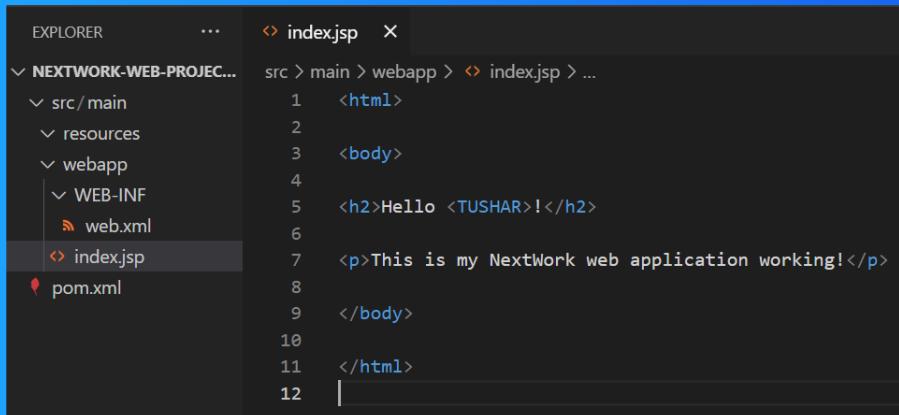




# Set Up a Web App in the Cloud



tusharyadav796270@gmail.com



The screenshot shows a code editor interface with a dark theme. On the left is the Explorer panel, which lists the project structure:

- NEXTWORK-WEB-PROJECT...
- src/main/resources
- src/main/webapp/WEB-INF/web.xml
- index.jsp
- pom.xml

The right pane displays the content of the index.jsp file:

```
<html>
<body>
<h2>Hello <TUSHAR>!</h2>
<p>This is my NextWork web application working!</p>
</body>
</html>
```

# Introducing Today's Project!

## What is VSCode and why is it useful?

I used VSCode in today's project to edit the Java web application's code, manage project files, and connect to my EC2 instance for remote development.

## How I'm using VSCode in this project

I used VSCode in today's project to edit the Java web application's code, manage project files, and connect to my EC2 instance for remote development.

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

One thing I didn't expect in this project was how smoothly the integration between VSCode and the EC2 instance would work, making remote development easier than anticipated.

## This project took me...

The project took me 1 hour to complete.

# Launching an EC2 instance

I started this project by launching an EC2 instance because it provides a flexible, scalable virtual server to run applications in the cloud without needing physical hardware.

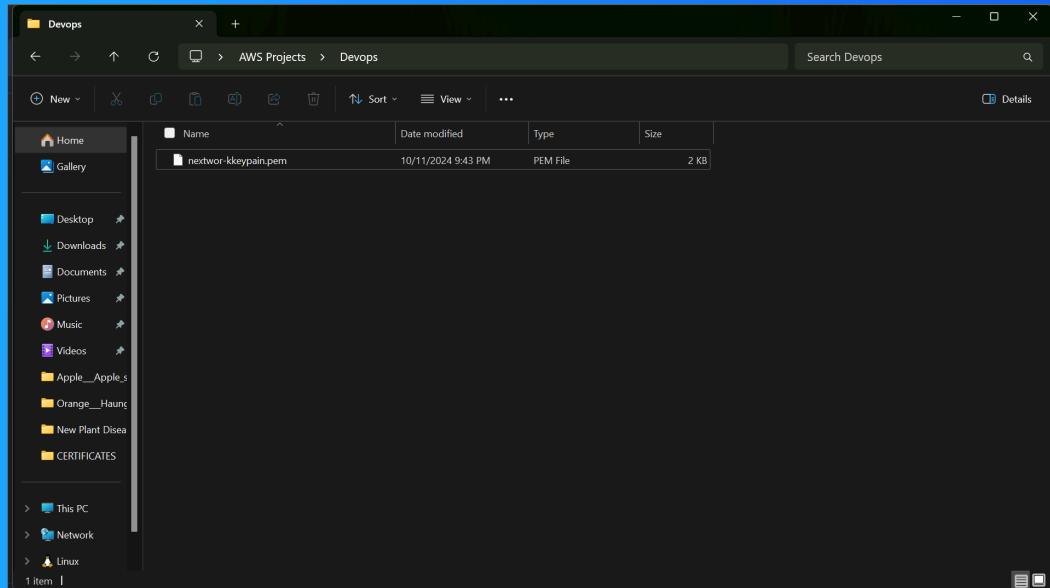
## I also enabled SSH

SSH is a secure protocol used to remotely access and manage servers. I enabled SSH so that I could securely connect to my EC2 instance and manage it from my local machine.

