

EXPERIMENT - 09

Student Name: Himanshu Gupta

Branch: BE-CSE

Semester: 5th

Subject Name: ADBMS

UID: 23BCS10889

Section/Group: KRG-2B

Date of Performance: 9/11/25

Subject Code: 23CSP-333

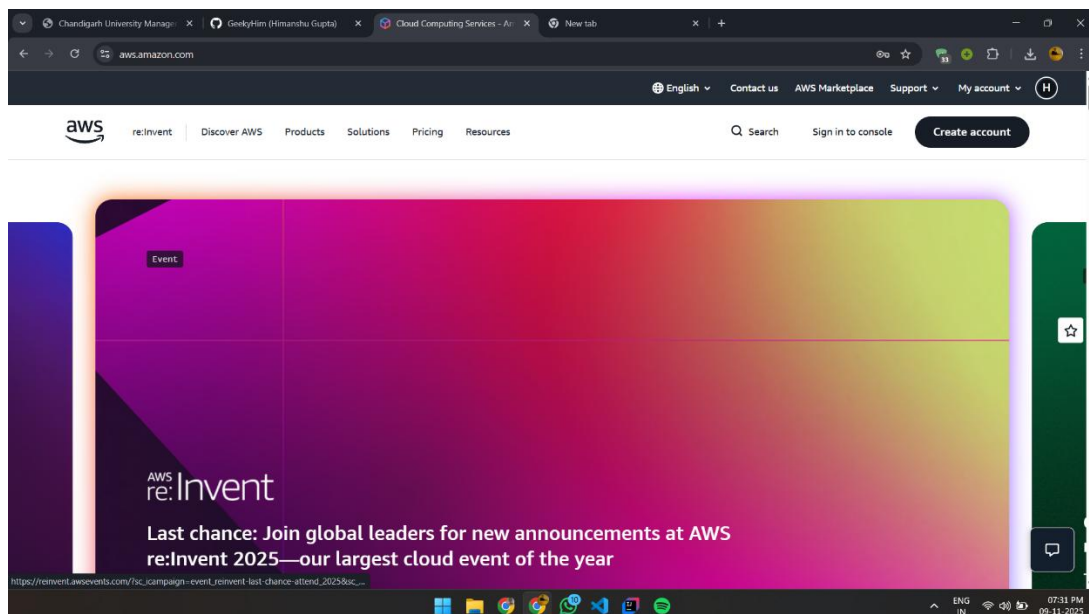
1. Aim

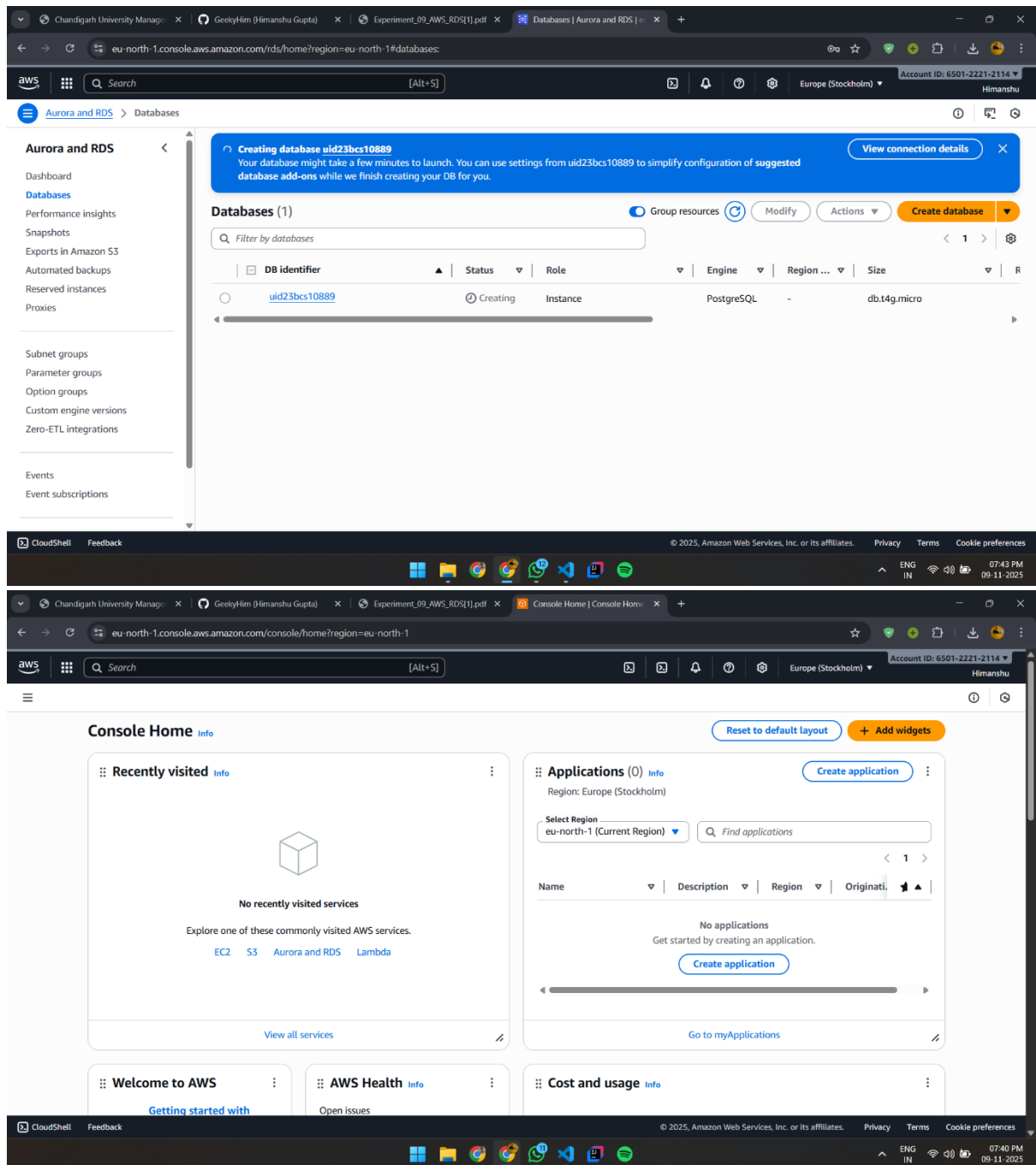
To create, configure, and connect an Amazon RDS PostgreSQL database instance on AWS, and verify successful database operations using a client tool.

