



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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Experiment 9

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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

The screenshot shows the AWS homepage with a search bar at the top containing 'RDS'. Below the search bar, there's a 'Services' section with three items: 'Aurora and RDS', 'Database Migration Service', and 'Kinesis'. The 'Aurora and RDS' item is highlighted with a blue border. On the left side, there's a sidebar with a 'Dashboard' button and other service links like 'Databases', 'Performance', 'Snapshots', etc.

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

The screenshot shows the 'Aurora and RDS' dashboard. On the left, there's a sidebar with 'Dashboard', 'Databases', 'Performance insights', 'Snapshots', and other options. The main area is titled 'Resources' and shows usage statistics for DB Instances, DB Clusters, and other resources. At the bottom right of the dashboard, there's a prominent orange button labeled 'Create a database'.



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4. CLICK ON CREATE DATABASE

The screenshot shows the 'Create database' page in the AWS RDS console. At the top, there's a message about a free plan having limited features. Below it, the 'Choose a database creation method' section shows two options: 'Standard create' and 'Easy create'. 'Easy create' is selected. The 'Configuration' section shows engine type options: Aurora (MySQL Compatible), Aurora (PostgreSQL Compatible), MySQL, Oracle, PostgreSQL (selected), MariaDB, and Microsoft SQL Server. The PostgreSQL icon is highlighted with a blue border.

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

This screenshot shows the detailed configuration page for creating a new database instance. It includes sections for 'DB instance size' (Production db.r7g.xlarge, Dev/Test db.tg.micro, Free tier db.t4g.micro), 'DB instance identifier' (strugmac-DB), 'Master username' (admin), 'Credentials management' (Self managed selected), and 'Master password' fields. The 'Password strength' bar is shown as 'Very strong'.



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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

The screenshot shows the AWS RDS console under the 'Aurora and RDS' section. On the left, there's a sidebar with options like Dashboard, Databases, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, and Subnet groups. The main area is titled 'Creating database strugmac-db' with a message: '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.' Below this, there's a 'Databases (1)' list with a single entry for 'strugmac-db'. The database details show it's in the 'Creating' status, an 'Instance', and uses the 'MySQL' engine. There are also 'Group resources' and 'Actions' buttons.

- 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,



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7. Launching an EC2 instance

The image consists of three vertically stacked screenshots of the AWS Management Console interface.

Screenshot 1: All services page

This screenshot shows the "All services" page. The left sidebar has "Console Home" selected. Under "Compute", "EC2" is highlighted. The main area shows "Services by category" with sections for Compute (EC2, Lightsail, Lambda, Batch, Elastic Beanstalk, Serverless Application Repository, AWS Outposts, EC2 Image Builder, AWS App Runner, AWS SimSpace Weaver, Parallel Computing Service, AWS Global View) and 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).

Screenshot 2: EC2 Instances page

This screenshot shows the "Instances" section of the EC2 service. The left sidebar has "Instances" selected. The main area displays "Benefits and features" (including scalability and control), "Use cases", and "Additional actions" (Launch a virtual server, View running instances, Migrate a server). A large orange "Launch instance" button is prominently displayed.

Screenshot 3: Instances page

This screenshot shows the "Instances" page. The left sidebar has "Instances" selected. The main area shows a search bar, filters (Name, Instance ID, Instance state, Instance type, Status check), and a message: "No instances. You do not have any instances in this region". A large orange "Launch instances" button is at the bottom.



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▼ 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](#).

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

Firewall (security group)

▼ 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

Proceed without a key pair (Not recommended) Default value [Create new key pair](#)

[Launch instance](#) [Preview code](#)

▼ 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 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](#)

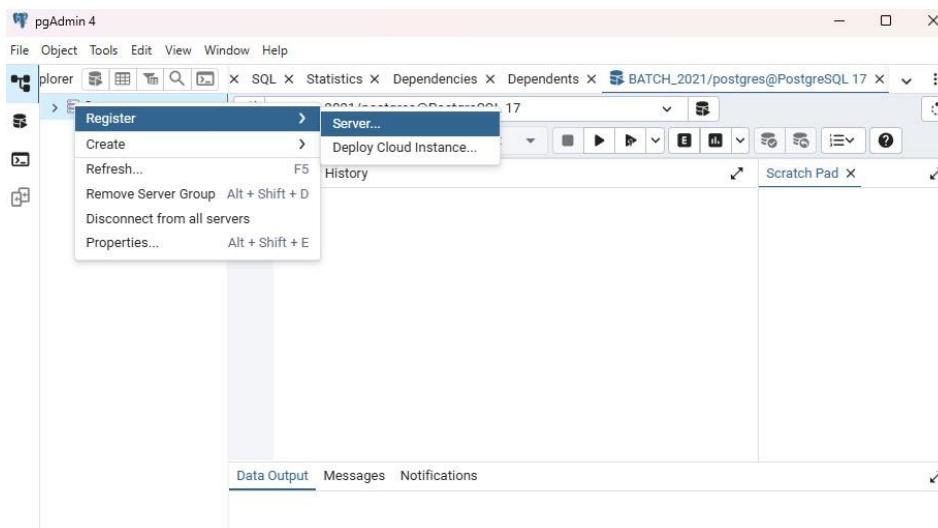
Select security groups [Compare security group rules](#)

