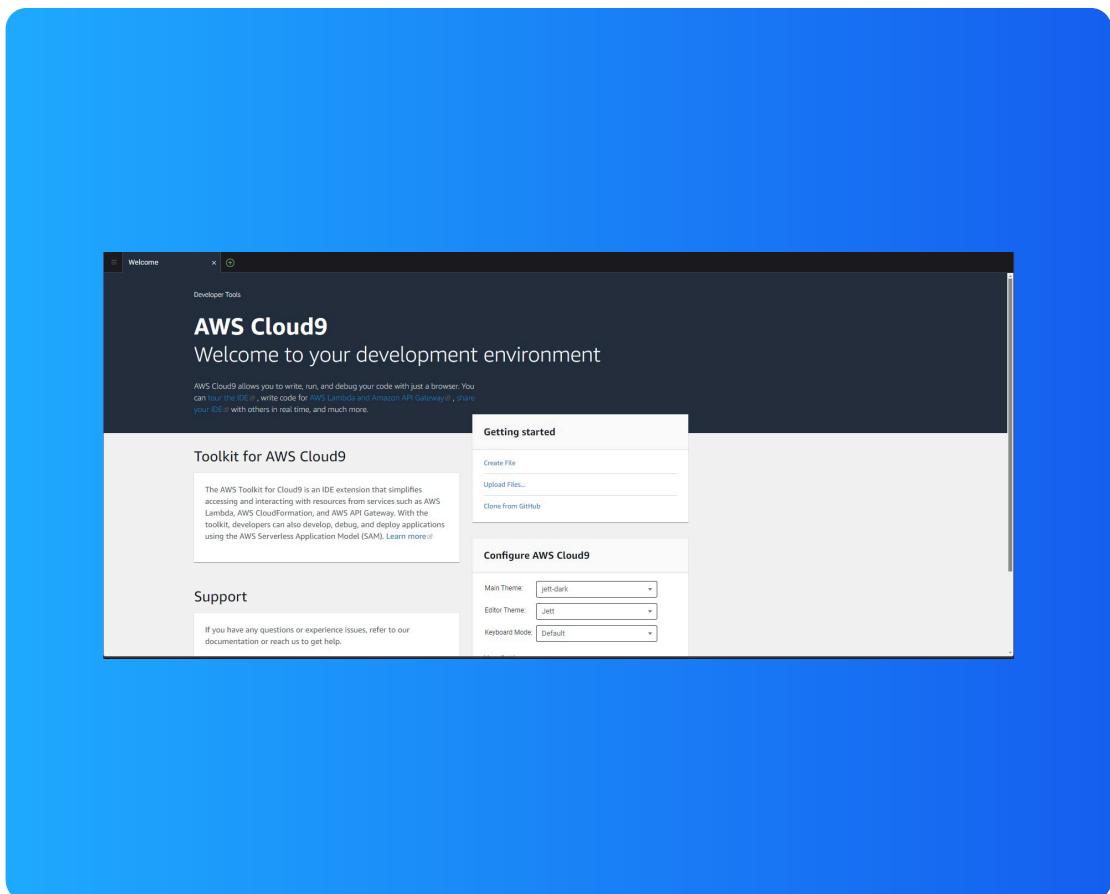




# Build a Web App and IDE in AWS



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# Introducing Today's Project!

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

AWS Cloud9 is an IDE service that's provided and hosted on AWS. Developers can use Cloud9 by accessing it on the browser instead of looking for an IDE on the Internet, downloading, installing and configuring their development environment.

## How I'm using Cloud9 in this project

In this project I used AWS Cloud9 to download and install Maven and Java through the terminal by using CLI commands. After that I created my web application and modified my index.jsp file.

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

I wasn't expecting how easy it was to use an IDE that was hosted by AWS because I'm normally used to doing all that work myself like installing and configuring an IDE.

## This project took me...

This project took me an hour to complete and I took 10 minutes to write my documentation.



# Set up an IAM User

An IAM user is a person or a computer that will be able to perform actions in the AWS cloud environment. That person or computer will be required to log in using a username and a password.

## The importance of IAM users

It's important to use IAM users because the root user account has full access to all AWS services and resources in the account, as well as personal information and billing information. It's a good practice to create a user with admin permissions.

I created an IAM user with a policy I directly attached to that user. The policy I applied is called AdministratorAccess, and this policy allows my IAM user to access all resources in my AWS account and perform any actions.

The screenshot shows a modal window titled "Retrieve password". The window contains the following information:

- Console sign-in details**:
  - Console sign-in URL: <https://nextwork-alias-nikhil.signin.aws.amazon.com/console>
  - User name: nikhil-IAM-Admin
  - Console password: A masked password followed by a "Show" link.
- Email sign-in instructions**: A button to email sign-in instructions.

At the bottom of the modal are three buttons: "Cancel", "Download .csv file", and "Return to users list".

# Environments & IDEs

## What is an environment?

An environment is a set of resources that are required to build and run software applications. These resources may include libraries, settings and other tools required by the developer to build their applications.

