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Set up a Web App + IDE with Cloud9

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Introducing AWS Cloud9!

What it does & how it’s useful

- AWS Cloud9 is a cloud-based IDE that allows you to write, run, and debug code without needing a local setup.
- Developers and teams use AWS Cloud9 because it's convenient, eliminates the need for complex local setups, and provides a familiar IDE experience in the cloud.

How I’m using it in today’s project

I used AWS Cloud9 to launch a development environment for building a simple web application with Java and Maven. Cloud9 provided a ready-to-use environment with essential tools like a code editor and terminal, saving me time on setup.

This project took me...

Documentation took me one hour to complete. But AWS Cloud9 requires a good internet connection.

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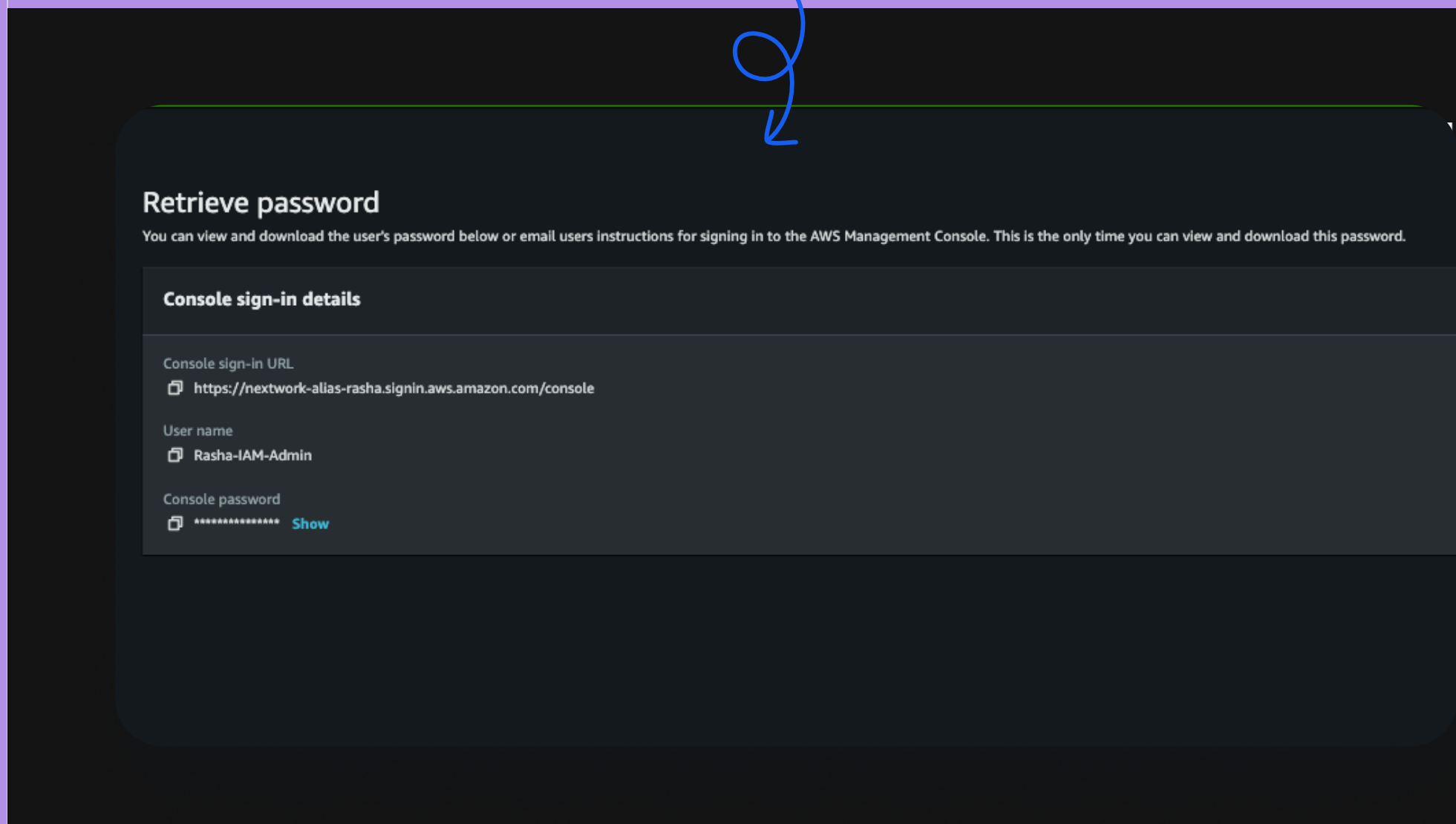
Set up an IAM User

