



Set Up a Web App Using AWS and VS Code

A

Amirul Zaol-kefli

```
↳ index.jsp  X
src > main > webapp > ↳ index.jsp > ...
1   <html>
2   <body>
3   <h2>Hello {YOUR NAME}!</h2>
4   <p>This is my NextWork web application working!</p>
5   </body>
6   </html>
7   |
```

Introducing Today's Project!

In this project, I will demonstrate how to set up a web app in the Cloud using AWS. I'm doing this project to learn how to build from scratch a CI/CD pipeline that automates the build and deployment of a web app.

Key tools and concepts

Services I used were EC2, AMI.

Project reflection

One thing I didn't expect in this project was how complicated it is to set the permission of the pem file.

This project took me approximately a few hours. The most challenging part was trying to solve the issue of connecting the EC2 instance to vscode. It was most rewarding to finally be able to see the contents of the Maven app.

A

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This project is part one of a series of DevOps projects where I'm building a CI/CD pipeline! I'll be working on the next project in a week's time.

Launching an EC2 instance

I started this project by launching an EC2 instance because I want a virtual computer that fits what I need for my project.

I also enabled SSH

SSH is a protocol used to make sure only authorized users can access a remote server. I enabled SSH so that it sets up a secure connection between me and the EC2 instance, encrypting all data transferred.

Key pairs

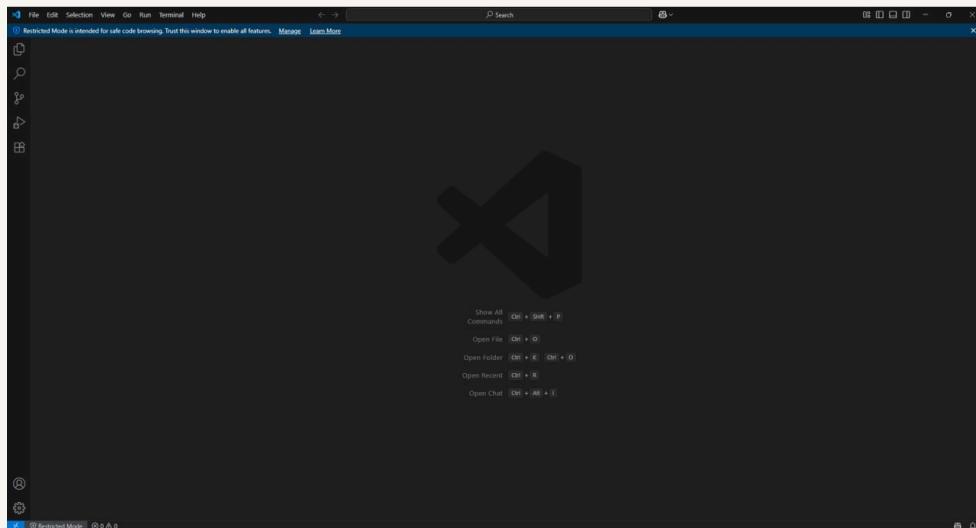
A key pair is like the keys to my virtual computer. It's made of two halves: a public key that AWS keeps, and a private key that I download.

Once I set up my key pair, AWS automatically downloaded a .pem file, which is my private key file.

Set up VS Code

VS Code is an ide, which is a code editor similar to Visual Studio and Jetbrains Rider.

I installed VS Code to edit the code of my web app.



My first terminal commands

A terminal is where I send instructions to your computer using text instead of clicks. The first command I ran for this project is cd which is change directory, helping me navigate to where my devops folder is.

I also updated my private key's permissions by giving the command "chmod 400 network-keypair.pem" in the linux cmd prompr.

```
iphantomlx@iPhantomIXX:/mnt/d/PersonalProjects/Current/7DayDevOpsChallenge$ chmod 400 network-keypair.pem  
iphantomlx@iPhantomIXX:/mnt/d/PersonalProjects/Current/7DayDevOpsChallenge$ █
```

SSH connection to EC2 instance

To connect to my EC2 instance, I ran the command `ssh -i network-keypair.pem ec2-user@<Public Pv4 DNS>`.

This command required an IPv4 address

A server's IPV4 DNS (which stands for Domain Name System) is the public address for your EC2 server that the internet uses to find and connect to it.

```
PS C:\> cd C:\Users\cmpsu\Downloads\DevOps
PS C:\Users\cmpsu\Downloads\DevOps> ssh -i network-keypair.pem ec2-user@ec2-54-255-78-242.ap-southeast-1.compute.amazonaws.com
,      #
~\###      Amazon Linux 2023
~\###\
~\###|
~\#/   https://aws.amazon.com/linux/amazon-linux-2023
~\~'-->
~\~'/
~\~'/
~\~'/
[ec2-user@ip-172-31-31-101 ~]$ []
```

Maven & Java

Apache Maven is a tool that helps developers build and organize Java software projects. It's also a package manager, which means it automatically download any external pieces of code your project depends on to work.

