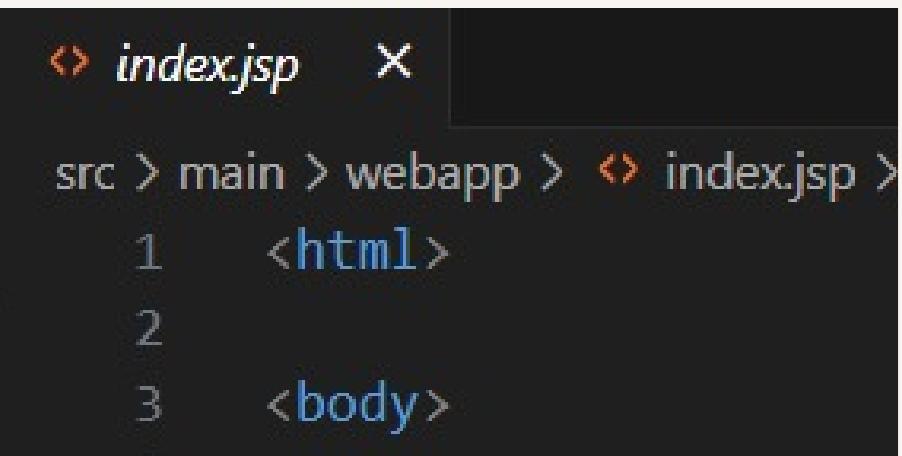


Set Up a Web App Using AWS and vSCode

SA

saivarmajampana1116@gmail.com



A screenshot of the Visual Studio Code (VS Code) interface. The title bar shows the file name "index.jsp". Below the title bar, the file path is displayed as "src > main > webapp > index.jsp". The main code editor area contains the following JavaServer Pages (JSP) code:

```
1 <html>
2
3 <body>
```

Introducing Today's Project!

What is VSCode and why is it useful?

In today's project, VSCode was used to set up, edit, and manage a web app running on an EC2 instance.

How I'm using VSCode in this project

In today's project, VSCode was used to set up, edit, and manage a web app running on an EC2 instance.

One thing I didn't expect...

One unexpected thing in this project was how seamless the connection between VSCode and the EC2 instance was. Usually, working on remote servers requires constant file transfers or manual SSH logins, but VSCode's Remote - SSH extension

This project took me...

The time required for this project depends on experience level and troubleshooting needed.

Launching an EC2 instance

Launching an EC2 (Elastic Compute Cloud) instance is typically done when you need to run a web application or service on a virtual server in the cloud.

I also enabled SSH

SSH (Secure Shell) is a cryptographic network protocol used to securely access and manage devices over an unsecured network. It is most commonly used to access Linux-based servers (like AWS EC2 instances) and execute commands remotely.

Key pairs

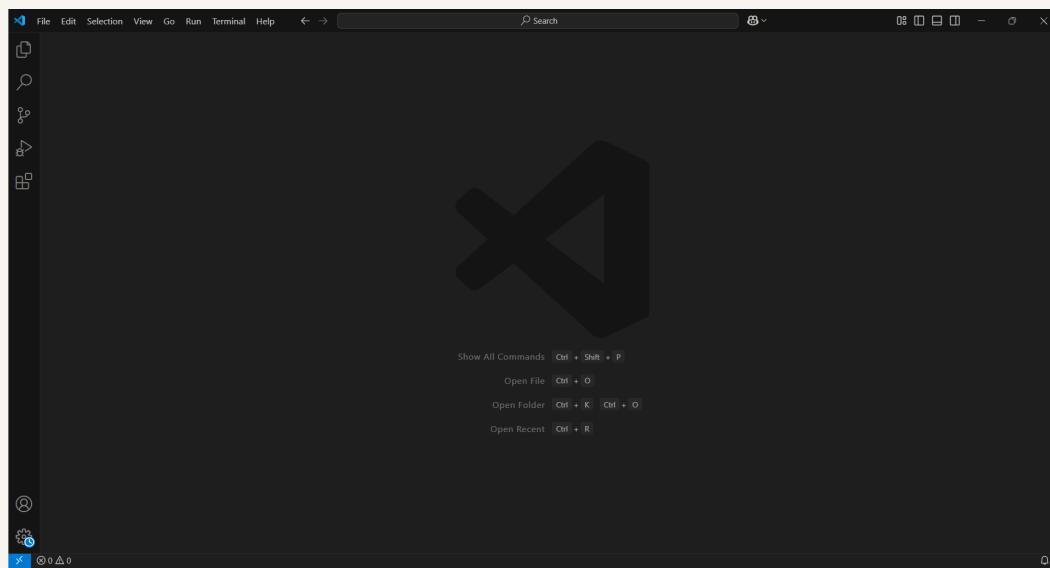
A key pair in AWS (Amazon Web Services) is a set of cryptographic keys that are used to securely access your EC2 instances.

