Experiment - 9

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Branch: BE-CSE   **Section/Group:** KRG_2B

Semester: 5ᵗʰ

Date of Performance: 27/10/25

Subject Name: Advanced Database and Management System
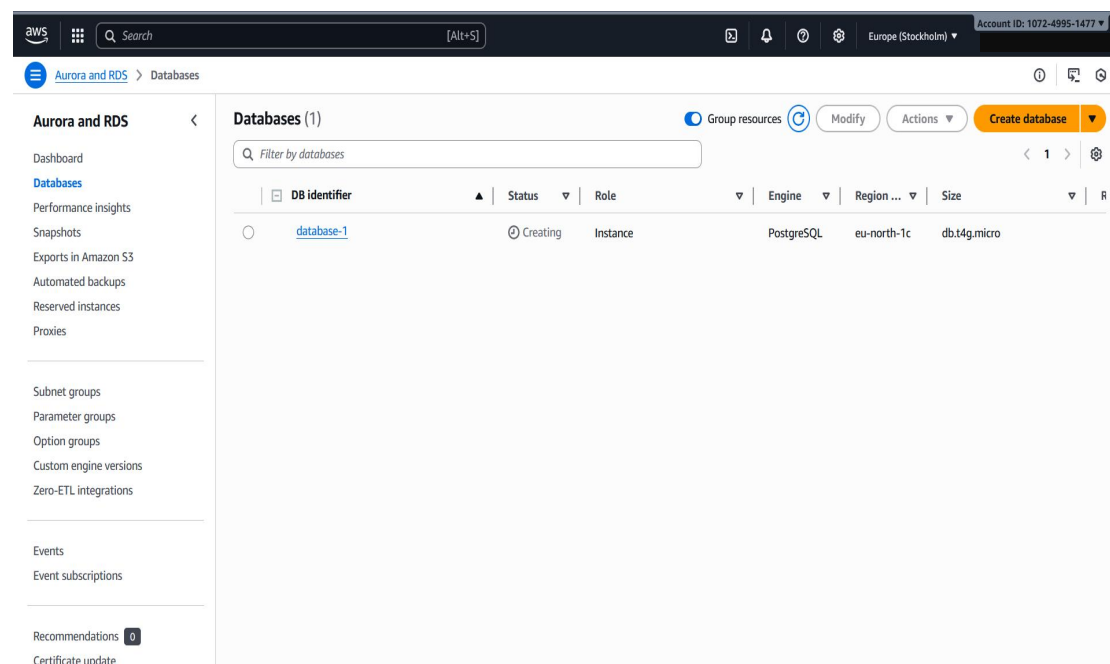
Subject Code: 23CSP-333

1. Aim

To create, configure, and connect an Amazon RDS PostgreSQL database instance on AWS, and verify successful database operations using a client tool.

2. Objectives:

1. To understand the concept of managed relational database services in AWS (Amazon RDS).

2. To create a PostgreSQL database instance using AWS RDS.

3. To configure DB parameters such as instance size, storage, authentication, and security groups.

4. To connect the RDS instance from a PostgreSQL client (e.g., pgAdmin/psql).

5. To execute basic SQL queries to validate connectivity and database functionality.

3. AWS RDS OPERATIONS AND OUTPUTS -

Aurora and RDS > Databases

Aurora and RDS ‹

Dashboard
Databases
Performance insights
Snapshots
Exports in Amazon S3
Automated backups
Reserved instances
Proxies

Subnet groups
Parameter groups
Option groups
Custom engine versions
Zero-ETL integrations

Events
Event subscriptions

Recommendations 0
Certificate update

Databases (1)

Group resources ◐ | Modify | Actions ▼ | Create database ▼

🔍 Filter by databases

‹ 1 › ⚙

☐	DB identifier ▲	Status ▽	Role ▽	Engine ▽	Region ... ▽	Size ▽	R
⦿	database-1	⊘ Available	Instance	PostgreSQL	eu-north-1c	db.t4g.micro	

