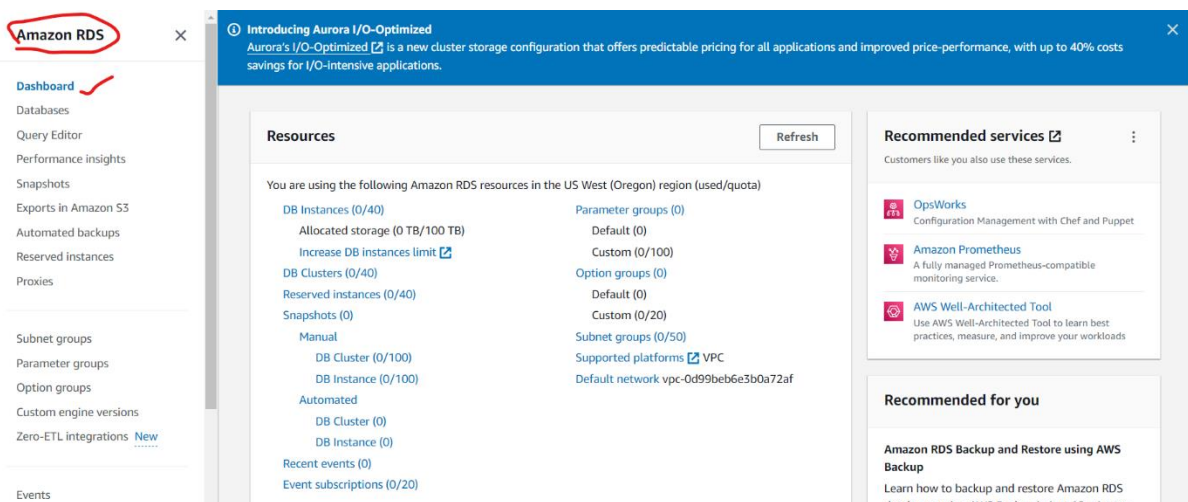
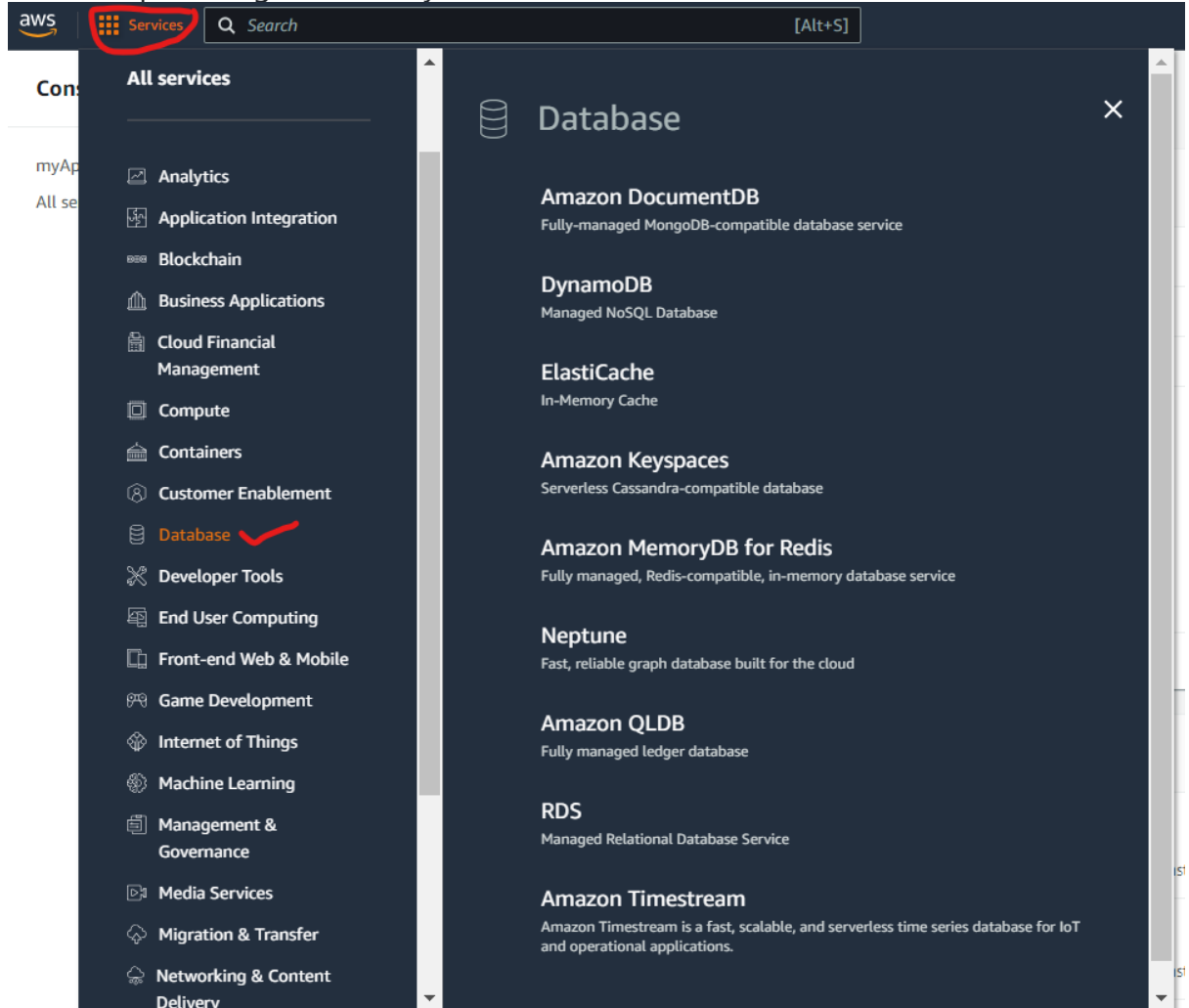


