



Connect a GitHub Repo with AWS



Gaurav Balpande

```
Total          : 34 MB/s | 7.7 MB   00:00
Running transaction check
Transaction check succeeded.
Running transaction test
Transaction test succeeded.
Running transaction
Preparing      : 1/1
Installing    : git-core-2.47.1-1.amzn2023.0.2.x86_64           1/8
Installing    : git-core-doc-2.47.1-1.amzn2023.0.2.noarch        2/8
Installing    : perl-lib-0.65-477.amzn2023.0.6.x86_64         3/8
Installing    : perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64     4/8
Installing    : perl-File-Find-1.37-477.amzn2023.0.6.noarch      5/8
Installing    : perl-Error-1.0.17029-5.amzn2023.0.2.noarch       6/8
Installing    : perl-Git-2.47.1-1.amzn2023.0.2.noarch        7/8
Installing    : git-2.47.1-1.amzn2023.0.2.x86_64                 8/8
Running scriptlet: git-2.47.1-1.amzn2023.0.2.x86_64           8/8
Verifying     : git-2.47.1-1.amzn2023.0.2.x86_64                 1/8
Verifying     : git-core-2.47.1-1.amzn2023.0.2.x86_64           2/8
Verifying     : git-core-doc-2.47.1-1.amzn2023.0.2.noarch        3/8
Verifying     : perl-Error-1.0.17029-5.amzn2023.0.2.noarch       4/8
Verifying     : perl-File-Find-1.37-477.amzn2023.0.6.noarch      5/8
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Verifying     : perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64     7/8
Verifying     : perl-lib-0.65-477.amzn2023.0.6.x86_64           8/8

Installed:
git-2.47.1-1.amzn2023.0.2.x86_64      git-core-2.47.1-1.amzn2023.0.2.x86_64      git-core-doc-2.47.1-1.amzn2023.0.2.noarch
perl-Error-1.0.17029-5.amzn2023.0.2.noarch perl-File-Find-1.37-477.amzn2023.0.6.noarch perl-Git-2.47.1-1.amzn2023.0.2.noarch
perl-TermReadKey-2.38-9.amzn2023.0.2.x86_64 perl-lib-0.65-477.amzn2023.0.6.x86_64

Complete!
[ec2-user@ip-172-31-11-121 ~]$ git --version
git version 2.47.1
[ec2-user@ip-172-31-11-121 ~]$
```



Introducing Today's Project!

Today we are going to add another step to our devops project where are going to add the web app code to github and learn more about github.

Key tools and concepts

Services I used were github,vscode and ec2 instance Key concepts I learnt include how to add the code remotely to github and various features of github and learn the process to apply changes in the remote repository.

Project reflection

This project took me approximately 2 hrs including deleting the files The most challenging part was understanding the github commands It was most rewarding to see the changes i make in local to be visible on remote repository.

I did this project as the step step for first project and this project definetly meet my goal to remove the fear og github.

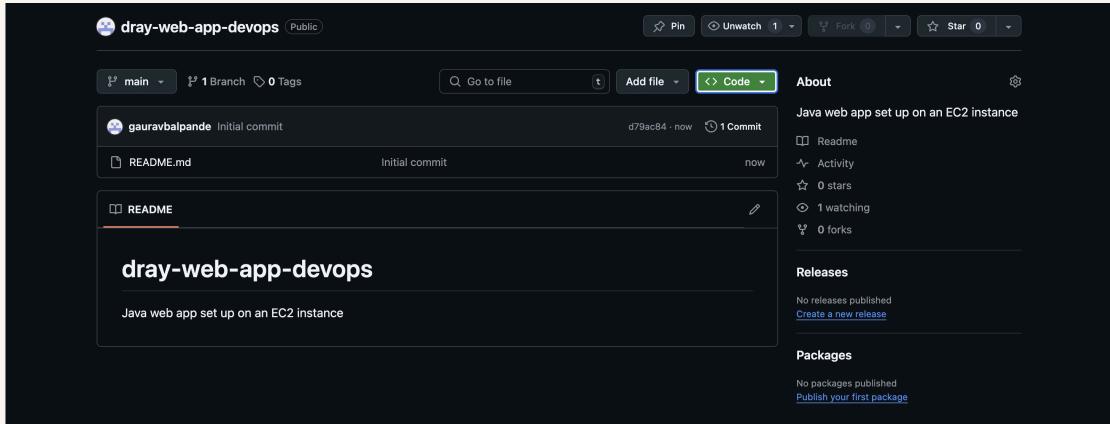
This project is part two of a series of DevOps projects where I'm building a CI/CD pipeline! I'll be working on the next project tomorrow.