When you create a key pair in AWS, the file that gets downloaded to your local computer is the private key file, typically with a .pem

Set up VSCode

VSCode (Visual Studio Code) is a free, open-source code editor developed by Microsoft. It is lightweight, fast, and highly customizable, making it a popular choice for developers. VSCode is designed to handle various programming languages and tools,

You can use VSCode (Visual Studio Code) for a wide variety of tasks, as it is a versatile code editor. Here are some common use cases for VSCode.



My first terminal commands

The first command I ran for this project is cd~/Desktop/devops

To change the file permissions for your project-project.pem file in Windows, I used the icacls command.

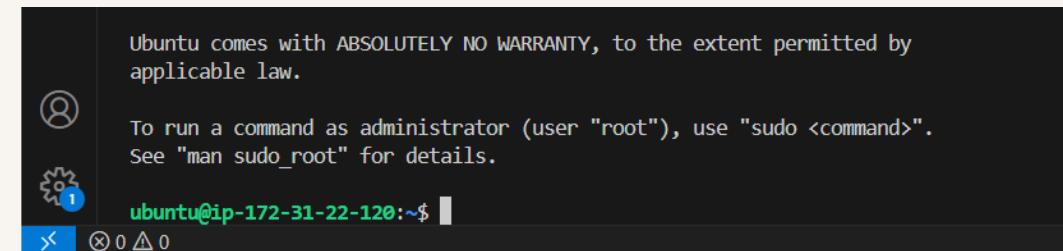
```
PS C:\Users\sai varma\OneDrive\Desktop\devops> whoami
desktop-e2cgn7e\sai varma
PS C:\Users\sai varma\OneDrive\Desktop\devops> icacls "project-project.pem" /grant:r "desktop-e2cgn7e\sai varma:R"
processed file: project-project.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\sai varma\OneDrive\Desktop\devops> icacls "project-project.pem" /inheritance:r
processed file: project-project.pem
Successfully processed 1 files; Failed processing 0 files
PS C:\Users\sai varma\OneDrive\Desktop\devops>
```

SSH connection to EC2 instance

To connect to my EC2 instance, I first obtained the private key file (.pem) and ran the command. ssh -i path/to/my-key.pem ubuntu-user@your-ubuntu-public-ip

This command required an IPv4 address

The IPv4 DNS (Domain Name System) of a server refers to the IP address associated with the server's DNS resolver for IPv4 traffic.



A screenshot of a terminal window. On the left, there are three icons: a user icon, a gear icon with a '1' in it, and a blue 'X'. The main text area contains the following message:

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by applicable law.

To run a command as administrator (user "root"), use "sudo <command>". See "man sudo_root" for details.

ubuntu@ip-172-31-22-120:~\$

Maven & Java

Apache Maven is a powerful build automation tool primarily used for Java projects. It helps manage the build lifecycle of projects by providing a structured way to compile, test, package, and deploy Java applications. Maven simplifies the process.

Maven helps streamline the development process, ensures consistency, and provides powerful tools for managing builds, dependencies, and testing in the project.

Java is a high-level, object-oriented programming language that is designed to be platform-independent. It was developed by James Gosling and Mike Sheridan at Sun Microsystems in 1991, which later became part of Oracle Corporation. Java is widely used.

Java is required in this project because it provides the necessary platform for developing and running the application efficiently. Its platform-independent nature, through the Java Virtual Machine (JVM), ensures that the application can run.



