



Set Up a Web App in the Cloud

C Chess

```
1 <html>
2
3 <body>
4
5 <h2>Hello, I am Nikhil!</h2>
6
7 <p>This is my NextWork web application working!</p>
8
9 </body>
10
11 </html>
12
```



C

Chess
NextWork Student

NextWork.org

Introducing Today's Project!

What is VSCode and why is it useful?

By installing it on my local machine

How I'm using VSCode in this project

By installing it on my local machine

One thing I didn't expect...

It would be this exciting

This project took me...

around 60 minutes

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Launching an EC2 instance

i need a virtual machine to which i can setup according to my needs without a tension of maintaining and managing the server (electricity,internet,uptime etc) since it is handled by amazon

I also enabled SSH

SSH is secured shell that ensures that only the authorized person can access a server. I enabled SSH so that it'll set up a secure connection between me and the EC2 instance.

Key pairs

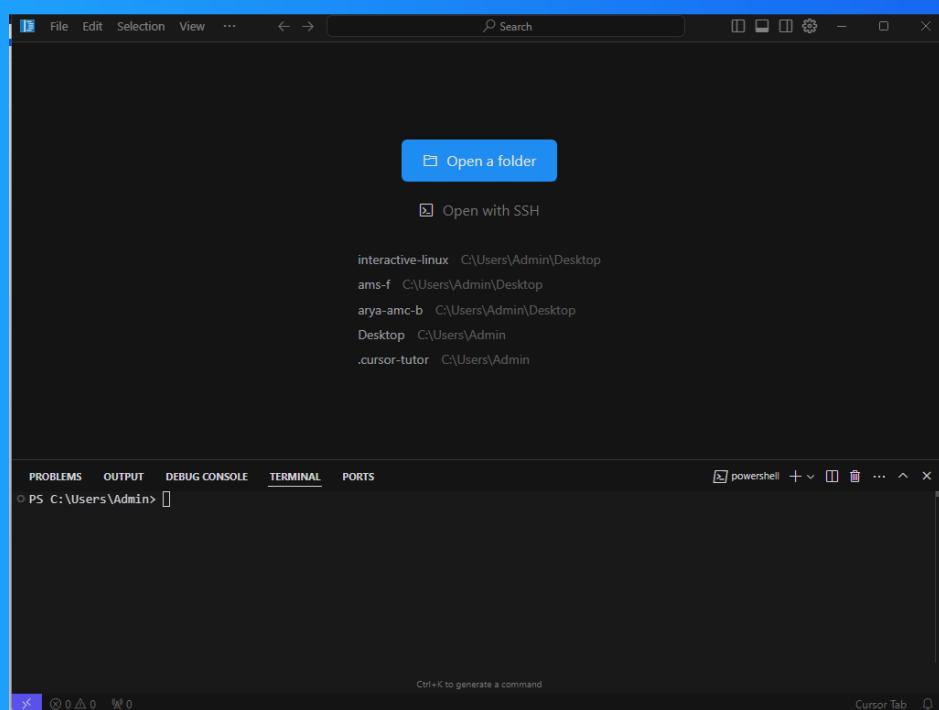
a type that determines the algorithm used for generating the key pair's cryptographic keys. We use RSA (Rivest-Shamir-Adleman), which is one of the most common cryptographic algorithms used due to its strength and security

a pem key

Set up VSCode

VSCode is an IDE

I installed VSCode to a windows machine





My first terminal commands

A terminal is where we send instructions to the computer using text instead of clicks. The first command I ran for this project is "cd ~/Desktop/DevOps"

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

```
PS C:\Users\Admin\Desktop\DevOps> icacls "nextwork-keypair.pem" /reset
>> icacls "nextwork-keypair.pem" /grant:r "%admin%:R"
>> icacls "nextwork-keypair.pem" /inheritance:r
>>
processed file: nextwork-keypair.pem
Successfully processed 1 files; Failed processing 0 files
%admin%: No mapping between account names and security IDs was done.
Successfully processed 0 files; Failed processing 1 files
processed file: nextwork-keypair.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\Admin\Desktop\DevOps> []
```



