



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment - 9

Student Name: Amrit Singh
Branch: BE-CSE
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Subject Name: ADBMS

UID: 23BCS12931
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1. Aim:

To design and interact with cloud-based data storage systems using AWS RDS, Google Firebase, and Azure Cosmos DB, focusing on relational modeling, real-time synchronization, and distributed data access.

2. Output

The screenshot shows the AWS RDS 'Create master user' page. The top navigation bar includes the AWS logo, 'Services' dropdown, a search bar, and a [Alt+S] keyboard shortcut. The main form fields are:

- Master username:** admin (entered)
- Credentials management:**
 - Managed in AWS Secrets Manager - *most secure*: RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.
 - Self managed: Create your own password or have RDS create a password that you manage.
 - Auto generate password: Amazon RDS can generate a password for you, or you can specify your own password.
- Master password:** Info (link) - A masked password field.
- Password strength:** Strong (highlighted)
- Minimum constraints:** At least 8 printable ASCII characters. Can't contain any of the following symbols: / " @
- Confirm master password:** Info (link) - A masked password field.

Instance configuration: A note states: "The DB instance configuration options below are limited to those supported by the engine that you selected above."

Creating database sql2022
Your database might take a few minutes to launch. You can use settings from sql2022 to simplify configuration of [suggested database add-ons](#) while we finish creating your DB for you.

RDS > Databases

Consider creating a Blue/Green Deployment to minimize downtime during upgrades
You may want to consider using Amazon RDS Blue/Green Deployments and minimize your downtime during upgrades. A Blue/Green Deployment provides a staging environment for changes to production databases. [RDS User Guide](#) [Aurora User Guide](#)

Databases (1)

DB identifier	Status	Role	Engine	Region & AZ	Size	Recommendations
sql2022	Creating	Instance	SQL Server Standard Edition	us-east-1b	db.m5.large	

Successfully created database sql2022
You can use settings from sql2022 to simplify configuration of [suggested database add-ons](#) while we finish creating your DB for you.

RDS > Databases > sql2022

sql2022

Summary

DB identifier sql2022	Status Configuring-enhance d-monitoring	Role Instance	Engine SQL Server Standard Edition	Recommendations
CPU -	Class db.m5.large	Current activity	Region & AZ us-east-1b	

Connectivity & security **Monitoring** **Logs & events** **Configuration** **Maintenance & backups** **Tags** **Recommendations**

SQLQuery1.sql - sql2022.ccbkoco727za.us-east-1.rds.amazonaws.com.master (admin (86)) - Microsoft SQL Server Management Studio

Object Explorer

- Connect < master
- sq2022.ccbkoco727za.us-east-1.rds.amazonaws.com (SQL Server 1)
 - Databases
 - master
 - model
 - msdb
 - tempdb
 - Database Snapshots
 - rdsadmin
 - r2schools
 - Database Diagrams
 - Tables
 - Views
 - External Resources
 - Synonyms
 - Programmability
 - Query Store
 - Service Broker
 - Storage
 - Security
 - Security
 - Logins
 - Server Roles
 - Credentials
 - Cryptographic Providers
 - Audits

Login - New

Select a page

- General
- Server Roles
- User Mapping
- Securables
- Status

Connection

Server: EC2AMAZ-OLA51TB
Connection: admin

Progress

Script **Help**

Login name: r2admin

SQL Server authentication

Password:

Confirm password:

Specify old password

Old password:

Enforce password policy

Enforce password expiration

User must change password at next login

Mapped to certificate

Mapped to asymmetric key

Map to Credential

Mapped Credentials

ModifyInboundSecurityGroupRules

us-east-1.console.aws.amazon.com/ec2/home?region=us-east-1#ModifyInboundSecurityGroupRules:securityGroupId=sg-0d8472b8adce9cf6e

aws Services Search [Alt+S]

EC2 > Security Groups > sg-0d8472b8adce9cf6e - default > Edit inbound rules

Edit inbound rules Info

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules Info

Security group rule ID	Type <small>Info</small>	Protocol <small>Info</small>	Port range	Source <small>Info</small>	Description - optional <small>Info</small>
sgr-0cbad942ac2402cbe	All traffic	All	All	Custom	sg-0d8472b8adce9cf6e X
-	MSSQL	TCP	1433	My IP	49.43.226.187/32 X

Add rule

Amazon RDS

RDS > Databases > sql2022

sql2022

Summary

DB identifier	Status	Role
sql2022	Available	Instance
CPU	Class	Current activity
3.36%	db.m5.large	0.00 sessions

Engine SQL Server Edition

Region & us-east-1

Subnet groups

Parameter groups

Option groups

Custom engine versions

Zero-ETL integrations New

Events

Event subscriptions

Connectivity & security

Monitoring

Logs & events

Configuration

Maintenance & backups

Connectivity & security

Endpoint & port

Endpoint sql2022.ccbkoco727za.us-east-1.

Networking

Availability Zone

us-east-1b

Security

VPC security groups

default (sg-0d8472b8adce9cf6e)