Create the Application

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

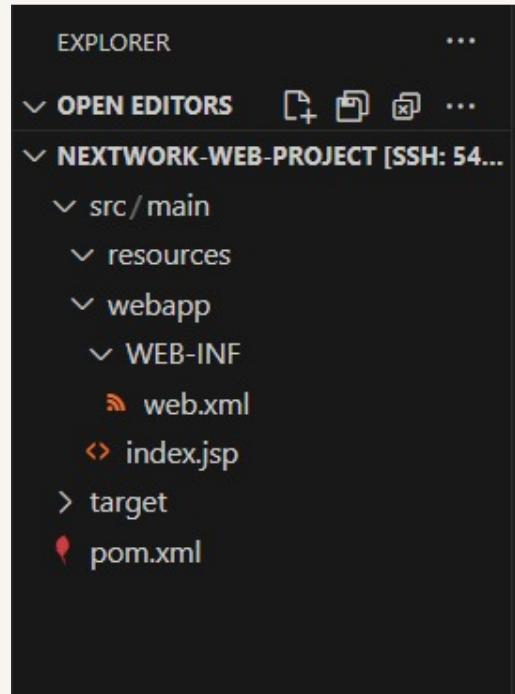
I installed Remote - SSH, which is a VS Code extension that allows connecting to remote servers over SSH. I installed it to easily browse, edit, and manage files on my EC2 instance with VS Code's full IDE features.

These details are typically included in a connection configuration for tools such as ssh in Linux, VSCode, or any other SSH client. By using these, you can securely connect to the EC2 instance from your local machine.

Create the Application

Using VSCode's file explorer, I could see that NEXTWORK-WEB-PROJECT has a proper Java web structure with web.xml, index.jsp, pom.xml, and a target directory for builds.

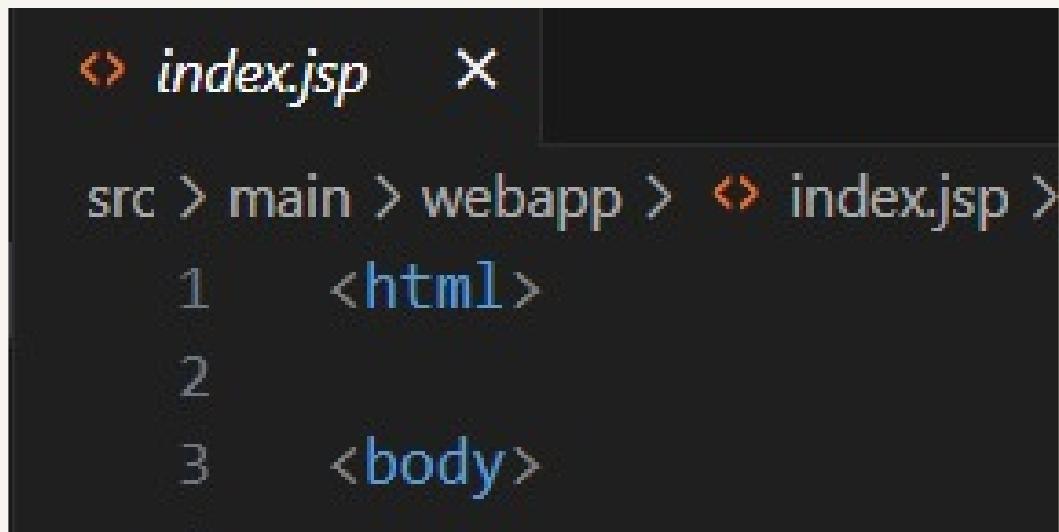
Two of the project folders created by Maven are src and webapp, which organize backend and frontend components. The src folder holds Java source code, while webapp contains web.xml for configuration.



Using Remote - SSH

index.jsp is the default landing page of a Java web app, combining HTML and Java to generate dynamic content. The server processes it and returns HTML to the browser.

I edited index.jsp by opening it in VSCode, modifying its HTML and Java code to update the content and then saving the changes.



The screenshot shows a dark-themed code editor window for the file "index.jsp". The file path is visible at the top: "src > main > webapp > index.jsp". The code itself is as follows:

```
1 <html>
2
3 <body>
```



NextWork.org

Everyone should be in a job they love.

Check out nextwork.org for
more projects

