



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## EXPERIMENT- 09

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**Section/Group:** KRG-3B

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**1. Aim:** To create and connect a PostgreSQL database instance on **Amazon RDS** (**Relational Database Service**)

### 2. Objective:

- ❑ To understand the steps involved in launching a database instance using Amazon RDS.
- ❑ To configure a database for public access and connect it with a local client (pgAdmin).
- ❑ To perform basic SQL operations (CREATE, INSERT, SELECT).

### 3. Tools / Software

- ❑ Amazon Web Services (AWS)
- ❑ PostgreSQL
- ❑ pgAdmin 4
- ❑ RDS (Relational Database Service)

### 4. Program:

Step 1: Create and Configure Database Instance

1. Login to AWS Console → RDS → Create database, select Standard create and PostgreSQL under the Free Tier template.
2. Set DB identifier: ruchi-db, Username: postgres, choose db.t3.micro, 20 GB gp2 storage,

The screenshot shows the AWS RDS Databases page. On the left sidebar, 'Aurora and RDS' is selected under 'Databases'. The main area displays a table titled 'Databases (1)'. The table has columns: DB identifier, Status, Role, Engine, Region ..., and Size. One row is listed with the DB identifier 'ruchi-db', Status 'Config...', Instance 'eu-north-1a', Engine 'PostgreSQL', Region 'eu-north-1', and Size 'db.t4g.micro'. At the top right of the table, there are buttons for 'Group resources', 'Modify', 'Actions', and 'Create database'.

and enable Public access.

3. Click Create database and wait until the status shows Available in the RDS dashboard.



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## Step 2: Configure Security Group (Allow Local Access Only)

1. In AWS Console → go to RDS → Databases → click your DB (ruchi-db).
2. Open the Connectivity & Security tab.
3. Under VPC security groups, click the linked group name (it opens EC2 security groups).
4. Click Edit inbound rules → Add rule
  - ② Type: PostgreSQL
  - ② Protocol: TCP ②
  - Port: 5432
  - ② Source: My IP
5. Click Save rules.

The screenshot shows the AWS RDS Security Groups console. The top navigation bar has the text "sg-0570f959421927738 - default". Below it, there's a search bar and a table titled "Inbound rules (2)". The table columns are: Name, Security group rule ID, IP version, Type, Protocol, Port range, and Source. The data rows are:

Name	Security group rule ID	IP version	Type	Protocol	Port range	Source
-	sgr-0d39d1bf593210da4	IPv4	PostgreSQL	TCP	5432	106.206.235.43
-	sgr-0ee4f18536cb88772	-	All traffic	All	All	sg-0570f95942

## Step 3: Connect Database Using pgAdmin

1. Open pgAdmin 4 on your local system.
2. Right-click Servers → Create → Server.
3. Under the General tab, enter the name: postgres.
4. Under the Connection tab, fill in the following details:
  - ② Host name/address: ruchidb.xxxxxxx.rds.amazonaws.com
  - ② Port: 5432 ② Username: postgres ② Check Save password.
5. Click Save to connect your RDS PostgreSQL database.

The screenshot shows the pgAdmin 4 interface. The left sidebar displays a tree structure of database objects under "Default Workspace". The nodes are:

- Servers (2)
  - PostgreSQL 17
  - ruchi-db
    - Databases
    - Login/Group Roles
    - Tablespaces