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Connect a Web App to Amazon Aurora

DI

Dineshraj Dhanapathy

The screenshot shows a web browser window with the URL `ec2-3-110-165-76.ap-south-1.compute.amazonaws.com/SamplePage.php`. The page title is "Sample page". There are two input fields labeled "NAME" and "ADDRESS". Below them is a table with two rows:

ID	NAME	ADDRESS
1	DD	nextwork
2	DD1	SamplePage.php

At the bottom right of the table is a button labeled "Add Data".

Introducing Today's Project!

What is Amazon Aurora?

Amazon Aurora is a fully managed relational database offering high performance, scalability, and automatic failover. It's useful for secure, cost-efficient apps needing MySQL or PostgreSQL compatibility.

How I used Amazon Aurora in this project

I used Amazon Aurora to create a relational database that stores user-submitted data from my web app. It ensures high availability, scalability, and seamless integration with my EC2-hosted application.

One thing I didn't expect in this project was...

One thing I didn't expect in this project was the challenge of connecting via SSH, switching to the bash shell, and ensuring a stable connection to the Aurora database, requiring extra debugging and configurations.



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This project took me...

This project took me a few hours, including setting up the EC2 instance, configuring the Aurora database, troubleshooting SSH and Bash connections, and ensuring smooth database integration with the web app.

Creating a Web App

```
PS C:\Users\dines\Downloads> ssh -i NextWorkAuroraApp.pem ec2-user@ec2-3-110-165-76.ap-south-1.compute.amazonaws.com
The authenticity of host 'ec2-3-110-165-76.ap-south-1.compute.amazonaws.com (3.110.165.76)' can't be established.
ED25519 key fingerprint is SHA256:J9diHv3jVkfR64igzS6FxcmhyFqMkwQu/pKL0IEy5k.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added 'ec2-3-110-165-76.ap-south-1.compute.amazonaws.com' (ED25519) to the list of known hosts.

      _#
     /_###_
~~ \_####\           Amazon Linux 2023
~~ \###_
~~ \#/   ___> https://aws.amazon.com/linux/amazon-linux-2023
~~ V~'   '-->
~~ /    /
~~ .-'  -/
~~ _/ _/
~~ _/m/
[ec2-user@ip-172-31-4-244 ~]$ |
```



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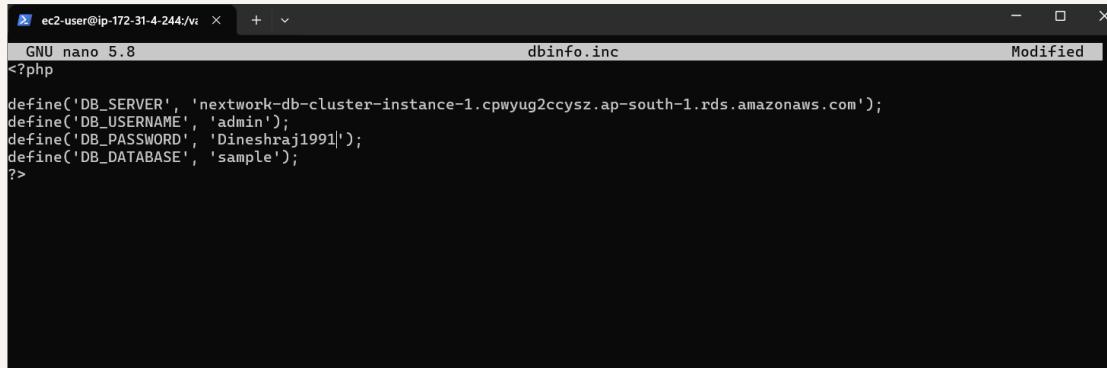
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To connect to my EC2 instance, I used SSH with the command: ssh -i NextWorkAuroraApp.pem ec2-user@ec2-3-110-165-76.ap-south-1.compute.amazonaws.com, ensuring secure access with my key pair.

To help me create my web app, I first installed Apache (httpd), PHP, MySQL extension (php-mysqli), and MariaDB (mariadb105) using sudo dnf install -y, ensuring my server can run PHP and connect to Aurora.

Connecting my Web App to Aurora

I set up my EC2 instance's connection details to my database by creating a dbinfo.inc file in the inc directory and adding my Aurora endpoint, database name, username, and password for secure access.

