



# DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

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## EXPERIMENT- 09

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**Subject Name:** ADBMS

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

### **2. Objective:**

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

### **3. Tools / Software**

1. Amazon Web Services (AWS)
2. PostgreSQL
3. pgAdmin 4
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, and enable Public access.
3. Click Create database and wait until the status shows Available in the RDS dashboard.

The screenshot shows the AWS RDS Databases page. On the left, there's a sidebar with links like Aurora and RDS, Dashboard, Databases (which is selected), Query editor, Performance insights, and Snapshots. The main area has a header 'Databases (1)'. Below it is a table with one row for 'ruchi-db'. The columns in the table are DB identifier, Status, Role, Engine, Region..., and Size. The 'ruchi-db' row shows 'Config...', 'Instance', 'PostgreSQL', 'eu-north-1a', and 'db.t4g.micro'. There are also 'Group resources', 'Actions', and 'Create database' buttons at the top right of the table area.



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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
  - ∞ Type: PostgreSQL
  - ∞ Protocol: TCP
  - ∞ Port: 5432
  - ∞ Source: My IP
5. Click Save rules.

## 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:
  - ∞ Host name/address: ruchi-db.xxxxxxx.rds.amazonaws.com
  - ∞ Port: 5432
  - ∞ Username: postgres
  - ∞ Check Save password.
5. Click Save to connect your RDS PostgreSQL database.

## 5. Learning Outcomes:

1. Understand the procedure to provision and configure a PostgreSQL instance using AWS RDS.
2. Configure security groups and network access controls for secure database connectivity.
3. Establish a remote database connection using pgAdmin and verify successful access.