

Experiment 9

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Semester: 5th

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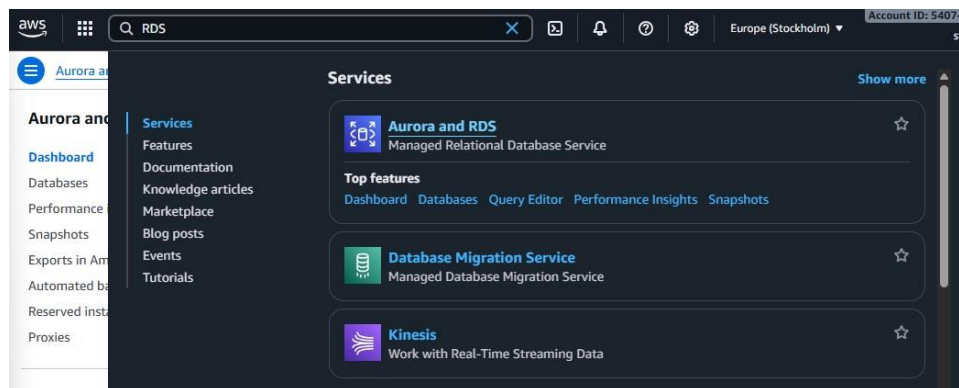
Subject Code: 23CSP-333

1. Aim:

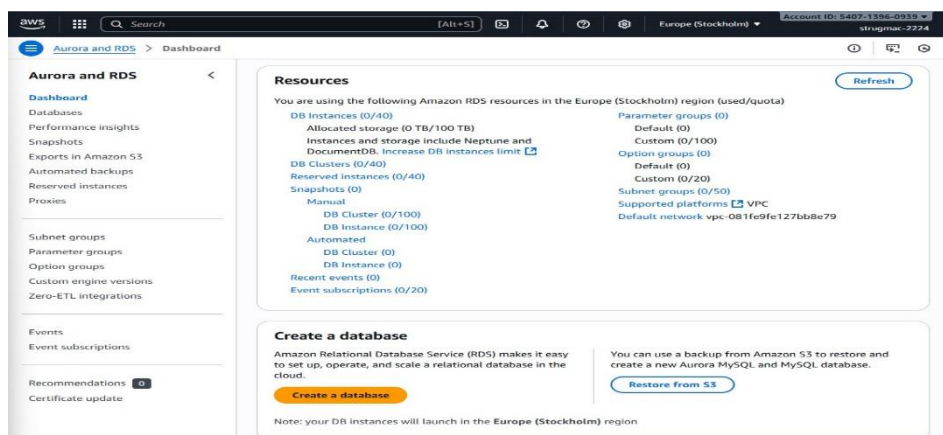
AWS RDS

- OVERVIEW OF AWS RDS
- CREATION OF DATABASE INSTANCE ON AWS RDS
- SECURITY GROUPS
- CONNECTING LOCAL PGADMIN TO CLOUD RDS

