



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

Experiment 9

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Subject Name: ADBMS

Subject Code: 23CSP-333

1. AIM: Amazon Web Service RDS.

2. Tools Used: pgAdmin4

3. Experiment:

- overview of AWS RDS
- creation of database instance on AWS RDS
- security groups
- connecting local pgadmin to cloud rd.

4. Solution:

1. Go to aws homepage -> click on sign in-> enter user name with email address.
2. After sign-in -> go to search bar -> search for rds -> hit enter

The screenshot shows the AWS Management Console interface. The top navigation bar includes the AWS logo, a search bar with 'RDS', and various account and region settings. The main content area displays a list of services under the 'Services' heading. The 'Aurora and RDS' service is selected, showing its details: 'Managed Relational Database Service', 'Top features' (Dashboard, Databases, Query Editor, Performance Insights, Snapshots), and links to Documentation, Knowledge articles, Marketplace, Blog posts, Events, and Tutorials. Other services listed include 'Database Migration Service' and 'Kinesis'.

4. Click on create database

Screenshot of the AWS Aurora and RDS 'Create database' configuration page.

Create database [Info](#)

Free plan has access to limited features and resources
The free plan limits the features and resources that are available for RDS and Aurora databases. Upgrade your account plan to remove all limitations. [Learn more](#)

[Upgrade plan](#)

Choose a database creation method

Standard create
You set all of the configuration options, including ones for availability, security, backups, and maintenance.

Easy create
Use recommended best-practice configurations. Some configuration options can be changed after the database is created.

Configuration

Engine type [Info](#)

Aurora (MySQL Compatible) 

Aurora (PostgreSQL Compatible) 

MySQL 

PostgreSQL 

MariaDB 

Oracle 

Microsoft SQL Server 

DB instance size

Production
db.r7g.xlarge
4 vCPUs
32 GiB RAM
400 GiB
1.946 USD/hour

Dev/Test
db.r7g.large
2 vCPUs
16 GiB RAM
200 GiB
0.278 USD/hour

Free tier
db.t4g.micro
2 vCPUs
1 GiB RAM
20 GiB
0.019 USD/hour

DB instance identifier
Type a name for your DB instance. The name must be unique across all DB instances owned by your AWS account in the current AWS Region.

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 63 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

Master username [Info](#)
Type a login ID for the master user of your DB instance.

1 to 16 alphanumeric characters. The first character must be a letter.

Credentials management
You can use AWS Secrets Manager or manage your master user credentials.

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](#)

Password strength Very strong

Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / " @

Confirm master password [Info](#)

Aurora and RDS > Databases

Creating database strugmac-db
Your database might take a few minutes to launch. You can use settings from strugmac-db to simplify configuration of suggested database add-ons while we finish creating your DB for you.

Databases (1)

DB identifier	Status	Role	Engine
strugmac-db	Creating	Instance	MySQL Co...

Now this will create a MySQL database to me, and we want to connect to RDS for which we have to launch a server which basically will have MySQL Client installed inside it. For that we have to launch an EC2 instance,

Console Home > All services

All services

Services by category

- Compute**
 - EC2 (selected)
 - Lightsail
 - Lambda
 - Batch
 - Elastic Beanstalk
 - Serverless Application Repository
 - AWS Outposts
 - EC2 Image Builder
 - AWS App Runner
 - AWS Sisyphe Weaver
 - Parallel Computing Service
 - AWS Global View
- Containers**
- Machine Learning**
 - Amazon SageMaker AI
 - Amazon Augmented AI
 - Amazon CodeGuru
 - Amazon DevOps Guru
 - Amazon Comprehend
 - Amazon Forecast
 - Amazon Fraud Detector
 - Amazon Kendra
 - Amazon Personalize
 - Amazon Polly
 - Amazon Rekognition
 - Amazon Textract
 - Amazon Transcribe
 - Amazon Translate

EC2

Benefits and features

EC2 offers ultimate scalability and control

Fully resizable compute capacity to support virtually any workload. This service is best if you want:

- Highest level of control of the entire technology stack, allowing full integration with all AWS services
- Widest variety of server size options
- Widest availability of operating systems to choose from including Linux, Windows, and macOS
- Global scalability

[Find out more about EC2](#)

Use cases

Launch a virtual server

- Launch instance
- View dashboard
- Get started walkthroughs
- Get started tutorial

Additional actions

- View running instances
- Migrate a server

Instances

Instances

No instances
You do not have any instances in this region

[Launch instances](#)

▼ Application and OS Images (Amazon Machine Image) info

An AMI contains the operating system, application server, and applications for your instance. If you don't see a suitable AMI below, use the search field or choose [Browse more AMIs](#).