# Setting up a key pair

A key pair is a set of security credentials, consisting of a public key and a private key, used to securely connect to an EC2 instance.

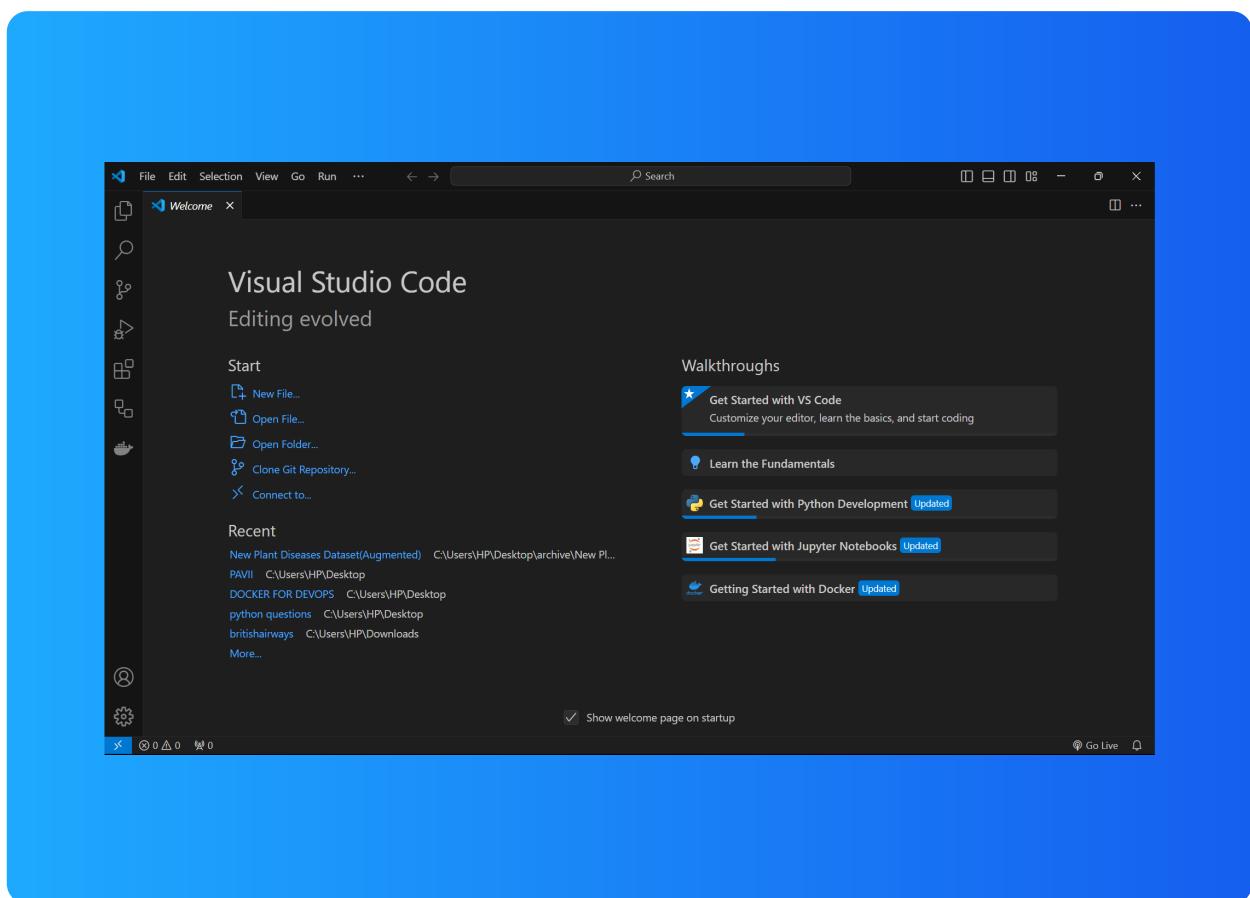
Once I set up my key pair, AWS automatically downloaded the private key file, which is needed to securely access the EC2 instance.



