Worksheet 9

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Branch: CSE   **Section/Group: KRG 1-B**

Semester: 5th   **Date of Performance:03/11/2025**
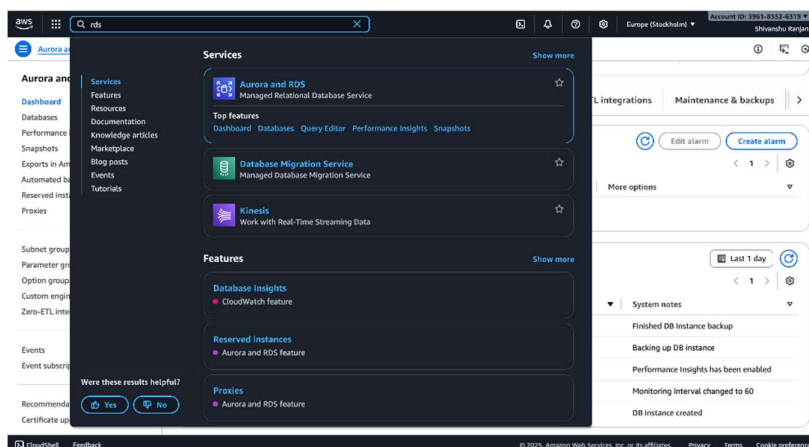
Subject Name: ADBMS   **Subject Code: 23CSP-333**

1. **Aim: To understand and implement the setup of Amazon Relational Database Service (AWS RDS) by creating a database instance, configuring security groups, and establishing a secure connection between the local pgAdmin tool and the RDS instance hosted on the AWS Cloud.**
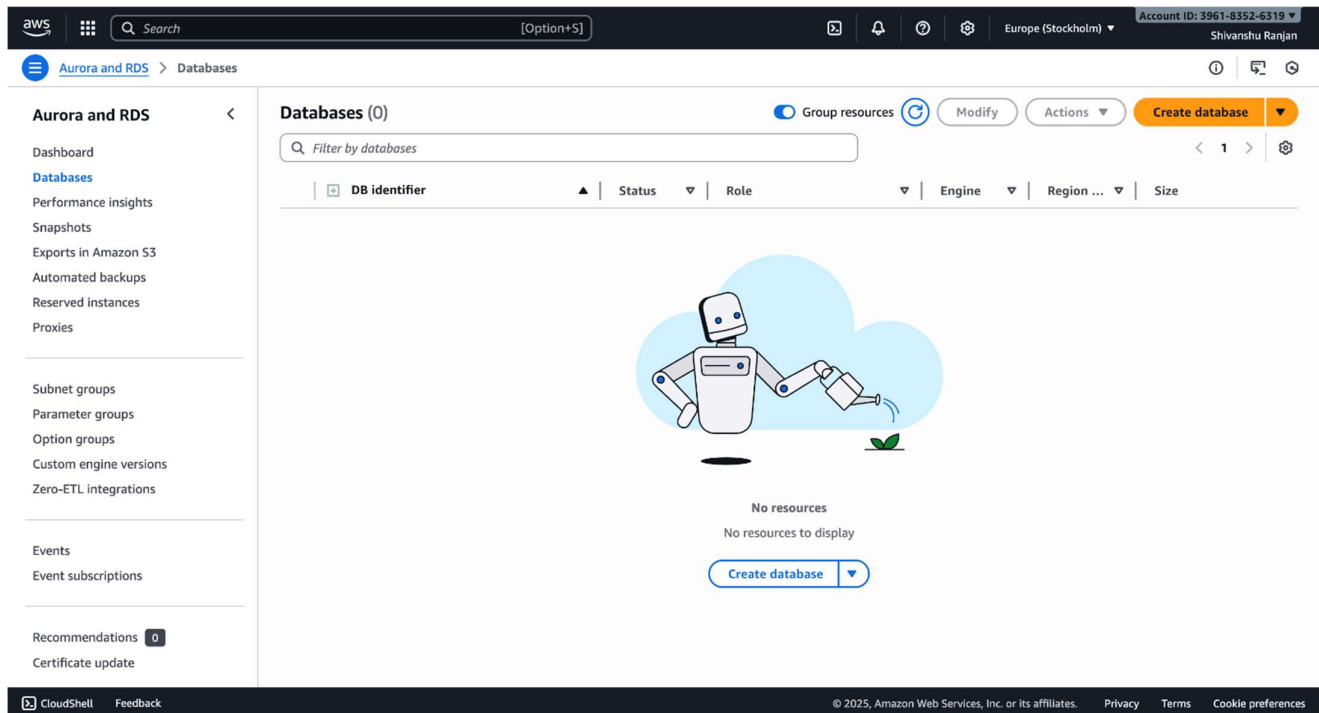
2. Objective:

- To learn the basic concepts and features of Amazon Relational Database Service (AWS RDS).
- To create and configure a new RDS database instance on the AWS Management Console.
- To understand the role and configuration of security groups for controlling database access.
- To connect a local pgAdmin client to the AWS RDS instance securely using proper credentials and endpoint details.
- To verify successful database connectivity and perform basic operations through pgAdmin.
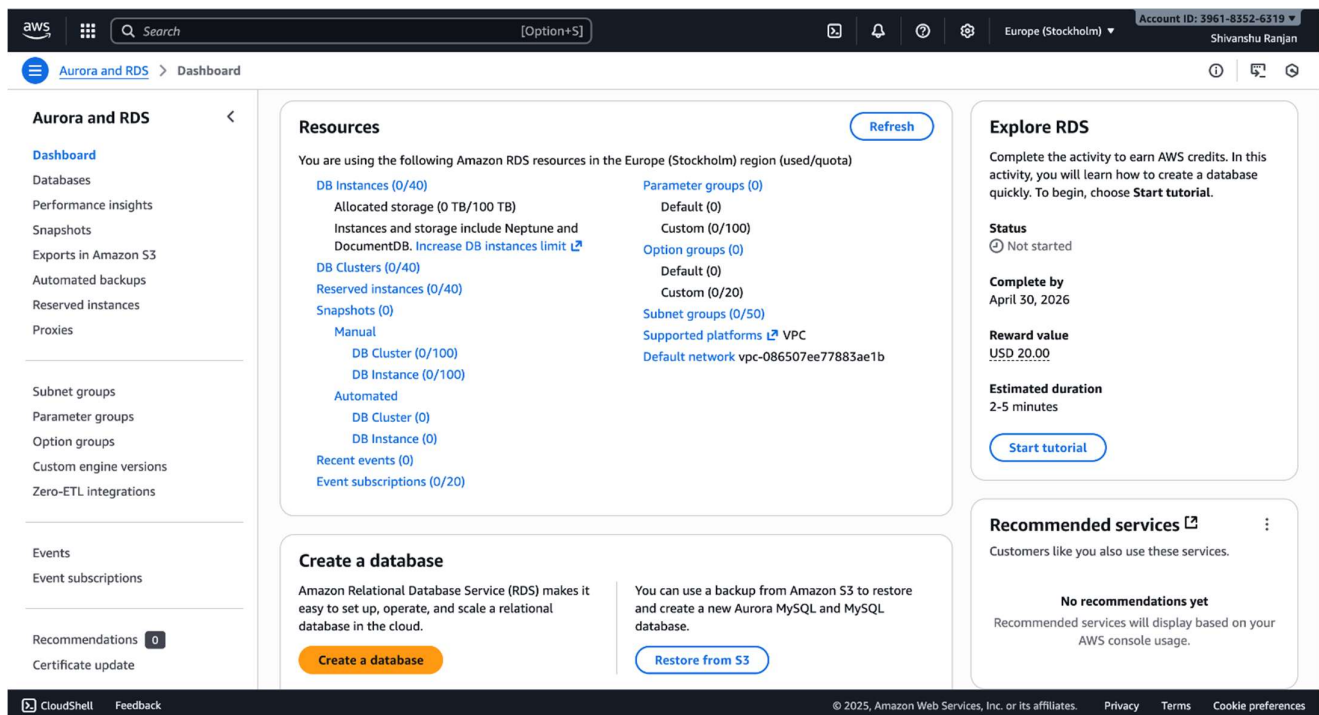
3. Code & Output:

1. Sign-in

2. Navigating to RDS Service

3. Amazon RDS Dashboard Overview

4. Creating a New Database Instance

5. Selecting PostgreSQL as Database Engine

6. Choosing Deployment Option and Template

7. Configuring Database Settings (Name, Username, Password)

8. Setting Up Instance Size and Storage
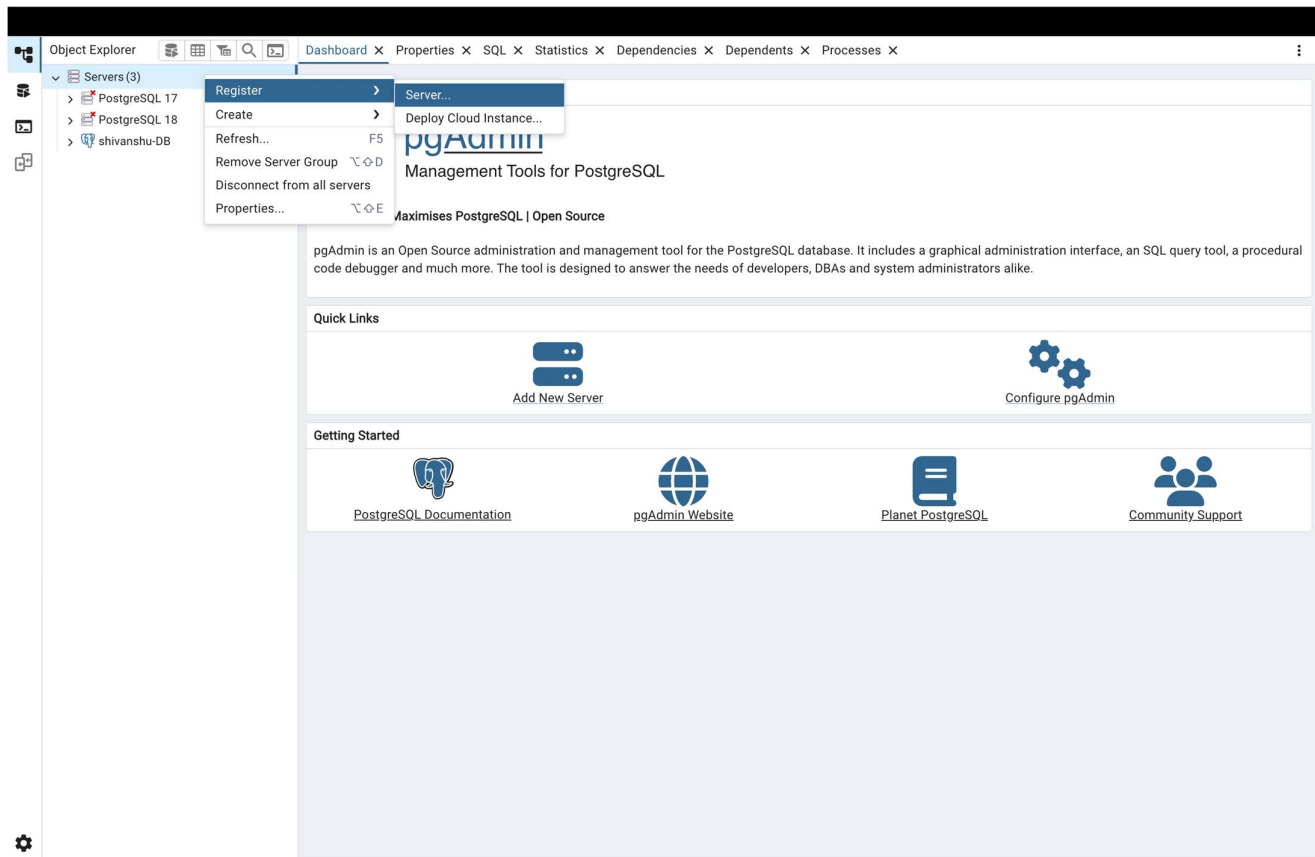
9. Configuring Connectivity and VPC Settings
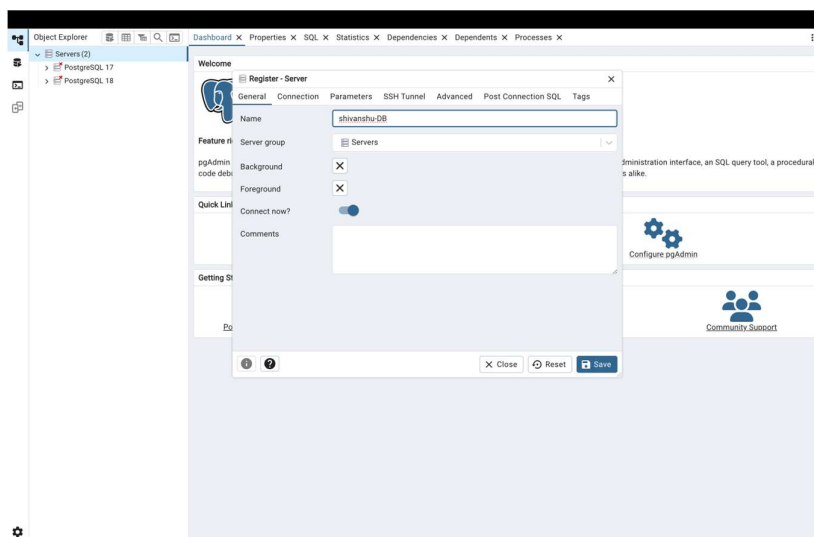
10. Gr Setting Up Security Groups for RDS Access