Q: Search our full catalog including 1000s of application and OS images

Quick Start

Amazon Linux	macOS	Ubuntu	Windows	Red Hat	SUSE Linux	Debian

[Browse more AMIs](#)
Including AMIs from AWS, Marketplace and the Community

▼ Key pair (login) info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Key pair name - required

▼ Network settings info

[Edit](#)

Network info

vpc-081fe9fe127bb8e79

Subnet info

No preference (Default subnet in any availability zone)

Auto-assign public IP info

Enable

Firewall (security group) info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

Create security group Select existing security group

Common security groups info

Select security groups info

default sg-0e67cb7abeffb4225

VPC vpc-081fe9fe127bb8e79

Compare security group rules

Security groups that you add or remove here will be added to or removed from all your network interfaces.

▼ Summary

Number of instances info

1

Software Image (AMI)

Canonical, Ubuntu, 24.04, amd64... [read more](#)

ami-0a7156d35a16d250c

Virtual server type (instance type)

t3.micro

Firewall (security group)

default

Storage (volumes)

1 volume(s) - 8 GiB

[Cancel](#)

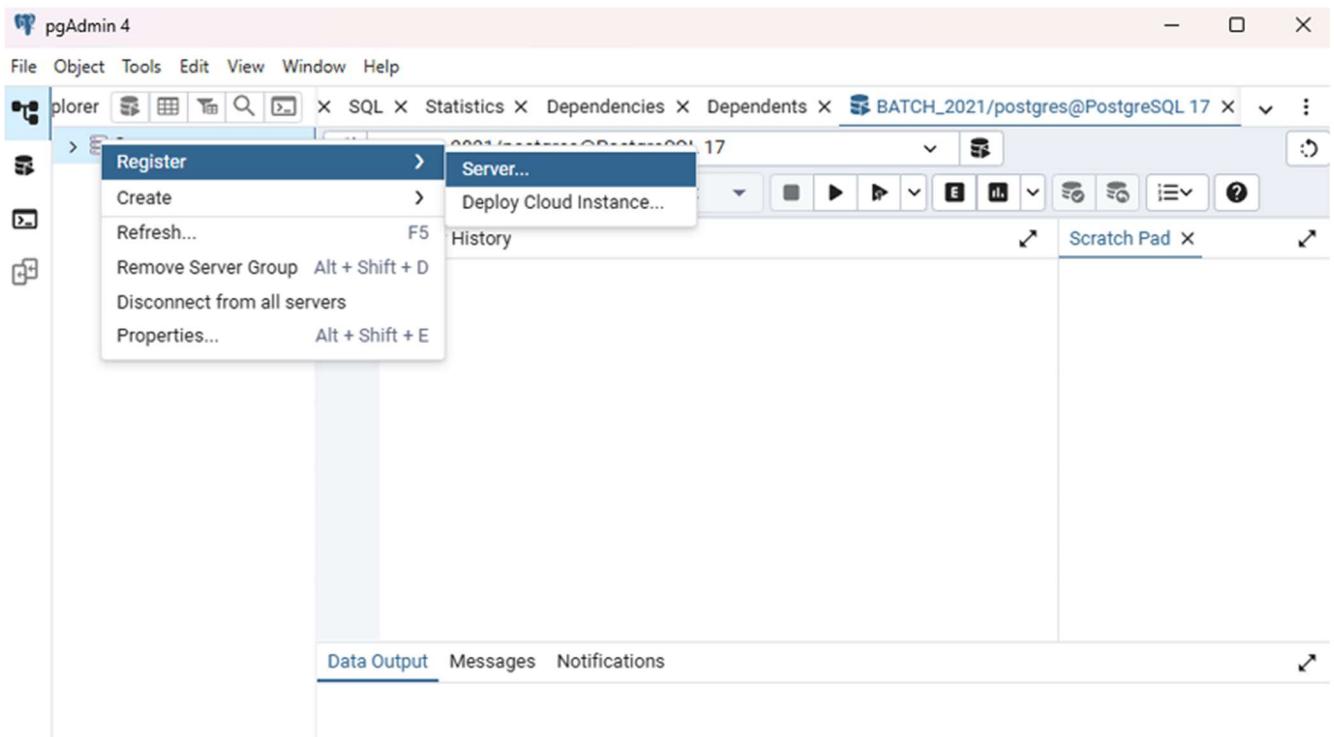
[Launch instance](#)

[Preview code](#)