2. Objective:

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

3. AWS RDS Operations and Output:





The image displays two screenshots of the AWS management console. The top screenshot shows the 'Aurora and RDS' section with a notification for creating a database 'uid23bcs10889'. The bottom screenshot shows the 'Console Home' dashboard with sections for 'Recently visited', 'Applications', 'Welcome to AWS', 'AWS Health', and 'Cost and usage'.

Aurora and RDS 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](#)

No applications

Get started by creating an application.

[Create application](#)

[Go to myApplications](#)

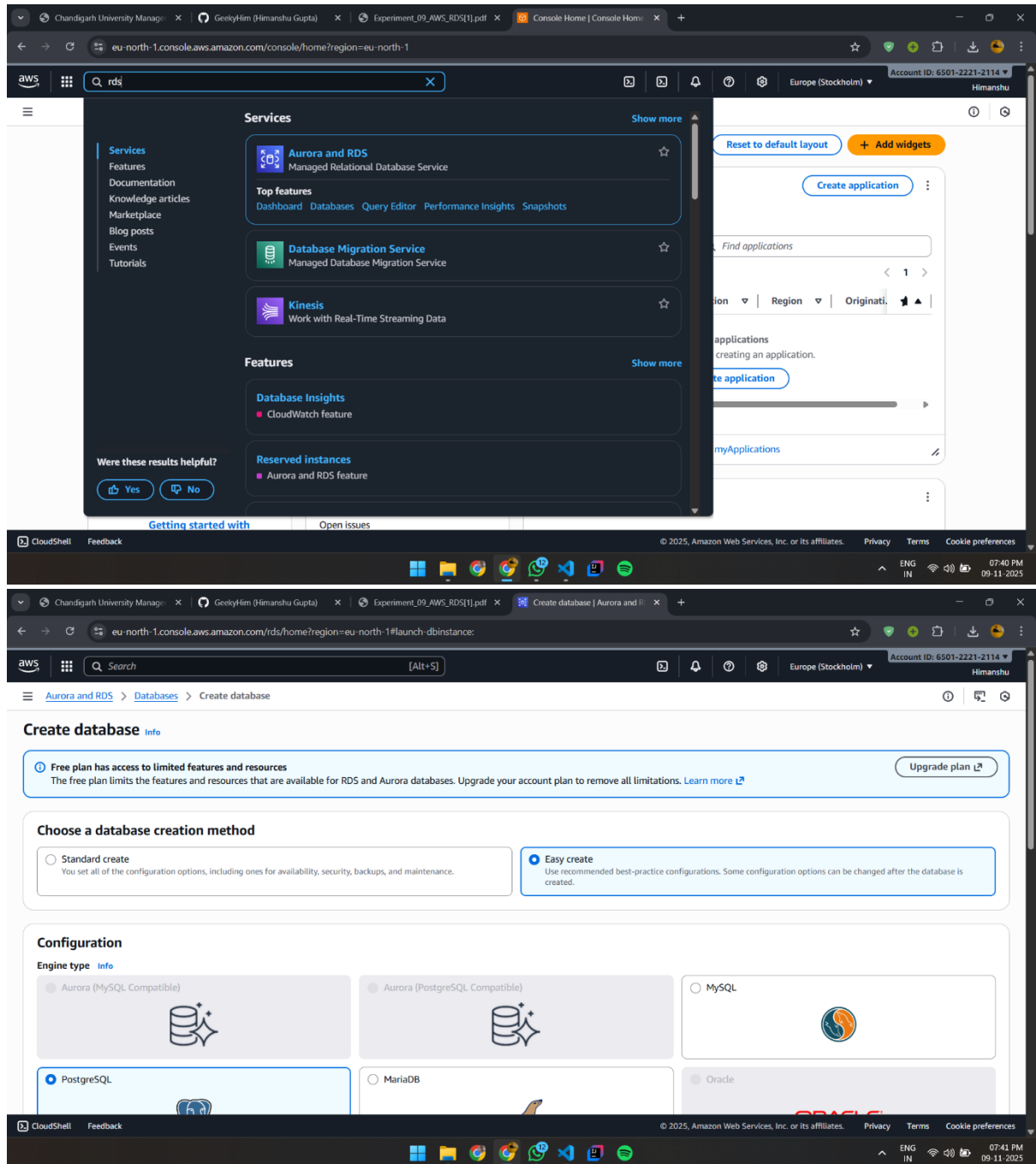
Welcome to AWS

[Getting started with](#)