11. Additional Database Configuration Options

12. Reviewing and Creating the Database Instance

13. RDS Instance Creation in Progress

14. Viewing Database Instance Details

▼ **Additional configuration**

Public access

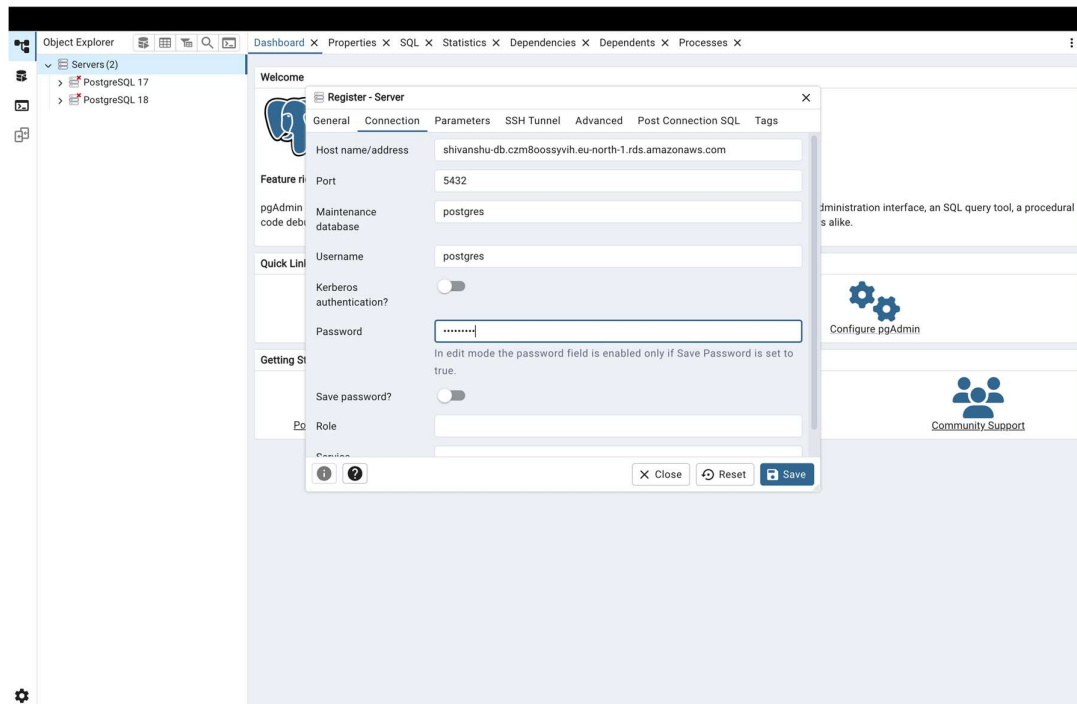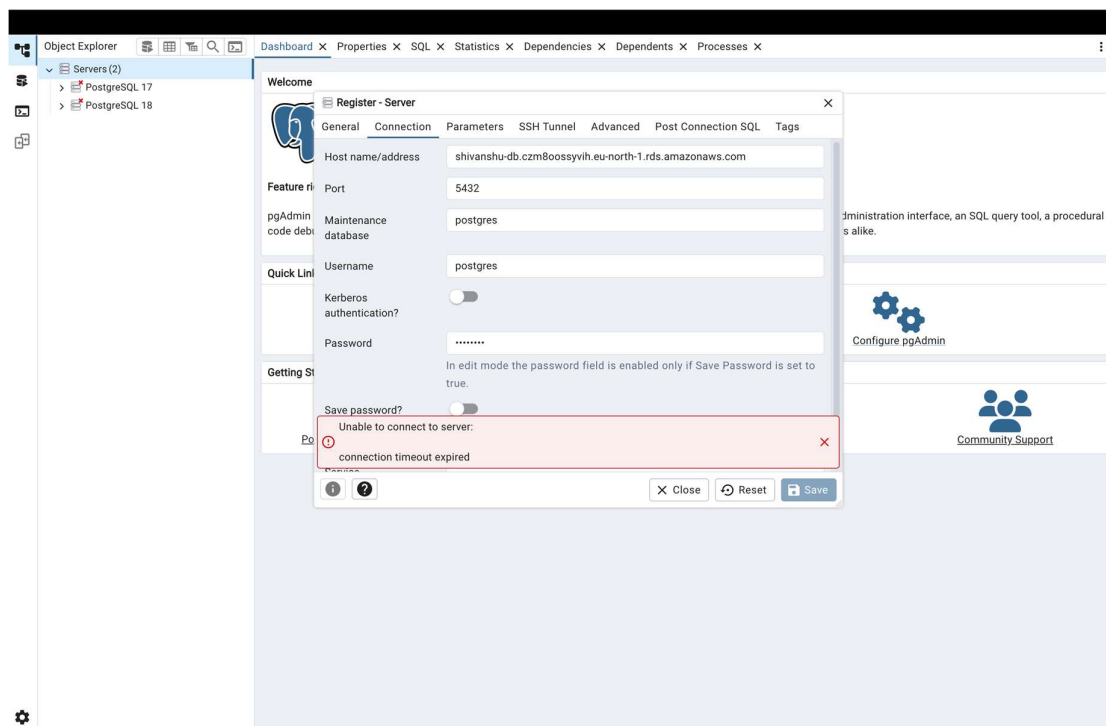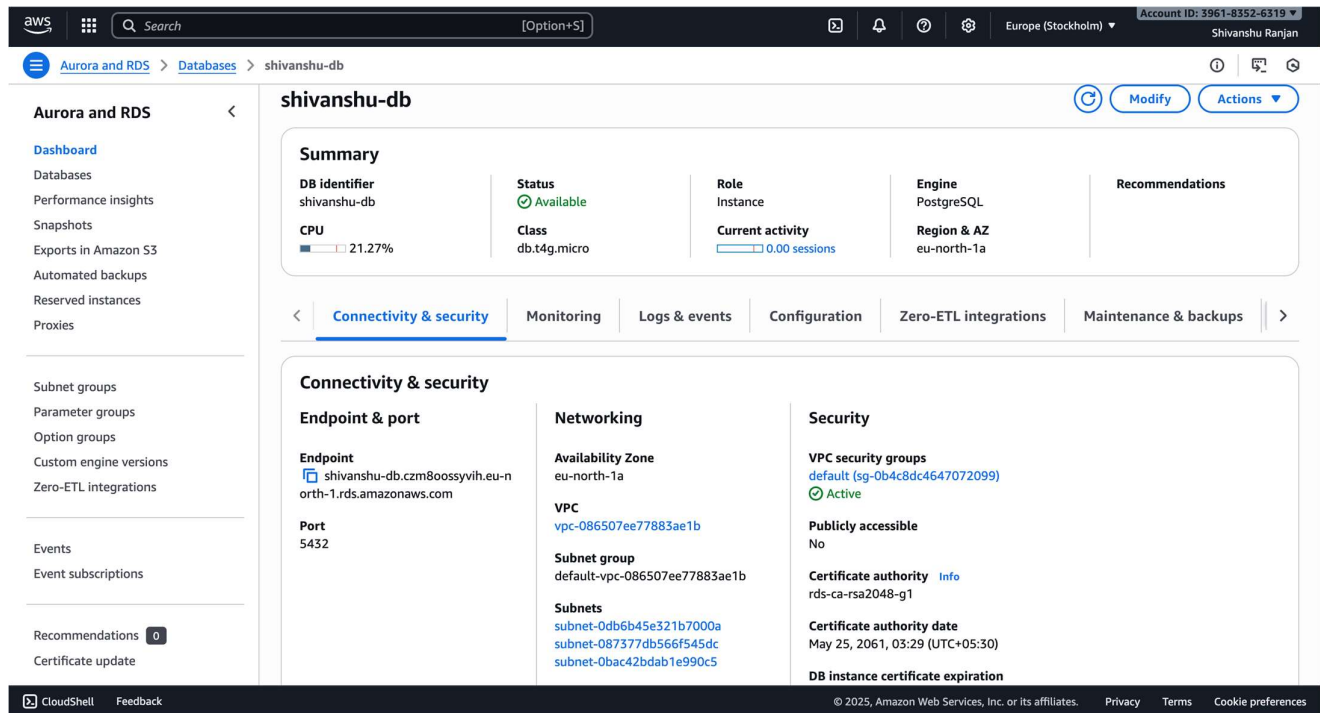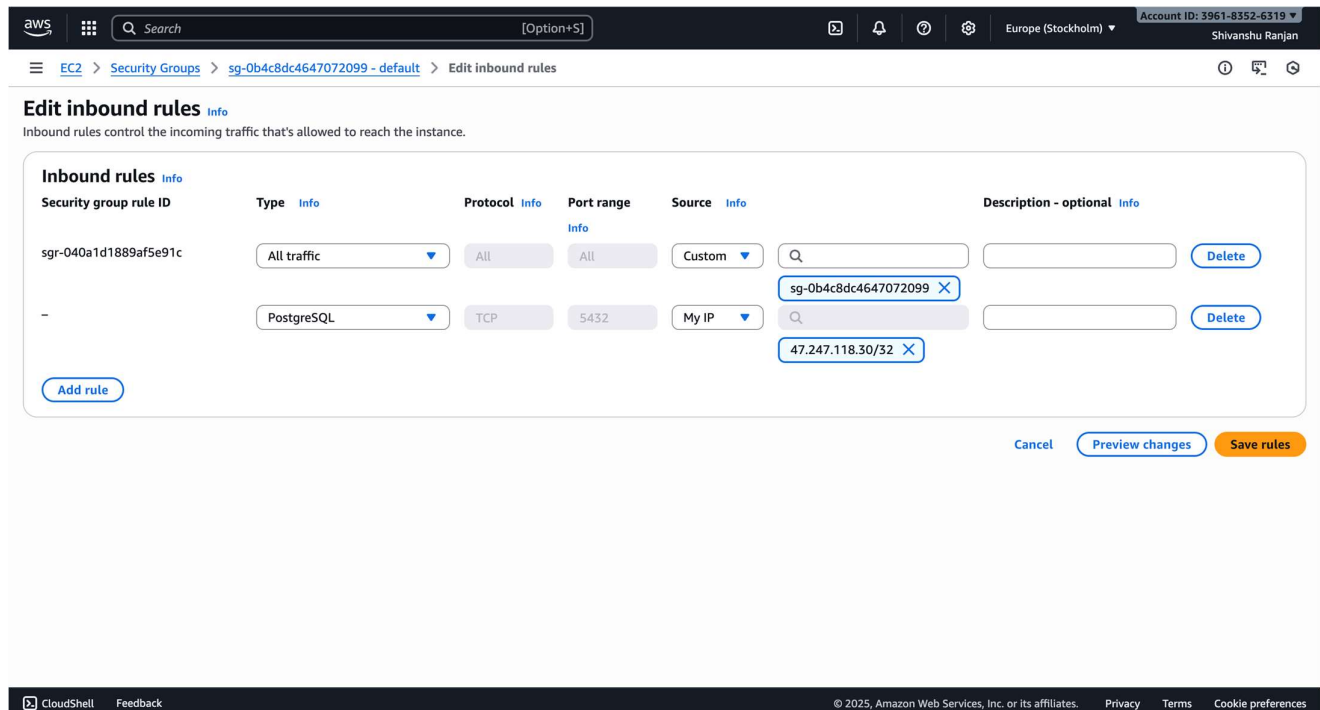🔘 **Publicly accessible**
   RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