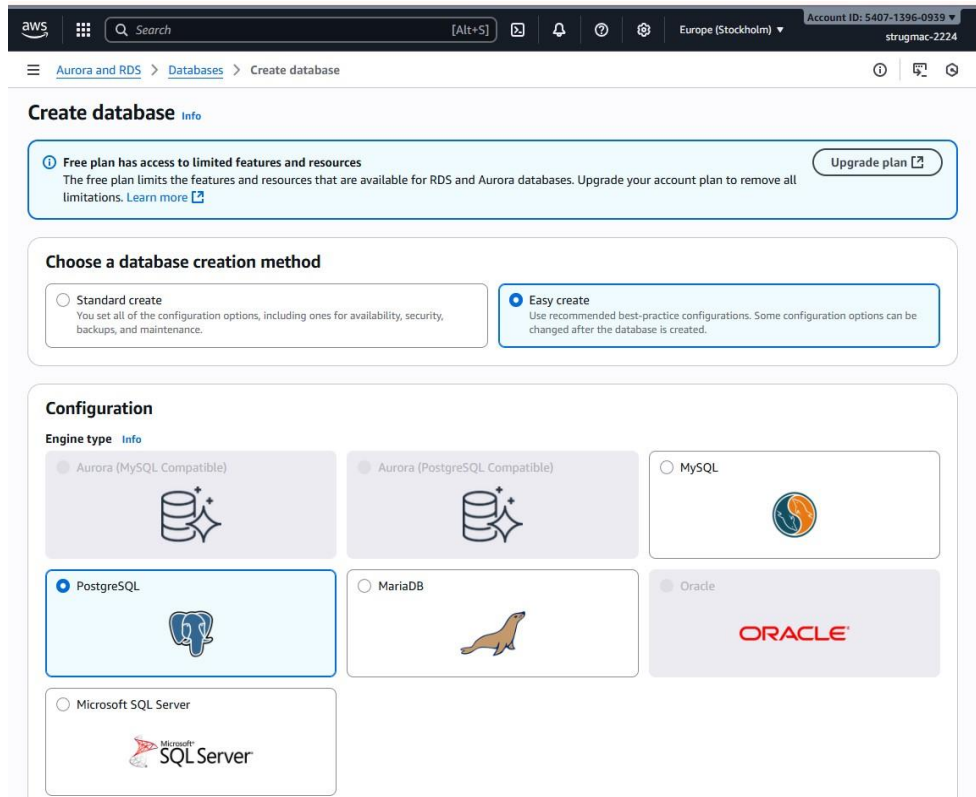
1. GO TO AWS HOMEPAGE -> CLICK ON SIGN IN-> ENTER USER NAME WITH EMAIL ADDRESS.
2. AFTER SIGN-IN -> GO TO SEARCH BAR -> SEARCH FOR RDS -> HIT ENTER



3. HOW TO CREATE MY SQL DATABASE INSTANCE ON AWS RDS?



4. CLICK ON CREATE DATABASE



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

5. IN THE STANDALONE CREATE, WE CAN SET EVERYTHING FOR OUR DATABASE, THE INCOMING TRAFFIC, IP ADDRESSES TO BE USED, BACKUP ETC.

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.

strugmac-DB

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.

admin

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 [Info](#) Very strong

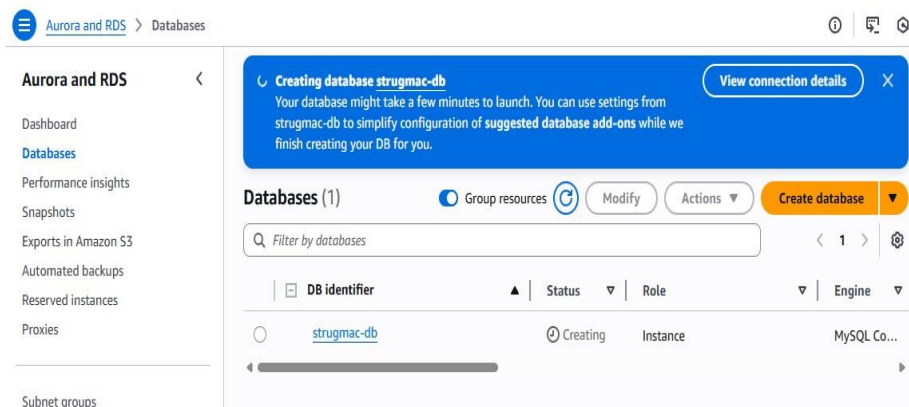
Minimum constraints: At least 8 printable ASCII characters. Can't contain any of the following symbols: / ' ' @

Confirm master password [Info](#)

▼ View default settings for Easy create

Easy create sets the following configurations to their default values, some of which can be changed later. If you want to change any of these settings now, use Standard create.