- IAM Users are the individual accounts that people use to access AWS resources. They act like individual identities within your AWS account, and you can assign specific permissions to each user.

- It's important to create IAM users to improve security by limiting access and preventing accidental modifications by the root user.

- I created an IAM user with AdministratorAccess permissions for this project.

A new IAM user set up for my AWS Account



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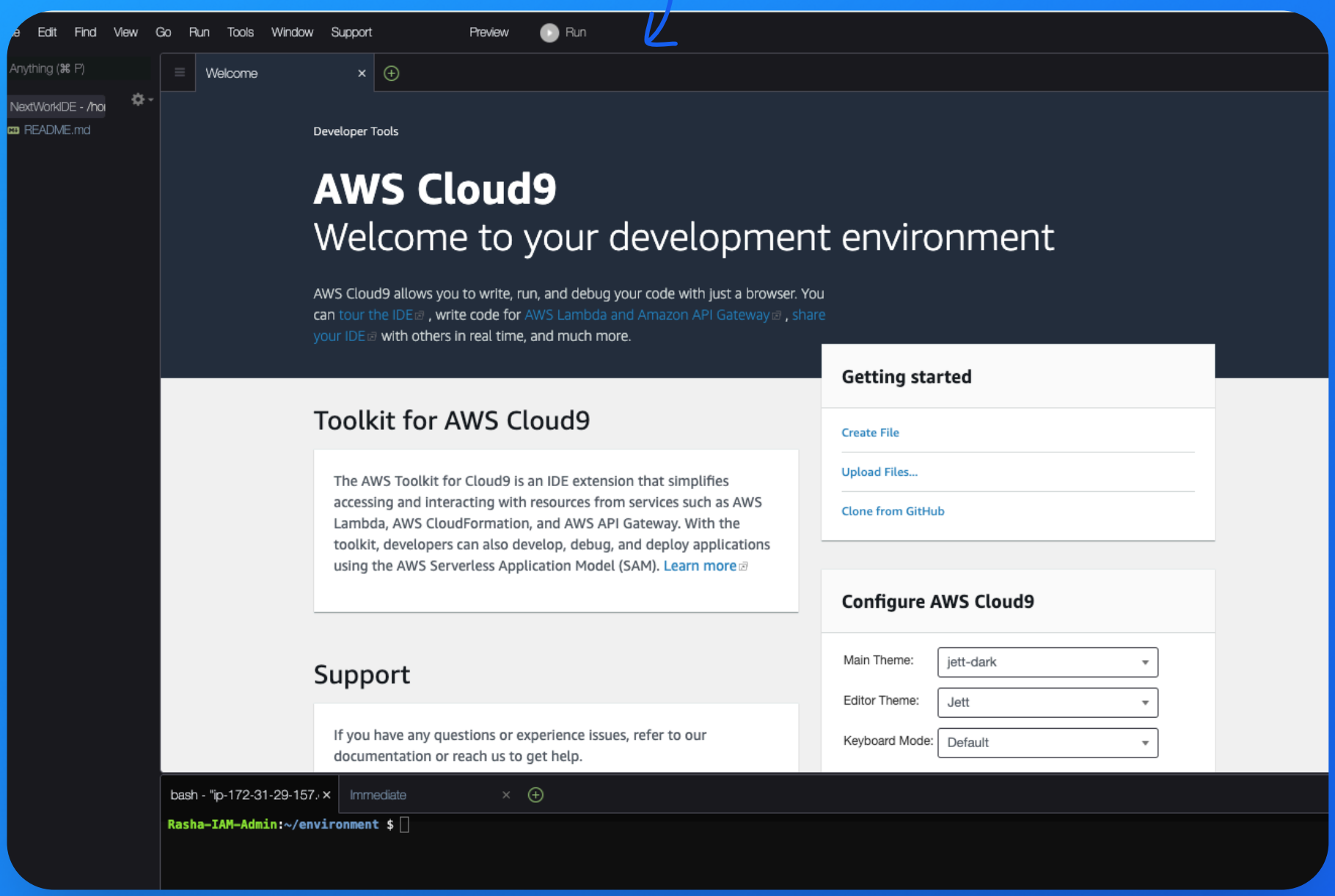
Launch a Cloud9 IDE