AWS Health

[Open issues](#)

Cost and usage



The image displays two screenshots of the AWS Management Console. The top screenshot shows the 'Services' page for 'rds' in the 'eu-north-1' region. It lists services like Aurora and RDS, Database Migration Service, and Kinesis. The bottom screenshot shows the 'Create database' wizard, where the 'Easy create' method is selected. The 'Configuration' section shows 'Engine type' with options for Aurora (MySQL Compatible), Aurora (PostgreSQL Compatible), MySQL, PostgreSQL, MariaDB, and Oracle. The 'PostgreSQL' option is selected.

Screenshot 1: AWS Console Services Page

URL: eu-north-1.console.aws.amazon.com/console/home?region=eu-north-1

Search: rds

Services:

- Aurora and RDS (Managed Relational Database Service)
- Database Migration Service (Managed Database Migration Service)
- Kinesis (Work with Real-Time Streaming Data)

Top features: Dashboard, Databases, Query Editor, Performance Insights, Snapshots

Features:

- Database Insights (CloudWatch feature)
- Reserved instances (Aurora and RDS feature)

Were these results helpful? (Yes/No)

Screenshot 2: AWS Console Create database Page

URL: eu-north-1.console.aws.amazon.com/rds/home?region=eu-north-1#launch-dbinstance:

Navigation: Aurora and RDS > Databases > Create database

Free plan has access to limited features and resources. Upgrade plan

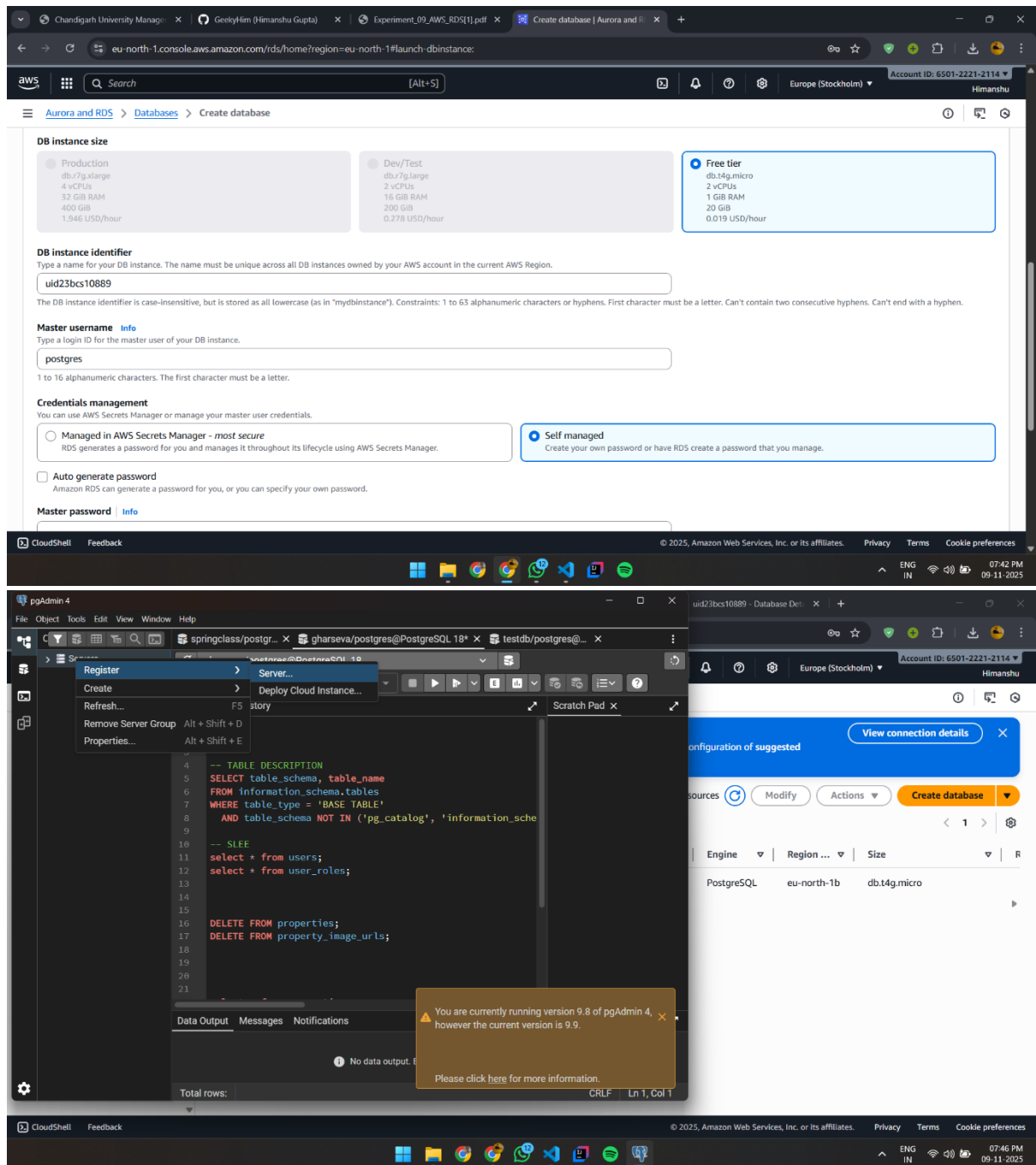
Choose a database creation method:

- 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:

- Aurora (MySQL Compatible)
- Aurora (PostgreSQL Compatible)
- MySQL
- PostgreSQL (Selected)
- MariaDB
- Oracle



The screenshot displays the AWS RDS console for creating a new database instance in the eu-north-1 region. The 'DB instance size' section shows three options: Production (db.r7g.xlarge, 4 vCPUs, 32 GiB RAM, 400 GiB storage, 1.946 USD/hour), Dev/Test (db.r7g.large, 2 vCPUs, 16 GiB RAM, 200 GiB storage, 0.278 USD/hour), and Free tier (db.t4g.micro, 2 vCPUs, 1 GiB RAM, 20 GiB storage, 0.019 USD/hour). The 'DB instance identifier' is set to 'uid23bcs10889'. The 'Master username' is 'postgres'. The 'Credentials management' section shows 'Managed in AWS Secrets Manager - most secure' selected. The 'Master password' field is empty. Below the console, the pgAdmin 4 interface is visible, showing a SQL query in the 'Scratch Pad' window. The query is a table description and a select statement. The pgAdmin 4 version 9.8 notification is also visible.

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.
uid23bcs10889
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.

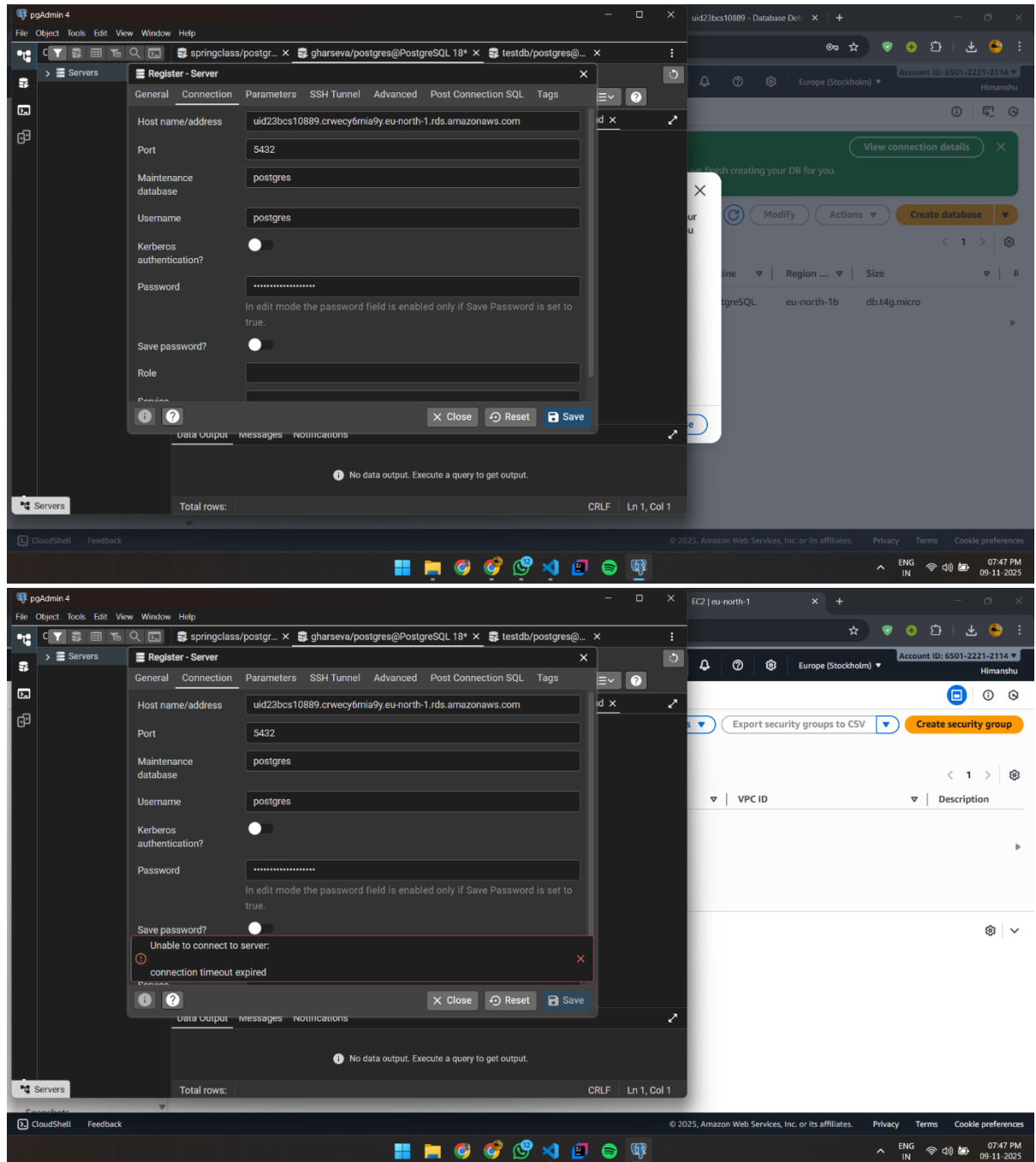
Master username [Info](#)
Type a login ID for the master user of your DB instance.
postgres
1 to 16 alphanumeric characters. The first character must be a letter.

