

“Develop a MySQL-Powered Web Application and Integrate it with a MySQL Database on an AWS EC2 Apache Server”

Launching EC2 and configure security Groups for allowing traffics.

1. Install Apache web server:

- Open a terminal.
- Use the following commands to install Apache:

```
sudo apt update
```

```
sudo apt install apache2
```

- Apache web server will be installed on your system.

2. Check the version and service status of Apache web server:

- To check the Apache version, use the following command:

```
apache2 -v
```

- To check the status of the Apache service, use:

```
sudo systemctl status apache2
```

3. Create a simple HTML app that can talk to the MySQL database:

- Use a text editor to create an HTML file (e.g., **index.html**):

```
sudo rm -rf /var/www/html/index.html
```

```
sudo vim /var/www/html/index.html
```

- Add a simple HTML form to the file. For example:

```
<!DOCTYPE html>
<html>
<head>
  <title>MySQL App</title>
</head>
<body>
  <h1>MySQL App</h1>
  <form action="process.php" method="POST">
    <label for="name">Name:</label>
    <input type="text" id="name" name="name">
    <input type="submit" value="Submit">
  </form>
</body>
</html>
```



MySQL App

Name:

4. Install MySQL and check its status and version:

- Use the following command to install MySQL Server:

```
sudo apt install mysql-server
```

- During the installation, you'll be prompted to set a MySQL root password.

- To check the MySQL version, run:

```
mysql --version
```

- To check the status of the MySQL service, use:

```
sudo systemctl status mysql
```

5. Create a database and a table in MySQL:

- Log in to MySQL as the root user:

```
mysql -u root -p
```

- Enter your MySQL root password.
- Create a database and a table, and grant privileges to a user (replace **<your_database>**, **<your_table>**, **<your_user>**, and **<your_password>** with your preferred values):

```
CREATE DATABASE test;
USE test;
CREATE TABLE testtable (
  id INT AUTO_INCREMENT PRIMARY KEY,
  name VARCHAR(255) NOT NULL
);
CREATE USER 'yuvaraj'@'localhost' IDENTIFIED BY 'your@password';
GRANT ALL PRIVILEGES ON test.* TO 'vboxuser'@'localhost';
FLUSH PRIVILEGES;
```

6. Create a PHP script to connect the app and MySQL DB:

- Install PHP if not already installed:

`sudo apt install php`

Ensure the MySQLi extension is installed and enabled. You can install it using:

`sudo apt-get install php-mysqli`

- Create a PHP script (**process.php**):

`nano /var/www/html/process.php`

- Add PHP code to connect to the MySQL database and insert data (replace placeholders with your actual values):

```
<?php
$servername = "localhost";
$username = "<yuvaraj>";
$password = "<your@password>";
$dbname = "<test>";

$conn = new mysqli($servername, $username, $password, $dbname);

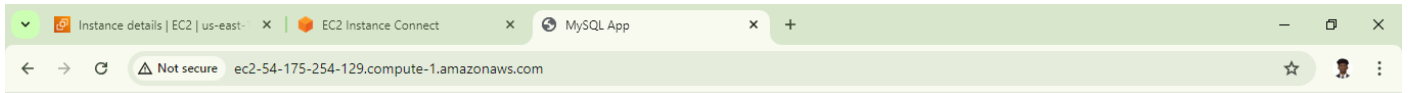
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}

$name = $_POST["name"];

$sql = "INSERT INTO <testtable> (name) VALUES ('$name')";

if ($conn->query($sql) === TRUE) {
    echo "Record inserted successfully!";
} else {
    echo "Error: " . $sql . "<br>" . $conn->error;
}

$conn->close();
?>
```



MySQL App

Name:



Record inserted successfully!

7. Access the site with the IP of the Ubuntu box:

- Open a web browser on another computer or device.
- Enter the IP address of your Ubuntu 20.04 machine in the browser's address bar.
- You should see the "MySQL App" page created in step 3.
- Fill in the form and submit it to insert data into the MySQL database.

FINAL OUTPUT

The screenshot shows an AWS CloudShell terminal window. The browser tabs at the top include 'Instance details | EC2 | us-east-1', 'EC2 Instance Connect', and 'ec2-54-175-254-129.compute-1'. The address bar shows the URL: 'us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-02a255d4fa7ba95af&osUser=ubuntu&sshPort=22#/'. The terminal window has a dark background and displays the following text:

```
Copyright (c) 2000, 2024, Oracle and/or its affiliates.  
Oracle is a registered trademark of Oracle Corporation and/or its  
affiliates. Other names may be trademarks of their respective  
owners.  
  
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.  
  
mysql> use test;  
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> select * from testtable;  
  
+----+-----+  
| id | name |  
+----+-----+  
| 1  | Yuvaraj |  
| 2  | Yuvaraj |  
| 3  | sharun |  
| 4  | sumi |  
| 5  | sumi |  
| 6  | silambu |  
| 7  | Prakash |  
| 8  | MAX |  
+----+-----+  
8 rows in set (0.00 sec)  
  
mysql>
```

Below the terminal window, the instance ID 'i-02a255d4fa7ba95af (mylabec2_001)' is displayed, along with its public and private IP addresses: 'PublicIPs: 54.175.254.129 PrivateIPs: 172.31.58.1'.

The footer of the CloudShell window includes 'CloudShell', 'Feedback', and copyright information: '© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences'.