SSH connection to EC2 instance

```
ssh -i nextwork-keypair.pem ec2-user@13.233.255.156
```

This command required an IPv4 address

A server's IPV4 DNS is the public address for the EC2 server that the internet uses to find and connect to it.

```
PS C:\Users\Admin\Desktop\DevOps> ssh -i nextwork-keypair.pem ec2-user@13.233.255.156
,#
~\###_
~~\####\      Amazon Linux 2023
~~\###|
~~\#/____ https://aws.amazon.com/linux/amazon-linux-2023
~~V~'-'>
~~~/_
~~-/_
~/m/_
[ec2-user@ip-172-31-9-0 ~]$
```



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 the 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 Maven, which we just downloaded, is a tool that NEEDS Java to operate. So if we don't install Java, we won't be able to use Maven to generate/build our web app.



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 see and edit the webapp I created on my ec2 Instance

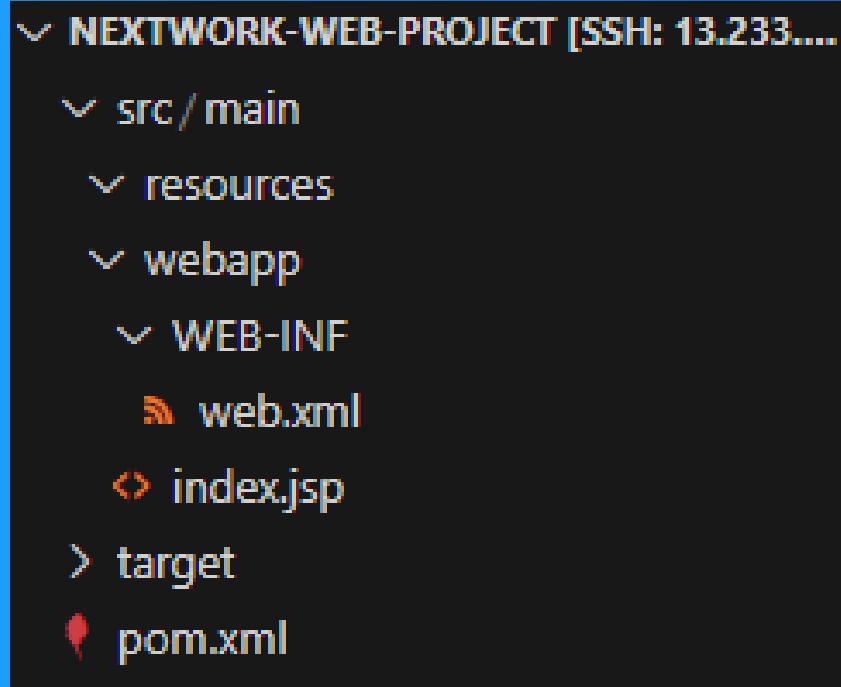
Configuration details required to set up a remote connection include this command ssh -i [PATH TO YOUR .PEM FILE] ec2-user@[YOUR PUBLIC IPV4 DNS]

```
 archetype-webapp/1.0/maven-archetype-webapp-1.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/archetypes/maven-archetype-webapp/1.0/maven-archetype-webapp-1.0.jar (3.9 kB at 564 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: 8.571 s
[INFO] Finished at: 2024-10-28T12:43:07Z
[INFO] Final Memory: 16M/90M
[INFO] -----
[ec2-user@ip-172-31-9-0 ~]$
```

Create the Application

Using VSCode's file explorer, I could see webapp's files and folders

Two of the project folders created by Maven are src and webapp, "src" which holds all the source code files that define how the web app looks and works and "webapp" which are the web app's files e.g. HTML, CSS, JavaScript, and JSP files,





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 an IDE

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