

AWS RELATIONAL DATABASE SERVICE

- I'll walk you through the process of me creating and testing an Amazon Relational Database Service (Amazon RDS) database in this Project. I'll build an RDS MySql database and use MySQL Workbench to test the connection.
- Duration: 1 hour
- AWS Region: US East (N. Virginia) us-east-1

Task Details

- Launch the Lab Environment using the AWS Console
- Create a Security Group for RDS Instance
- Create RDS Database Instance
- Connecting to RDS Database on a DB Instance using the MySQL Workbench

Task 1

- creating an AWS Relational Database Service
 - *Task 1 was all about launching the Aws management console and filtering the services in the search tab.*
 - *Im using my aws IAM username and password to login into the aws console.*
 - *Task2: is creating a security Group for the RDS instance.*
 - I used the N.Virginia region for this specific project
 - Creating a security group is under the EC2 service panel menu, Network & Security
 - Im creating a SG for RDS with a 3306-port number enabled
 - Named the SG and selected the default VPC
 - Added an inbound rules, type: MYSQL/Aurora, source: Custom with 0.0.0.0/0.
 - Kept everything else as default and created the SG.




Creation of Security Group in the AWS console.

aws

Services

Search for services, features, blogs, docs, and more

[Option+S]



N. Virginia

Whiz_User_49218.59865489 @ 3812-5397-3901

Launch Templates

Spot Requests

Savings Plans

Reserved Instances New

Dedicated Hosts

Scheduled Instances

Capacity Reservations

▼ Images

AMIs New

AMI Catalog

▼ Elastic Block Store

Volumes New

Snapshots New

Lifecycle Manager New

▼ Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

▼ Load Balancing

Load Balancers


Target Groups New

▼ Auto Scaling

Launch Configurations

Auto Scaling Groups

Security Groups (1/5) Info

 Actions ▼ Export security groups to CSV ▼ Create security group

	Name	Security group ID	Security group name	VPC ID	Description	Owner	Inbound rules count	Outbound rules co...
<input checked="" type="checkbox"/>	-	sg-08aebfb02d8bd97c3	RDS_lab_sg	vpc-966a0eeb	Security group for RDS	381253973901	2 Permission entries	1 Permission entry
<input type="checkbox"/>	-	sg-066325bd8962c5762	PublicEC2_SG12	vpc-966a0eeb	PublicEC2_SG	381253973901	0 Permission entries	0 Permission entries
<input type="checkbox"/>	-	sg-6425067c	default	vpc-966a0eeb	default VPC security gr...	381253973901	3 Permission entries	1 Permission entry
<input type="checkbox"/>	-	sg-0cee5ffaf5c228843	default	vpc-02ffb96f5a292e9b6	default VPC security gr...	381253973901	2 Permission entries	1 Permission entry
<input type="checkbox"/>	-	sg-061bdc41a3b9dc924	LoadBalancer_SG	vpc-02ffb96f5a292e9b6	Security group for the	381253973901	0 Permission entries	0 Permission entries


sg-08aebfb02d8bd97c3 - RDS_lab_sg

Details

Inbound rules






Outbound rules

Tags

 You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer ×

Details

Security group name	Security group ID	Description	VPC ID
 RDS_lab_sg	 sg-08aebfb02d8bd97c3	 Security group for RDS	 vpc-966a0eeb
Owner	Inbound rules count	Outbound rules count	
 381253973901	2 Permission entries	1 Permission entry	

Task3: Creating RDS Database Instance

- Navigated to RDS by clicking the services menu
- DB details:
 - *Engine option: MYSQL*
 - *Version: default*
 - *Template: Free tier (Selecting the Free tier as a template is compulsory, else database won't be created.)*
 - *DB instance identifier: mydatabaseinstance*
 - *Master username: mydatabaseuser*
 - *Master username and password: mydatabasepassword (username/password combo is used to log so I kept somewhere safe)*
 - *DB instance: I selected the (db.t2.micro-vcpu, 1GiB RAM)*
 - *Storage: I selected general purpose for this project*
 - *In the public access I selected: yes (because this will allow me as an AWS user or any anonymous user access to the data in the database).*
 - *Selected the VPC sg I created in the EC2 section.*
 - *kept everything else default and clicked create RDS*

Database creation in the AWS console

The screenshot displays the AWS RDS Management Console for a database instance named 'mydatabaseinstance' in the us-east-1 region. The interface includes a left-hand navigation menu with options like Dashboard, Databases, Query Editor, and Performance Insights. The main content area shows the instance's summary and detailed configuration under the 'Connectivity & security' tab.