Git and GitHub

Git is version control tool I installed Git using the commands sudo dnf update -y
sudo dnf install git -y

GitHub is a place to store our projects I'm using GitHub in this project to store the web app files so that in future i can keep tract of all the activities and by mistake if the file gets delete from my ec2 instance it will be there in git.

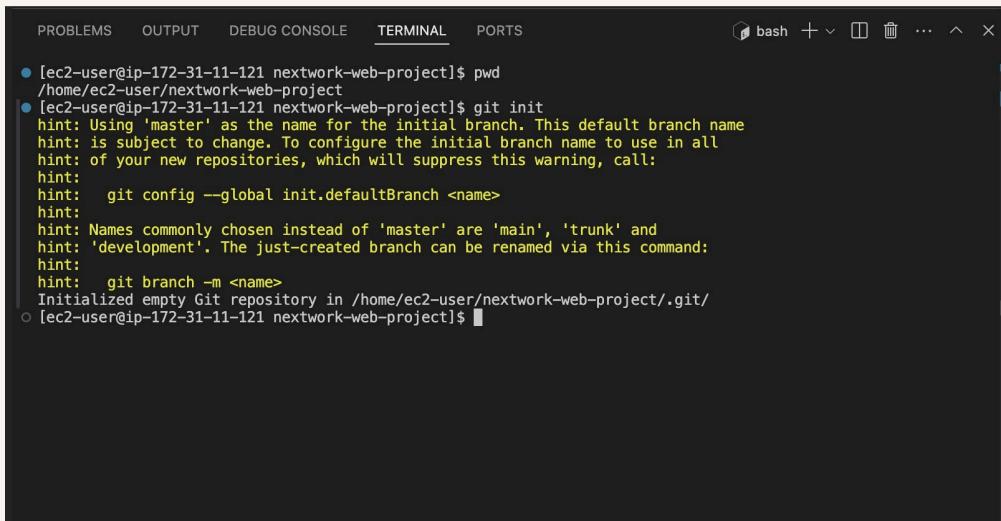


My local repository

A Git repository is like a folder to store all the files related to a project. It is being used to store our project.

git init is a command that is used to initialize and set up a directory as local Git repository I ran git init in the web app which is in the ec2 instance.

After running git init, the response from the terminal was some yellow lines telling that its using master as the default branch and we can change it A branch in Git is like a parallel version so many people can collaborate to the project using it



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
● [ec2-user@ip-172-31-11-121 nextwork-web-project]$ pwd
/home/ec2-user/nextwork-web-project
● [ec2-user@ip-172-31-11-121 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-172-31-11-121 nextwork-web-project]$
```



To push local changes to GitHub, I ran three commands

git add

The first command I ran was git add . A staging area is the area where changes are not made but are about to make. Its a great place to review all are changes.

git commit

The second command I ran was git commit -m "changes are made" Using '-m' means' its a message flag so we would able to know why we make the change.

git push

The third command I ran was git push -u origin master Using '-u' means' a flag for upstream so when we agin make a change we dont need to specify the location.



Authentication

When I commit changes to GitHub, Git asks for my credentials because it need to know whter authorised person is making the change or not. It is for security reason to rprotect from unknown commits.

Local Git identity

Git needs my name and email because it need to track who made what change and if we dont specify it takes default

Running git log showed me that who is the author and date on which changes are made

