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# Connect a Web App to Amazon Aurora



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## Sample page

NAME

ADDRESS

Add Data

ID	NAME	ADDRESS
1	Benjamin Kwame Ampah	Accra West Legon
2	Aduo Benjamin	Atonsu- kumasi
3	Joshua Parry	Accra Ridge Church
4	Nii Okwei	Haatso - West Lands
5	Florence Ama Mensah	Techiman-Ayimanah

# Introducing Today's Project!

## What is Amazon Aurora?

Amazon Aurora is a high-performance, scalable relational database service. It offers automatic backups, replication, and strong security. Aurora is useful because it combines the speed of high-end databases with the simplicity and cost-effectiveness.

## How I used Amazon Aurora in this project

In today's project, I used Amazon Aurora as the primary relational database to store and manage data efficiently. I set up an Aurora MySQL instance, connected it to an EC2-hosted web app, and verified database updates using MySQL CLI for operations.

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

One thing I didn't expect in this project was needing to change permissions for some files. Adjusting file access settings was an extra step, but it ensured my web app and database could communicate properly without security issues.

AM

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## This project took me...

This project took approximately 40 minutes to complete. The process was smooth overall, though adjusting file permissions added an unexpected step. Each challenge reinforced my understanding of AWS services, making the experience even more valuable.



# Creating a Web App

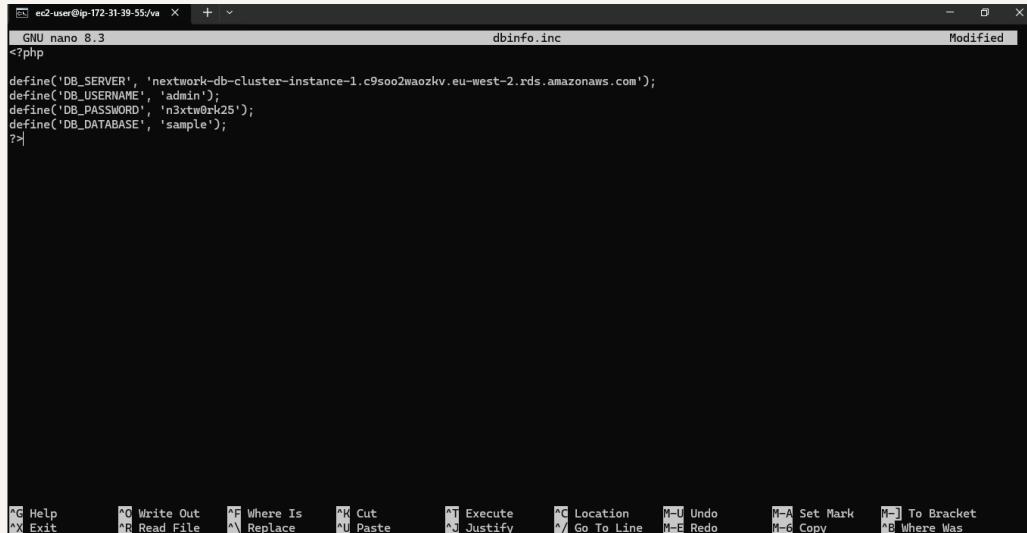
```
ec2-user@ip-172-31-39-55:~ + - Microsoft Windows [Version 10.0.19045.5796] (c) Microsoft Corporation. All rights reserved. C:\Users\Ampah\Desktop\NexWork>ls 'ls' is not recognized as an internal or external command, operable program or batch file. C:\Users\Ampah\Desktop\NexWork>ssh -i NextWorkAuroraApp.pem ec2-user@ec2-13-43-122-118.eu-west-2.compute.amazonaws.com The authenticity of host 'ec2-13-43-122-118.eu-west-2.compute.amazonaws.com (13.43.122.118)' can't be established. ED25519 key fingerprint is SHA256:xxcxreDnbvUuUr0a/XFVRHTmL91S9n3KeiUS/ET/5M8. This key is not known by any other names. Are you sure you want to continue connecting (yes/no/[fingerprint])? yes Warning: Permanently added 'ec2-13-43-122-118.eu-west-2.compute.amazonaws.com' (ED25519) to the list of known hosts. # _ ##### Amazon Linux 2023 \_ ##### \|##| \|/\_ ___ https://aws.amazon.com/linux/amazon-linux-2023 \|/\_ \|/\_ /m/ | ec2-user@ip-172-31-39-55 ~]$ |
```

To connect to my EC2 instance, I changed the file permissions of my `\*.pem` file to ensure security, then used SSH along with my Public IPv4 DNS in the terminal to establish a secure connection to the instance.

