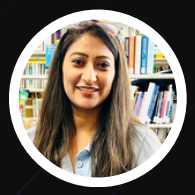
MANAGING A CI/CD PIPELINE WITH AWS CODE FAMILY

PROJECT 1 / 6

SETTING UP A WEB APP AND IDE IN THE CLOUD



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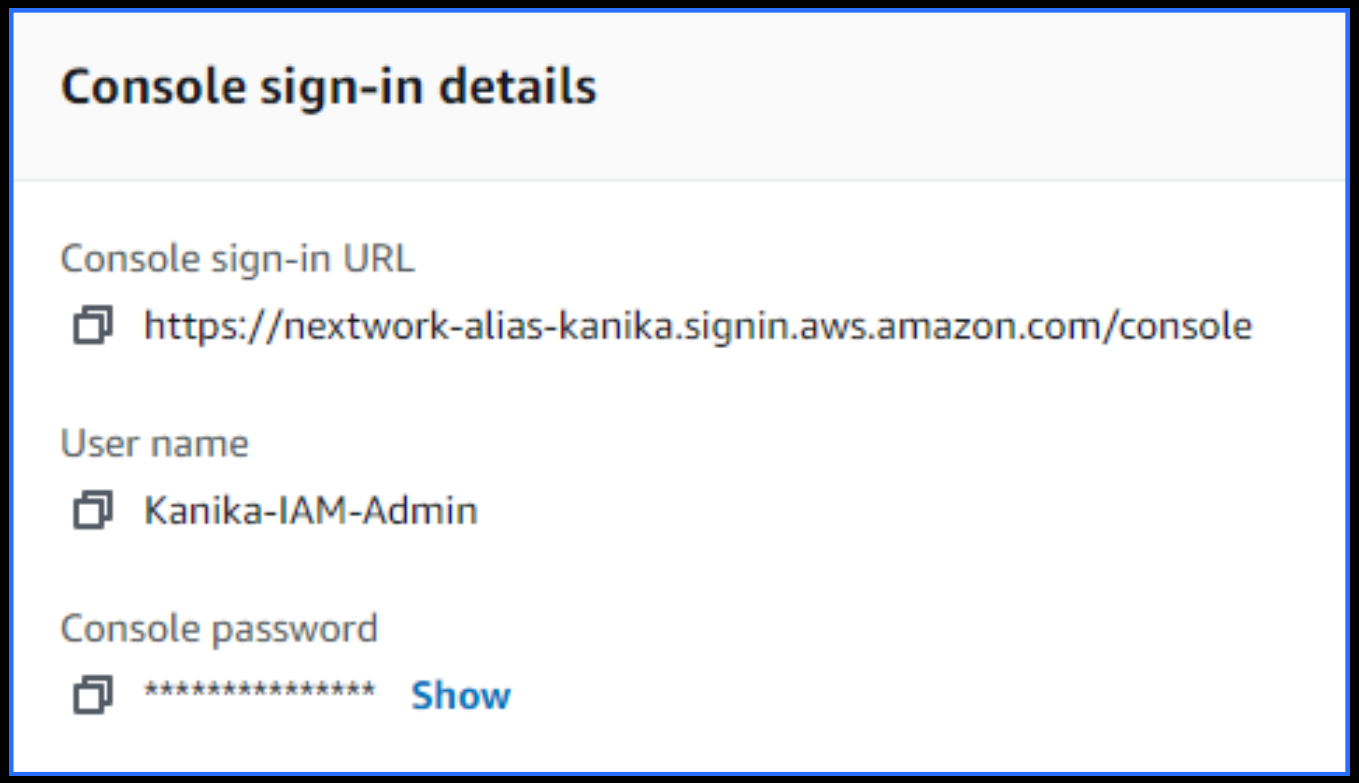
01 SET UP AN IAM USER

An IAM user is an additional user that gets access to my AWS Account's resources. When creating a User, I can specify in detail the level of access it has to my account's resources and services.

- It's important to create IAM users because the root user is vulnerable to security breaches that could result in my billing information being accessed without my permission.

- I created an IAM user with Administrator Access. This means my IAM user is allowed to perform all possible actions to all the resources in my account.