```
● [ec2-user@ip-172-31-11-121 nextwork-web-project]$ git log
commit d159b4fa02cf6fd386a294ab6e0e7bb3f6593e3 (HEAD -> master, origin/master)
Author: EC2 Default User <ec2-user@ip-172-31-11-121.ap-south-1.compute.internal>
Date:  Mon Apr 14 08:32:43 2025 +0000

    Updated index.jsp with new content
○ [ec2-user@ip-172-31-11-121 nextwork-web-project]$
```



GitHub tokens

GitHub authentication failed when I entered my password because it has the stopped the password feature back before now github uses tokens which is string of alphanumerical character which works like a password.

A GitHub token is like a password in the form of string I'm using one in this project because we need to add the token to connect our local git repository to github repository

I could set up a GitHub token by going to developers option and then by selecting classic tokens.

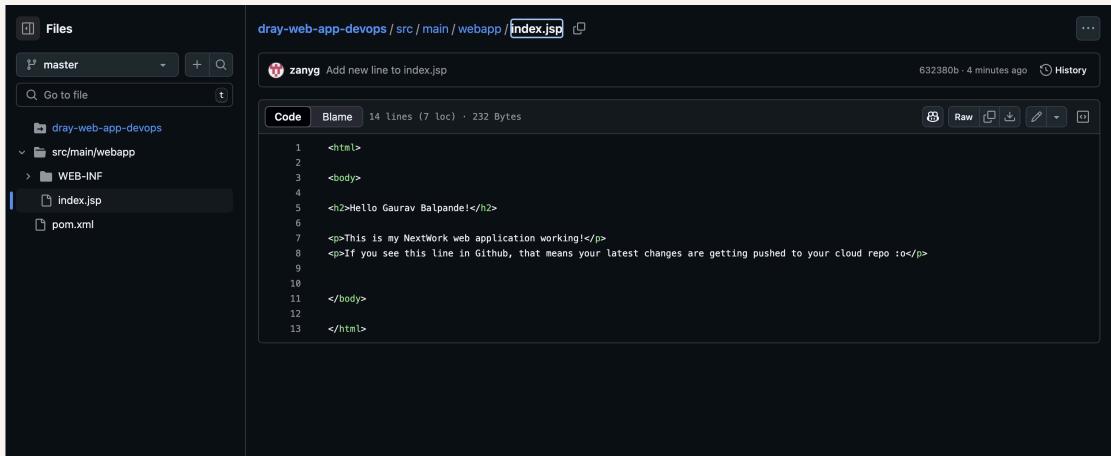
The screenshot shows the GitHub 'Personal access tokens' section. A new token is being created for 'EC2 Instance Access'. The token is set to expire in 7 days (April 21, 2025). The 'repo' scope is selected, granting full control of private repositories, access to commit status, deployment status, public repositories, repository invitations, and security events. Other scopes listed include workflow, write:packages, read:packages, delete:packages, and admin:org.

Scope	Description
<input checked="" type="checkbox"/> repo	Full control of private repositories Access commit status Access deployment status Access public repositories Access repository invitations 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
<input type="checkbox"/> admin:org	Full control of orgs and teams, read and write org projects Read and write across all teams, organization members, and organization projects

Making changes again

I wanted to see Git working in action, so I make a change in index.jsp by adding some line I couldn't see the changes in my GitHub repo initially because we need to run the three command again to staged, save and push the changes in github repository

I finally saw the changes in my GitHub repo after running the three command for staging,saving and pushing the changes in github repository.



The screenshot shows a GitHub code editor interface. On the left, there's a sidebar with a 'Files' tab, a dropdown for 'master', and a search bar. Below these are tree views for 'src/main/webapp' and 'WEB-INF', with 'index.jsp' selected. To the right, the main area displays the 'index.jsp' file content. A commit message at the top reads 'zanyg Add new line to index.jsp'. The commit was made 6323800 minutes ago. The code itself is:

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



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