

EXPERIMENT - 09

Student Name: Hemant Narain Jha

Branch: BE-CSE

Semester: 5th

Subject Name: ADBMS

UID: 23BCS10022

Section/Group: KRG-2B

Date of Performance: 9/11/25

Subject Code: 23CSP-333

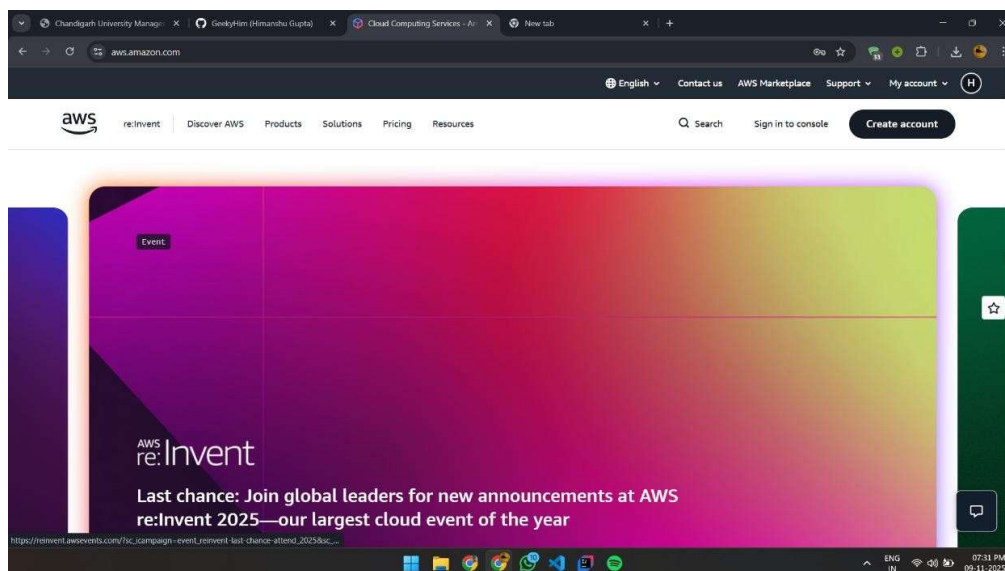
1. Aim

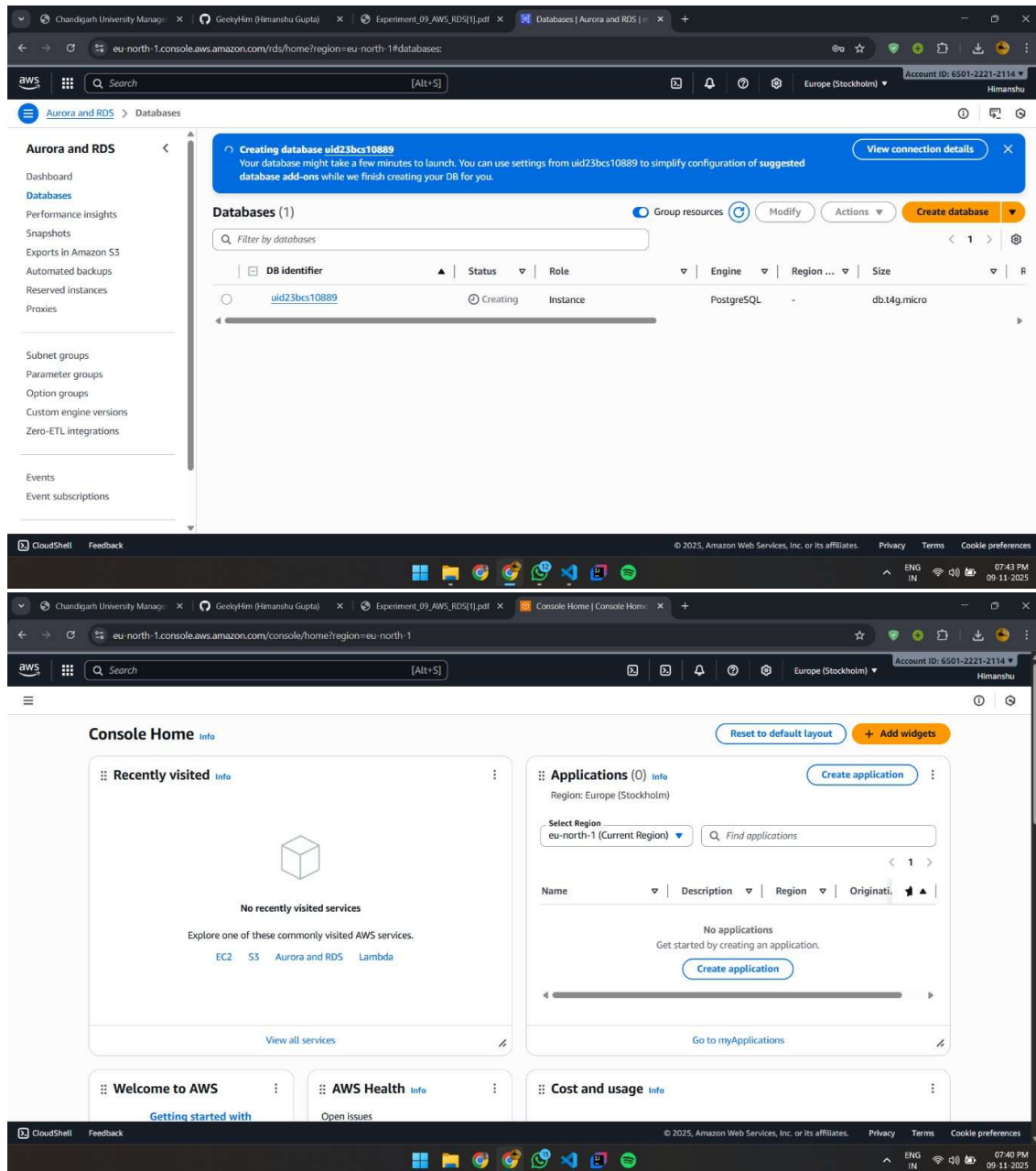
To create, configure, and connect an Amazon RDS PostgreSQL database instance on AWS, and verify successful database operations using a client tool.

