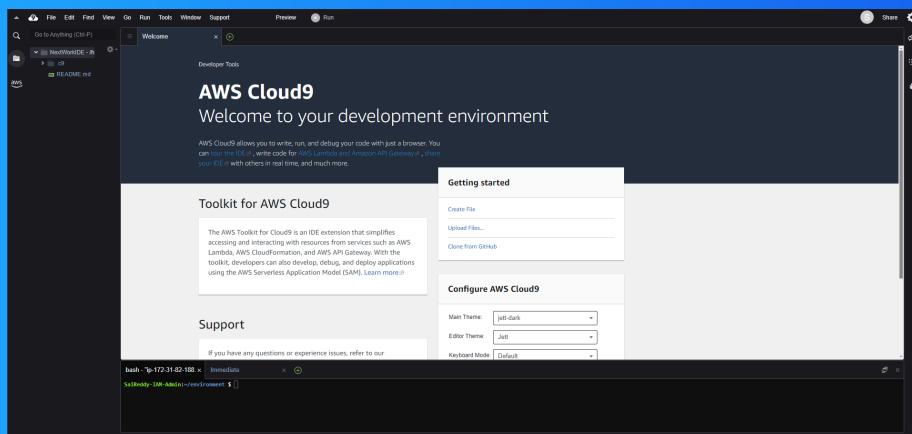




# Build a Web App and IDE in AWS



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# Introducing Today's Project!

## What is AWS Cloud9 and why is it useful?

AWS Cloud9 is a cloud-based IDE that lets developers write, run, and debug code in a browser. It's useful for its collaboration features, access from anywhere, and direct integration with AWS services, making development and deployment easier.

## How I'm using Cloud9 in this project

I used AWS Cloud9 in today's project to create and customize a Java web application, leveraging the built-in IDE to write code directly in the cloud, making it easier to manage development and AWS integration.

## One thing I didn't expect...

One thing I didn't expect in this project was how seamlessly AWS Cloud9 integrates with other AWS services, making it much easier to manage resources and streamline development directly from the cloud environment.

## This project took me...

This project took me about 30 minutes to complete, including setting up the Cloud9 environment, creating the Java web app, customizing the display, and testing the application.



# Set up an IAM User

An IAM user is an entity in AWS that represents a person or service that needs access to AWS resources. Each user has individual credentials and permissions assigned to them, allowing secure and controlled access to resources based on their roles.

## The importance of IAM users

It's important to use IAM users because they provide secure, individualized access to AWS resources, allowing you to assign specific permissions based on roles. This ensures better control, auditing, and security in managing resources.

I created an IAM user with administrator access, granting full permissions to manage all AWS resources, allowing the user to perform any action required across the account.

The screenshot shows the AWS IAM 'Create user' wizard at Step 4: Retrieve password. The left sidebar lists steps: Step 1 (Specify user details), Step 2 (Set permissions), Step 3 (Review and create), and Step 4 (Retrieve password). The main content area is titled 'Retrieve password' and contains the following information:

**Console sign-in details**

- Console sign-in URL: <https://sai-reddy-utd.sigin.aws.amazon.com/console>
- User name: [SaiReddy-IAM-Admin](#)
- Console password: [\\*\\*\\*\\*\\* Show](#)

At the bottom right are buttons for 'Cancel', 'Download .csv file', and 'Return to users list'.



# Environments & IDEs

## What is an environment?

An environment is a specific setup or context where applications or services run, including the necessary resources, configurations, and dependencies. It can refer to development, testing, staging, or production environments in software development.