Configuration	Value	Editable after database is created
Encryption	Enabled	No
VPC	Default VPC (vpc-081fe9fe127bb8e79)	No
Multi-AZ	No	Yes
Option group	default:mysql-8-0	Yes
Subnet group	Create new DB Subnet Group	Yes
Automatic backups	Enabled	Yes
VPC security group	default	Yes
Publicly accessible	No	Yes
Database port	3306	Yes
DB instance identifier	strugmac-DB	Yes
DB engine version	8.0.42	Yes
DB parameter group	default:mysql8.0	Yes
Monitoring type	Database Insights - Standard	Yes
Performance insights	Not enabled	Yes
Monitoring	Enabled	Yes
Maintenance	Auto minor version upgrade enabled	Yes



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.

[View connection details](#)

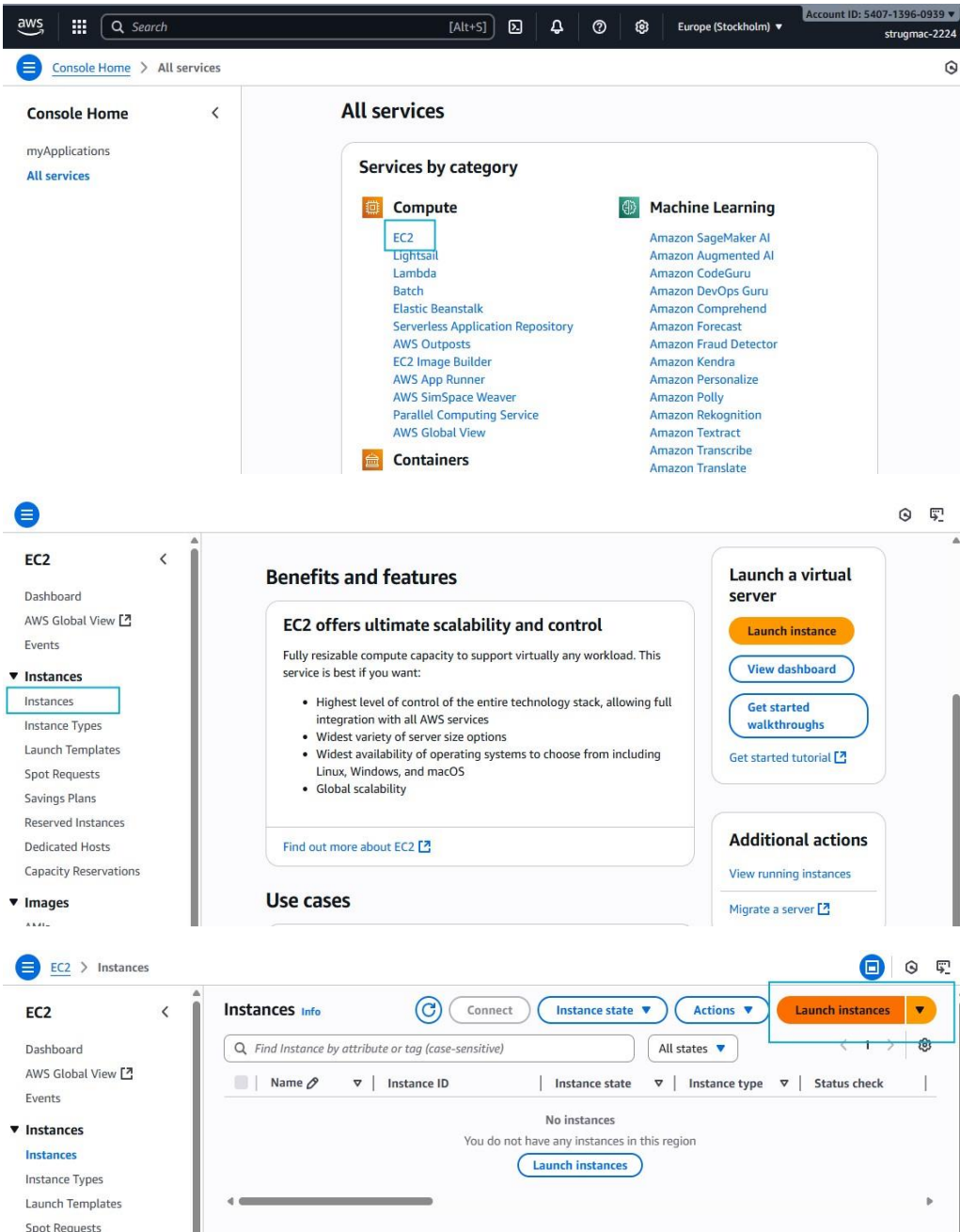
Databases (1) ☒ Group resources ☒ Modify

