Create Your First Amazon RDS Database SOP

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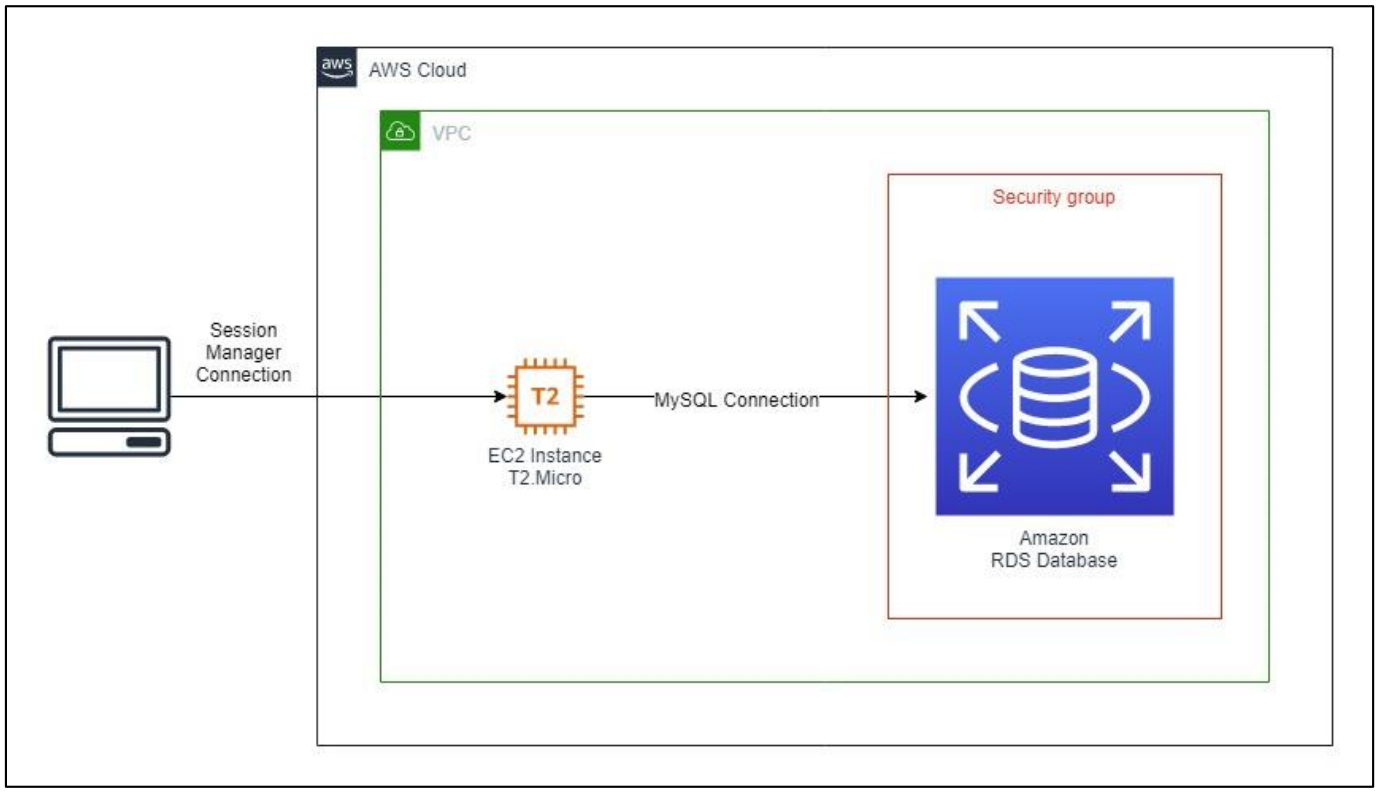
1. Create Your First Amazon RDS Database

1.1 Description

Amazon Relational Database Service (RDS) forms a central part to set up a relational database in the cloud. The service provides very easy to use and manage common database administration tasks. Amazon RDS is highly cost-efficient, resizable with industry standard relational database.
Any application in the Cloud that uses an SQL database such as MySQL, SQL Server, Oracle or PostgreSQL can use Amazon RDS as a scalable and reliable database.
The objective of this lab is to launch a highly scalable relational database service in AWS Cloud.

1.2 Architecture Diagram

The diagram below displays a visual representation of the application architecture:



1.3 Lab Steps

Follow the steps outlined below to achieve the objective of this lab exercise:

1. Create a Database Cluster Using RDS:
   a. Click **Databases** on the left pane followed by **Create database.** The wizard appears.
   b. Choose **Standard Create** method and select **MySQL** database engine.
   c. Choose a **Free tier** Template.
   d. Enter a **Master username** (login ID) and **password** under **Credential Settings**.
   e. Specify a unique **Database Identifier name** and click **Create database.**
   f. Under **Connectivity** Tab, click on **Additional connectivity Configuration**.

g. Under **VPC security group**, select the **Create new VPC Security Group** and give a unique name.
h. Under **Additional Configuration**, specify an **Initial database name** and click **Create Database**.
Note: Creation of RDS Database Cluster takes up to 10 minutes for completion. Wait until its status becomes **available**.

2. Launch an EC2 Linux instance, with new Security Group using the below rule and click **Save**.

Type	**MySQL/Aurora**
Protocol	**TCP**
Port Range	**3306**
Source	**Anywhere**

a. When the status of the instance is changed to **running**, choose **Actions** > **Instance Settings** > **Attach/Replace IAM Role**. From the **IAM role** dropdown menu, select **CCL-EC2-Role** and click **Apply**.
b. Select the instance, click **Connect** and select **Session Manager** and click on **Connect**.
Note: Wait until connection to session manager opens.

3. Set up Security Group Rules for Connecting to the RDS Instance:
a. When the status of the database is changed to **Available**, click on the database created and under **Connectivity and security** section, select the Security Group which is created while launching the DB instance.
b. Click on **Inbound Rules** tab > **Edit rules**
c. Change the current rules using the below values and click **Save**.

Type	**MySQL/Aurora**
Protocol	**TCP**
Port Range	**3306**
Source	**Custom** (Security Group of the EC2 instance used to connect to the DB)

4. Connect to RDS and Create Database Table:
a. Key in the below command to change to the default Amazon Linux user (ec2-user) running in a bash shell, in the Session Manager shell session:

```
sudo -i -u ec2-user
```

b. Install the MySQL client with the below command and this installs the necessary tools to interact with RDS instance:

```
sudo yum -y install mysql
```

c. Navigate to the **RDS** > **Databases** view and click **DB identifier** of the RDS instance created.
d. Copy the Endpoint displayed under **Endpoint & port** in the **Connectivity & security** section.
e. Run the below command replacing **your.endpoint.aws.com** with the endpoint copied in **step d** to connect to the database:

```
mysql -h <your.endpoint.aws.com> -u <master
username of the db given in step 1.e> -p
```

f. Insert the Master RDS Password when prompted.
g. Open the Database already created, to start working:

```
USE <initial Database name(given in step 1.h)>
```

h. Create a new table by executing the below command:

```
CREATE TABLE laboratory ( id INT,
name VARCHAR(100) );
```

i. Execute the below command to verify the creation of table and execute the second command to close database connection.

```
DESC laboratory;
```

```
quit;
```

1.4 Supporting References

Refer the below link for additional information:

1. https://docs.aws.amazon.com/rds/?id=docs_gateway