A new IAM user set up for my AWS Account



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LAUNCH A CLOUD9 IDE

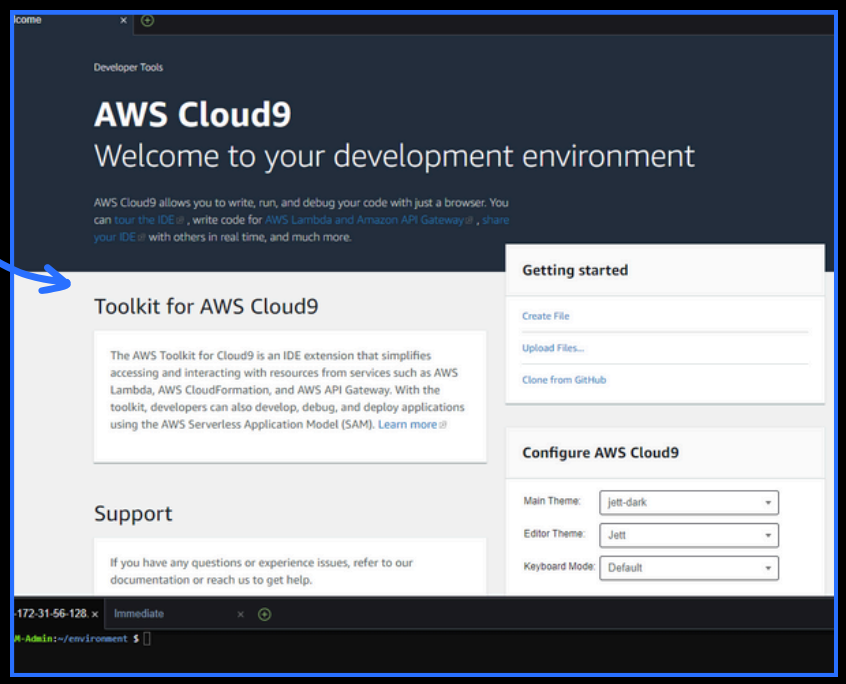
02

- An IDE is an environment for developers to write, manage and debug their code. Just like how Google Docs is a companion of writers to create documents, IDEs are companions for developers to build their application/ edit thier code.

- I used AWS Cloud9 to launch an environment. An environment means a set of resources that work together to help me build a piece of software/ application. Every application has its own needs e.g. dependencies, libraries, tools, etc. This means the environment that I'm creating will be tailored to the web application I build.

- Using Cloud9 meant that I did not need to download this software in order to use an IDE.

My Cloud9 IDE!



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03

INSTALL MAVEN & JAVA

- Maven is a tool that helps developers with the building of their software, automating the steps required for my application to become a final product that machines e.g. computers can actually run.
- Maven is required in this project because I am building a web app in a specific programming language which will not be able to build on its own without the help of Maven.

- Java is the specific programming language I am using to create my web application.
- Java is required in this project because it is a versatile tool for creating different applications, including web apps.
- The Java version I'm using for this project is Amazon Coretto 8.

I used terminal commands to install Maven and Java

```
Dependency Installed:
  java-1.8.0-amazon-corretto.x86_64 1:1.8.0_412.b08-1.amzn2

Complete!
Kanika-IAM-Admin:~/environment $ export JAVA_HOME=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64
Kanika-IAM-Admin:~/environment $ export PATH=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64/jre/bin/:$PATH

Kanika-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)
Kanika-IAM-Admin:~/environment $ mvn -v
Apache Maven 3.5.2 (138edd61fd100ec658bfa2d307c43b76940a5d7d; 2017-10-18T07:58:13Z)
```

