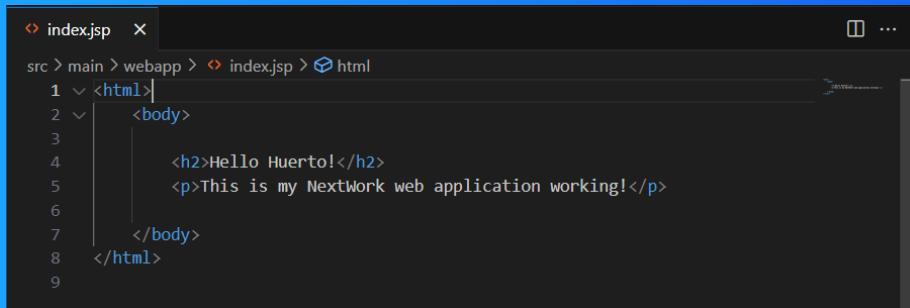




# Set Up a Web App in the Cloud



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```
index.jsp
```

```
src > main > webapp > index.jsp > html
1 <html>
2   <body>
3     <h2>Hello Huerto!</h2>
4     <p>This is my NextWork web application working!</p>
5   </body>
6 </html>
```

# Introducing Today's Project!

## What is VSCode and why is it useful?

I used VSCode to connect it to my EC2 Instance and access its contents.

## How I'm using VSCode in this project

I used VSCode to connect it to my EC2 Instance and access its contents.

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

I didn't expect to be stuck in the project due to a simple change of location of my directory, which I think caused a change in permissions.

## This project took me...

1 Hour and 20 minutes.

# Launching an EC2 instance

I started this project by launching an EC2 instance because this is where I'll be able to customize and fine tune the configurations of the virtual servers that I will be needing to set-up the resources I need for the rest of the project.

## I also enabled SSH

SSH is a protocol that ensures only authorized sources have access to a server. I enabled SSH so that my I.P. address will be able to have access to my newly set-up EC2 instance.

## Key pairs

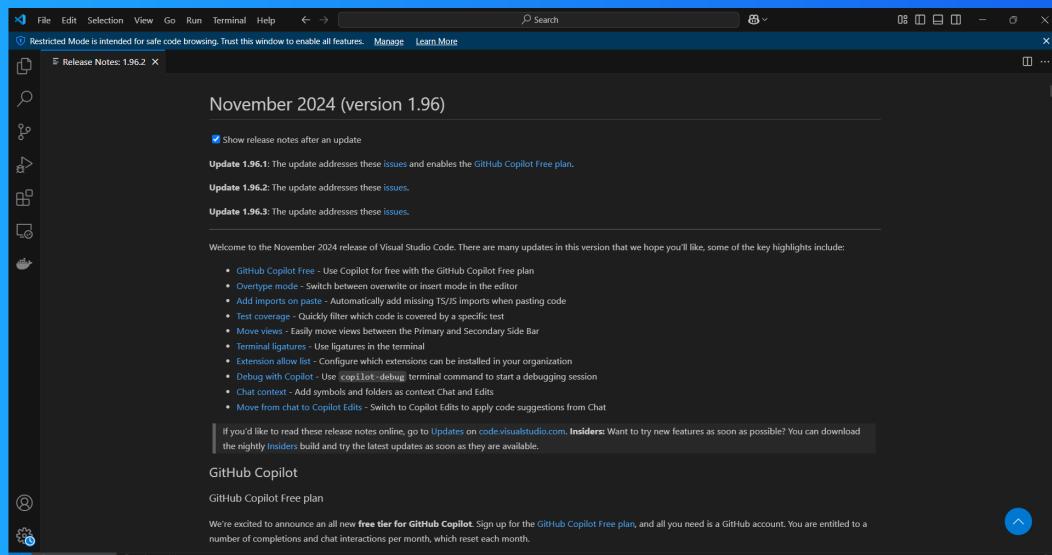
A key pair is a security feature for EC2 wherein access to the EC2 instance is securely monitored and established.

Once I set up my key pair, AWS automatically downloaded the .pem file for the key pair.

# Set up VSCode

VSCode is a popular IDE, a software that assists developers in writing and editing code.

I installed VSCode to create and edit the web app's code.



# My first terminal commands

A terminal is the channel of communication between the user and the computer using text and words. The first command I ran for this project is 'cd Desktop'

I also updated my private key's permissions by running the following commands on the terminal: icacls "nextwork-keypair.pem" /reset icacls "nextwork-keypair.pem" /grant:r "%USERNAME%:R" icacls "nextwork-keypair.pem" /inheritance:r