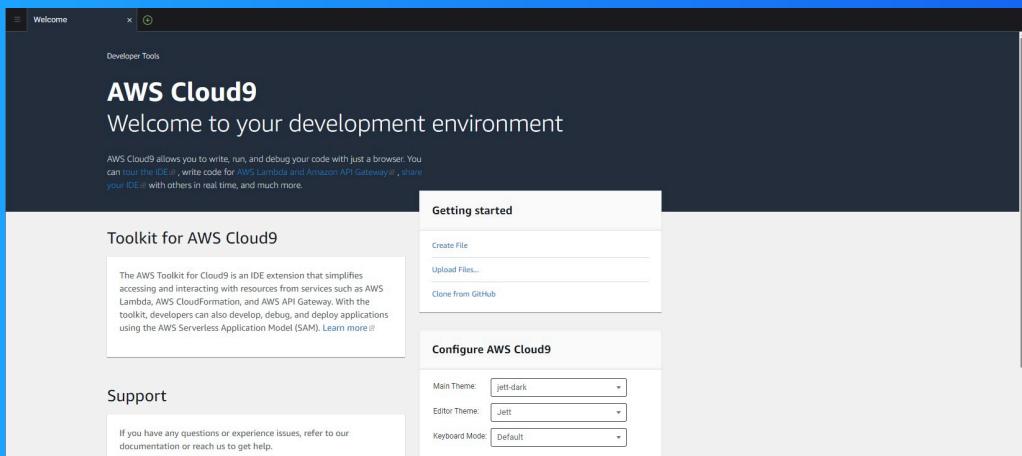
## What is an IDE?

An IDE is a software application that allows developers to write, debug and manage their code in an efficient manner. IDEs come with their own text editors to write code, tools to compile and test the code, and other utilities.

# Launch a Cloud9 IDE

## The benefit of using Cloud9

Using Cloud9 has the benefit of having its own IDE so there is no need for the developer to download an IDE from the Internet, installing it on their workstation and managing the settings and configurations.





# Maven & Java

Maven is an efficient and powerful tool that automates the development of software where it can be run as applications on devices.

Maven is required in this project because I'm looking to build a web application. My web app would be able to display interactive and dynamic content, which wouldn't be possible if I built a website since it shows static content to users.

Java is a programming language that's used to develop applications.

Java is required in this project because the language is very versatile and can develop a variety of applications such as web apps.

```
java -ip-172-31-29-25.cb | Immediate x

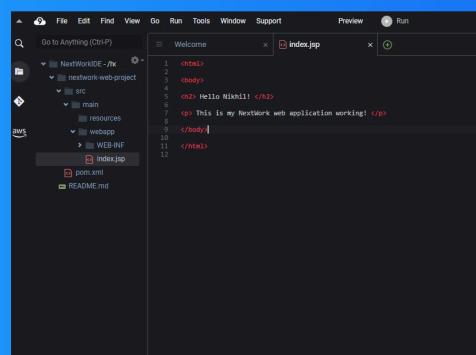
[Completion]
nishi| IAM-Admin:/~environment $ export JAVA_HOME=/usr/lib/jvm/java-1.8.0-amazon-corretto.x86_64
nishi| IAM-Admin:/~environment $ export PATH=$JAVA_HOME/bin:$PATH
nishi| IAM-Admin:/~environment $ java -version
java version "1.8.0_422"
OpenJDK Runtime Environment Corretto-8.422.05.1 (build 1.8.0_422-b05)
OpenJDK 64-Bit Server VM Corretto-8.422.05.1 (build 25.422-b05, mixed mode)
nishi| IAM-Admin:/~environment $ mvn -v
Apache Maven 3.5.2 (13bbffed180ec69c5bd0d89091ec3039340b7694bb5d7d)
Maven home: /usr/share/maven/apache-maven-3.5.2
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" os.arch: "amd64" os.version: "5.10.25-215.878.1.amzn2.x86_64", arch: "amd64", family: "unix"
nishi| IAM-Admin:/~environment $
```

# Create the Application

To create a simple Java web app, I ran the command 'mvn archetype:generate' in the Cloud9 terminal.

Once the web app was created, my IDE's file explorer was populated with the Java web app project as well as the files in an organized structure.

To customise this web app's display, I updated the code in the index.jsp file to include my name in a header and provided a statement in a paragraph.



The screenshot shows the NetBeans IDE interface. On the left, the 'File Explorer' pane displays a project named 'nextwork-web-project' containing 'src/main/java', 'resources', and 'WEB-INF' directories, along with 'index.jsp', 'pom.xml', and 'README.md'. The 'index.jsp' file is open in the main editor area, showing the following JSP code:

```
<%@page contentType="text/html" pageEncoding="UTF-8"%>
<%@taglib uri="http://java.sun.com/jsp/jstl/core" prefix="c"%>
<html>
    <head>
        <title>Welcome</title>
    </head>
    <body>
        <h2>Hello Nikhil!</h2>
        <p>This is my NextWork web application working!</p>
    </body>
</html>
```



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