



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## EXPERIMENT - 09

**Student Name:** Himanshu Gupta  
**Branch:** BE-CSE  
**Semester:** 5<sup>th</sup>  
**Subject Name:** ADBMS

**UID:** 23BCS10889  
**Section/Group:** KRG-2B  
**Date of Performance:** 9/11/25  
**Subject Code:** 23CSP-333

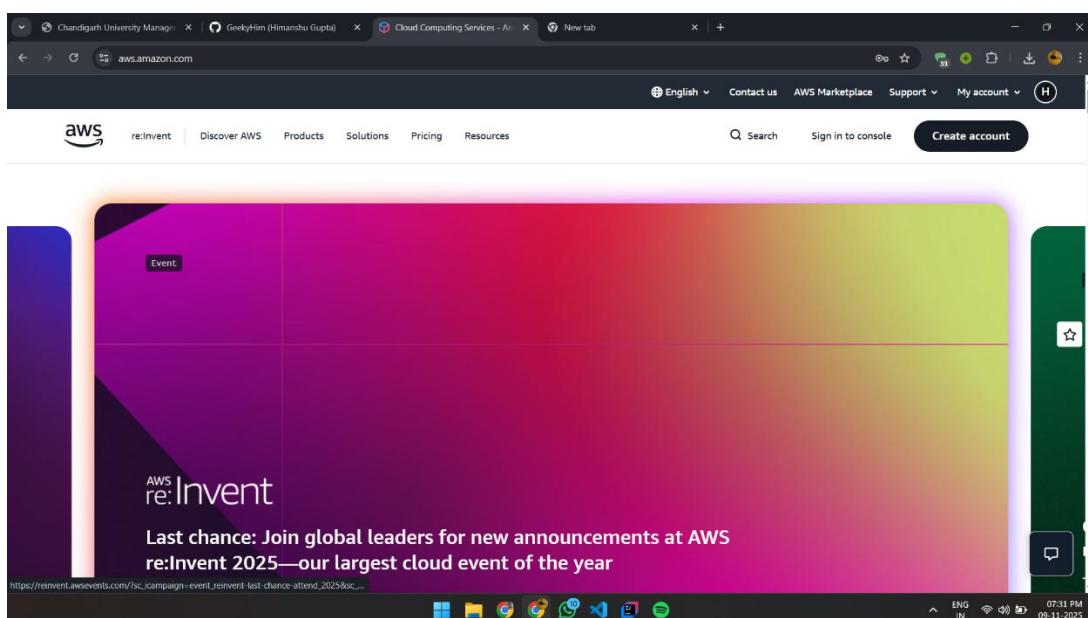
### 1. Aim

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

### 2. Objective:

- a. To understand the concept of managed relational database services in AWS (Amazon RDS).
- b. To create a PostgreSQL database instance using AWS RDS.
- c. To configure DB parameters such as instance size, storage, authentication and security groups.
- d. To connect the RDS instance from a PostgreSQL client (pgAdmin/psql).
- e. To execute basic SQL queries to validate connectivity and database functionality.

### 3. AWS RDS Operations and Output:





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The screenshot shows the AWS Aurora and RDS console. A modal window at the top indicates that a database named 'uid23bcs10889' is currently 'Creating'. Below the modal, a table lists the database with the identifier 'uid23bcs10889', status 'Creating', engine 'PostgreSQL', region 'eu-north-1', and size 'db.t4g.micro'. On the left sidebar, under the 'Databases' section, there are links for 'Subnet groups', 'Parameter groups', 'Option groups', 'Custom engine versions', 'Zero-ETL integrations', 'Events', and 'Event subscriptions'. The bottom part of the screenshot shows the AWS Console Home page with sections for 'Recently visited', 'Applications', 'Welcome to AWS', 'AWS Health', and 'Cost and usage'.

**Aurora and RDS**

**Databases**

Creating database uid23bcs10889  
Your database might take a few minutes to launch. You can use settings from uid23bcs10889 to simplify configuration of suggested database add-ons while we finish creating your DB for you.