Maven is required in this project because it's really useful for kick-starting web projects! It uses something called archetypes, which are like templates, to lay out the foundations for different types of projects e.g. web apps.

Java is a popular programming language used to build different types of applications, from mobile apps to large enterprise systems.

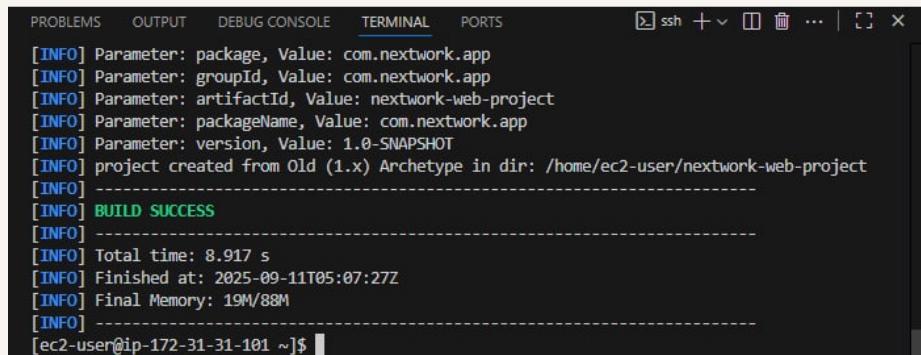
Java is required in this project because we won't be able to use Maven to generate/build our web app today without it.

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 a VSCode Extension I installed it to let me connect directly via SSH to another computer securely over the internet.

Configuration details required to set up a remote connection include Host HostName Identityfile User

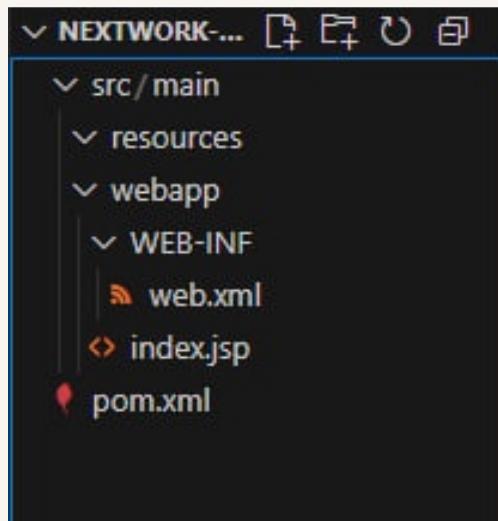


```
[INFO] Parameter: package, Value: com.nextwork.app
[INFO] Parameter: groupId, Value: com.nextwork.app
[INFO] Parameter: artifactId, Value: nextwork-web-project
[INFO] Parameter: packageName, Value: com.nextwork.app
[INFO] Parameter: version, Value: 1.0-SNAPSHOT
[INFO] project created from Old (1.x) Archetype in dir: /home/ec2-user/nextwork-web-project
[INFO] -----
[INFO] BUILD SUCCESS
[INFO] -----
[INFO] Total time: 8.917 s
[INFO] Finished at: 2025-09-11T05:07:27Z
[INFO] Final Memory: 19M/88M
[INFO] -----
[ec2-user@ip-172-31-31-101 ~]$
```

Create the Application

Using VS Code's file explorer, I could see the source folders and files, divided into webapp files e.g. HTML, CSS, JavaScript, and JSP files, and resources and pom.xml which is a Maven Project Object Model file.

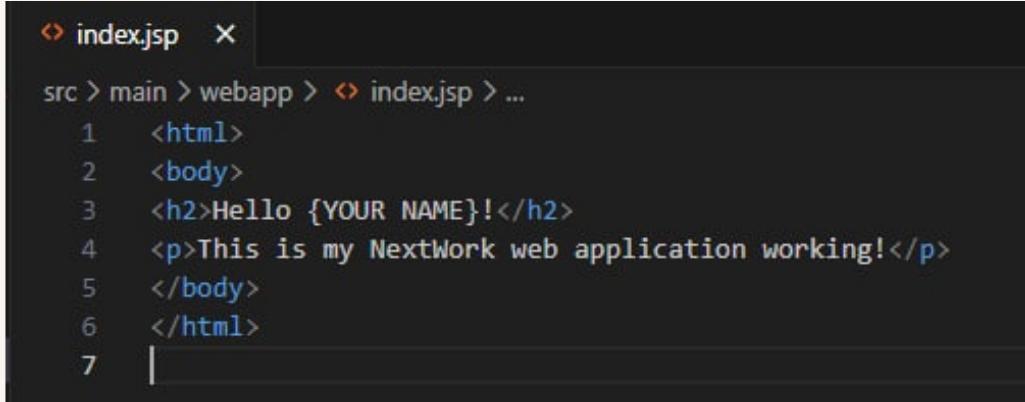
Two of the project folders created by Maven are src and webapp, which are resources and webapp.



Using Remote - SSH

The index.jsp is a file used in Java web apps. It's similar to an HTML file because it contains markup to display web pages.

I edited index.jsp by changing the placeholder code to the code snippet using VSCode as my IDE.



```
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