```
PS C:\Users\miguel Huerto> cd Desktop
PS C:\Users\miguel Huerto\Desktop> cd 'NextWork Documentation'
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation> cd DevOps
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> whoami
desktop-jojg6np@miguel huerto
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> icacls "nextwork-keypair.pem" /reset
processed file: nextwork-keypair.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> icacls "nextwork-keypair.pem" /grant:r "%miguel huerto:R"
%miguel huerto: No mapping between account names and security IDs was done.
successfully processed 0 files; Failed processing 1 files
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> icacls "nextwork-keypair.pem" /grant:r "%desktop-jojg6np@miguel huerto:R"
%desktop-jojg6np@miguel huerto: No mapping between account names and security IDs was done.
Successfully processed 0 files; Failed processing 1 files
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> icacls "nextwork-keypair.pem" /grant:r "miguel huerto:R"
processed file: nextwork-keypair.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps> icacls "nextwork-keypair.pem" /inheritance:r
processed file: nextwork-keypair.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\miguel Huerto\Desktop\NextWork Documentation\DevOps>
```

# SSH connection to EC2 instance

To connect to my EC2 instance, I ran the command ssh -i [PATH TO YOUR .PEM FILE] ec2-user@[YOUR PUBLIC IPV4 DNS]

## This command required an IPv4 address

A server's IPv4 DNS is the public address of the EC2 Instance that it can use to connect to the internet.

```
Warning: Permanently added 'ec2-13-236-116-80.ap-southeast-2.compute.amazonaws.com' (ED25519) to the list of known hosts.  
 , #  
 \###_ Amazon Linux 2023  
 \###\   
 \##|  
 \#/ __ https://aws.amazon.com/linux/amazon-linux-2023  
 \~' .->  
 /  
 \~. . /  
 /m/  
 [ec2-user@ip-172-31-11-164 ~]$
```

# Maven & Java

Apache Maven is a tool to build and organize Java projects. It uses Archetypes, which are templates for setting-up projects.

Maven is required in this project because it will greatly help setting up the files to create a web app structure.

Java is a programming language that developers use to build different types of applications.

Java is required in this project because Apache Maven will need Java to run and generate the web application.

# Create the Application

I generated a Java web app using the command mvn archetype:generate \ -DgroupId=com.nextwork.app \ -DartifactId=nextwork-web-project \ -DarchetypeArtifactId=maven-archetype-webapp \ -DinteractiveMode=false

I installed Remote - SSH, which is an extenstion on VS Code that connects me directly to another computer using SSH.

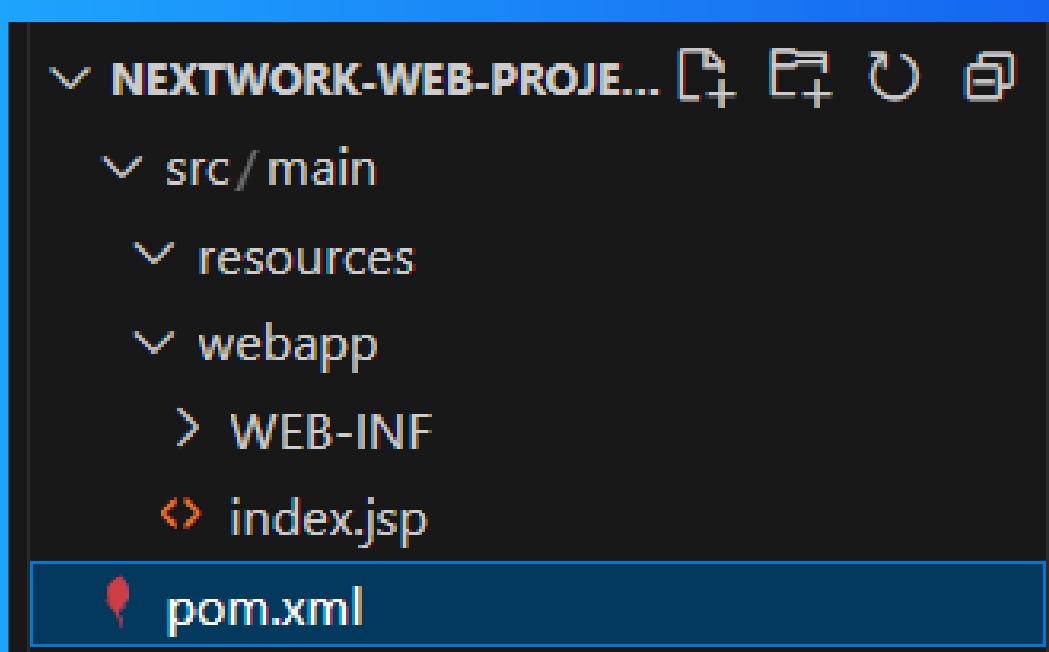
Configuration details required to set up a remote connection include Host, Identity File, and User.