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.

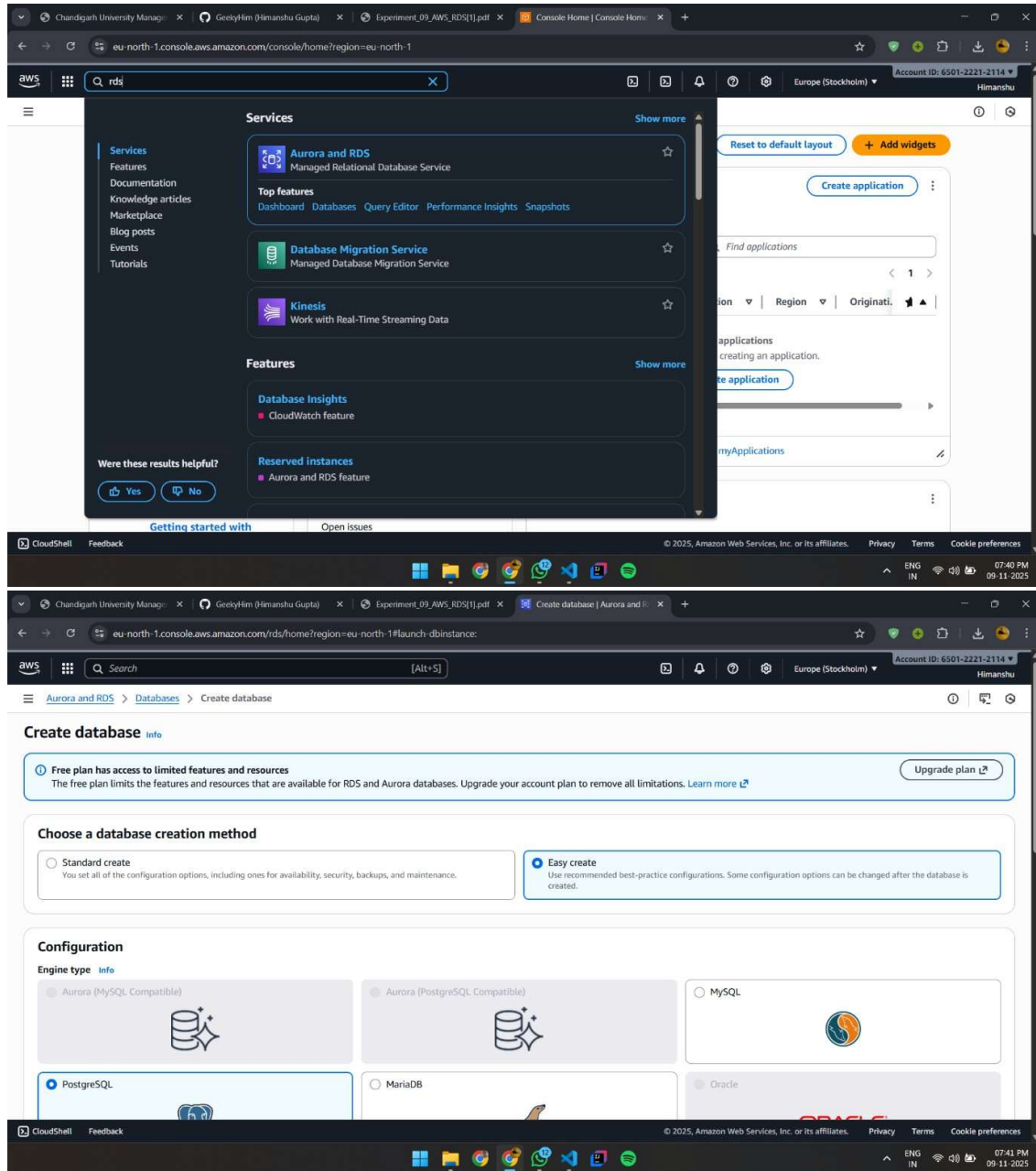
3. AWS RDS Operations and Output:





