



NextWork.org

Connect a GitHub Repo with AWS



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```
livedata@livedata-expansion-checker: ~ $ sudo yum install git
Dependencies resolved.
=====
Installing:
git.x86_64 2.40.1-1.amzn2023.0.3
git-core.x86_64 2.40.1-1.amzn2023.0.3
git-core-doc.noarch 2.40.1-1.amzn2023.0.3
perl-Error.noarch 1:0.17029-5.amzn2023.0.2
perl-File-Find.noarch 1.37-477.amzn2023.0.6
perl-File-Sort.noarch 2.4.4-477.amzn2023.0.5
perl-TermReadKey.x86_64 2.38-9.amzn2023.0.2
perl-LWP.x86_64 0.65-477.amzn2023.0.6
=====
Transaction Summary
=====
Install 8 Packages
=====
Total download size: 7.1 M
Installed size: 34 M
```

Introducing Today's Project!

What is GitHub?

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

One thing I didn't expect...

One thing I didn't expect in this project was having to setup a local repo first before local changes can be reflected in the GitHub repository. Having to use personal token instead of password was also a surprise!

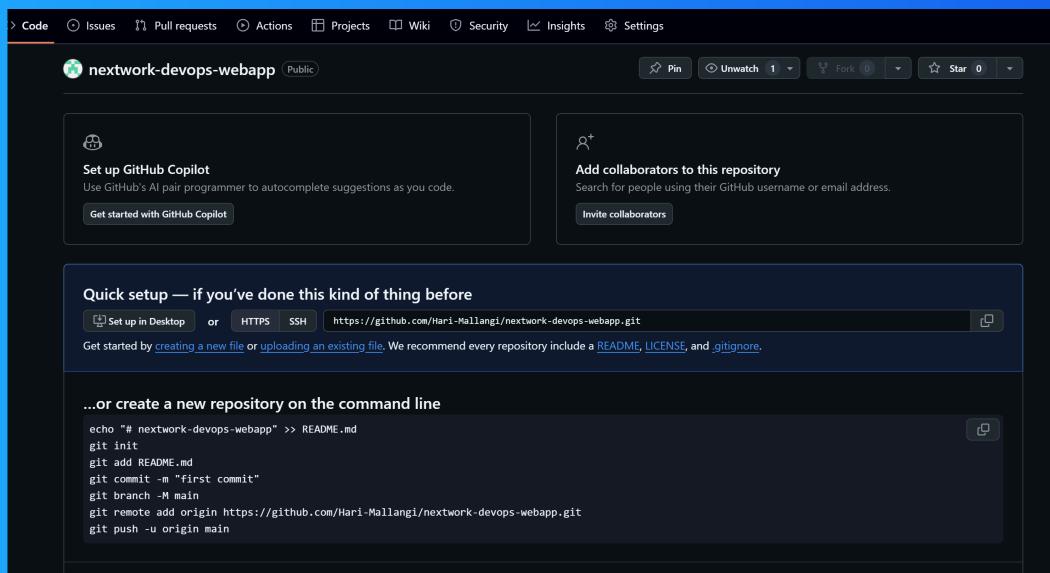
This project took me...

This project took me 3 Hours with Documentation.

Git and GitHub

Git is a Version control system, which means it helps us track changes and who made those changes. I installed Git using the command ' sudo dnf install git -y '. Using -y means we automatically say yes to everytime our terminal asks for confirmation.

GitHub is cloud storage space for us to keep source code for our projects. Github uses Git to track changes in our source code, and comes with different tools that help with collaboration. I'm using GitHub in this project to interact with Git visually.

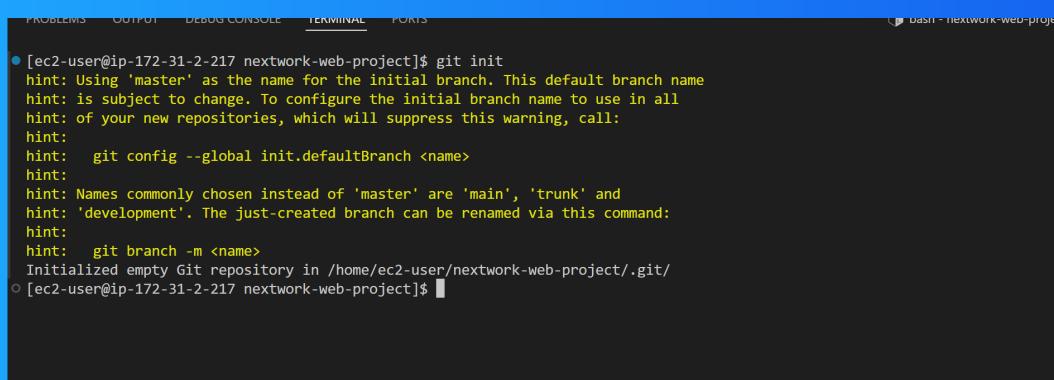


My local repository

A Git repository is a folder in Git that holds the source code of our application/project files and their entire version history. If Git is tool for version control, a Git repository is a folder containing code/files that are being tracked with Git.

git init is a command that initializes a local repository. I ran git init in our EC2 instance's nextwork-web-project folder.

After running git init, the response from the terminal was -a master branch has been created. A branch in Git is a parallel version of our code. Usually it's a parallel version of the master branch itself(not other branches).



