Challenge Lab: Build Your DB Server and Interact With Your DB

This lab is designed to reinforce the concept of leveraging an AWS-managed database instance for solving relational database needs.

Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database administration tasks, which allows you to focus on your applications and business. Amazon RDS provides you with six familiar database engines to choose from: Amazon Aurora, Oracle, Microsoft SQL Server, PostgreSQL, MySQL and MariaDB.

After completing this lab, you will be able to:

- Create an RDS instance
- Use the Amazon RDS Query Editor to query data.

Duration

This lab takes approximately **45 minutes**.

Accessing the AWS Management Console

1. At the top of these instructions, click $\boxed{\text{Start Lab}}$ to launch your lab.

   A Start Lab panel opens displaying the lab status.

2. Wait until you see the message "**Lab status: ready**", then click the **X** to close the Start Lab panel.

3. At the top of these instructions, click $\boxed{\text{AWS}}$

   This will open the AWS Management Console in a new browser tab. The system will automatically log you in.

   Tip : If a new browser tab does not open, there will typically be a banner or icon at the top of your browser indicating that your browser is preventing the site from

opening pop-up windows. Click on the banner or icon and choose "Allow pop ups."

4. Arrange the AWS Management Console tab so that it displays along side these instructions. Ideally, you will be able to see both browser tabs at the same time, to make it easier to follow the lab steps.

Your Challenge

To finish the Challenge do the following:

5. Launch an Amazon RDS DB instance using either Amazon Aurora Provisioned DB or MySQL database engines. Make a note of the DB credentials, as it will be needed in next steps. Please note the following lab restrictions:

   ○ **DatabaseEngine**: Supported engines are Amazon Aurora or MySQL. Amazon Aurora serverless is not available.
   ○ **Template**: Choose Dev/Test or Free tier.
   ○ **Availability and durability**: Avoid creating a standby instance.
   ○ **DB instance size**: Choose Burstable classes - db.t2 and db.t3 instances of type db. t*.micro to db.t*.medium.
   ○ **Storage**: Choose General Purpose SSD (gp2) of a size up to 100 GB. Provisioned IOPS access is restricted.
   ○ **Amazon VPC**: Use the *Lab VPC*
   ○ **Security Group**: Include a security group that will allow the LinuxServer to connect to the RDS instance.
   ○ For MySQL, under **Additional configuration - Enable Enhanced monitoring** - Disable the option
   ○ **Purchasing Options**: On-Demand instances are allowed. Other purchasing options are disabled.

6. Click the Details ▾ followed by Show .

7. Click Download PEM (for Linux or macOS) or Download PPK (for Windows) depending on your local operating system.

8. Make a note of the **LinuxServer** address.

9. Connect (SSH) to the **LinuxServer** using the details you made a note of.

10. Install a MySQL client, and use it to connect to your db. Some helpful information is available here (https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide

/USER_ConnectToInstance.html)

11. Create a table RESTART with the following columns – **Capture screenshot for submission**

    ○ Student ID (Number),
    ○ Student Name,
    ○ Restart City,
    ○ Graduation Date (Date Time)

12. Insert 10 sample rows into this table – **Capture screenshot for submission**

13. Select all rows from this table – **Capture screenshot for submission**

14. Create a table CLOUD_PRACTITIONER with the following columns – **Capture screenshot for submission**

    ○ Student ID (Number)
    ○ certification date (Date Time)

15. Insert 5 sample rows into this table – **Capture screenshot for submission**

16. Select all rows from this table – **Capture screenshot for submission**

17. Perform an inner join between the 2 tables created above and display **student ID, Student Name, Certification Date** – **Capture screenshot for submission**

Lab Complete

Congratulations! You have completed the activity.   When you are finished with the lab:

18. Click `End Lab` at the top of this page and then click   **Yes**   to confirm that you want to end the activity.

19. A panel will appear, indicating that "DELETE has been initiated... You may close this message box now."

20. Click the **X** in the top right corner to close the panel. …