The image displays two screenshots of the AWS management console. The top screenshot shows the 'Aurora and RDS' console with a notification banner indicating the creation of a database instance 'uid23bcs10889'. Below the banner, a table lists the database instance with columns for DB identifier, Status, Role, Engine, Region, and Size. The instance is currently in a 'Creating' state.

The bottom screenshot shows the 'Console Home' dashboard. It features a 'Recently visited' section with links to EC2, S3, Aurora and RDS, and Lambda. The 'Applications' section shows no applications are currently running in the 'eu-north-1' region. At the bottom, there are sections for 'Welcome to AWS', 'AWS Health', and 'Cost and usage'.



The image displays two screenshots of the AWS Management Console. The top screenshot shows the 'RDS' search results page, listing services like Aurora and RDS, Database Migration Service, and Kinesis. The bottom screenshot shows the 'Create database' wizard, where the user is configuring a new database instance. The wizard includes a 'Choose a database creation method' section with 'Standard create' and 'Easy create' options, and a 'Configuration' section for selecting the engine type (Aurora, PostgreSQL, MySQL, MariaDB, Oracle).

Top Screenshot: AWS RDS Search Results

- Services:**
 - Aurora and RDS** (Managed Relational Database Service)
 - Top features: Dashboard, Databases, Query Editor, Performance Insights, Snapshots
 - Database Migration Service** (Managed Database Migration Service)
 - Kinesis** (Work with Real-Time Streaming Data)
- Features:**
 - Database Insights**
 - CloudWatch feature
 - Reserved Instances**
 - Aurora and RDS feature

Bottom Screenshot: Create database wizard

Create database

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](#)

