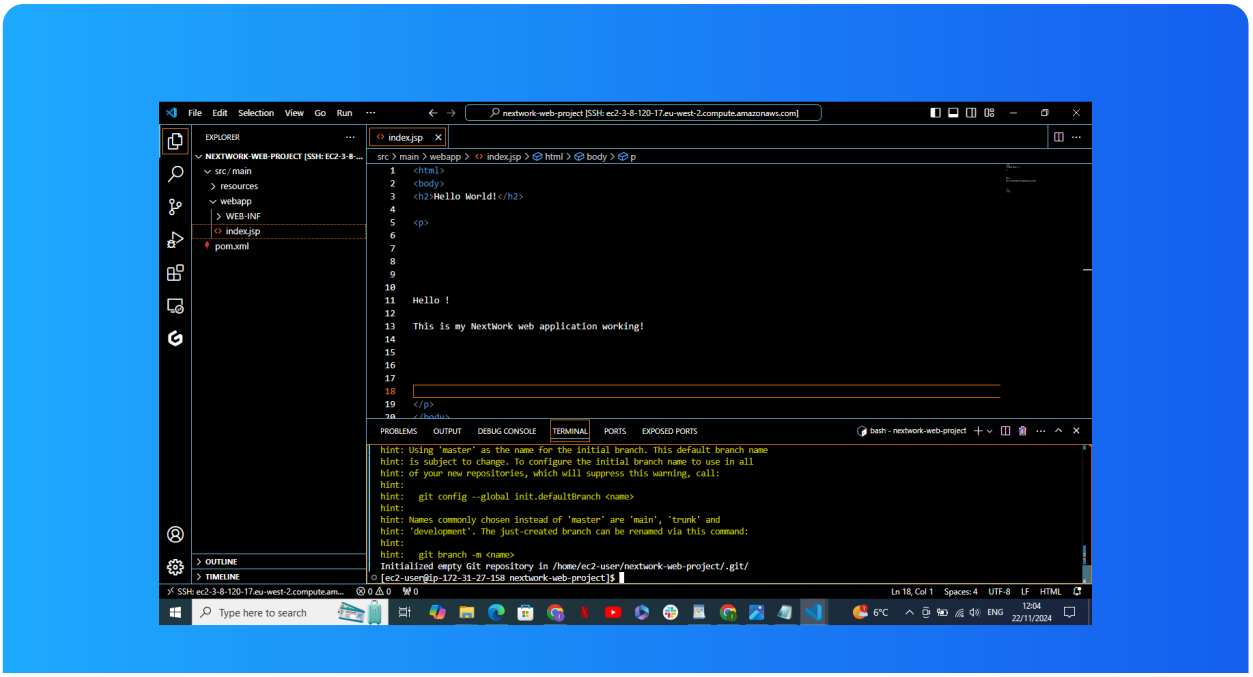


My local repository

A Git repository is a storage space for your project's code, including its entire history of changes. It tracks updates, additions, and deletions, allowing developers to manage versions, collaborate properly, and revert to previous states if needed

git init is a command that initializes a new Git repository in a project folder, enabling version control for the files. I ran git init in the nextwork-web-project directory to start tracking changes and manage the project's version history.

After running git init, the response from the terminal was about setting the default branch. A branch in Git is a lightweight, movable pointer to a commit, allowing you to work on different versions of a project independently



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To push local changes to GitHub, I ran three commands

git add

The first command I ran was git add .. This command moves changes from the working directory to the staging area, marking files for the next commit. A staging area is where changes are prepared before being saved in Git's history as a new snapshot.

git commit

The second command I ran was git commit -m "Updated index.jsp with new content". Using -m means adding a message to describe the changes, creating a snapshot of the staged files in Git's history. It helps track why and what updates were made.

git push

The third command I ran was git push -u origin master. Using -u means setting an upstream branch, so Git remembers to push future changes to the master branch of the remote repository (origin) by default. This simplifies future push operations.