To help me create my web app, I first installed httpd for the web server, PHP for dynamic content processing, php-mysqli for database connectivity, and MariaDB to manage the database. These components set up the foundation for my web application.

# Connecting my Web App to Aurora

I set up my EC2 instance's connection to my database using a PHP script with my Aurora endpoint, database name, username, and password, then saved these details in `dbinfo.inc` for secure and efficient access.



The screenshot shows a terminal window titled "ec2-user@ip-172-31-39-55:~" running the "nano 8.3" editor. The file being edited is "dbinfo.inc". The content of the file is:

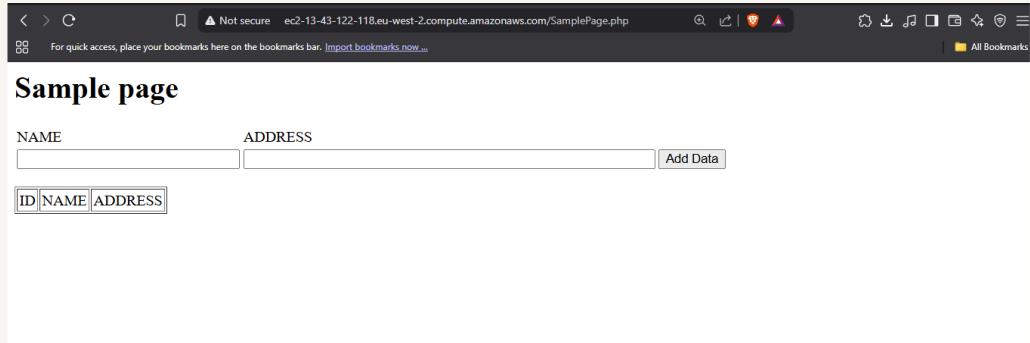
```
<?php
define('DB_SERVER', 'nextwork-db-cluster-instance-1.c9soo2waozkv.eu-west-2.rds.amazonaws.com');
define('DB_USERNAME', 'admin');
define('DB_PASSWORD', 'n3xtw0rk25');
define('DB_DATABASE', 'sample');
?>
```

The terminal window includes standard nano key bindings at the bottom:

- ^G Help
- ^C Write Out
- ^F Where Is
- ^X Exit
- ^R Read File
- ^A Replace
- ^K Cut
- ^U Paste
- ^T Execute
- ^J Justify
- ^C Location
- ^V Go To Line
- ^U Undo
- ^R Redo
- ^A Set Mark
- ^C Copy
- ^B To Bracket
- ^W Where Was

# My Web App Upgrade

Next, I upgraded my web app by changing the permissions of the `SamplePage.php` file to allow access on my EC2 instance. Then, I added my PHP script to enhance functionality and ensure smooth interaction with my Aurora database.



# Testing my Web App

To make sure my web app was working correctly, I used MySQL CLI to check if the data entered through the app was successfully stored in my Aurora database. This confirmed that the connection and database integration were functioning properly.

```
ec2-user@ip-172-31-39-55: ~ + ~
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MySQL [sample]> SHOW TABLES;
+-----+
| Tables_in_sample |
+-----+
| EMPLOYEES |
+-----+
1 row in set (0.002 sec)

MySQL [sample]> DESCRIBE EMPLOYEES;
+-----+-----+-----+-----+-----+
| Field | Type   | Null | Key | Default | Extra       |
+-----+-----+-----+-----+-----+
| ID    | int unsigned | NO  | PRI | NULL    | auto_increment |
| NAME  | varchar(45)  | YES |     | NULL    |               |
| ADDRESS | varchar(90) | YES |     | NULL    |               |
+-----+-----+-----+-----+-----+
3 rows in set (0.005 sec)

MySQL [sample]> SELECT * FROM EMPLOYEES;
+-----+-----+-----+
| ID | NAME      | ADDRESS        |
+-----+-----+-----+
| 1  | Benjamin Kwame Ampah | Accra West Legon |
| 2  | Aduo Benjamin   | Atonsu-kumasi   |
| 3  | Joshua Parry   | Accra Ridge Church |
| 4  | Nii Okwei      | Haatso - West Lands |
| 5  | Florence Ama Mensah | Techiman-Ayimanah |
+-----+-----+-----+
5 rows in set (0.001 sec)

MySQL [sample]> |
```



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