## What is an IDE?

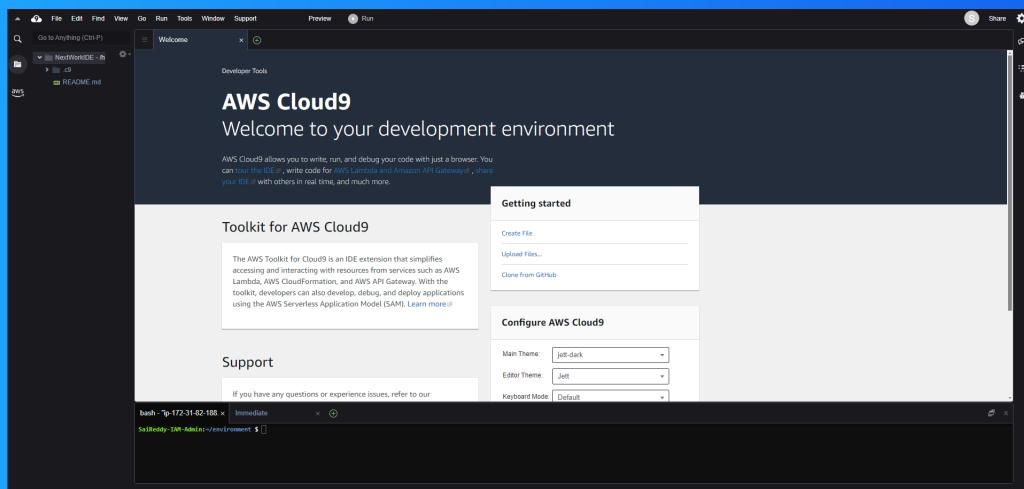
An IDE is a software application that provides tools for coding, such as a text editor, debugger, and compiler, all in one place. It simplifies development by offering features like code completion and project management.



# Launch a Cloud9 IDE

## The benefit of using Cloud9

Using Cloud9 has the benefit of being cloud-based, which allows you to access your development environment from anywhere, collaborate in real-time, and directly integrate with AWS services without needing to install local software.





# Maven & Java

Maven is a build automation and project management tool primarily used for Java projects. It simplifies the process of managing dependencies, compiling code, and building applications by using a standardized project structure and configuration files.

Maven is required in this project because it helps manage dependencies, streamline the build process, and ensure that the project is structured consistently. It simplifies compiling, packaging, and deploying the application efficiently.

Java is a high-level, object-oriented programming language widely used for building applications across platforms. It is known for portability, security, and robustness, making it ideal for everything from web apps to large-scale enterprise systems.

Java is required in this project because it's used to create a simple web application within the Cloud9 development environment, leveraging its robust framework and portability for building and running the application efficiently.

```
Transaction test succeeded
Running transaction
Installing : 1:java-1.8.0-amazon-corretto-1.8.0.422.b05-1.amzn2.x86_64
Installing : 1:java-1.8.0-amazon-corretto-devel-1.8.0.422.b05-1.amzn2.x86_64
Verifying  : 1:java-1.8.0-amazon-corretto-1.8.0.422.b05-1.amzn2.x86_64
Verifying  : 1:java-1.8.0-amazon-corretto-devel-1.8.0.422.b05-1.amzn2.x86_64

Installed:
  java-1.8.0-amazon-corretto-devel.x86_64 1:1.8.0.422.b05-1.amzn2
Dependency Installed:
  java-1.8.0-amazon-corretto.x86_64 1:1.8.0.422.b05-1.amzn2

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

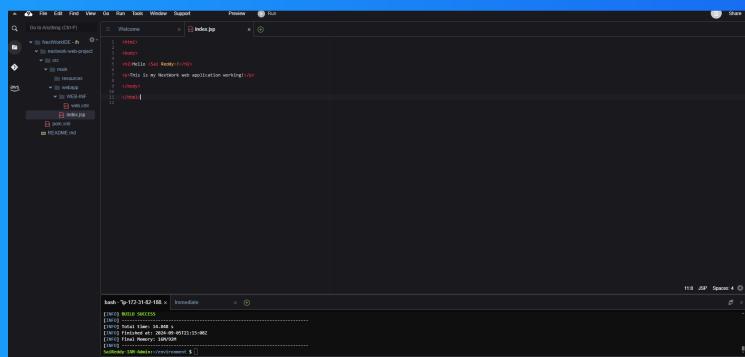


# Create the Application

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 was populated with a standard Maven project structure, including folders like `src`, `main`, `webapp`, and files like `pom.xml` for managing dependencies and configurations.

To customize this web app's display, I updated the `index.jsp` file located in the `webapp` folder, modifying the HTML to change the content and layout of the home page.





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