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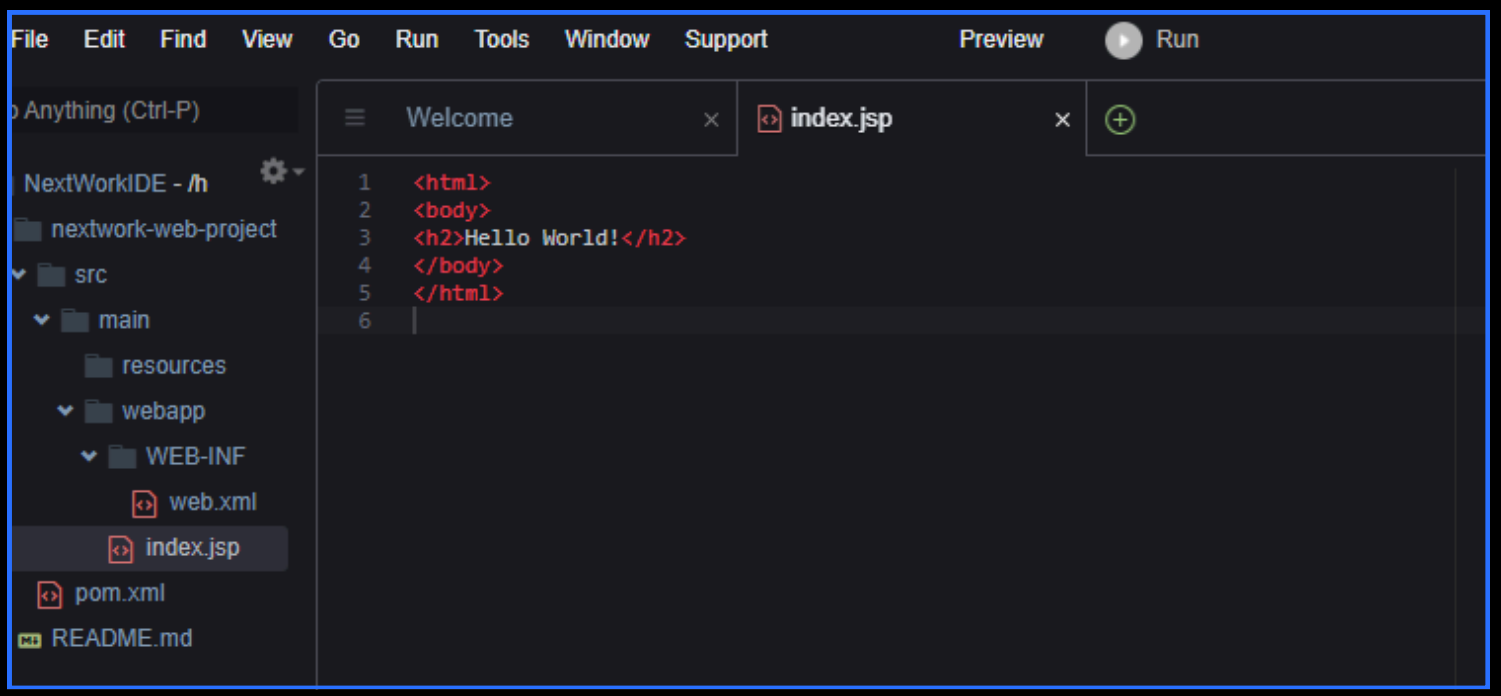
04 CREATE THE APPLICATION

- To create a simple Java web app, I ran the command **mvn archetype:generate.**
- Once the web app was created, my IDE's file explorer was populated with a Java web app structure - so I did not have to create one from scratch.
- To customise this web app's display, I updated **index.jsp**. The difference between index.jsp and index.html file is that index.jsp can contain Java code, which is what could support the creation of a web application (and not just a static website).



Web App structure set up by Maven

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MY KEY LEARNINGS

01

It's recommended to use an IAM user instead of the root user to do my projects because it keeps your account more secure, lets you control who can do what, and makes it easier to track activities.

02

IDEs are useful for
IDEs are useful for providing a complete development environment with tools like code editors, debuggers, and built-in support for version control, making coding more efficient and easier.

03

The service I used to set up an IDE was AWS Cloud9. The benefit of using this service over traditional IDEs is that it offers a cloud-based environment, allowing you to access your development workspace from anywhere, collaborate in real-time with others, and avoid the hassle of local setup and configuration.

04

Apache Maven is used in my project to to manage dependencies, automate the build process, and streamline project configuration, ensuring consistent and reproducible builds.

05

I also learned Java and gained experience with project management tools and techniques, improving my overall understanding of software development and build automation.

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FINAL THOUGHTS...

- This project took me approximately 60 minutes to complete.
- Delete **EVERYTHING** at the end! Let's keep this project free :)
- One thing I didn't expect was s how easy it was to deploy a cloud environment for the web app project :)
- In the next project of this DevOps series, I will use **AWS CodeCommit** to set up a repository for my web app's code.

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Thanks NextWork for the free project guide!

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