EC2 > Security Groups > sg-0b93c6695518cd4cc - 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 Info	Protocol Info	Port range Info	Source Info	Description - optional Info	
sgr-0c10a5678be41146e	PostgreSQL ▼	TCP	5432	Custom ▼	🔍		Delete
					45.248.160.62/32 ✕		
sgr-063f6bf74b46657f0	All traffic ▼	All	All	Custom ▼	🔍		Delete
					sg-0b93c6695518cd4cc ✕		

Add rule

Cancel | Preview changes | Save rules

Auto-assign public... | 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 ▾

default sg-0b93c6695518cd4cc ✕
VPC: vpc-0d98d3e2dd9e74b9a

🗘 Compare security group rules

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

▼ **Configure storage** Info   Advanced

1x 30 GiB gp3 ▾   Root volume, 3000 IOPS, Not encrypted

Add new volume

The selected AMI contains instance store volumes, however the instance does not allow any instance store volumes. None of the instance store volumes from the AMI will be accessible from the instance

⟳ Click refresh to view backup information
The tags that you assign determine whether the instance will be backed up by any Data Lifecycle Manager policies.

0 x File systems   Edit

▼ Summary

Number of instances | Info
1

Software Image (AMI)
Microsoft Windows Server 2025 ...read more
ami-0b0faec6b121c8bca

Virtual server type (instance type)
t3.micro

Firewall (security group)
default

Storage (volumes)
1 volume(s) - 30 GiB

Cancel   Launch instance

🖵 Preview code

Aurora and RDS ‹

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database-1   ⟳ Modify Actions ▾

Summary

DB identifier	Status	Role	Engine	Recommendations
database-1	⊘ Available	Instance	PostgreSQL	
CPU	**Class**	**Current activity**	**Region & AZ**	
-	db.t4g.micro		eu-north-1c	

‹ | **Connectivity & security** | Monitoring | Logs & events | Configuration | Zero-ETL integrations | Maintenance & backups | Data mi ›

Connectivity & security

Endpoint & port

Endpoint
🗊 database-1.ct2gocg6qwn7.eu-north-1.rds.amazonaws.com

Port
5432

Networking

Availability Zone
eu-north-1c

VPC
vpc-0d98d3e2dd9e74b9a

Subnet group
default-vpc-0d98d3e2dd9e74b9a

Subnets
subnet-03dc9297ff78716f9
subnet-0fbbbe207fc38553f

Security

VPC security groups
default (sg-0b93c6695518cd4cc)
⊘ Active

Publicly accessible
No

Certificate authority Info
rds-ca-rsa2048-g1

Certificate authority date
May 25, 2061, 03:29 (UTC+05:30)

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

Publicly accessible	No	Yes
Database port	5432	Yes
DB instance identifier	database-1	Yes
DB engine version	17.6	Yes
DB parameter group	default.postgres17	Yes
	Database Insights -	

EC2

- Dashboard
- AWS Global View ↗
- Events

▼ **Instances**
- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity Reservations
- Capacity Manager New

▼ **Images**
- AMIs
- AMI Catalog

▼ **Elastic Block Store**
- Volumes
- Snapshots
- Lifecycle Manager

Instances (1) Info

Last updated
less than a minute ago

Connect | Instance state ▼ | Actions ▼ | **Launch instances** | ▼

Find Instance by attribute or tag (case-sensitive)

All states ▼

‹ 1 ›

	Name ✎	▽	Instance ID	Instance state	▽	Instance type	▽	Status check	Alarm status	Availability Zone	▽	Public IPv4 DI
☐	myserver		i-00db5d63e9cd748c6	⊘ Running ⊕ ⊖		t3.micro		⏱ Initializing	View alarms +	eu-north-1b		ec2-51-20-18:

—

Select an instance

⚙ ⌄