⚪ Not publicly accessible
   No IP address is assigned to the DB instance. EC2 instances and devices outside the VPC can't connect.

Database port
Specify the TCP/IP port that the DB instance will use for application connections. The application connection string must specify the port number. The DB security group and your firewall must allow connections to the port. Learn more ↗

```
5432
```

15. Copying the RDS Endpoint for Connection

Connectivity & security

| Endpoint & port	Networking	Security
Endpoint 📋 shivanshu-db.czm8oossyvih.eu-north-1.rds.amazonaws.com	**Availability Zone** eu-north-1a	**VPC security groups** default (sg-0b4c8dc4647072099) ✅ Active
Port 5432	**VPC** vpc-086507ee77883ae1b	**Publicly accessible** Yes
	Subnet group default-vpc-086507ee77883ae1b	**Certificate authority** Info rds-ca-rsa2048-g1
	Subnets subnet-0db6b45e321b7000a subnet-087377db566f545dc subnet-0bac42bdab1e990c5	**Certificate authority date** May 25, 2061, 03:29 (UTC+05:30)
		DB instance certificate expiration date October 30, 2026, 23:59 (UTC+05:30)
	Network type IPv4	

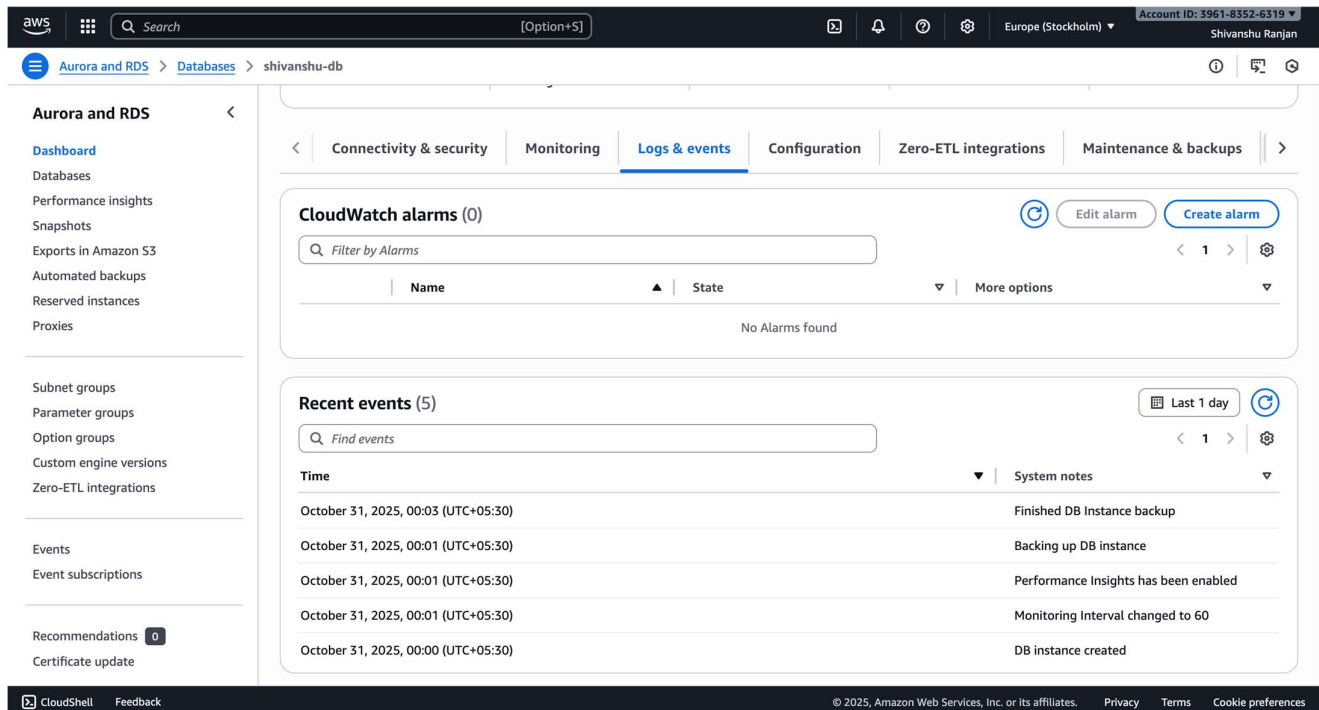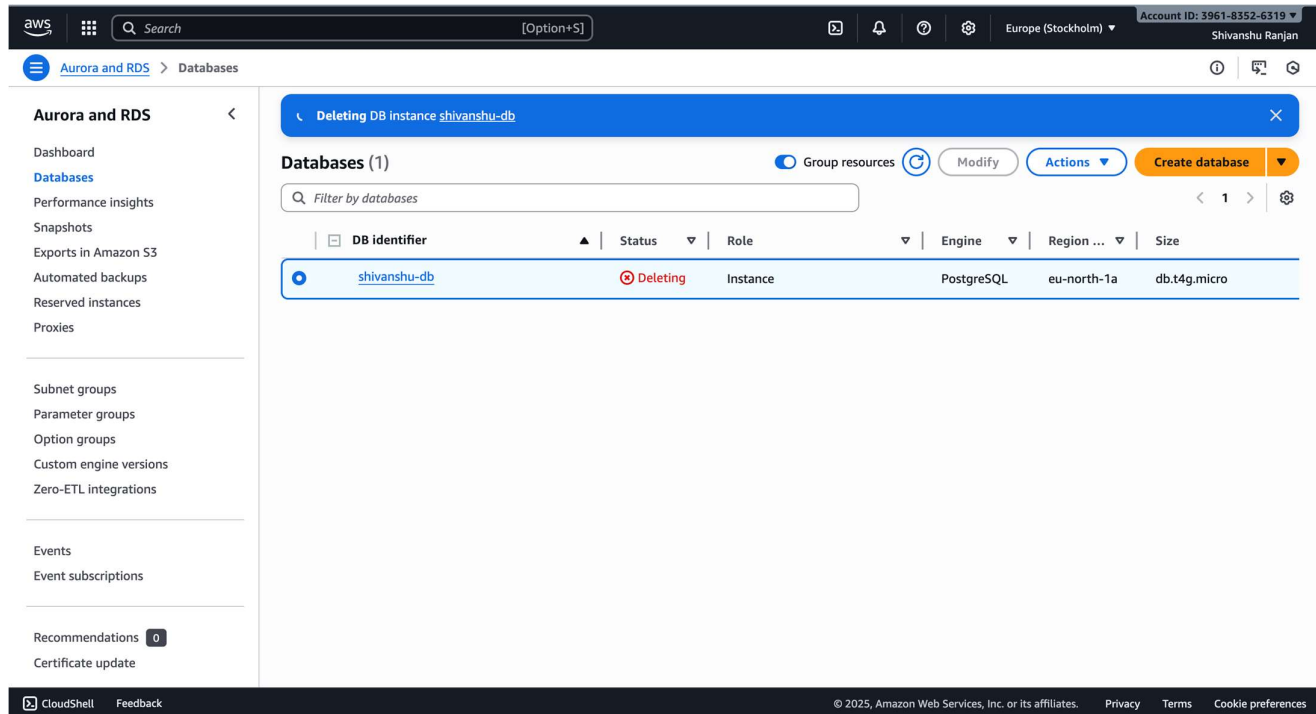## 16. Launching pgAdmin on Local Machine
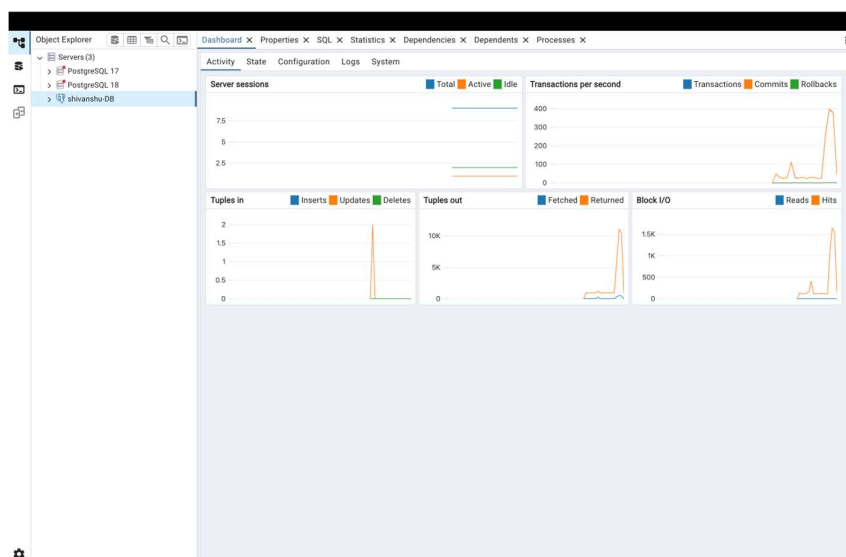
17. Adding a New Server in pgAdmin
