Introduction to Amazon Relational Database Service (RDS) (Windows)

SPL-69 - Version 3.3.2

Overview

This lab introduces you to Amazon Relational Database Service using the AWS Management Console.

Topics covered

By the end of this lab, you will be able to:

- Create an Amazon Relational Database Service (RDS) instance.
- Connect to the RDS Instance with client software.

What Is Amazon RDS?

Amazon Relational Database Service (Amazon RDS) is a web service that makes it easy to setup, operate, and scale relational databases in the cloud. It allows you to create and use MySQL, PostGRE, Oracle, or SQL Server databases. This means the code, applications, and tools you already use today with your existing databases, can be used with Amazon RDS.

Mac Users: Download Remote Desktop Client Software

If you are running **Windows** on your local machine, you can use **Remote Desktop Connection** to access your Amazon EC2 instance.
If you are on a Mac, you will require **Microsoft Remote Desktop** (with the red icon):

Mac users can download Microsoft Remote Desktop from the Mac App Store.
If you do not have access to the Mac App Store, you can use CoRD for Mac, but please note that the instructions for this lab assume you are using Microsoft Remote Desktop.

Task 1: Create a Relational Database Service (RDS) Instance

In this task, you will create an Amazon RDS instance of the MySQL database.

- In the **AWS Management Console**, on the **Services** menu, click **RDS**.
- In the left navigation pane, click **Instances**.
- Click **Create database**

A selection of database engines will be presented. Amazon RDS supports many different databases and multiple versions of each database. You will be using *MySQL*.

- On **Step 1:**
  - Select **MySQL**
  - Click **Next**
- On **Step 2:**
- Select **Dev/Test - MySQL**
- Click **Next**
- In the **Instance specifications** section for **DB instance class**, select *db.t2.micro - 1 vCPU, 1 GiB RAM*
- In the **Settings** section, configure the following:
  - **DB instance identifier:**
  - **Master username:**
  - **Master password:**
  - **Confirm password:**

These settings define the size of DB Instance (which varies by CPU and RAM) together with the access credentials.

- Click **Next**
- In the **Network & Security** section, configure:
  - **Virtual Private Cloud (VPC):** *Lab VPC*
  - **VPC security groups:** *Choose existing VPC security groups*
  - Select **RDSSecurityGroup**
  - Remove **default**

These settings keep the DB Instance private (not accessible from the Internet).

- In the **Database options** section, for **Database name** enter:
- In the **Backup** section, for **Backup retention period** select *0 days (to disable automatic backups)*
- In the **Maintenance** section, for **Auto minor version upgrade**, select **Disable auto minor version upgrade**.
- Scroll to the bottom of the screen, then click **Create database**
- Click **View DB instances details**

The RDS instance will take about 10 minutes to create.

Please continue to the next task. There is no need to wait for your database to launch.

Task 2: Log into Your EC2 Instance

During the lab setup, an Amazon EC2 instance was created with *MySQL Workbench* installed. You will now log in to the EC2 instance.
Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) cloud. Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.
Mac/Linux users - click here for Login instructions

Login from Windows

This section is for **Windows users only**. If you are running Mac OS or Linux, please click the "Mac/Linux Users" link above.

- Open your **Remote Desktop Connection** application, then configure:
  - **Computer:** Paste the value of **Computer** located to the left of these instructions
  - Click **Show Options**
  - **User name:**
  - Click **Connect**
- In the **Windows Security** window, do the following:
  - **Password:** Paste the value of **AdministratorPassword** located to the left of these instructions
  - Click **OK**
- If you receive a yellow warning message, click **Yes**

You should now be connected to your Windows Server.

- Windows Users: Click here to skip ahead to the next task.

Login from Mac/Linux

This section is for **Mac** and **Linux** users only. If you are running **Windows** on your computer, click here to skip ahead to the next task.

- Open the **Microsoft Remote Desktop** application on your Mac. It should have a red icon as described at the start of this lab guide. (Linux users: Run an equivalent RDP application.)
  - Click **New**.