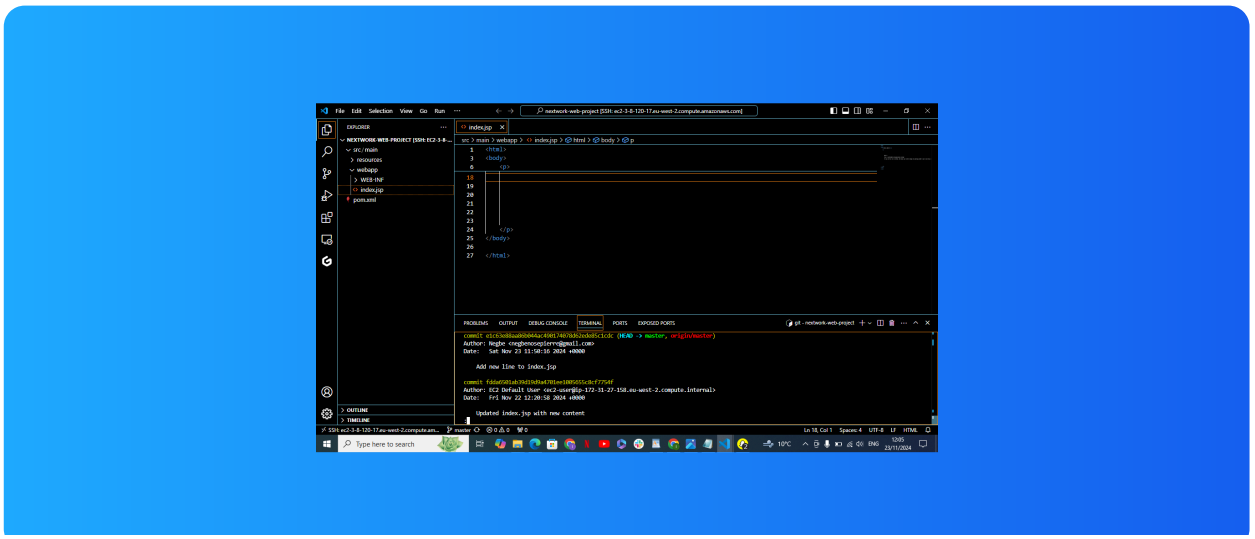
Authentication

When I commit changes to GitHub, Git asks for my credentials because it needs to authenticate my access to the repository. However, since I had already signed into my GitHub account on VSCode, it recognized my credentials.

Local Git identity

Git needs my name and email because it uses this information to identify the author of each commit in the repository. This ensures that changes are traceable to the person who made them, creating a clear history of contributions and accountability.

Running git log showed me the commit history of my project, including details like commit hashes, author names, email addresses, timestamps, and commit messages. It displayed the progression of changes, such as adding new lines or updating the index.

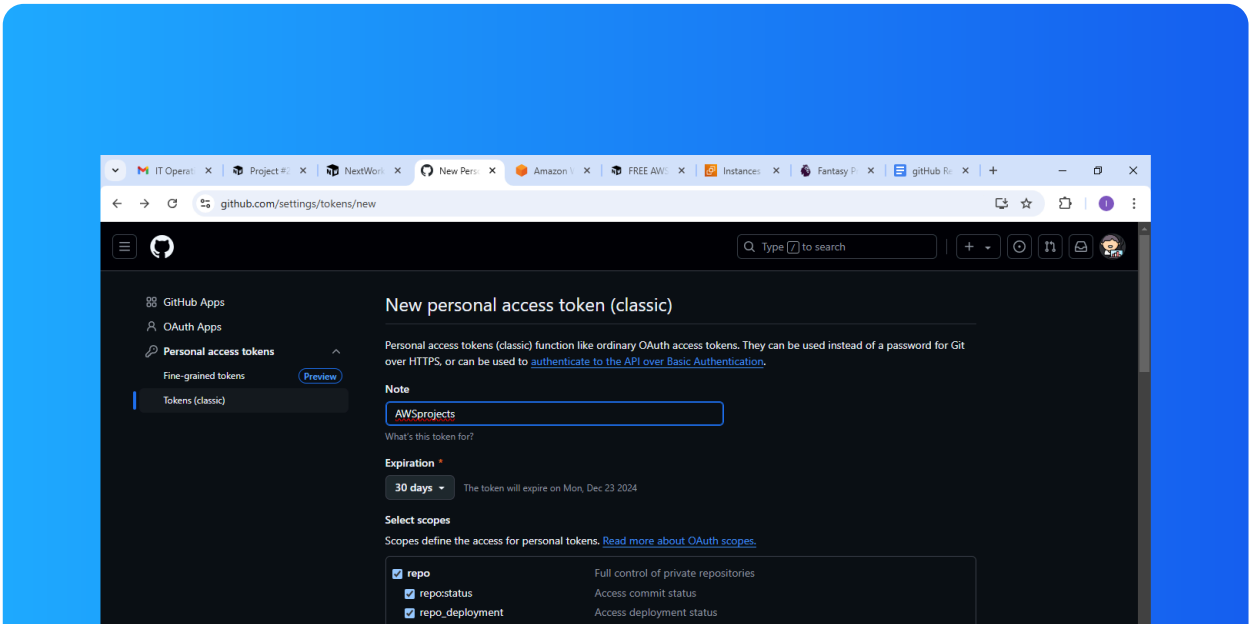


GitHub tokens

GitHub authentication failed when I entered my password because GitHub no longer allows password-based authentication for Git operations. Instead, it requires a personal access token