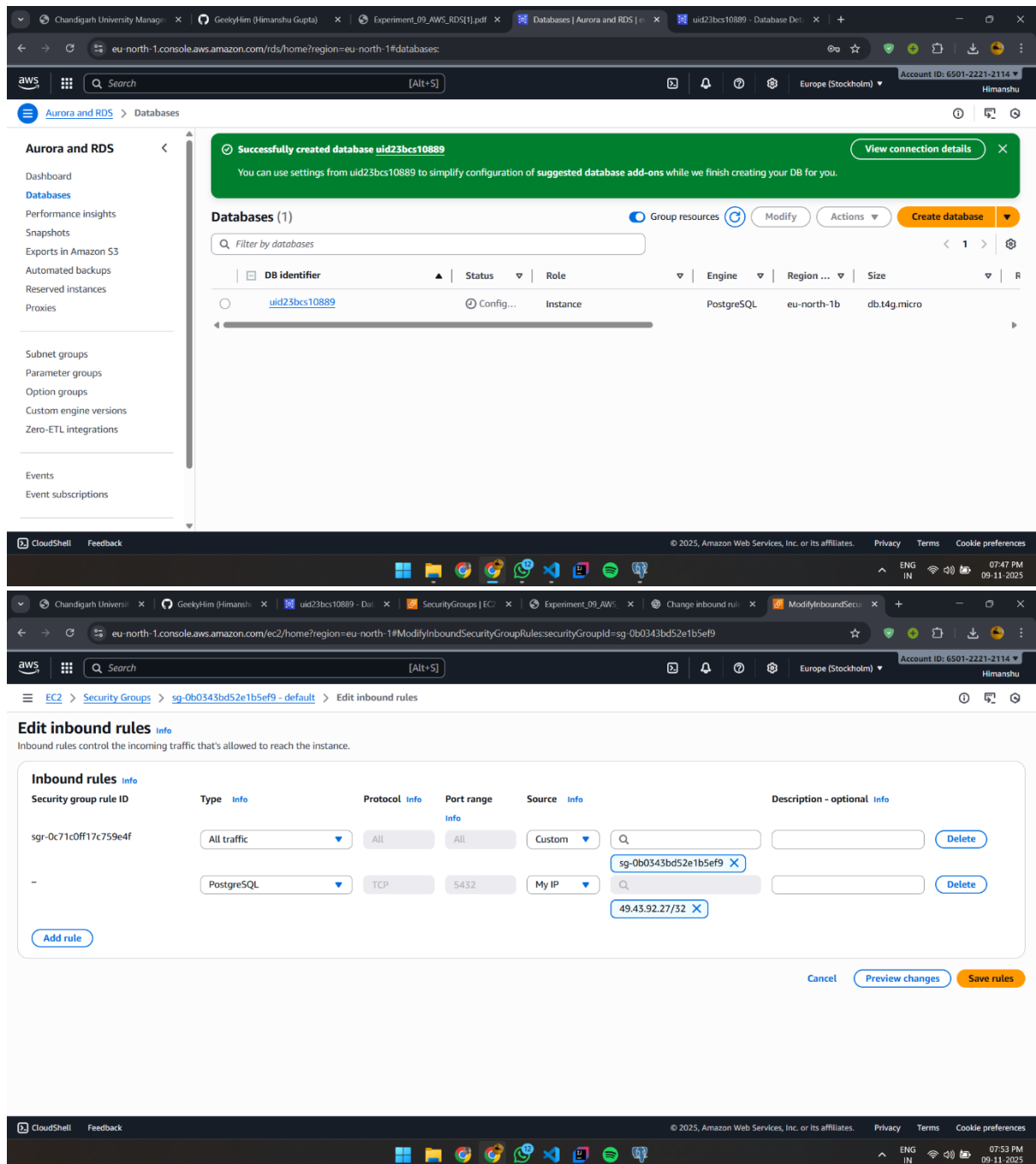
Credentials management
You can use AWS Secrets Manager or manage your master user credentials.
☐ **Managed in AWS Secrets Manager - most secure**
RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager.
☐ **Auto generate password**
Amazon RDS can generate a password for you, or you can specify your own password.

Master password [Info](#)

pgAdmin 4
File Object Tools Edit View Window Help
springclass/postgr... gharseva/postgres@PostgreSQL 18* testdb/postgres@...
Register > Server...
Create > Deploy Cloud Instance...
Refresh... F5 story
Remove Server Group Alt + Shift + D
Properties... Alt + Shift + E
Scratch Pad
-- TABLE DESCRIPTION
5 SELECT table_schema, table_name
6 FROM information_schema.tables
7 WHERE table_type = 'BASE TABLE'
8 AND table_schema NOT IN ('pg_catalog', 'information_sche
9
10
11 -- SLEEP
12 select * from users;
13 select * from user_roles;
14
15
16 DELETE FROM properties;
17 DELETE FROM property_image_urls;
18
19
20
21
Data Output Messages Notifications
No data output. E
Total rows:
CRLF Ln 1, Col 1
You are currently running version 9.8 of pgAdmin 4, however the current version is 9.9.
Please click [here](#) for more information.