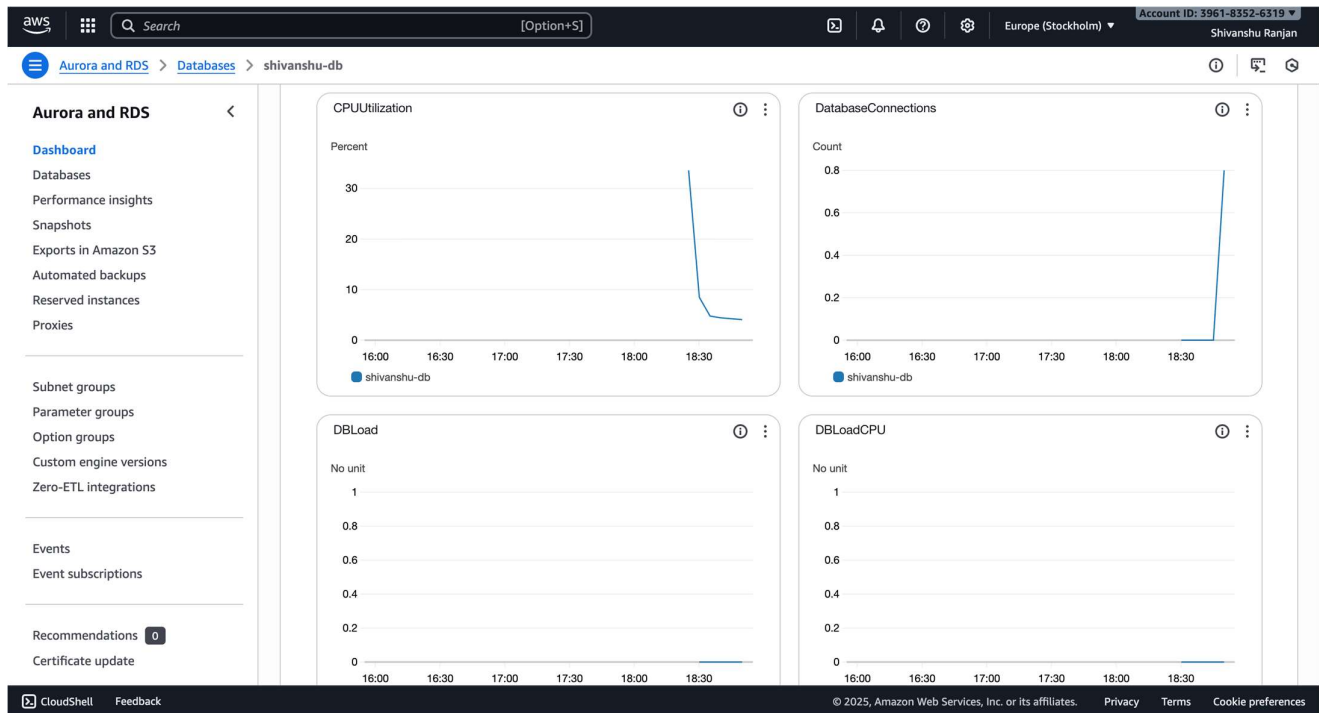
18. Entering Connection Details (Endpoint, Username, Password)

19. Successful Connection to AWS RDS Database via pgAdmin

4. Learning Outcomes:

- Understand the fundamental concepts and benefits of using Amazon RDS for relational database management in the cloud.
- Gain practical knowledge of creating and configuring an RDS database instance on AWS.
- Learn how to manage and secure database access using AWS security groups.
- Develop skills to connect a local pgAdmin client to a cloud-hosted RDS instance.
- Be able to monitor, manage, and test database connectivity and performance in a cloud environment.