A GitHub token is a secure, auto-generated key used for authenticating Git operations instead of passwords. I'm using one in this project because GitHub no longer supports password authentication for increased security, ensuring safe repository acces

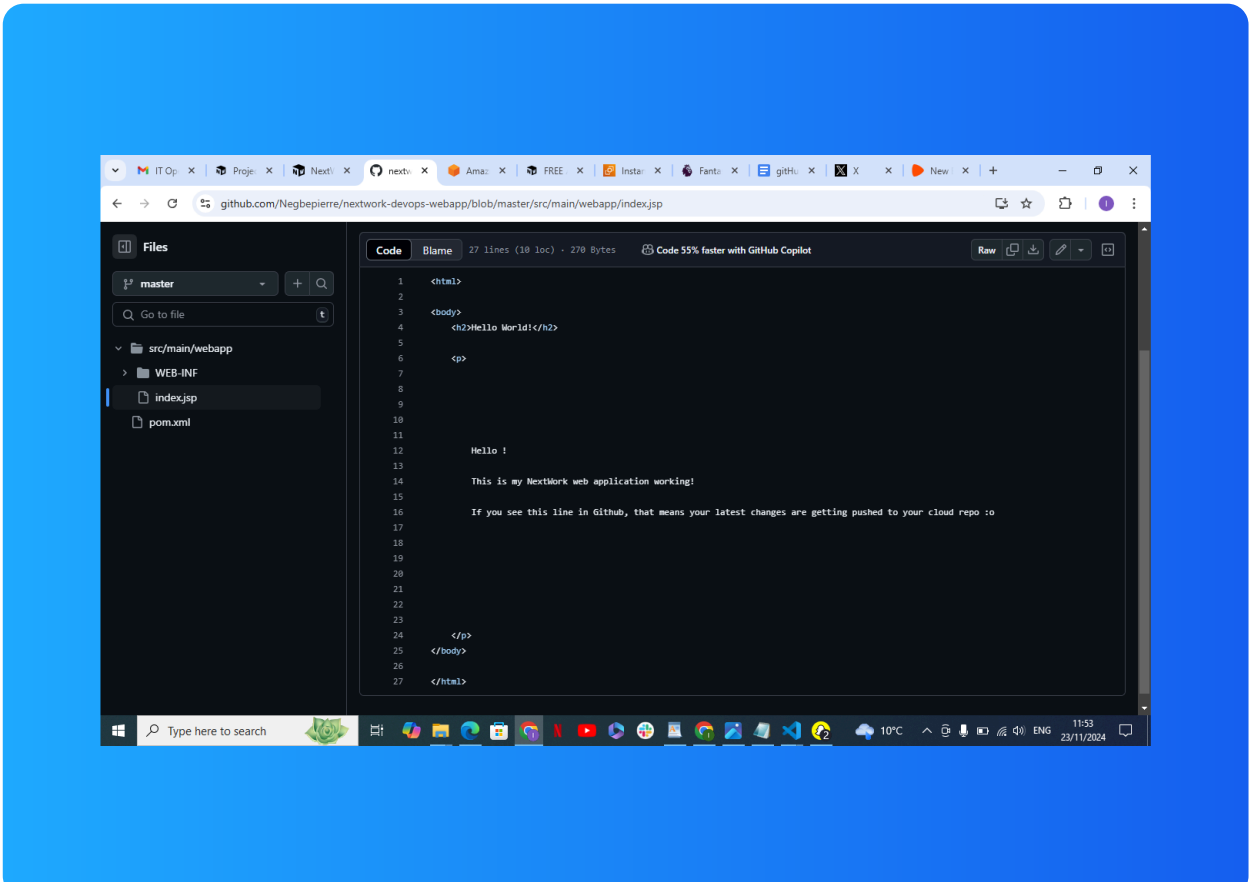
I could set up a GitHub token by logging into my GitHub account, navigating to Settings > Developer settings > Personal access tokens, and generating a new token with the required scopes like repo access. I used this token for secure authentication



Making changes again

I wanted to see Git working in action, so I updated the index.jsp file in my nextwork-web-project by adding a new line. I couldn't see the changes in my GitHub repo initially because the changes weren't committed and pushed from my local repository

I finally saw the changes in my GitHub repo after committing the updates to the index.jsp file using git commit and pushing the changes with git push. These commands sent the modified files from my local repository to the remote GitHub repository.



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