- An IDE (Integrated Development Environment) is a software application that provides comprehensive tools for development tasks like coding, debugging, and project management.
- I used AWS Cloud9 to launch an environment, which refers to a set of tools and configurations specific to the project's requirements.
- Using Cloud9 meant I could access a development environment from any device with a web browser, eliminating the need for local installations.

My Cloud9 IDE!



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Install Maven & Java

- Maven is a build automation tool that simplifies the process of building software projects.
- Maven is required to manage dependencies, compile code, and package the application for deployment.
- Java is the programming language used to build this web application.
- The Java version I'm using for this project is Java 8.

I used terminal commands to install Maven and Java

```
Rasha-IAM-Admin:~/environment $ export JAVA_HOME=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64
export JAVA_HOME=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64
Rasha-IAM-Admin:~/environment $ export PATH=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/jre/bin/:$PATH
Rasha-IAM-Admin:~/environment $ java -version
openjdk version "1.8.0_412"
OpenJDK Runtime Environment Corretto-8.412.08.1 (build 1.8.0_412-b08)
OpenJDK 64-Bit Server VM Corretto-8.412.08.1 (build 25.412-b08, mixed mode)
Rasha-IAM-Admin:~/environment $ mvn -v
Apache Maven 3.5.2 (138edd61fd100ec658bfa2d307c43b76940a5d7d; 2017-10-18T07:58:13Z)
Maven home: /usr/share/apache-maven
Java version: 1.8.0_412, vendor: Amazon.com Inc.
Java home: /usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/jre
Default locale: en_US, platform encoding: UTF-8
OS name: "linux", version: "5.10.219-208.866.amzn2.x86_64", arch: "amd64", family: "unix"
```

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CREATE THE APPLICATION

Completing the Documentation:

To create a simple Java web app, I ran the command:

```
mvn archetype:generate \
  -DgroupId=com.nextwork.app \
  -DartifactId=nextwork-web-project \
  -DarchetypeArtifactId=maven-archetype-webapp \
  -DinteractiveMode=false
```