Filter by databases

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,

7. Launching an EC2 instance



The screenshot illustrates the process of launching an EC2 instance in the AWS Management Console. It is divided into three main sections:

- Top Section (All services):** Shows the 'All services' page with 'Compute' services listed. 'EC2' is highlighted with a red box.
- Middle Section (EC2 Benefits and features):** Displays the 'Benefits and features' of EC2, stating it offers ultimate scalability and control. It lists features like high-level control, variety of server size options, and global scalability. A 'Launch a virtual server' sidebar on the right includes buttons for 'Launch instance', 'View dashboard', 'Get started walkthroughs', and 'Get started tutorial'.
- Bottom Section (Instances):** Shows the 'Instances' page. The 'Launch instances' button in the top right corner is highlighted with a red box. Below the button, a message states 'No instances' and 'You do not have any instances in this region', with a 'Launch instances' button provided.

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](#).

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu®

Windows

Microsoft

Red Hat

Red Hat

SUSE Linux

SUSE

Debian

debian

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Firewall (security group) [Info](#)

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

[Create new key pair](#)

Launch instance

Network settings [Info](#)

Network [Info](#)

vpc-081fe9fe127bb8e79

Subnet [Info](#)

No preference (Default subnet in any availability zone)

Auto-assign public IP [Info](#)

Enable

Firewall (security groups) [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.

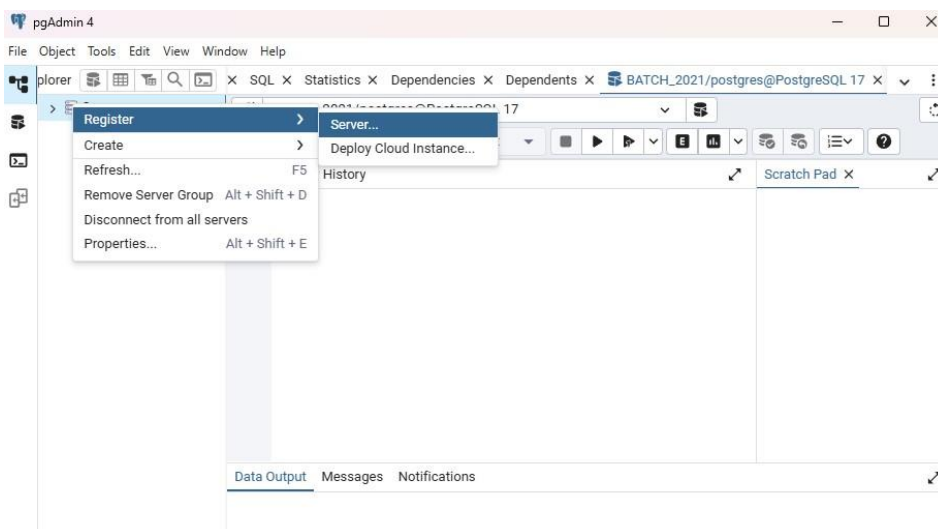
☐ Create security group
☒ Select existing security group

Common security groups [Info](#)

