“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
```

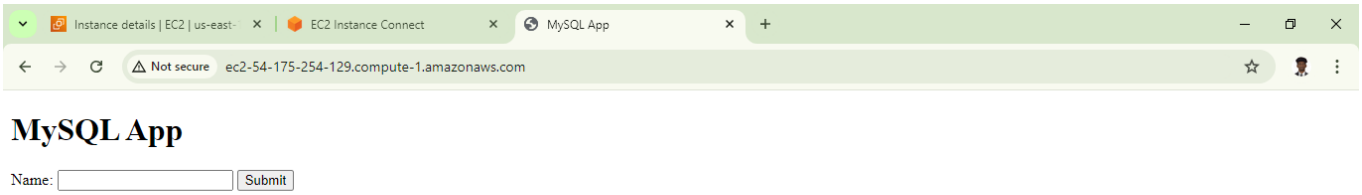
3. Create a simple HTML app that can talk to the MySQL database:

- 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>
```



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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:

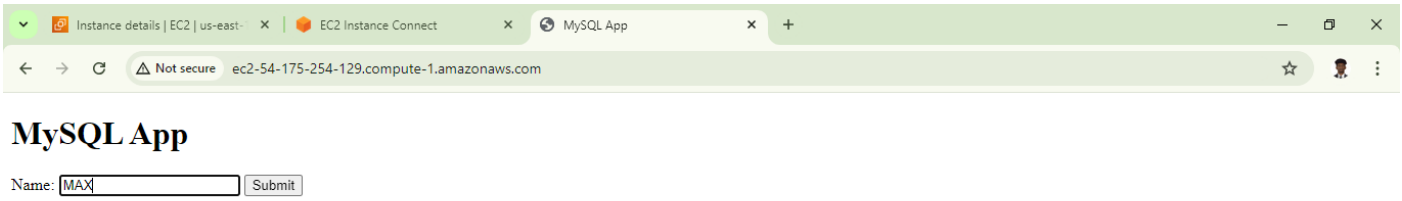
```
sudo apt-get install php-mysqli
```

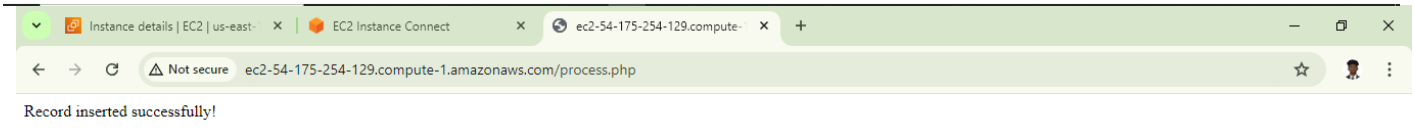
- Create a PHP script (**process.php**):

```
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
<?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();
?>
```





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