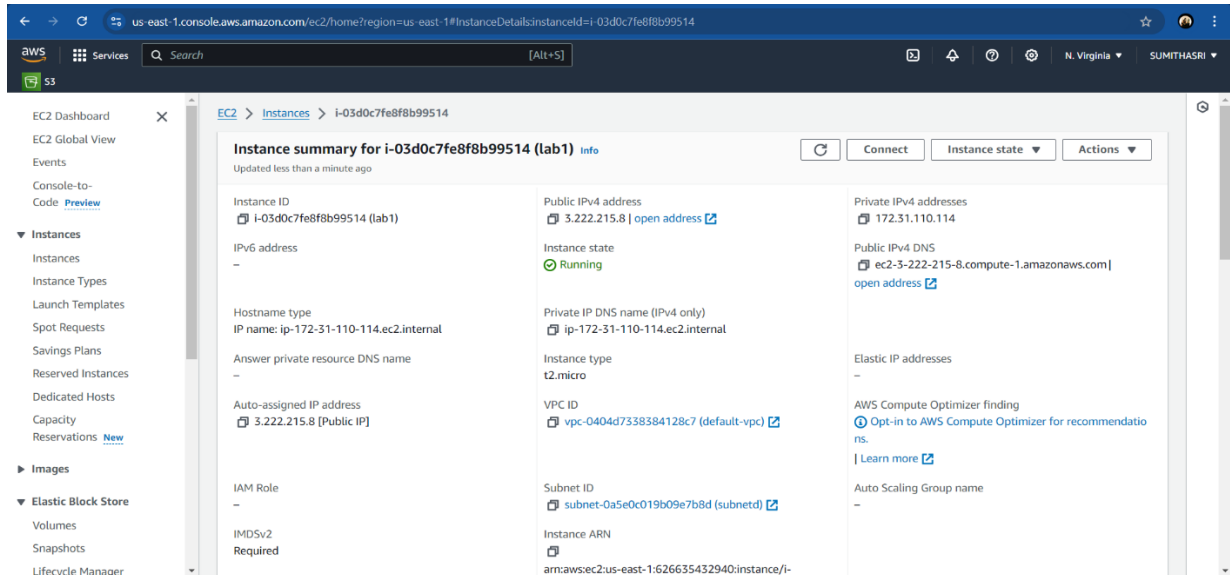# Deploying Apache Web Server with MySQL Integration

1.Launching the EC2 Instance

2.Create Security Group
- Allows SSH Traffics
- Allows HTTP , HTTPS and MySQL Traffics along with Ports.

3. 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.

4. 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

5. 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**):

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

```html
<!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>
```

- 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.

6. 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

7. Create a database and a table in MySQL:

- Log in to MySQL as the root user:

  > mysql -u root -p

  > CREATE USER 'yourname'@localhost'IDENTIFIED WITH mysql_native_password BY'yourpassword';

- 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 'vboxuser'@'localhost' IDENTIFIED BY '1234';
    GRANT ALL PRIVILEGES ON test.* TO 'vboxuser'@'localhost';
    FLUSH PRIVILEGES;
```

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

- Install PHP if not already installed:

  > sudo apt install php

- **Install this extension**

  > 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 = "<your_user>";
$password = "<your_password>";
$dbname = "<your_database>";

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

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

$name = $_POST["name"];

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

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

$conn->close();
?>
```
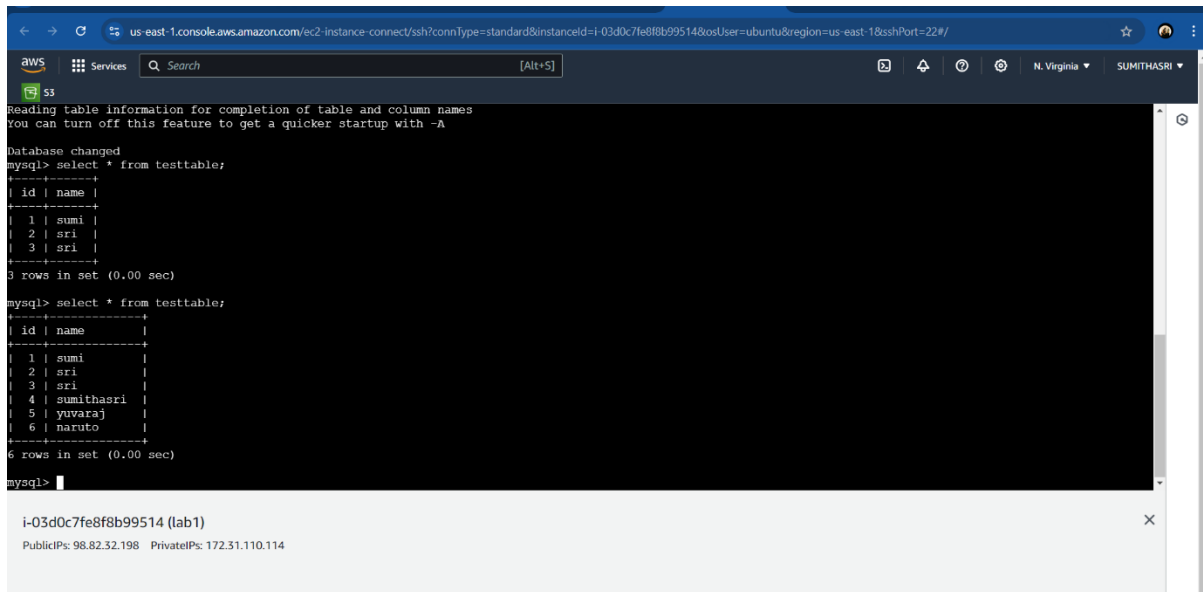
9. Access the site with the IP of the Ubuntu box:

- 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 5.

- Fill in the form and submit it to insert data into the MySQL database.

- Data's are stored in MySQL database .