[Compare security group rules](#)

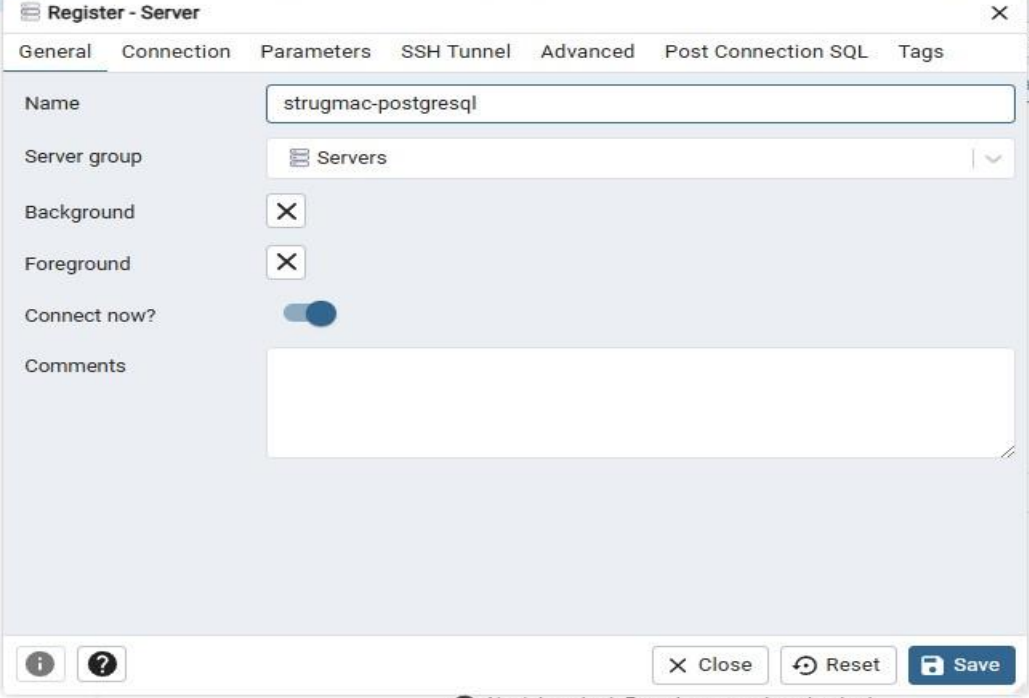
Other option is that we can connect the Postgres AWS RDS to our local machine.

1. Create AWS RDS database for PostgreSQL
- 2.



The screenshot shows the pgAdmin 4 application window. The 'Register' menu is open, displaying options like 'Create', 'Refresh...', 'Remove Server Group', 'Disconnect from all servers', and 'Properties...'. The 'Create' option is further expanded, showing 'Server...' and 'Deploy Cloud Instance...'. The 'Deploy Cloud Instance...' option is highlighted. The background shows the pgAdmin 4 interface with various tabs and toolbars.

