



Set Up a Web App in the Cloud



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```
index.jsp  X
src > main > webapp > index.jsp > html
1   <html>
2
3   <body>
4
5   <h2>Hello <NIKHIL>!</h2>
6
7   <p>This is my NextWork web application working!</p>
8
9   </body>
10
11  </html>
12
```

Introducing Today's Project!

What is VSCode and why is it useful?

Today I used VSCode to set up a remote SSH connection to my EC2 instance and install Maven and Java and generate a basic web app.

How I'm using VSCode in this project

Today I used VSCode to set up a remote SSH connection to my EC2 instance and install Maven and Java and generate a basic web app.

One thing I didn't expect...

One thing I didnt expect is how interactive and intuitive is the VSCode IDE and how easily is to connect to the SSH Remote.

This project took me...

I took around 3 hours with this project.

Launching an EC2 instance

I started this project by launching an EC2 instance because I want the web app to be entirely created and run on the cloud.

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 only me is allowed to access to the EC2 instance.

Key pairs

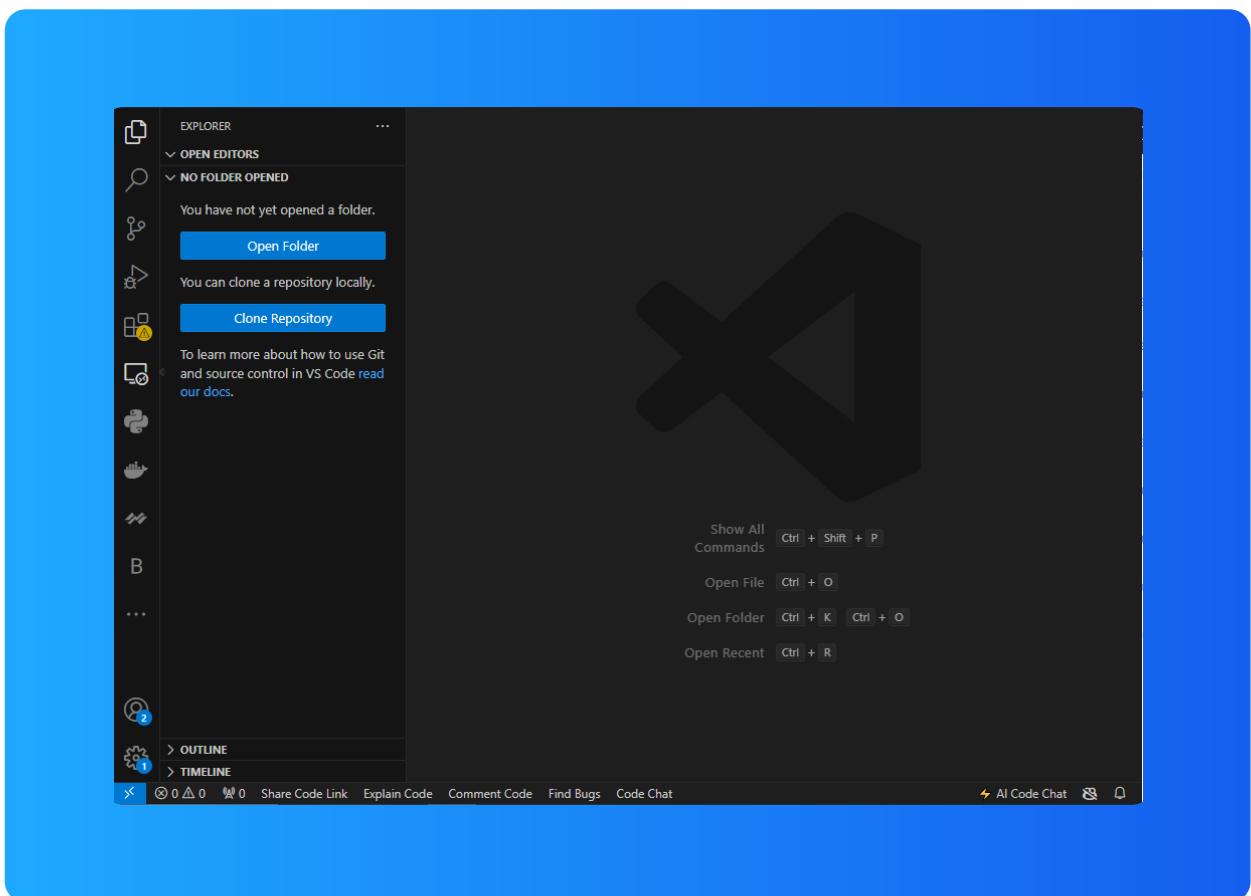
A key pair is like the keys to your virtual computer.

Once I set up my key pair, AWS automatically downloaded the file with the key in .pem format.

Set up VSCode

VSCode is one of the most popular tools for creating and managing coding projects. VSCode is an IDE (Integrated Development Environment) which means software that help you write and edit code.

I installed VSCode to set up a terminal and connect with my EC2 instance.



My first terminal commands

A terminal is where you send instructions to your computer using text instead of clicks. The first command I ran for this project is "cd ~/Desktop/DevOps" what it makes is to reach from my home directory to DevOps folder.

I also updated my private key's permissions by making sure changes in the permissions of other files and the DevOps folder won't change the permission settings for this file.