default sg-0e67db7abaff84225 [X](#)
VPC: vpc-081fe9fe127bb8e79

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

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

1. Create AWS RDS database for PostgreSQL 2.





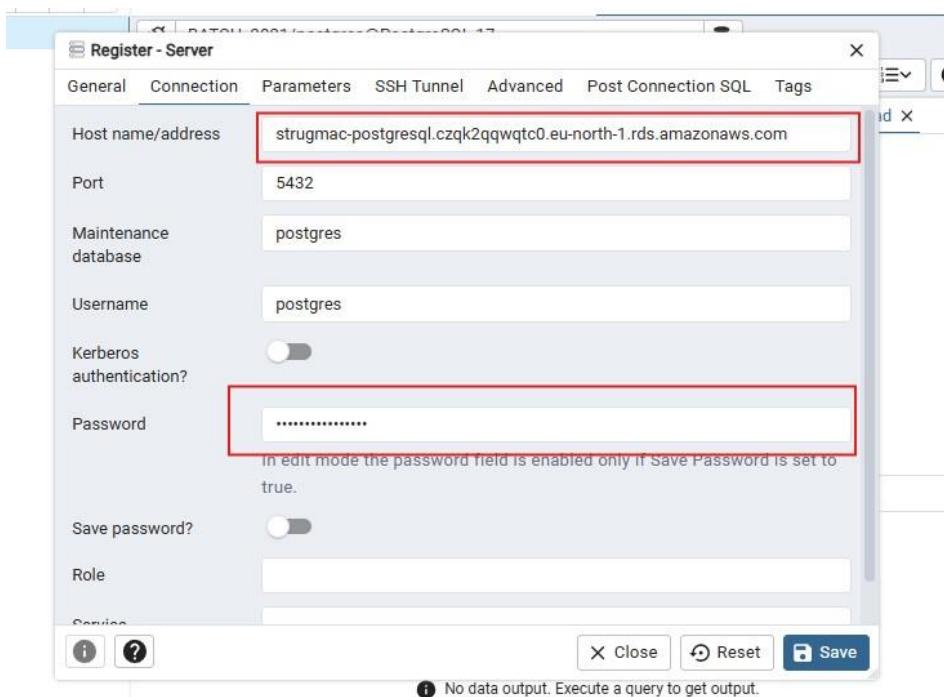
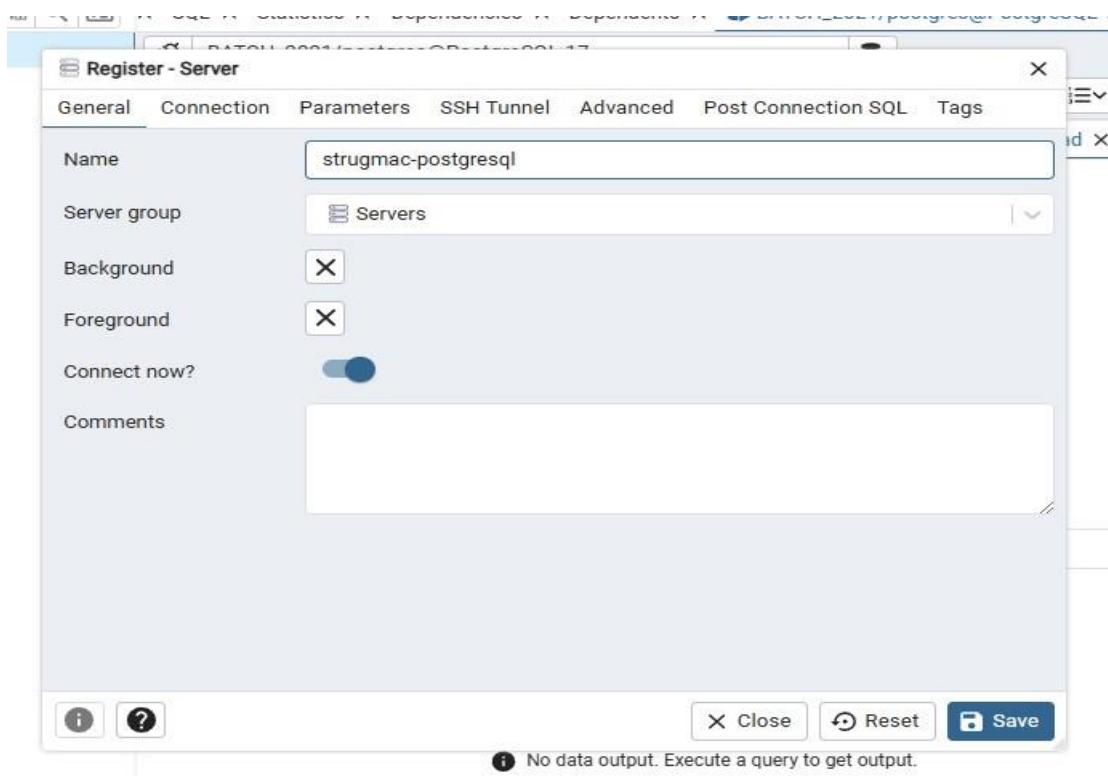
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2. Connect from PgAdmin.