```
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL FONTS DASH - nextwork-web-project
● [ec2-user@ip-172-31-2-217 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-172-31-2-217 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 our changes into a staging area. A staging area is a spot for Git to collate/highlight all changes made so that they can be reviewed together which helps us catch bugs.

git commit

The second command I ran was git commit -m "updated index.jsp..". Using '-m' means I can leave a message about the work we have just saved into out Git history.

git push

The third command I ran was 'git push -u origin master'. Using '-u' means Upstream, so we are getting Git to remember that any 'git push' run should automatically push local changes into the master branch of our 'origin' GitHub repo.

Authentication

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

Local Git identity

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

Running `git log` showed me my previous commit, which revealed that the Author name has been set to EC2 Default User by default.

```
branch 'master' set up to track 'origin/master'.
> [ec2-user@ip-172-31-2-217 nextwork-web-project]$ git log
commit b8ac213dc738952cafbc3f75026fac674645f797 (HEAD -> master, origin/master)
Author: EC2 Default User <ec2-user@ip-172-31-2-217.ap-south-1.compute.internal>
Date:   Fri Dec 6 07:52:46 2024 +0000

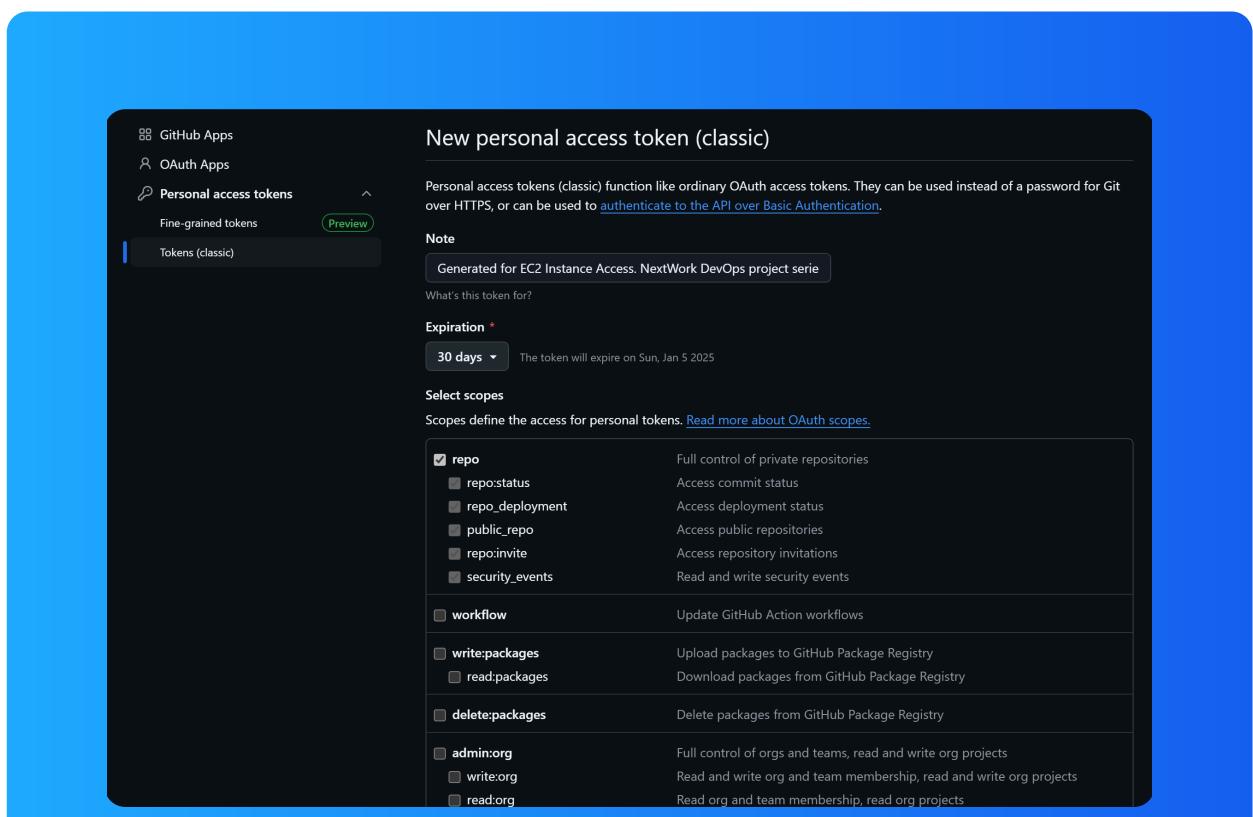
    Updated index.jsp with new content
> [ec2-user@ip-172-31-2-217 nextwork-web-project]$
```