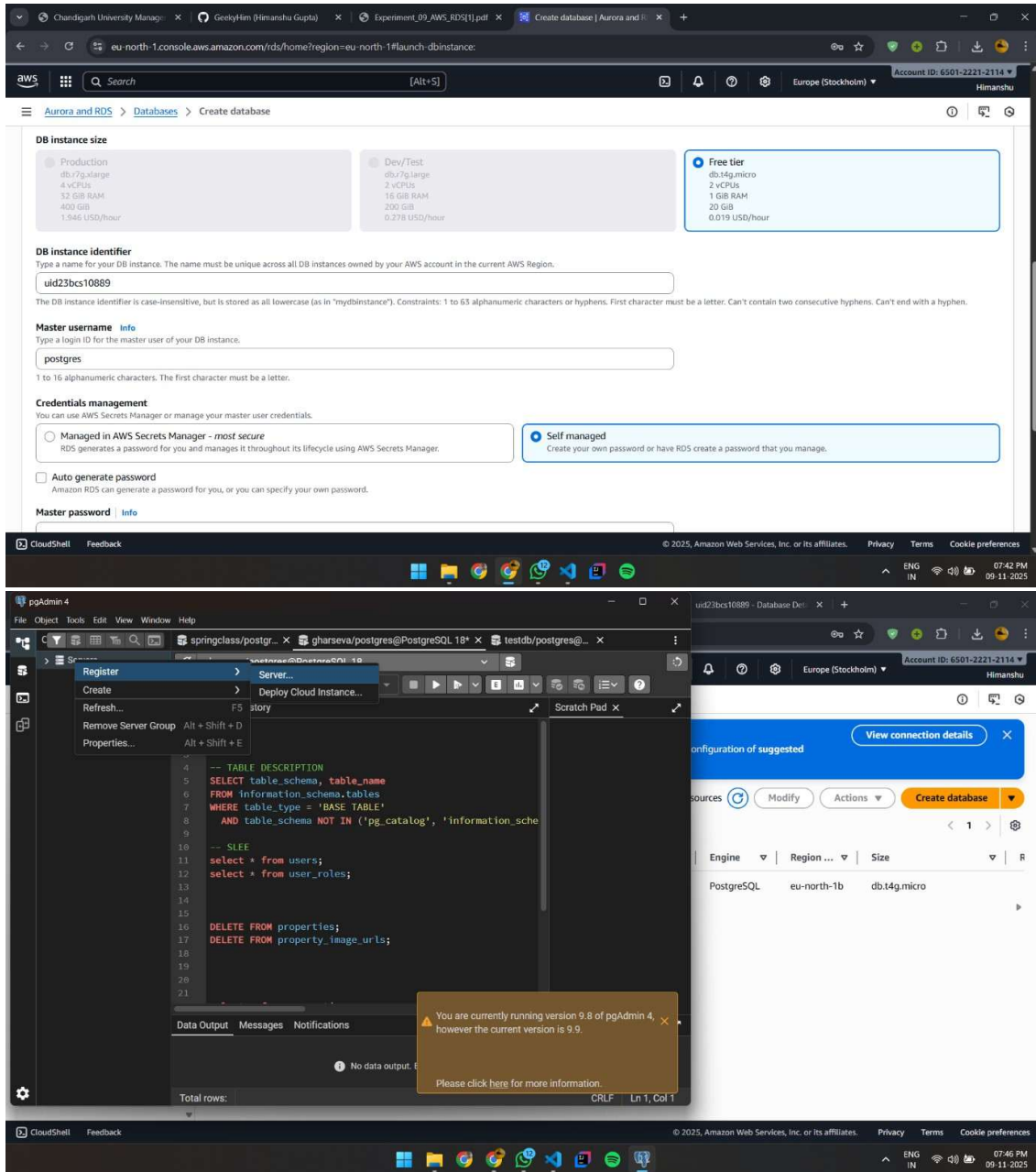
Choose a database creation method

- ☐ 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
- ☐ MariaDB
- ☐ Oracle



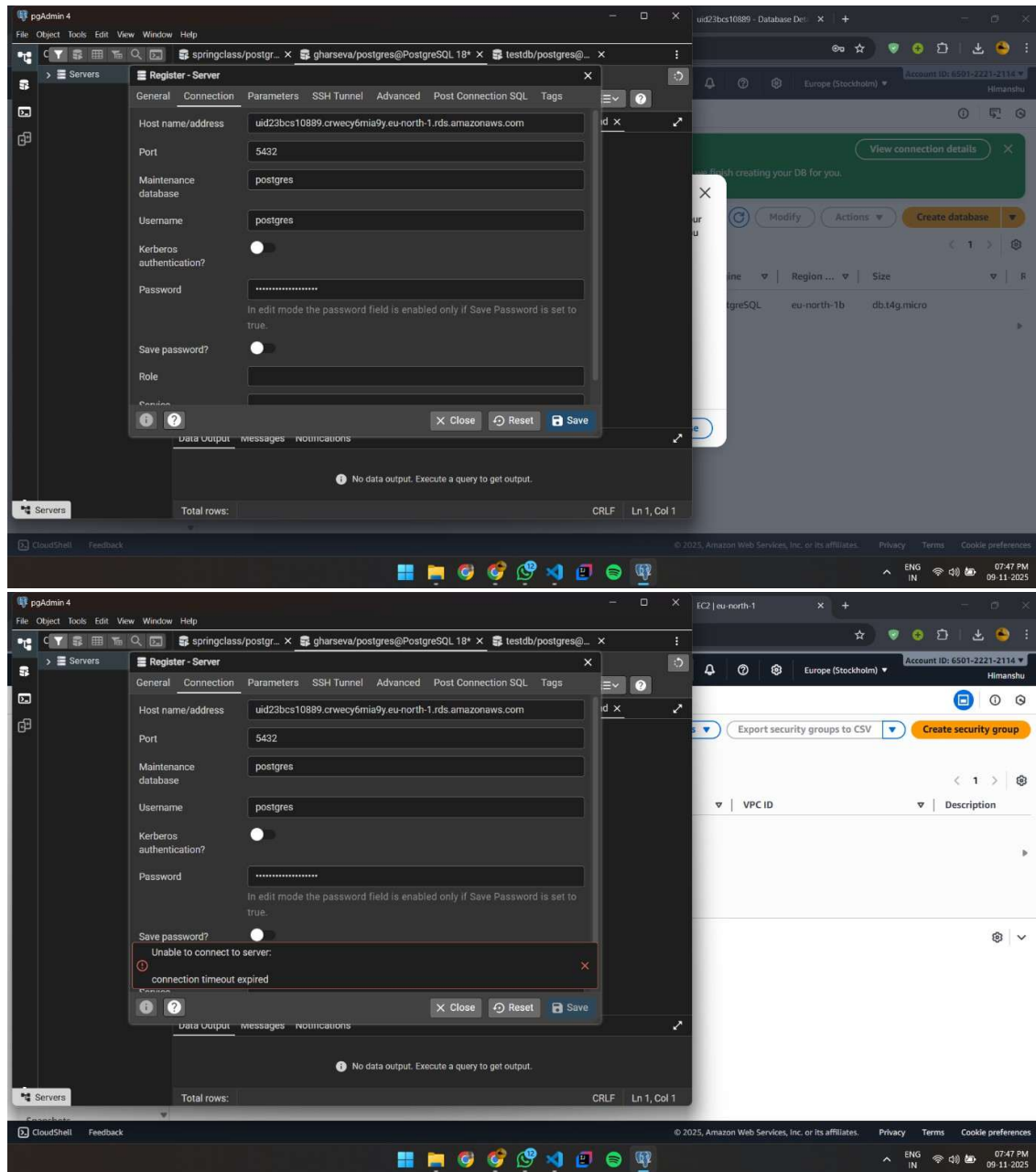
The screenshot displays the AWS Aurora and RDS console for creating a new database instance. The browser tabs include 'Chandigarh University Manager', 'GeekyHim (Himanshu Gupta)', 'Experiment_09_AWS_RDS[1].pdf', and 'Create database | Aurora and RDS'. The console shows the 'Create database' page with the following details:

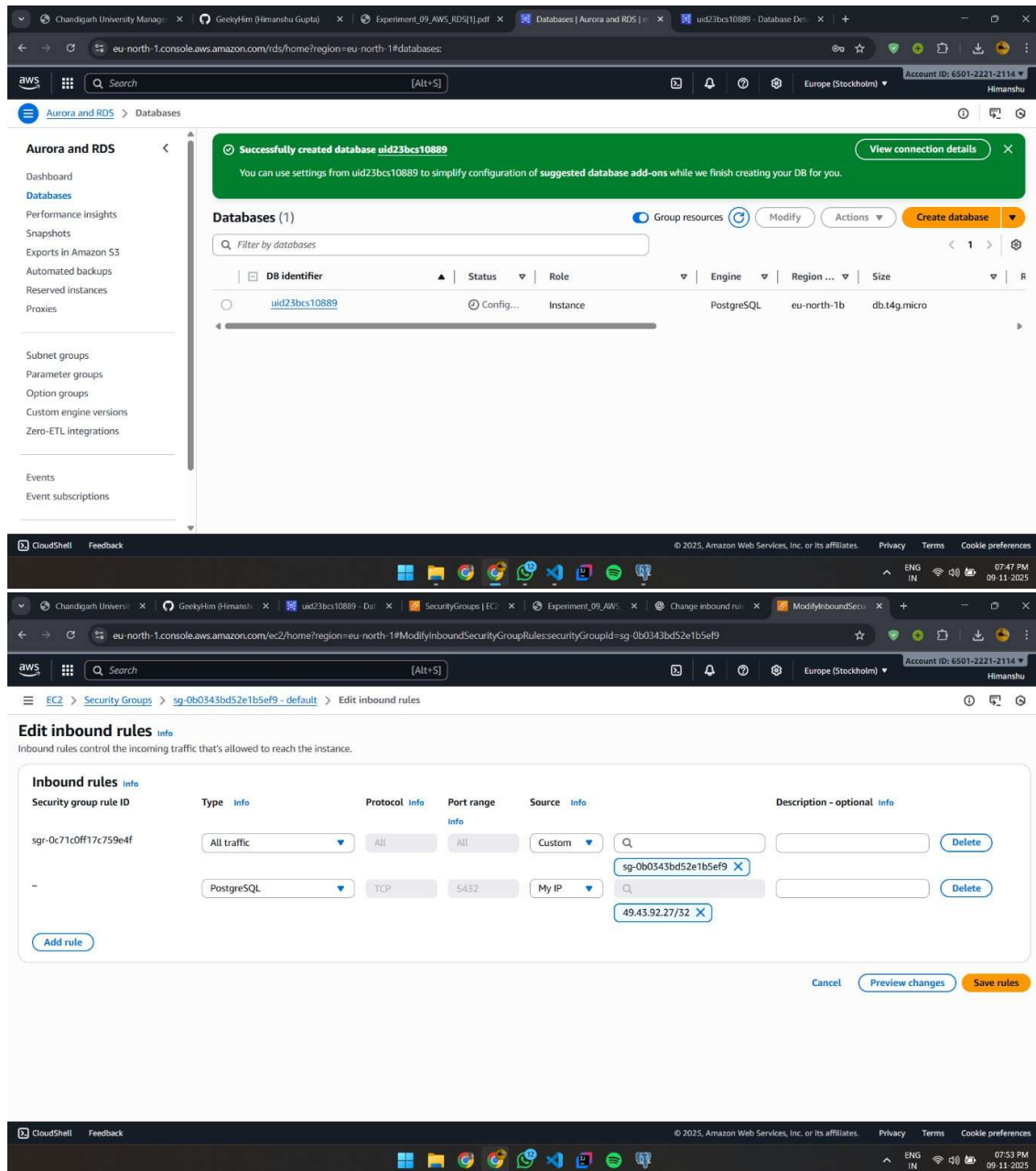
- DB instance size:** Three options are shown: 'Production' (db.r7g.xlarge, 4 vCPUs, 32 GiB RAM, 400 GiB, 1.946 USD/hour), 'Dev/Test' (db.r7g.large, 2 vCPUs, 16 GiB RAM, 200 GiB, 0.278 USD/hour), and 'Free tier' (db.t4g.micro, 2 vCPUs, 1 GiB RAM, 20 GiB, 0.019 USD/hour).
- DB instance identifier:** The identifier 'uid23bcs10889' is entered. A note states: '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:** The username 'postgres' is entered. A note states: 'Type a login ID for the master user of your DB instance. 1 to 16 alphanumeric characters. The first character must be a letter.'
- Credentials management:** The 'Self managed' option is selected. A note states: 'You can use AWS Secrets Manager or manage your master user credentials. RDS generates a password for you and manages it throughout its lifecycle using AWS Secrets Manager. Create your own password or have RDS create a password that you manage.'
- Master password:** A field for the master password is present.