Configuration of suggested [View connection details](#)
sources [Modify](#) [Actions](#) [Create database](#)
Engine Region Size
PostgreSQL eu-north-1b db.t4g.micro





The screenshot displays two screenshots of the AWS Management Console. The top screenshot shows the 'Aurora and RDS' section with a notification for a successfully created database 'uid23bcs10889'. The bottom screenshot shows the 'Edit inbound rules' page for a security group, where a new rule is being added for PostgreSQL traffic on port 5432 from a specific IP address.

Top Screenshot: AWS Aurora and RDS Databases

Notification: Successfully created database uid23bcs10889. 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	Config...	Instance	PostgreSQL	eu-north-1b	db.t4g.micro

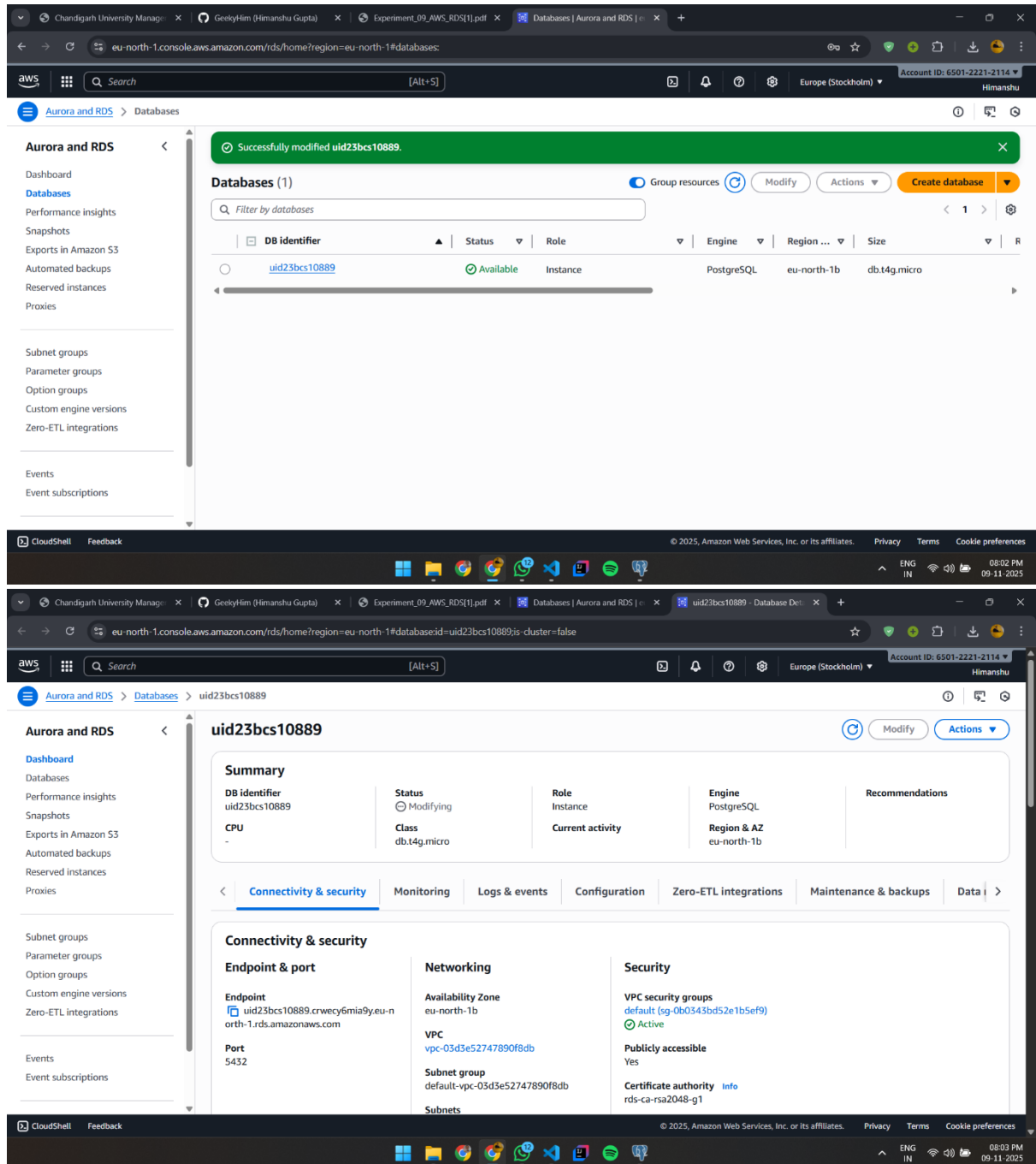
Bottom Screenshot: AWS Security Groups - Edit inbound rules

Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID	Type	Protocol	Port range	Source	Description - optional
sg-0c71c0ff17c759e4f	All traffic	All	All	Custom	
-	PostgreSQL	TCP	5432	My IP	

Buttons: Add rule, Cancel, Preview changes, Save rules



The screenshot displays the AWS Aurora and RDS console interface. The top navigation bar shows the AWS logo, a search bar, and the region 'Europe (Stockholm)'. The left sidebar contains navigation links for 'Aurora and RDS', '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'.