GitHub tokens

GitHub authentication failed when I entered my password because password authentications is no longer supported. we need to use tokens instead.

A GitHub token is a replacement for passwords in terms of authentication. I'm using one in this project because we can't get our EC2 instance access to our GitHub account until we give a valid non-password authentication method.

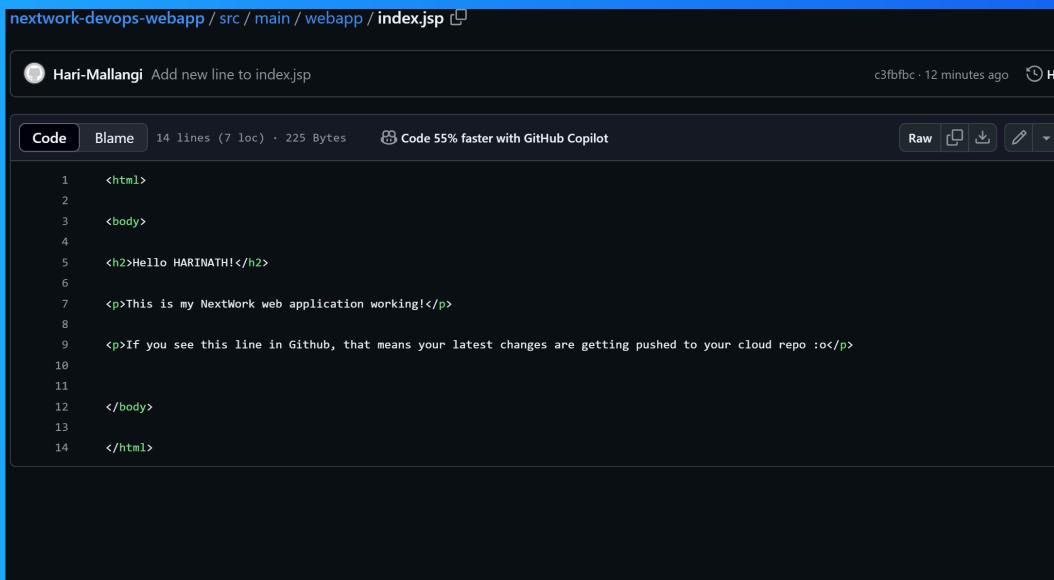
I could set up a GitHub token by visiting the developer settings in my GitHub account.



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 we hadn't committed and pushed those changes yet.

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



A screenshot of a GitHub commit page for the file index.jsp. The commit message is "Add new line to index.jsp". It was made 12 minutes ago by user Hari-Mallangi. The code tab is selected, showing the following content:

```
1 <html>
2
3 <body>
4
5 <h2>Hello HARINATH!</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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