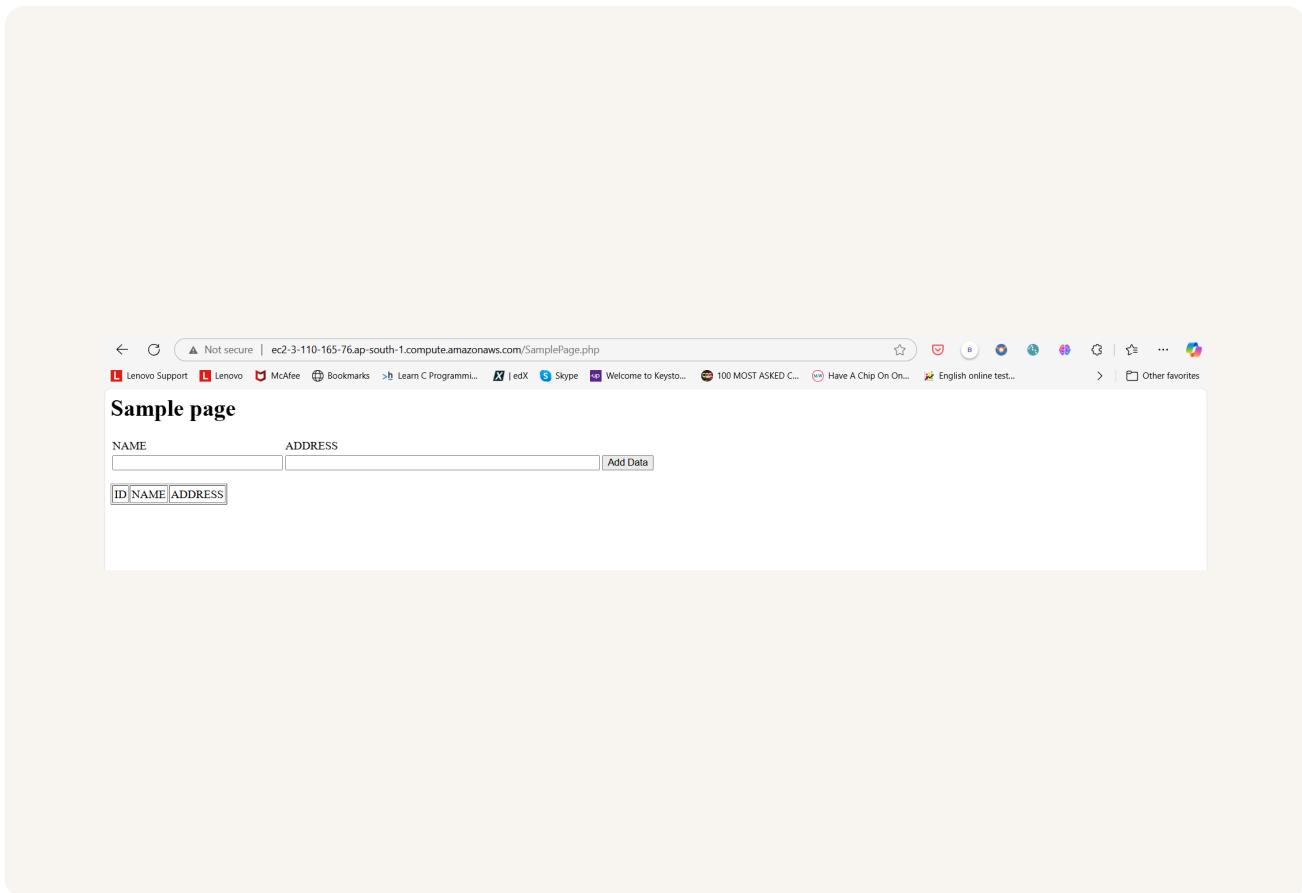


The screenshot shows a terminal window titled "ec2-user@ip-172-31-4-244:~" running the "nano 5.8" editor. The file being edited is named "dbinfo.inc". The content of the file is a PHP configuration snippet defining database connection parameters:

```
GNU nano 5.8                               dbinfo.inc                                Modified
<?php
define('DB_SERVER', 'nextwork-db-cluster-instance-1.cpwyug2ccysz.ap-south-1.rds.amazonaws.com');
define('DB_USERNAME', 'admin');
define('DB_PASSWORD', 'Dineshraj1991');
define('DB_DATABASE', 'sample');
?>
```

My Web App Upgrade

Next, I upgraded my web app by creating a new PHP file to connect to the database, adding a simple frontend with a submission form, and displaying stored data in a table for a user-friendly experience.



Testing my Web App

To make sure my web app was working correctly, I tested it in the browser, submitted data through the form, and used MySQL CLI queries to check if the data was successfully stored in my Aurora database.

```
MySQL [sample]> SELECT * FROM EMPLOYEES;
+----+-----+-----+
| ID | NAME | ADDRESS      |
+----+-----+-----+
| 1  | DD   | nextwork    |
| 2  | DD1  | SamplePage.php |
+----+-----+-----+
2 rows in set (0.001 sec)
```



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