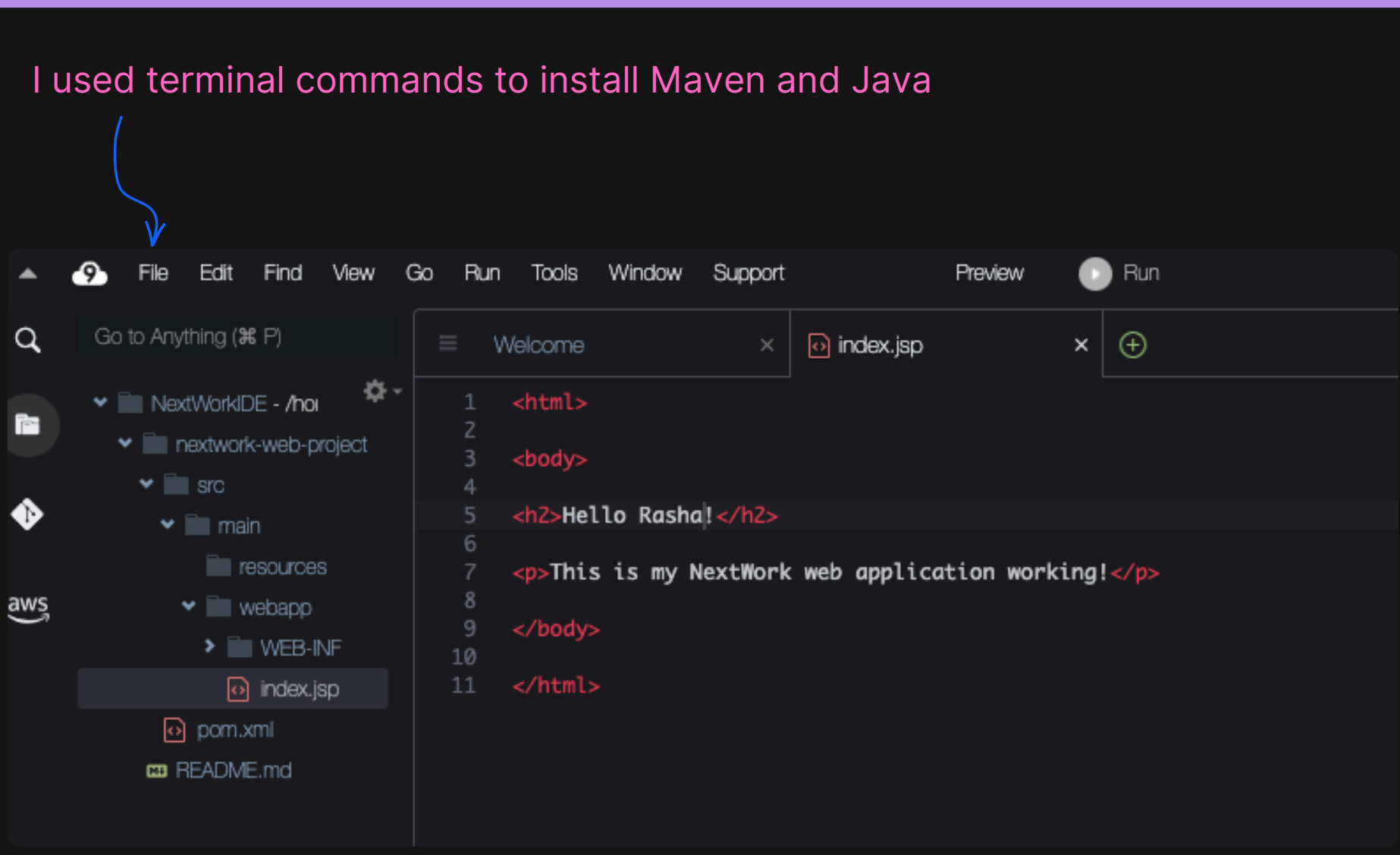
Once the web app was created, my IDE's file explorer showed a new folder named:

nextwork-web-project

To customize this web app's display, I will modify the file named:

index.jsp

I used terminal commands to install Maven and Java



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My key learnings

1. IAM users provide increased security by limiting access to specific resources and preventing accidental damage from the root account's full privileges.

2. IDEs are useful for consolidating and simplifying the development workflow by providing a unified platform for writing, debugging, managing, and executing code.

3. Apache Maven is used in my project to: automate the building of the web application. This includes managing dependencies, compiling code, and packaging the application for deployment.

4. One thing I didn't expect was how easy it was to set up a development environment in the cloud with Cloud9. But, I didn't expect to configure specific Java and Maven versions for this project.

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