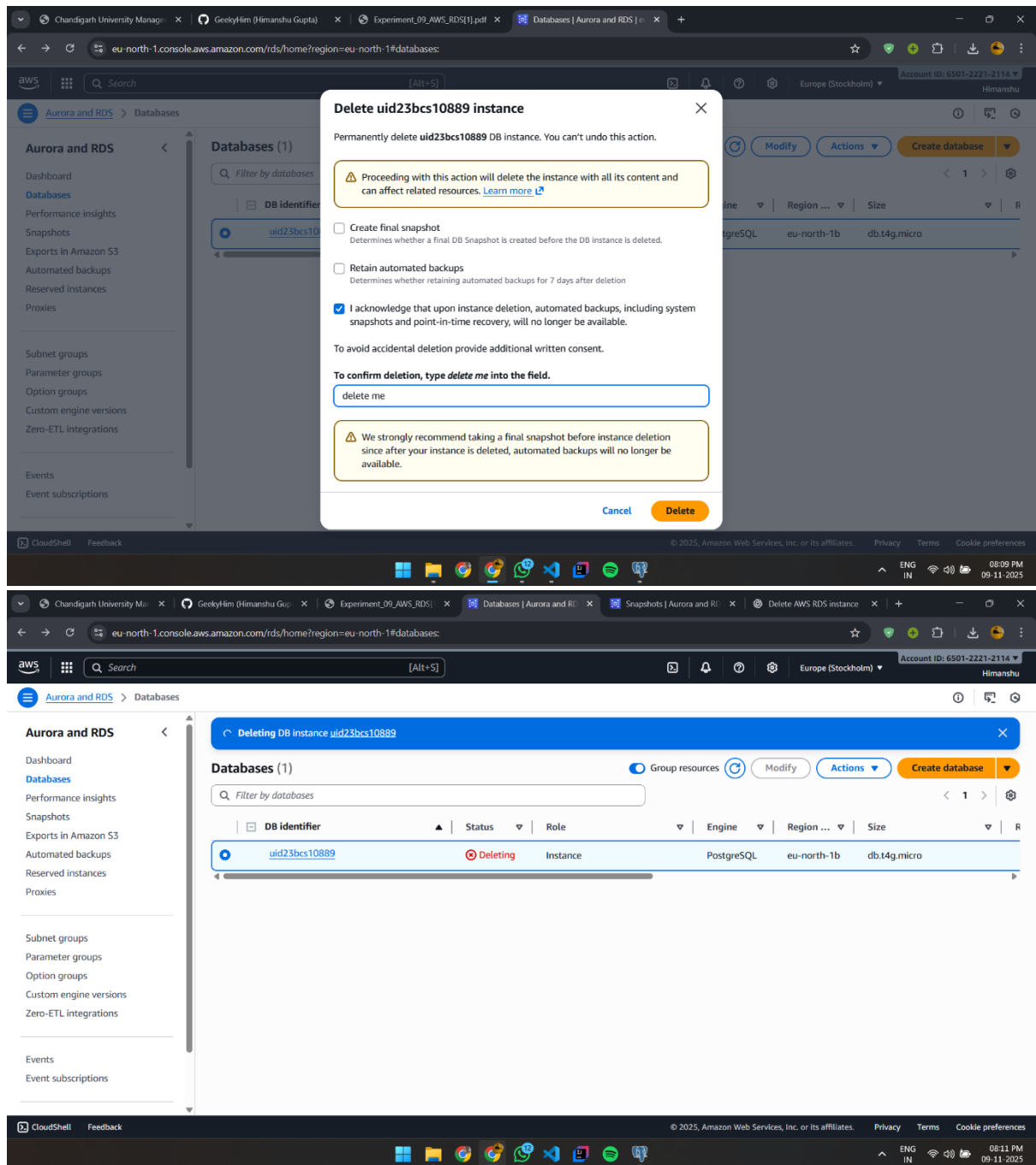
The main content area shows a notification: 'Successfully modified uid23bcs10889.' Below this, the 'Databases (1)' section lists the database 'uid23bcs10889' with status 'Available', role 'Instance', engine 'PostgreSQL', region 'eu-north-1b', and size 'db.t4g.micro'. The 'Connectivity & security' tab is selected, showing details for the database instance 'uid23bcs10889'.