Below the console, the pgAdmin 4 interface is visible. The 'Server' menu is open, showing options like 'Register', 'Create', 'Refresh...', 'Remove Server Group', and 'Properties...'. The 'Create' option is selected, leading to the 'Deploy Cloud Instance...' dialog. The SQL editor contains the following code:

```
-- 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 -- SLEEP
11 select * from users;
12 select * from user_roles;
13
14
15
16 DELETE FROM properties;
17 DELETE FROM property_image_urls;
18
19
20
21
```

A notification box at the bottom of the pgAdmin 4 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.'





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 from a specific IP address.

Top Screenshot: AWS Management Console - 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 Management Console - Edit inbound rules

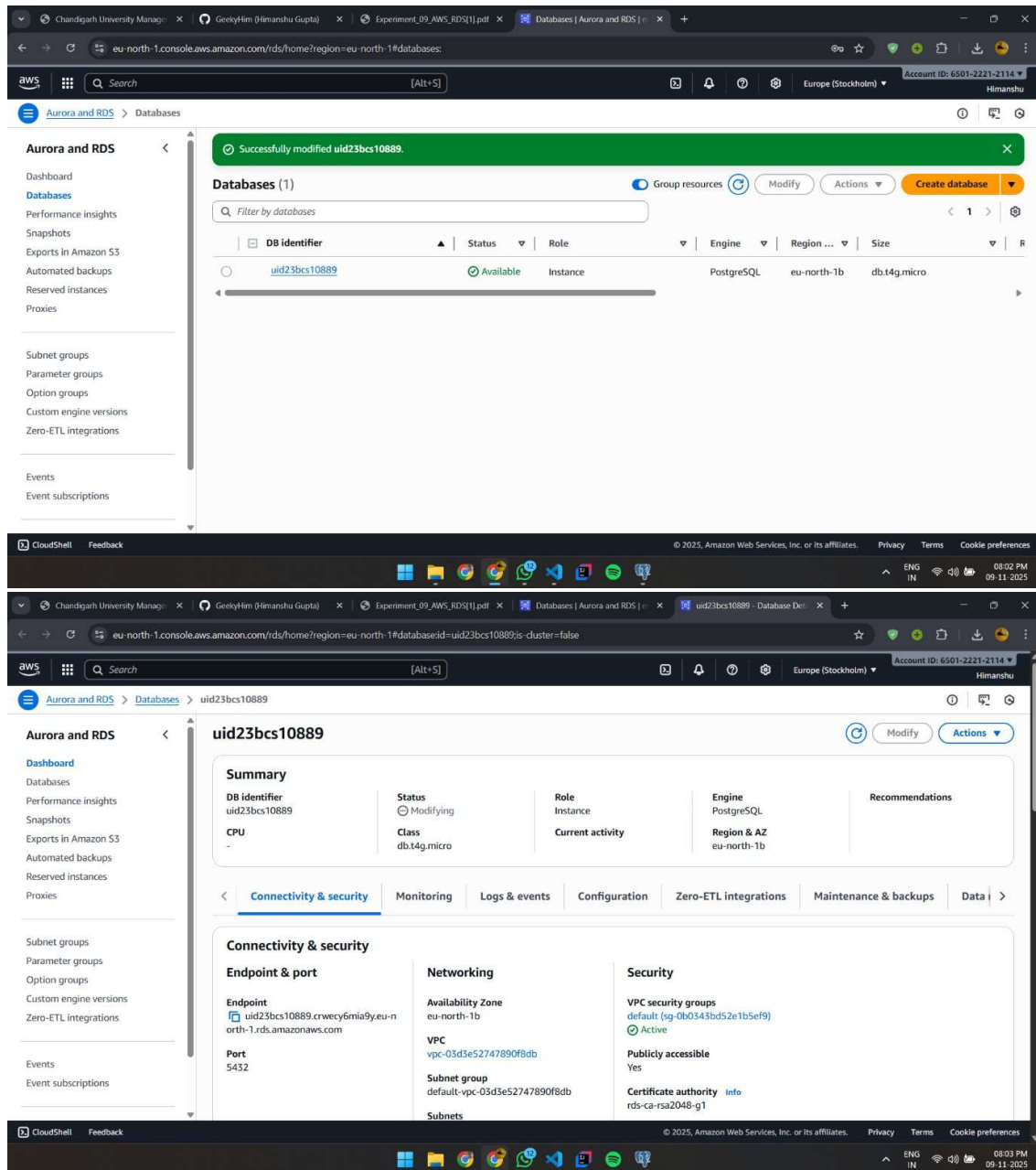
Inbound rules control the incoming traffic that's allowed to reach the instance.

Inbound rules

Security group rule ID: sgr-0c71c0ff17c759e4f

Type	Protocol	Port range	Source	Description - optional
All traffic	All	All	Custom	
PostgreSQL	TCP	5432	My IP	

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



The image displays two screenshots of the AWS Aurora and RDS console interface. The top screenshot shows the 'Databases' list with a green notification bar indicating a successful modification of database 'uid23bcs10889'. The bottom screenshot provides a detailed view of the 'uid23bcs10889' database configuration under the 'Connectivity & security' tab.

Top Screenshot: Databases List

Notification: Successfully modified uid23bcs10889.

Databases (1)

