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

**SPL-69 - Version 3.3.23**

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Note: Do not include any personal, identifying, or confidential information into the lab environment. Information entered may be visible to others.

Corrections, feedback, or other questions? Contact us at [*AWS Training and Certification*](https://support.aws.amazon.com/#/contacts/aws-training).

**Lab overview**

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

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, Postgres, 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.

**Objectives**

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

* Create an RDS instance.
* Connect to the RDS instance with client software.

TECHNICAL KNOWLEDGE PREREQUISITES

The Google Chrome browser is required for this lab. When using Fleet Manager RDP, only the Chrome browser supports bidirectional copying and pasting between RDP sessions and your local machine.

DURATION

This lab requires approximately *60* minutes to complete.

ICON KEY

Various icons are used throughout this lab to call attention to different types of instructions and notes. The following list explains the purpose for each icon:

* **Note:** A hint, tip, or important guidance.
* **Caution:** Information of special interest or importance (not important enough to cause problems with equipment or data if you miss it, but it could result in the need to repeat certain steps).
* **Task complete:** A conclusion or summary point in the lab.

AWS SERVICES NOT USED IN THIS LAB

AWS service capabilities used in this lab are limited to what the lab requires. Expect errors when accessing other services or performing actions beyond those provided in this lab guide.

**Start lab**

1. To launch the lab, at the top of the page, choose **Start lab**.

**Caution:** You must wait for the provisioned AWS services to be ready before you can continue.

1. To open the lab, choose **Open Console**.

You are automatically signed in to the AWS Management Console in a new web browser tab.

**WARNING:** **Do not change the Region unless instructed.**

COMMON SIGN-IN ERRORS

**Error: You must first sign out**



If you see the message, **You must first log out before logging into a different AWS account:**

* Choose the **click here** link.
* Close your **Amazon Web Services Sign In** web browser tab and return to your initial lab page.
* Choose **Open Console** again.

**Error: Choosing Start Lab has no effect**

In some cases, certain pop-up or script blocker web browser extensions might prevent the **Start Lab** button from working as intended. If you experience an issue starting the lab:

* Add the lab domain name to your pop-up or script blocker’s allow list or turn it off.
* Refresh the page and try again.

**Task 1: Create a Relational Database Service (RDS) instance**

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

1. At the top of the AWS Management Console, in the search bar, search for and choose

RDS

.

1. In the left navigation pane, choose **Databases**.

**Note:** If **Databases** is not visible, choose the left navigation pane to expand it, and then choose **Databases**.

1. Choose **Create database** then configure:

* **Engine type:** *MySQL*.
* **Templates:** *Dev/Test*.

1. In the **Availability & durability** section, choose **Single DB instance**.
2. In the **Settings** section, configure:

* **DB instance identifier:**

my-rds

.

* **Master username:**

student

.

* **Credentials management**: Choose **Self managed** option
* **Master password:**

Pass.123

.

* **Confirm password:**

Pass.123

.

1. In the **Instance configuration** section, choose the following:

* **Burstable classes (includes t classes)**.
* **db.t3.micro**.

1. In the **Connectivity** section, configure:

* **Virtual Private Cloud (VPC):** *Lab VPC*.
* **Public access:** *No*.
* **VPC security group (firewall)** *Choose existing*.
* **Existing VPC security groups:**
  + Select **RDSSecurity Group**.
  + Remove **default**.

1. In the **Monitoring** section, de-select **Enable Enhanced monitoring**.
2. Expand **Additional configuration**, then configure:

* **Initial database name**

lab

.

* De-select **Enable automated backups**.
* De-select **Enable auto minor version upgrade**.

1. Choose **Create database** at the bottom of the pane.

This page shows you the details for your newly launched RDS instance. The RDS instance takes about 10 minutes to create. Please continue to the next task. There is no need to wait for your database to launch.

**Task complete:** You have successfully created an RDS instance.

**Task 2: Log into your 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.

During the lab setup, an Amazon EC2 instance was created with *MySQL Workbench* installed. You now log in to the EC2 instance.

In this task, you connect to your Amazon EC2 instance using AWS Systems Manager Fleet Manager.

**Caution:** Please make sure that you are using **Chrome** as the Internet browser When using Fleet Manager RDP, only the **Chrome** browser supports bidirectional copying and pasting between RDP sessions and your local machine.

**Note:** If you are unable to use **RDP** with **Fleet Manager**, refer to [connect to your Windows instance using RDP](https://labs.skillbuilder.aws/sa/lab/arn%3Aaws%3Alearningcontent%3Aus-east-1%3A470679935125%3Ablueprintversion%2Fspl-69%3A3.3.23-b40bba62/en-US#connectrdp).