# Set up VSCode

VSCode is a lightweight, open-source code editor that supports various programming languages and extensions. It's useful for writing, debugging, and managing code efficiently.

I installed VSCode to provide a powerful and efficient environment for coding, debugging, and managing my projects easily.



# My first terminal commands

A terminal is a command-line interface that allows users to interact with the operating system by executing commands and managing files directly.

The first command I ran for this project is to update the package manager, ensuring all software is up to date before installing any necessary applications.

I also updated my private key's permissions by running a command to restrict access, ensuring it is secure for SSH connections to my EC2 instance.

```
PS C:\Users\HP\Desktop\DevOps> icacls "nextwork-keypair.pem" /reset
>> icacls "nextwork-keypair.pem" /grant:r "%USERNAME%:R"
>> icacls "nextwork-keypair.pem" /inheritance:r
>>
nextwork-keypair.pem: The system cannot find the file specified.
Successfully processed 0 files; Failed processing 1 files
%USERNAME%: No mapping between account names and security IDs was done.
Successfully processed 0 files; Failed processing 1 files
nextwork-keypair.pem: The system cannot find the file specified.
Successfully processed 0 files; Failed processing 1 files
```



# SSH connection to EC2 instance

To connect to my EC2 instance, I ran the command using SSH along with the private key file and the instance's public IP address.

# This command required an IPv4 address

A server's IPV4 DNS is a unique address that allows users to access the server over the internet by translating the domain name into its corresponding IP address.

# Maven & Java

Apache Maven is a build automation tool primarily used for Java projects, which simplifies project management by handling dependencies, building processes, and project structures.

Maven is required in this project because it automates the build process, manages dependencies, and streamlines project configuration, making it easier to develop and maintain Java applications.

Java is a high-level, object-oriented programming language known for its portability, performance, and extensive libraries, making it widely used for building applications across various platforms.

Java is required in this project because it serves as the primary programming language for developing the application, enabling compatibility and performance across different environments.



# Create the Application

I generated a Java web app using the command that initializes the project structure and necessary files for development.

# Connecting VSCode with EC2

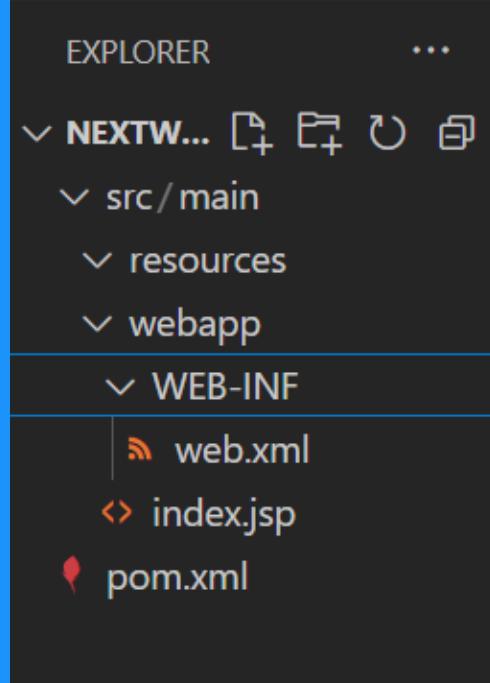
I installed Remote - SSH, which is an extension for VSCode that enables remote development over SSH. I installed it to seamlessly connect to my EC2 instance and edit files directly from my local environment.

Configuration details required to set up a remote connection include the EC2 instance's public IP address, the path to the private key file, and the username for accessing the instance.

# Create the Application

Using VSCode's file explorer, I could see the files and directories of my EC2 instance, allowing me to navigate and edit them directly from the editor.