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

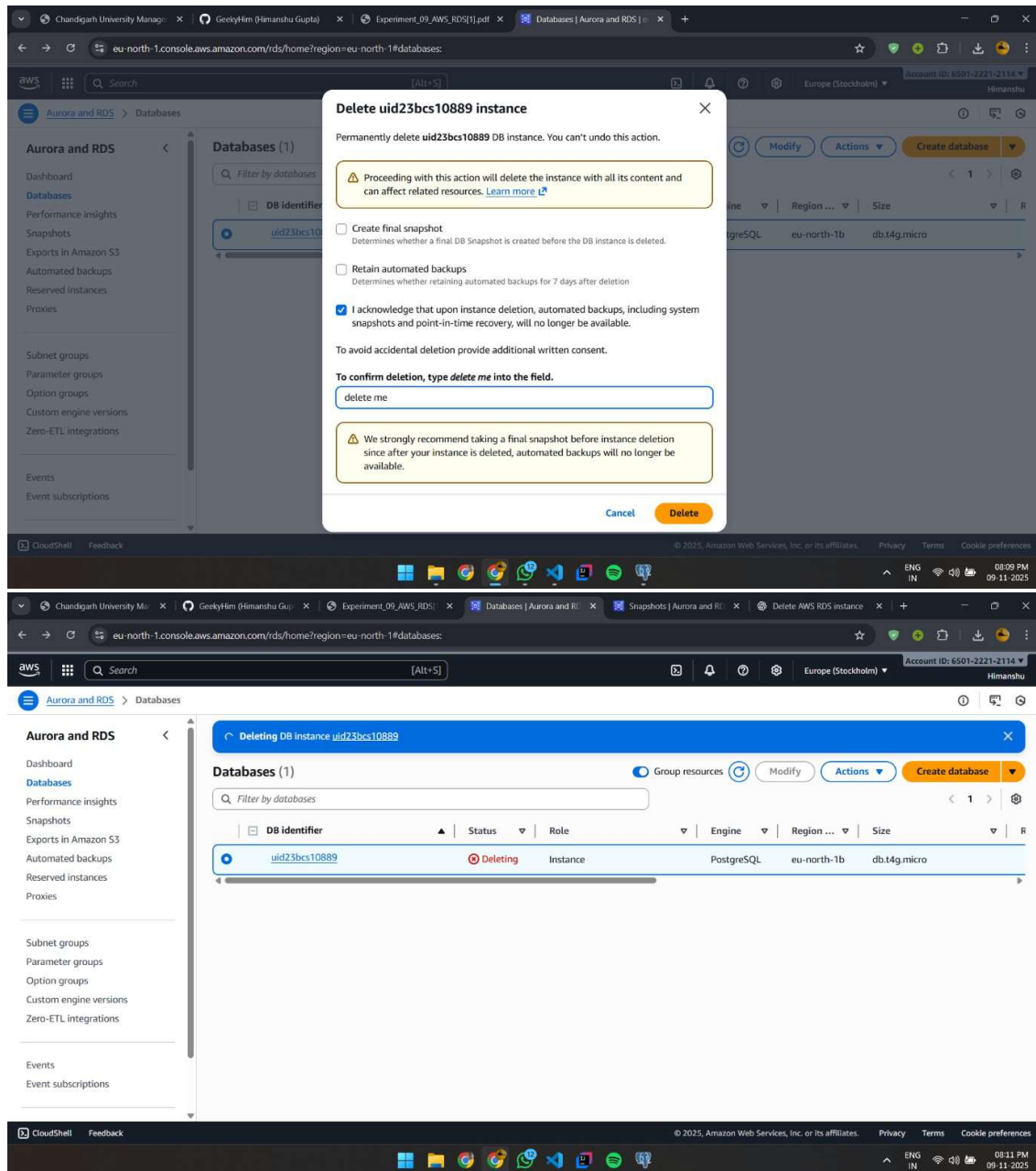
Bottom Screenshot: Database Configuration (uid23bcs10889)

Summary

DB identifier	Status	Role	Engine	Recommendations
uid23bcs10889	Modifying	Instance	PostgreSQL	
CPU	Class	Current activity	Region & AZ	
-	db.t4g.micro		eu-north-1b	

Connectivity & security

Endpoint & port	Networking	Security
Endpoint uid23bcs10889.crwey6mia9ye.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 info rds-ca-rsa2048-g1
	Subnets	



The screenshot displays the AWS Management Console interface for the 'eu-north-1' region. A modal dialog titled 'Delete uid23bcs10889 instance' is open, prompting the user to confirm the deletion of the DB instance 'uid23bcs10889'. The dialog includes a warning that the action is permanent and affects related resources. It offers options to 'Create final snapshot' and 'Retain automated backups', both of which are unchecked. 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. Below this, a text field contains the phrase 'delete me' to confirm the deletion. A final warning states: 'We strongly recommend taking a final snapshot before instance deletion since after your instance is deleted, automated backups will no longer be available.' The 'Delete' button is highlighted in orange.

Below the dialog, the 'Databases (1)' table shows the instance 'uid23bcs10889' in a 'Deleting' state. The table columns are: DB identifier, Status, Role, Engine, Region, and Size.

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



DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Discover. Learn. Empower.

The screenshot displays the AWS Billing and Cost Management console. The left sidebar contains navigation links for Billing and Cost Management, including Home, Getting Started, Dashboards, Billing and Payments, and Cost and Usage Analysis. The main content area is titled 'Account' and includes sections for Account details, Account display settings, and Contact information. The Account details section shows the account name 'Himanshu', ID '650122212114', service provider 'Amazon Web Services India Private Limited', and ARN 'arn:aws:account:650122212114:account'. The Account display settings section shows the account color as 'Unset'. The Contact information section shows the full name 'Himanshu Gupta', company name 'None', address '#2418, Street no 7 Kishore Nagar Near Tajpur Road Ludhiana, Punjab 141008 IN', and phone number and website URL fields. The bottom of the screen shows the Windows taskbar with various application icons and the 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

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](#) [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

© 2025, Amazon Web Services, Inc. or its affiliates. [Privacy](#) [Terms](#) [Cookie preferences](#)

CloudShell Feedback

08:17 PM
09-11-2025