1. To the left of these instructions, choose **PEM**.
2. Save the file to the directory of your choice.
3. Copy the **WindowsInstanceSessionRDP** value listed to the left of these instructions.
4. Using the **Google Chrome** browser, paste the **WindowsInstanceSessionRDP** value.
5. For preferred **Authentication type** choose **Key pair**.
6. For **Key pair content**, choose **Browse your local machine to select the key pair file**.
7. Select **Browse** to upload the **PEM** key from your local directory that is associated with your instance.
8. Select **Connect**.

**Note:** If you are prompted with a network pop-up window asking **Do you want to allow your PC to be discoverable by other PCs and devices on this network?**, Choose **No**.

**Caution:** Fleet Manager RDP connections have a maximum session duration of 60 minutes. When that duration is reached, Fleet Manager disconnects the session. If you run into any issues while interacting with the Fleet Manager RDP, then choose **Actions** drop-down list, and then select **Renew session** to restart the duration timer.

**Task complete:** You have successfully logged into your EC2 instance.

**Task 3: Access your database**

In this task, you connect to your MySQL database using MySQL Workbench. Then you create a table and insert some data into the table. After creating the table, you query the data in your database.

1. In your RDP session, select the **Windows Start** button, then enter

mysql

.

1. In the search results, choose **MySQL Workbench 8.0 CE**.

**Note:** If prompted with an **Unsupported Operating System** warning, do the following:

* Choose **Don’t show this message again**.
* Choose **OK**.

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

1. Return to the RDS Management Console and in the left navigation pane of the **RDS Management Console**, choose **Databases**.
2. Verify that the **Status** of the **my-rds** database is **Available**. If it isn’t, wait for it to become so.
3. Choose **my-rds**.
4. Under the **Connectivity & security** tab, copy the **Endpoint** to your clipboard.

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

1. In your remote session, on the **Database** menu in the top toolbar of the MySQL Workbench app, select **Connect to Database**, then configure:

* **Hostname:** Remove the existing text and paste the Endpoint you copied from the RDS console.
* **Username:**

student

.

* Choose **Store in Vault**.
* **Password:**

Pass.123

.

* Choose **OK**.
* Choose **OK** to connect.

A SQL tab opens in MySQL Workbench.

You can now run some SQL queries.

1. Copy and paste the following command into the **Query 1** pane:

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");

1. To run the query, choose the lightning **Execute** icon.

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

You can now query the database.

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

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

1. To run the query, choose the lightning **Execute** icon.

Sarah’s details are displayed.

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

**Task complete:** You have successfully accessed your database.

**Conclusion**

You now have successfully:

* Created an RDS instance.
* Connected to the RDS instance with client software.

**End lab**

Follow these steps to close the console and end your lab.

1. Return to the **AWS Management Console**.
2. At the upper-right corner of the page, choose **AWSLabsUser**, and then choose **Sign out**.
3. Choose **End lab** and then confirm that you want to end your lab.

**Additional resources**

* [Amazon RDS](http://aws.amazon.com/rds)
* [What is Amazon Relational Database Service (Amazon RDS)?](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/Welcome.html)
* [Getting started with Amazon RDS](https://docs.aws.amazon.com/AmazonRDS/latest/UserGuide/CHAP_GettingStarted.html)

**Appendix**

CONNECT TO YOUR WINDOWS INSTANCE USING RDP

To connect to your Windows instance using RDP, complete the following steps:

1. To the left of the instructions, choose **Download PEM**.
2. Save the file to the directory of your choice.
3. Open the [Amazon EC2 console](https://console.aws.amazon.com/ec2/).
4. In the navigation pane, select **Instances**. Select the **Windows Server** Instance and then choose **Connect**.
5. On the **Connect to instance** page, choose the **RDP client** tab, and then choose **Get password**.
6. Choose **Browse** and navigate to the private key (**.pem**) file you created earlier. Select the file and choose **Open** to copy the entire contents of the file to this window.
7. Choose **Decrypt Password**. The console displays the default administrator password for the instance under **Password**, replacing the **Get password** link shown previously. Save the password in a safe place. This password is required to connect to the instance.
8. For your RDP client, use the following details to connect

* **Windows Server IP:** Copy and paste the Public IP from the EC2 console.
* **Username:** Enter

Administrator

.

* **Password:** Copy and paste the **password** that you saved previously.

To continue this lab, go to [Task 2](https://labs.skillbuilder.aws/sa/lab/arn%3Aaws%3Alearningcontent%3Aus-east-1%3A470679935125%3Ablueprintversion%2Fspl-69%3A3.3.23-b40bba62/en-US#bastion).

For more information about AWS Training and Certification, see [*https://aws.amazon.com/training/*](https://aws.amazon.com/training/).

*Your feedback is welcome and appreciated.*  
If you would like to share any feedback, suggestions, or corrections, please provide the details in our [*AWS Training and Certification Contact Form*](https://support.aws.amazon.com/#/contacts/aws-training).