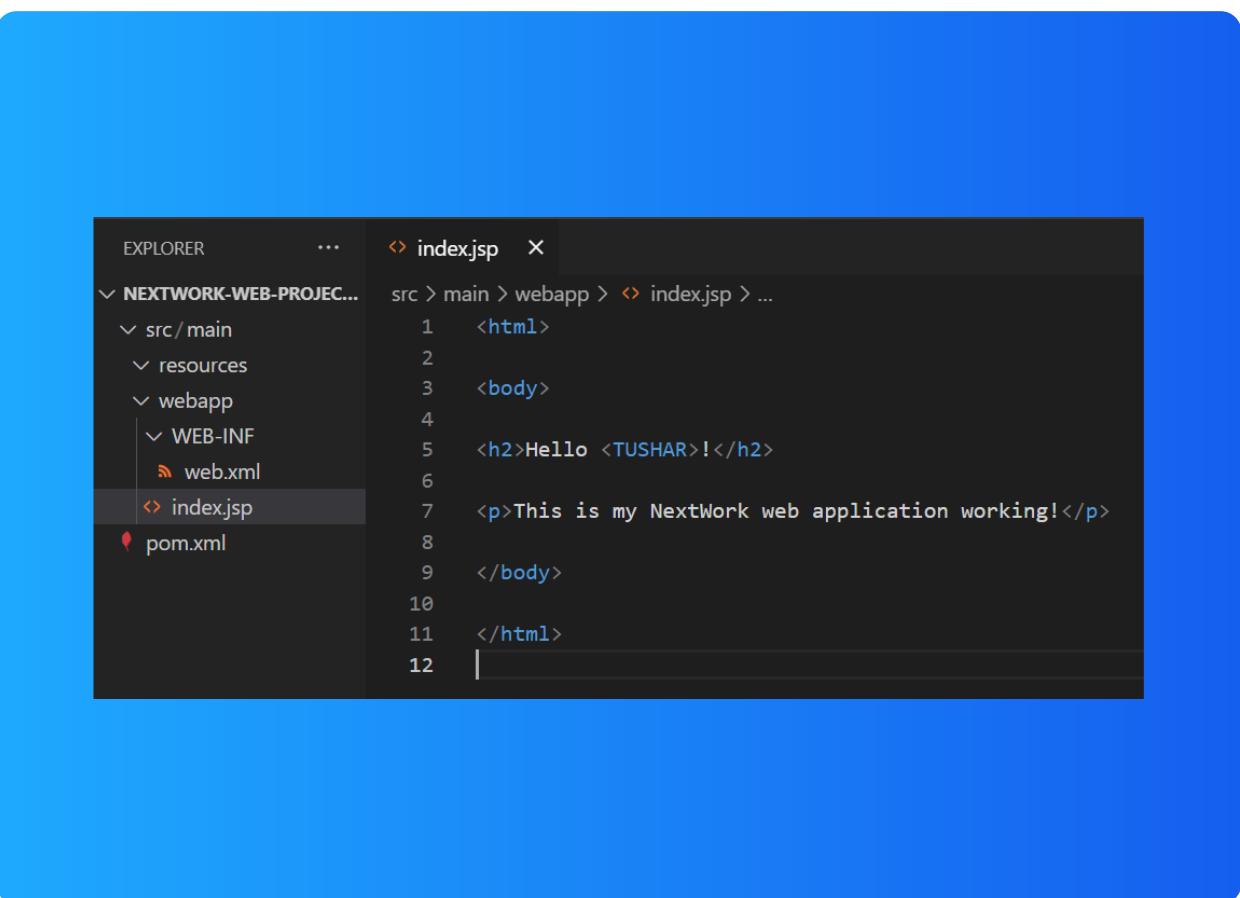
Two of the project folders created by Maven are src and webapp, which contain the source code and web application files, respectively, organizing the project structure for easy development and deployment.



# Create the Application

index.jsp is the main entry point of a Java web application, typically containing the HTML and JSP code that defines the initial user interface and functionality for the app.

I edited index.jsp by adding HTML content and JSP tags to define the user interface and implement the desired functionality for the web application.



The screenshot shows a code editor with a dark theme. On the left is the Explorer sidebar, which lists the project structure:

- src/main
- resources
- webapp
  - WEB-INF
  - web.xml
  - index.jsp
- pom.xml

The right pane shows the content of the selected file, index.jsp:

```
<html>
<body>
<h2>Hello <TUSHAR>!</h2>
<p>This is my NextWork web application working!</p>
</body>
</html>
```



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