2. Connect from PgAdmin.
3. Copy the API Endpoints from the dashboard of AWS RDS Database instance.



Register - Server

General Connection Parameters SSH Tunnel Advanced Post Connection SQL Tags

Name: strugmac-postgresql

Server group: Servers

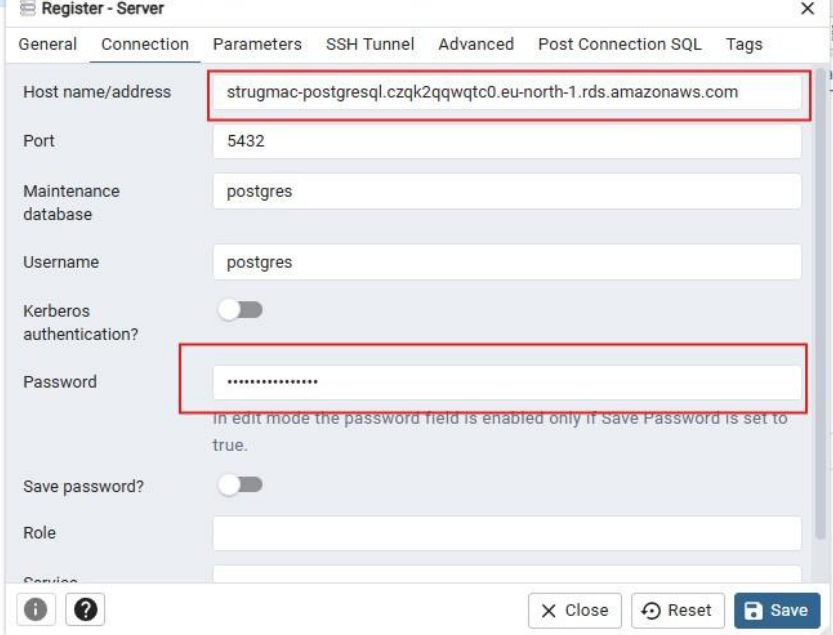
Background: ☐

Foreground: ☐

Connect now?: ☒

Comments:

No data output. Execute a query to get output.



Register - Server

General Connection Parameters SSH Tunnel Advanced Post Connection SQL Tags

Host name/address: strugmac-postgresql.czqk2qqwqt0c.eu-north-1.rds.amazonaws.com

Port: 5432

Maintenance database: postgres

Username: postgres

Kerberos authentication?: ☐

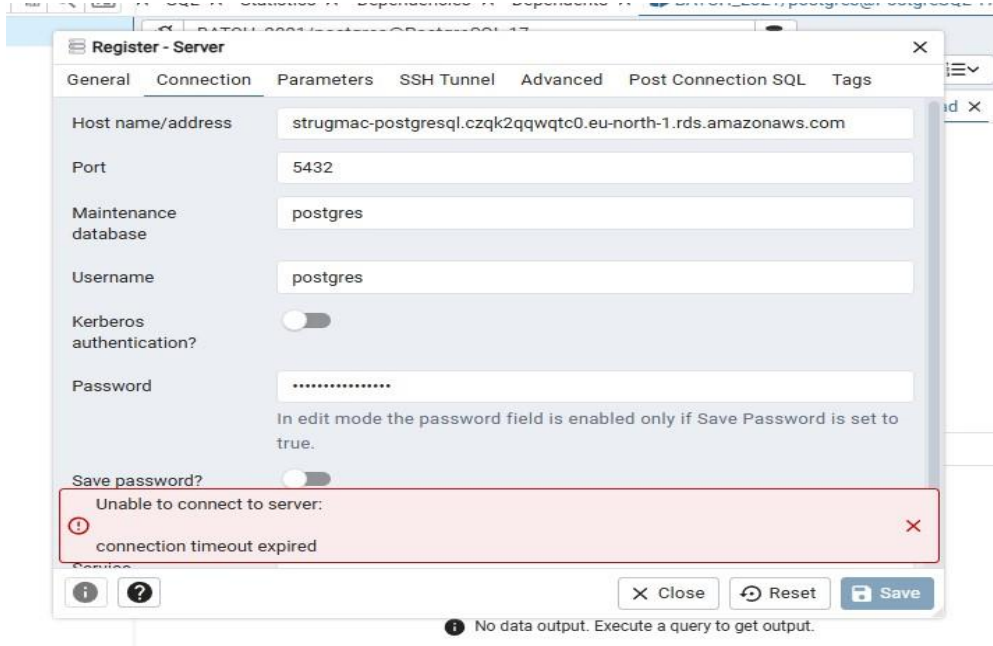
Password:

Save password?: ☐

Role:

No data output. Execute a query to get output.

4. Click on Save



5. Might give this error as this DB instance is not available locally.

6. Change the INBOUND RULES of DB Instance from the AWS Console