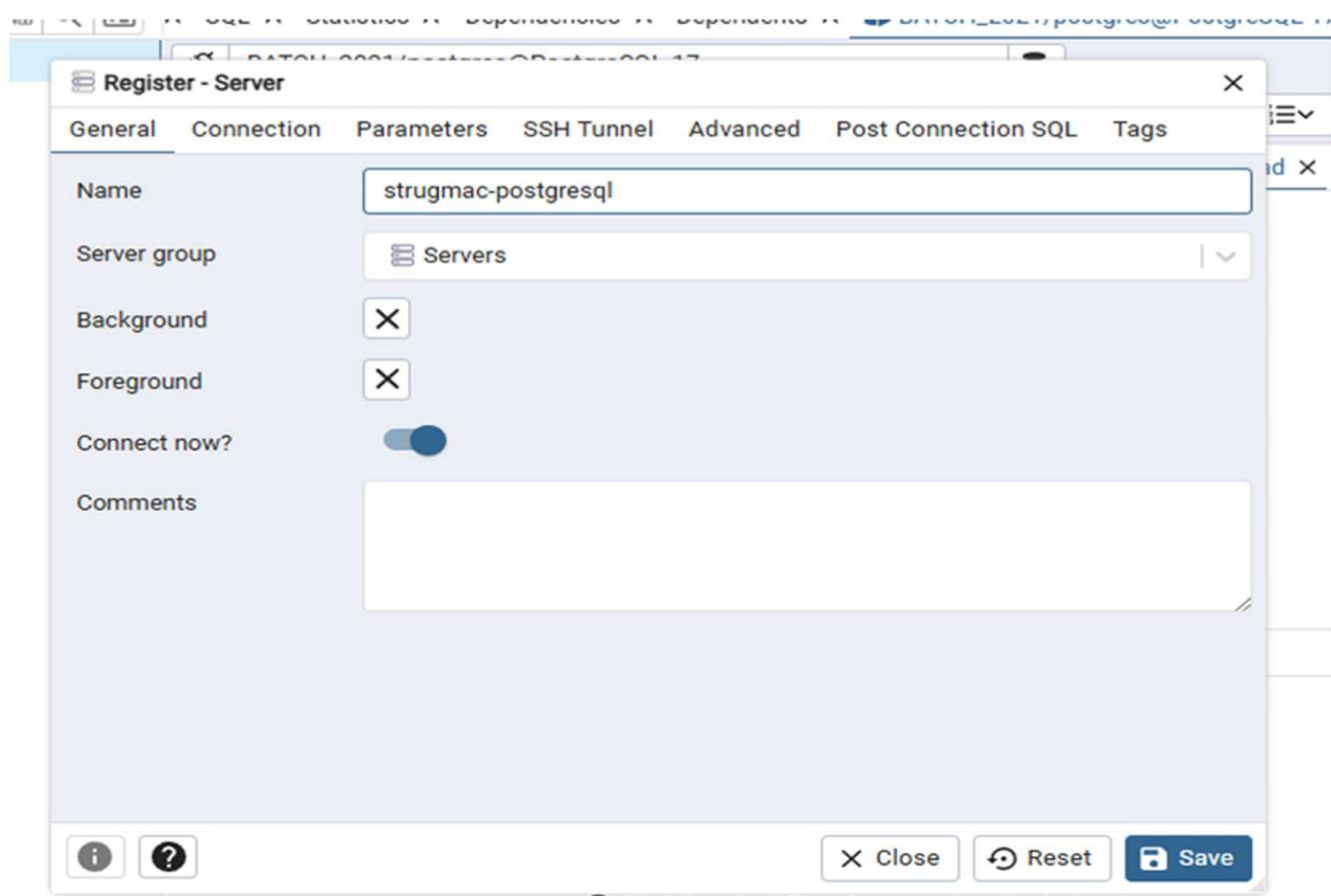
Other option is that we can connect the Postgres AWS RDS to our local machine.

1. Create AWS RDS database for PostgreSQL

2. Connect from PgAdmin.



Copy the API Endpoints from the dashboard of AWS RDS Database instance.



Register - Server

General Connection Parameters SSH Tunnel Advanced Post Connection SQL Tags

Host name/address: strugmac-postgresql.czqk2qqwqtc0.eu-north-1.rds.amazonaws.com

Port: 5432

Maintenance database: postgres

Username: postgres

Kerberos authentication?:

Password:
In edit mode the password field is enabled only if Save Password is set to true.

Save password?:

Role:

Service:

Close Reset Save

No data output. Execute a query to get output.

5. Output:

Connectivity & security

Endpoint & port	Networking	Security
Endpoint strugmac-postgresql.czqk2qqwqtc0.eu-north-1.rds.amazonaws.com	Availability Zone eu-north-1c	VPC security groups default (sg-0e67db7abaff84225) <input checked="" type="checkbox"/> Active
Port 5432	VPC vpc-081fe9fe127bb8e79	Publicly accessible No
	Subnet group default-vpc-081fe9fe127bb8e79	Certificate authority Info rds-ca-rsa2048-g1
	Subnets subnet-00bf0147db6493492 subnet-0aa3f608f07d8cecc subnet-0f9ee2b6eb9698f78	Certificate authority date May 25, 2061, 03:29 (UTC+05:30)

Edit inbound rules Info

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

Inbound rules <small>Info</small>	Type <small>Info</small>	Protocol <small>Info</small>	Port range <small>Info</small>	Source <small>Info</small>	Description - optional	
sgr-0d9f21030174e69aa	All traffic	All	All	C... <input type="button" value="..."/>	<input type="text" value=""/>	<input type="button" value="Delete"/>
-	PostgreSQL	TCP	5432	M... <input type="button" value="..."/>	<input type="text" value=""/>	<input type="button" value="Delete"/>

6. Learning Outcomes:

- Learned about AWS RDS.
 - Learned how to create a database instance on AWS RDS.
 - Learned how to connect local pgAdmin to Cloud RD.