```
Nikhil ~ cd ~/Desktop/DevOps
>
>
DevOps > icacls "nextwork-keypair.pem" /reset
> icacls "nextwork-keypair.pem" /grant:r "nikhil:R"
> icacls "nextwork-keypair.pem" /inheritance:r

archivo procesado: nextwork-keypair.pem
Se procesaron correctamente 1 archivos; error al procesar 0 archivos
archivo procesado: nextwork-keypair.pem
Se procesaron correctamente 1 archivos; error al procesar 0 archivos
archivo procesado: nextwork-keypair.pem
Se procesaron correctamente 1 archivos; error al procesar 0 archivos
Nikhil ~ DevOps master ?38
```

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 for my EC2 server that the internet uses to find and connect to it.

```
DevOps ➜ ssh -i ~/Desktop/DevOps/nextwork-keypair.pem ec2-user@51.44.20.114
A newer release of "Amazon Linux" is available.
Version 2023.6.20241028:
Version 2023.6.20241031:
Run "/usr/bin/dnf check-release-update" for full release and version update info
          #_
         ~\###_
        ~~\####\   Amazon Linux 2023
        ~~ \###|
        ~~  \#/  --- https://aws.amazon.com/linux/amazon-linux-2023
        ~~  Vv' '-->
        ~~~  /
        ~~~.-
        ~~~ / \
        ~m'/ \
[ec2-user@ip-172-31-46-57 ~]$ █
```

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.

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 its a tool needed for Maven. So if I don't install Java, I won't be able to use Maven to generate/build the web app today.

Create the Application

I generated a Java web app using the command asking Maven to perform tasks (like creating a new project or building an existing one).. The mvn archetype:generate command specifically tells Maven to create a new project from a template.

I installed Remote - SSH, which is extension in VSCode lets you connect directly via SSH to another computer securely over the internet. I installed it to work on files or run programs on the EC2 instance.

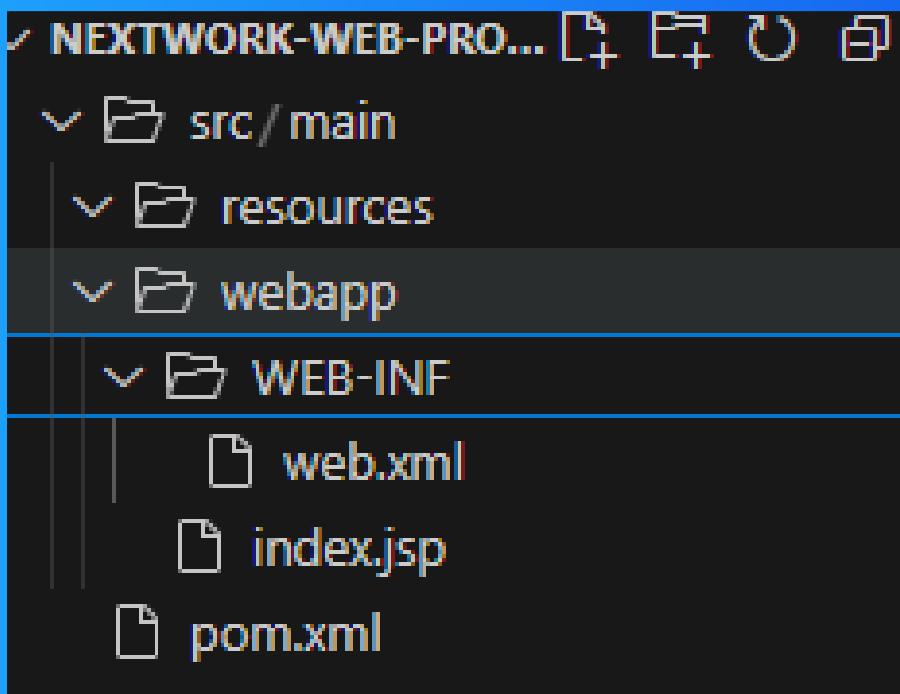
Configuration details required to set up a remote connection include: - Host should match up with your EC2 instance's IPv4 DNS. - IdentityFile should match up to nextwork-keypair.pem's location in your local computer. - User should say ec2-user.

```
(3.9 kB at 790 kB/s)
[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: 8.085 s
[INFO] Finished at: 2024-11-04T16:22:47Z
[INFO] Final Memory: 19M/86M
[INFO] -----
```

Create the Application

Using VSCode's file explorer, I could see the nextwork-web-project files.

Two of the project folders created by Maven are src and webapp, which are files needed to run the web app.



Using Remote - SSH

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 new code.

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