**Databases (1)**

DB identifier	Status	Role	Engine	Region ...	Size
uid23bcs10889	Creating	Instance	PostgreSQL	-	db.t4g.micro

**Console Home**

Recently visited

No recently visited services

Explore one of these commonly visited AWS services.

EC2 S3 Aurora and RDS Lambda

View all services

Applications (0)

Region: Europe (Stockholm)

Select Region eu-north-1 (Current Region) Find applications

Name Description Region Originat. ↕ ↖ ↘ ↗

No applications

Get started by creating an application.

Create application Go to myApplications

Welcome to AWS

Getting started with

AWS Health

Open issues

Cost and usage

Info



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The image shows two screenshots of the AWS RDS (Relational Database Service) console.

**Screenshot 1: AWS RDS Services Page**

This screenshot shows the main services page for RDS. It features a sidebar with links to Services, Features, Documentation, Knowledge articles, Marketplace, Blog posts, Events, and Tutorials. The main content area displays three service cards: "Aurora and RDS" (Managed Relational Database Service), "Database Migration Service" (Managed Database Migration Service), and "Kinesis" (Work with Real-Time Streaming Data). Below these are sections for "Database Insights" and "Reserved instances". A feedback section at the bottom asks if the results were helpful, with "Yes" and "No" buttons. On the right side, there's a panel for creating applications, including a "Create application" button and a search bar for "Find applications".

**Screenshot 2: Create Database Wizard**

This screenshot shows the "Create database" wizard. At the top, it says "Free plan has access to limited features and resources" and provides a link to "Learn more". Below this, the "Choose a database creation method" section offers "Standard create" and "Easy create". The "Easy create" option is selected. The "Configuration" section allows choosing an engine type: "Aurora (MySQL Compatible)", "Aurora (PostgreSQL Compatible)", "MySQL", "PostgreSQL" (which is selected), "MariaDB", and "Oracle". The PostgreSQL icon is highlighted with a blue border. The bottom of the screen shows the standard AWS navigation bar with CloudShell, Feedback, and various icons.



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The screenshot shows two windows side-by-side. On the left, the 'Create database' wizard in the AWS Management Console is displayed. It's on the 'DB instance size' step, showing options for Production (db.r7.xlarge), Dev/Test (db.r7.large), and Free tier (db.t4g.micro). The Free tier option is selected. Other settings shown include a DB instance identifier ('uid23bcs10889'), Master username ('postgres'), and credentials management ('Self managed'). On the right, the pgAdmin 4 interface is shown, connected to a PostgreSQL database. A warning message in the pgAdmin window states: 'You are currently running version 9.8 of pgAdmin 4, however the current version is 9.9. Please click here for more information.' Both windows show standard Windows taskbars at the bottom.



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The screenshot displays two windows side-by-side. On the left is the pgAdmin 4 interface, specifically the 'Register - Server' dialog for a PostgreSQL server. The 'Connection' tab is selected, showing the host name/address as 'uid23bcs10889.crwecy6mia9y.eu-north-1.rds.amazonaws.com', port '5432', maintenance database 'postgres', username 'postgres', and password 'XXXXXXXXXX'. The 'Save password?' and 'Role' fields are also visible. A message at the bottom indicates 'No data output. Execute a query to get output.' On the right is an AWS CloudFront interface showing the configuration for an EC2 instance named 'eu-north-1'. It lists the instance type as 'db.t4g.micro' and the region as 'eu-north-1b'. Below this, another pgAdmin 4 window shows a connection error message: 'Unable to connect to server: connection timeout expired'.



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Screenshot of the AWS Management Console showing the creation of a new PostgreSQL database named "uid23bcs10889" in the eu-north-1 region. A success message indicates the database was created successfully.

DB identifier	Status	Role	Engine	Region	Size
uid23bcs10889	Config...	Instance	PostgreSQL	eu-north-1b	db.t4g.micro

Screenshot of the AWS Management Console showing the configuration of inbound rules for a security group named "sg-0b0343bd52e1b5ef9". The "Edit inbound rules" page displays two existing rules:

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sgr-0c71cff17c759e4f	All traffic	All	All	Custom	sg-0b0343bd52e1b5ef9
-	PostgreSQL	TCP	5432	My IP	49.43.92.27/32

Buttons at the bottom of the page include "Add rule", "Cancel", "Preview changes", and "Save rules".