Summary

DB identifier	Status	Role	Engine	Recommendations
uid23bcs10889	Modifying	Instance	PostgreSQL	

Connectivity & security

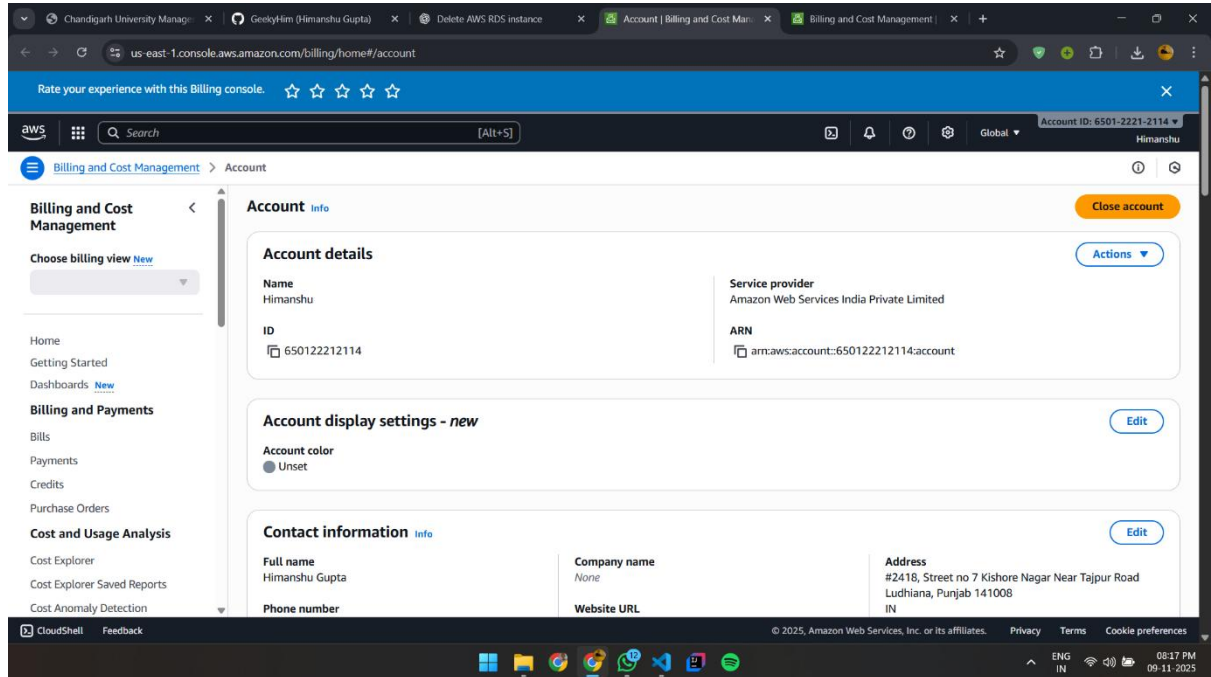
Endpoint & port	Networking	Security
Endpoint uid23bcs10889.crwey6mia9y.eu-north-1.rds.amazonaws.com	Availability Zone eu-north-1b	VPC security groups default (sg-0b0343bd52e1b5ef9) Active
Port 5432	VPC vpc-03d3e52747890f8db	Publicly accessible Yes
	Subnet group default-vpc-03d3e52747890f8db	Certificate authority rds-ca-rsa2048-g1
	Subnets	



The screenshot displays the AWS Management Console interface for the 'eu-north-1' region. The 'Databases' page is active, showing a list of databases. A modal dialog titled 'Delete uid23bcs10889 instance' is open, prompting the user to confirm the deletion of the database instance 'uid23bcs10889'. The dialog includes a warning that the action is permanent and affects related resources. It also offers options to 'Create final snapshot' and 'Retain automated backups'. A checkbox for 'I acknowledge that upon instance deletion, automated backups, including system snapshots and point-in-time recovery, will no longer be available.' is checked. A text field contains 'delete me' to confirm the deletion. The dialog has 'Cancel' and 'Delete' buttons.

Below the dialog, the 'Databases (1)' table is visible, showing the instance 'uid23bcs10889' with a status of 'Deleting'.

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



The screenshot displays the AWS Billing and Cost Management console for the account ID 6501-2221-2114, owned by Himanshu. The interface includes a navigation sidebar on the left with sections for Billing and Cost Management, Billing and Payments, and Cost and Usage Analysis. The main content area, titled 'Account info', contains three panels: 'Account details' with fields for Name (Himanshu), ID (650122212114), Service provider (Amazon Web Services India Private Limited), and ARN; 'Account display settings - new' with an 'Account color' set to 'Unset'; and 'Contact information' with fields for Full name (Himanshu Gupta), Company name (None), Address (#2418, Street no 7 Kishore Nagar Near Tajpur Road, Ludhiana, Punjab 141008, IN), Phone number, and Website URL. A 'Close account' button is located in the top right corner of the account details section. The bottom of the image shows a Windows taskbar with various application icons and a system clock indicating 08:17 PM on 09-11-2025.

Rate your experience with this Billing console. ☆ ☆ ☆ ☆ ☆

us-east-1.console.aws.amazon.com/billing/home#/account

Account ID: 6501-2221-2114 Himanshu

Billing and Cost Management > Account

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

Account info [Info](#) [Close account](#)

Account details [Actions](#)

Name
Himanshu

ID
650122212114

Service provider
Amazon Web Services India Private Limited

ARN
arn:aws:account:650122212114:account

Account display settings - new [Edit](#)

Account color
☒ Unset

Contact information [Info](#) [Edit](#)

Full name
Himanshu Gupta

Company name
None

Address
#2418, Street no 7 Kishore Nagar Near Tajpur Road
Ludhiana, Punjab 141008
IN

Phone number

Website URL

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ENG IN 08:17 PM 09-11-2025