- Enter the details:

- **Connection Name:**
- **PC Name:** Copy and paste the **Computer** value shown to the left of these instructions (under the *OPEN CONSOLE* button).
- **Username:**
- **Password:** Use the *AdministratorPassword* shown to the left of these instructions

- Close the configuration window.

- Double-click the **Lab** configuration you just created.

If prompted to **Verify Certificate**, click **Continue**.

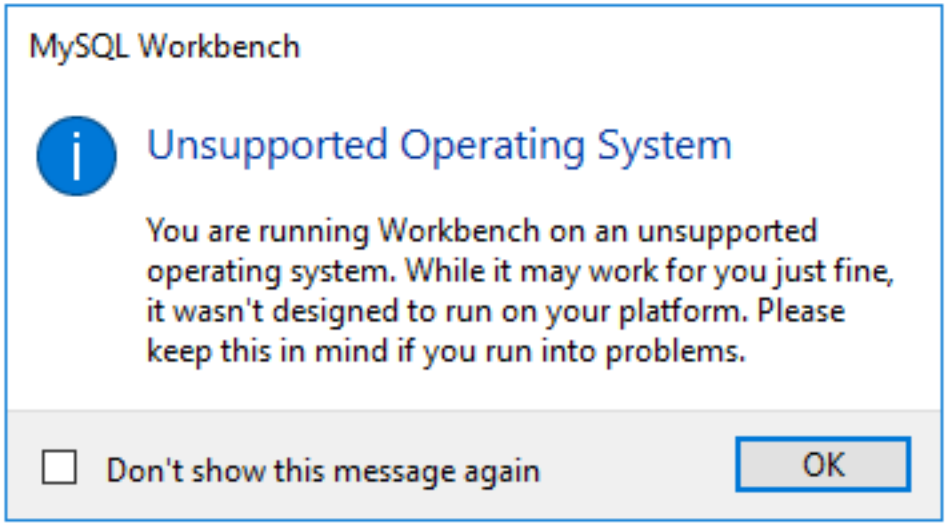
Mac users can swap to/from their Remote Desktop session by swiping left/right with 3-fingers or by using Ctrl-Arrow Keys.

Task 3: Access Your Database

In this task, you will:

- Connect to your MySQL database using MySQL Workbench
- Create a table and insert some data into the table
- Query the data in your database

- In your RDP session, click the **Windows Start** button, then type
- In the search results, click **MySQL Workbench 6.3 CE**.
- If prompted, at the **Unsupported Operating System** warning, do the following:
  - check **Don't show this message again**
  - Click **OK**



- Maximize the *MySQL Workbench* window.

You can now gather the connection details to create the new connection.

- In the **AWS Management Console** on the **Services** menu, click **Relational Database Service**.
- In the left navigation pane, click **Instances**.
- Click **my-rds**.
- Under the **Connect** section, copy the **Endpoint** to your clipboard.

The **Endpoint** should look like: *my-rds.c617fmllbu1n.us-west-2.rds.amazonaws.com*

- In your remote session, on the **Database** menu, click **Connect to Database**, then configure:
  - **Hostname:** Remove the existing text and paste the Endpoint you copied from the RDS console
  - **Username:**
  - Click **Store in Vault**
  - **Password:**
  - Click **OK**
  - Click **OK** to connect

An SQL tab will open in MySQL Workbench.

You can now run some SQL queries.

- On the **Query** menu, click **New Tab to Current Server**.
- Copy and paste the following command into the **Query 1** tab:

```
CREATE TABLE lab.staff (firstname text, lastname text, phone text);

INSERT INTO lab.staff VALUES ("John", "Smith", "555-1234");

INSERT INTO lab.staff VALUES ("Sarah", "Jones", "555-8866");
```

Feel free to adjust window sizes so you can better view the **Query 1** tab contents.

- Run the query by clicking the **Execute** button.

These commands have created a new table and inserted some data into the database.

You can now query the database.

- In the **Query 1** tab, delete the previous queries.
- Copy and paste the following command into the **Query 1** tab:

```
SELECT * FROM lab.staff WHERE firstname = "Sarah";
```

- Run the query by clicking the **Execute** button.

Sarah's details will be displayed.

Feel free to experiment with more SQL commands if you wish.

End Lab