Summary

DB identifier mydatabaseinstance	CPU 5.00%	Status Available	Class db.t2.micro
Role Instance	Current activity 4 Connections	Engine MySQL Community	Region & AZ us-east-1f

Connectivity & security

Endpoint & port Endpoint mydatabaseinstance.cipxyc0kr4rm.us-east-1.rds.amazonaws.com Port 3306	Networking Availability Zone us-east-1f VPC Default VPC (vpc-966a0eeb) Subnet group default-vpc-966a0eeb Subnets subnet-38c79267 subnet-43fa6572 subnet-e6cb8380 subnet-4e8a8840 subnet-5c5a0c7d subnet-1fb2aa52	Security VPC security groups RDS_lab_sg (sg-08aebfb02d8bd97c3) Active Public accessibility Yes Certificate authority rds-ca-2019 Certificate authority date August 22, 2024, 11:08 (UTC±11:08)
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Task 4 : Connecting to RDS Database on a DB Instance using the MySQL Workbench

- in this section of the project I mainly used to connect the database on MySql db. instance using MYSQL monitor command.
 - *I navigated to the Database and selected the one I created*
 - *Under connectivity & security section, I copied the endpoint and port.*
 - *Port:3306*
 - *Then I opened the MYSQL workbench GUI-based application.*
 - *Once I fill out the setup new connection, I tested the connection and was properly connected.*
 - *after I created a database connection in MYSQL Workbench, I went ahead and started implementing a couple database queries to interact with the database.*
 - *Next slide is the database queries screenshot.*

Database Queries

The screenshot displays a database management tool interface with a dark theme. The top toolbar includes icons for file operations and a 'Limit to 1000 rows' button. The main window is divided into three panes: a left sidebar for the 'SCHEMAS' tree, a central query editor, and a right pane for context help and snippets.

SCHEMAS

- mydatabase
- sys
- Transaction_prod
- Transactions_Prod
 - Tables
 - Views
 - Stored Procedures
 - Functions
- Transactions_prod

Query Editor

```
1 CREATE DATABASE transactions_prod;
2
3 USE transactions_prod;
4
5 CREATE TABLE transactions (
6     transaction_id INT PRIMARY KEY,
7     amount DECIMAL(13,2) NOT NULL,
8     transaction_type ENUM('PURCHASE', 'REFUND') NOT NULL
9 )
10
11 desc transactions;
12
13
```

Result Grid

Field	Type	Null	Key	Default	Extra
transaction_id	int	NO	PRI		
amount	decimal(13,2)	NO			
transaction_type	enum('PURCHASE','REFUND')	NO			

Action Output

	Time	Action	Response	Duration / Fetch Time
1	21:51:17	CREATE DATABASE transactions_prod	1 row(s) affected	0.076 sec
2	21:51:46	USE transactions_prod	0 row(s) affected	0.061 sec
3	21:53:42	CREATE TABLE transactions (transaction_id INT PRIMARY KEY, amount DECIMAL(13,2) NOT NULL, transaction_type ENUM('PURCHASE', 'REFUND') NOT NULL)	Error Code: 1064. You have an error in your SQL synta...	0.058 sec
4	21:54:09	CREATE TABLE transactions (transaction_id INT PRIMARY KEY, amount DECIMAL(13,2) NOT NULL, transaction_type ENUM('PURCHASE', 'REFUND') NOT NULL)	0 row(s) affected	0.086 sec
5	21:54:46	desc transactions	3 row(s) returned	0.057 sec / 0.000047...

Query Completed