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



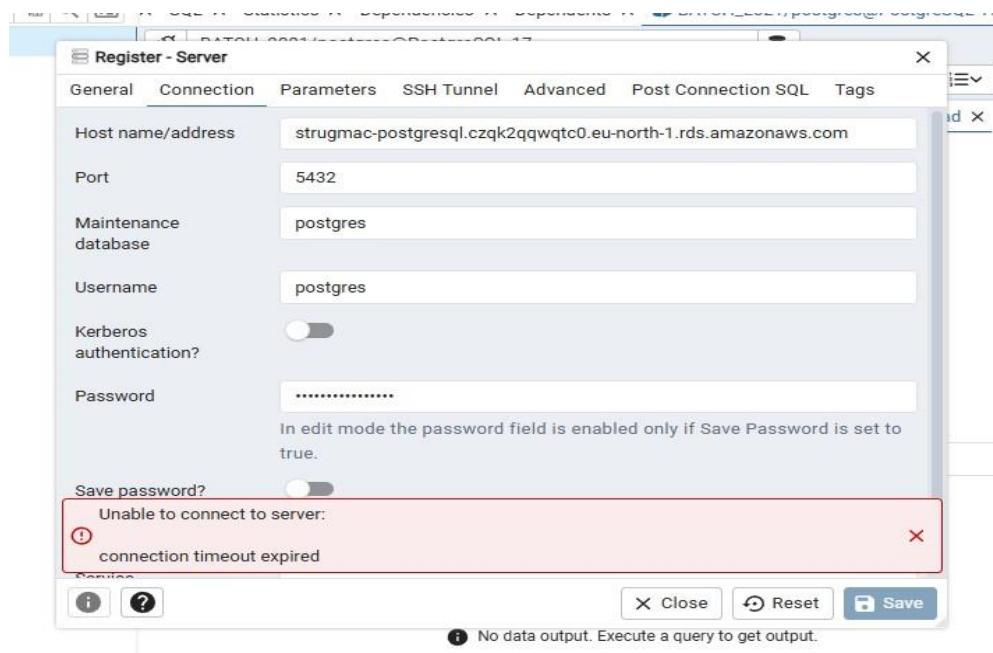


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- Click on Save



- Might give this error as this DB instance is not available locally.
- Change the INBOUND RULES of DB Instance from the AWS Console

The screenshot shows the AWS RDS DB Instances page for a specific DB instance. The top section is titled "Connectivity & security". It contains three tabs: "Endpoint & port", "Networking", and "Security". The "Security" tab is active, showing the following details:

- VPC security groups:** default (sg-0e67db7abaff84225) (highlighted with a red box)
- Publicly accessible:** No
- Certificate authority:** rds-ca-rsa2048-g1
- Certificate authority date:** May 25, 2061, 03:29 (UTC+05:30)

Below this, the "Edit inbound rules" section is shown. It lists an existing rule:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0d9f21030174e69aa	All traffic	All	All	0.0.0.0/0	(highlighted with a red box)

At the bottom right of the "Edit inbound rules" panel are "Cancel", "Preview changes", and "Save rules" buttons. The "Save rules" button is highlighted with a red box.