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The screenshot shows two stacked screenshots of the AWS RDS (Amazon Relational Database Service) console.

**Top Screenshot:** Shows the "Databases" page with a success message: "Successfully modified uid23bc10889." The table lists one database entry:

DB identifier	Status	Role	Engine	Region ...	Size
uid23bc10889	Available	Instance	PostgreSQL	eu-north-1b	db.t4g.micro

**Bottom Screenshot:** Shows the "uid23bc10889 - Database Details" page. The "Summary" section includes:

DB identifier	Status	Role	Engine	Recommendations
uid23bc10889	Modifying	Instance	PostgreSQL	
CPU	Class	Current activity	Region & AZ	
-	db.t4g.micro		eu-north-1b	

The "Connectivity & security" tab is selected, displaying the following details:

Endpoint & port	Networking	Security
Endpoint: uid23bc10889.crwecy6mia9.eu-north-1.rds.amazonaws.com Port: 5432	Availability Zone: eu-north-1b VPC: vpc-03d3e52747890f8db Subnet group: default-vpc-03d3e52747890f8db Subnets: Subnets	VPC security groups: default (sg-0b0343bd52e1b5ef9) Active Publicly accessible: Yes Certificate authority: rds-ca-rsa2048-g1



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The screenshot shows the AWS RDS console interface. In the top navigation bar, the URL is `eu-north-1.console.aws.amazon.com/rds/home?region=eu-north-1#databases:`. The sidebar on the left is titled "Aurora and RDS" and includes sections for 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, and Event subscriptions. The main content area shows a table titled "Databases (1)" with one entry: "uid23bcs10889" (Status: Deleting, Instance, PostgreSQL, eu-north-1b, db.t4g.micro). A modal dialog box titled "Delete uid23bcs10889 instance" is open, containing the following text and options:

Permanently delete uid23bcs10889 DB instance. You can't undo this action.

⚠ Proceeding with this action will delete the instance with all its content and can affect related resources. [Learn more](#)

Create final snapshot  
Determines whether a final DB Snapshot is created before the DB instance is deleted.

Retain automated backups  
Determines whether retaining automated backups for 7 days after deletion

I acknowledge that upon instance deletion, automated backups, including system snapshots and point-in-time recovery, will no longer be available.

To avoid accidental deletion provide additional written consent.

To confirm deletion, type **delete me** into the field.

We strongly recommend taking a final snapshot before instance deletion since after your instance is deleted, automated backups will no longer be available.

Cancel Delete

At the bottom of the modal, there is a note: "We strongly recommend taking a final snapshot before instance deletion since after your instance is deleted, automated backups will no longer be available."

At the bottom of the main page, there is a note: "We strongly recommend taking a final snapshot before instance deletion since after your instance is deleted, automated backups will no longer be available."



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The screenshot shows the AWS Billing and Cost Management console. The left sidebar has sections for Billing and Cost Management, Choose billing view (New), Home, Getting Started, Dashboards (New), Billing and Payments (Bills, Payments, Credits, Purchase Orders), Cost and Usage Analysis (Cost Explorer, Cost Explorer Saved Reports, Cost Anomaly Detection), CloudShell, and Feedback. The main content area is titled 'Account Info' under 'Account details'. It shows Name: Himanshu, ID: 650122212114, Service provider: Amazon Web Services India Private Limited, and ARN: arn:aws:account::650122212114:account. Below this is 'Account display settings - new' with Account color set to Unset. At the bottom is 'Contact information' with fields for Full name (Himanshu Gupta), Company name (None), Phone number, Website URL, and Address (#2418, Street no 7 Kishore Nagar Near Tajpur Road Ludhiana, Punjab 141008 IN). The status bar at the bottom right shows ENG IN, 08:17 PM, and 09-11-2025.