```
[INFO] -----
[INFO] Using following parameters for creating project from old (1.x) Archetype: maven-archetype-webapp:1.0
[INFO] -----
[INFO] Parameter: basedir, value: /home/ec2-user
[INFO] Parameter: package, Value: com.nextwork.app
[INFO] Parameter: groupId, Value: com.nextwork.app
[INFO] Parameter: artifactId, Value: nextwork-web-project
[INFO] Parameter: packageName, Value: com.nextwork.app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] project created from old (1.x) Archetype in dir: /home/ec2-user/nextwork-web-project
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 10.129 s
[INFO] Finished at: 2025-01-14T10:51:45Z
[INFO] Final Memory: 19M/89M
[INFO] -----
```

# Create the Application

Using VSCode's file explorer, I could see the different folders and files in the project.

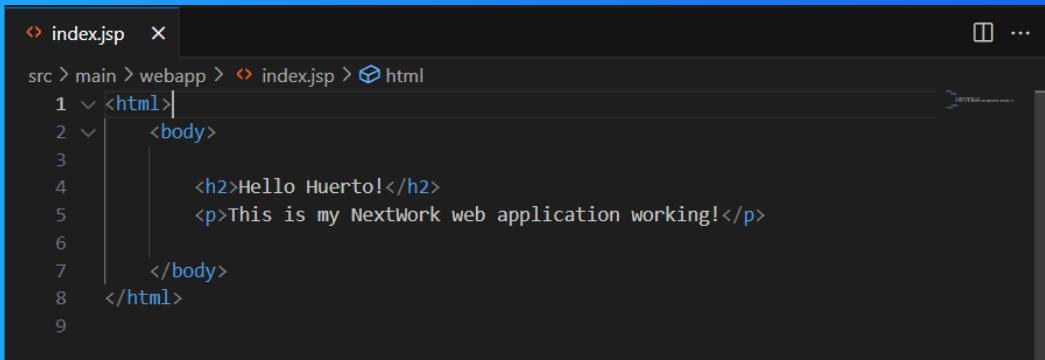
Two of the project folders created by Maven are src and webapp, which hold important resources that make up the web app.



# Using Remote - SSH

index.jsp is a file containing markup (and can include Java code) used in Java web apps to display dynamic web pages.

I edited index.jsp by replacing the placeholder code with my own code.



A screenshot of a code editor window titled "index.jsp". The window shows a file structure: "src > main > webapp > index.jsp". The code itself is a simple HTML document:

```
1 <html>
2   <body>
3     <h2>Hello Huerto!</h2>
4     <p>This is my NextWork web application working!</p>
5   </body>
6 </html>
```



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