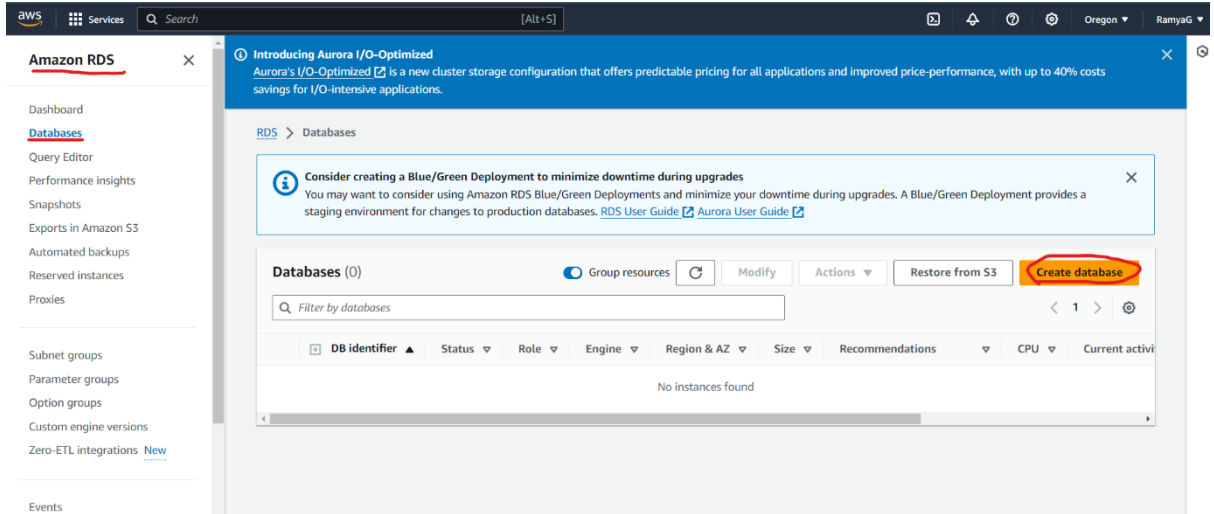
Aws RDS Connecting to PostgreSQL:

## What are the Databases services provided by AWS?

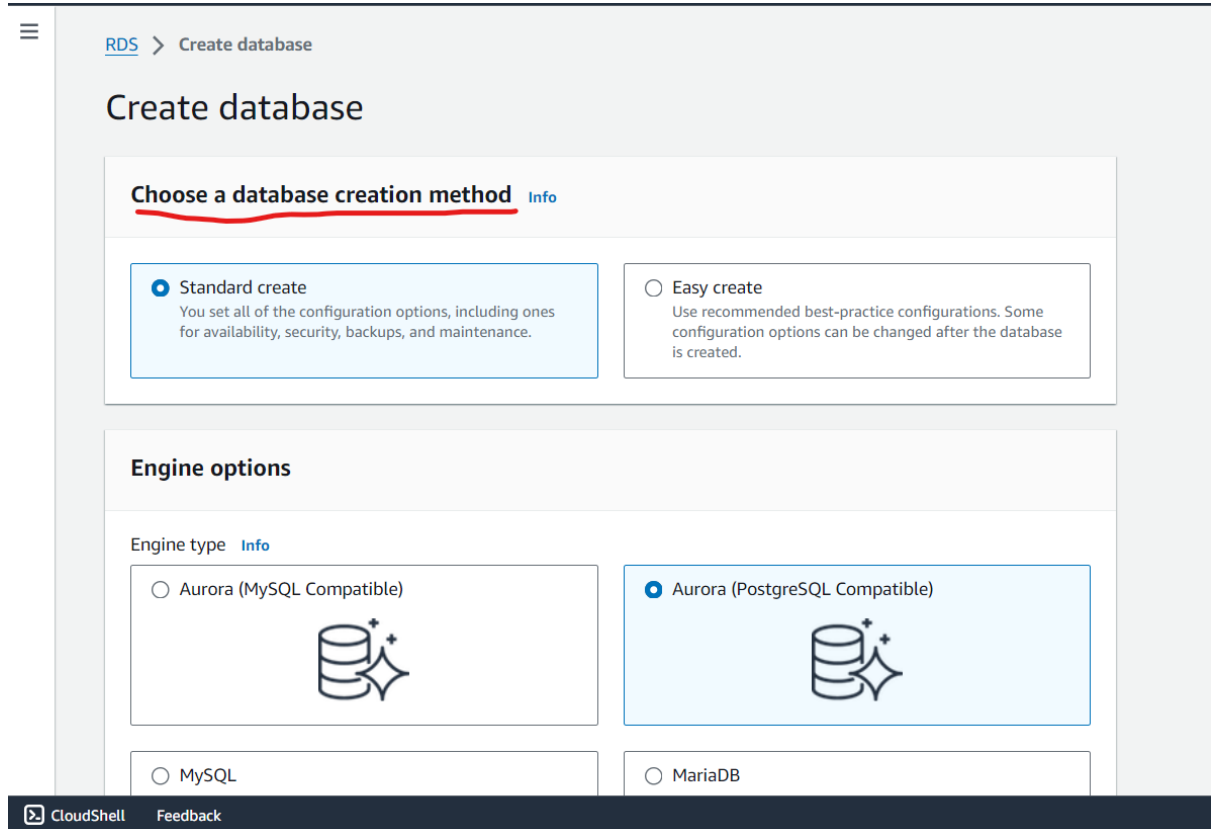
- AWS was providing these many services.



- Lets create our first database





- Choose a database creation method.
- ii. **Standard create**





- Engine Options
  - Engine type
  - Engine version


Engine type [Info](#)


☐ Aurora (MySQL Compatible)  


☐ Aurora (PostgreSQL Compatible)  


☐ MySQL  


☐ MariaDB  


☒ PostgreSQL  
 ✓

☐ Oracle  


☐ Microsoft SQL Server

☐ IBM Db2

Engine version [Info](#)

View the engine versions that support the following database features.

▼ Hide filters

☒ Show versions that support the Multi-AZ DB cluster [Info](#)  
Create a Multi-AZ DB cluster with one primary DB instance and two readable standby DB instances. Multi-AZ DB clusters provide up to 2x faster transaction commit latency and automatic failover in typically under 35 seconds.

Engine Version  
PostgreSQL 13.8-R1 ✓ ▼

Templates

Free  
tier

## Templates

Choose a sample template to meet your use case.

☐ **Production**

Use defaults for high availability and fast, consistent performance.

☐ **Dev/Test**

This instance is intended for development use outside of a production environment.

☒ **Free tier**

Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS.

[Info](#)



## Availability and durability

### Deployment options [Info](#)

The deployment options below are limited to those supported by the engine you selected above.

☐ **Multi-AZ DB Cluster**

Creates a DB cluster with a primary DB instance and two readable standby DB instances, with each DB instance in a different Availability Zone (AZ). Provides high availability, data redundancy and increases capacity to serve read workloads.

☐ **Multi-AZ DB instance (not supported for Multi-AZ DB cluster snapshot)**

Creates a primary DB instance and a standby DB instance in a different AZ. Provides high availability and data redundancy, but the standby DB instance doesn't support connections for read workloads.

☒ **Single DB instance (not supported for Multi-AZ DB cluster snapshot)**

Creates a single DB instance with no standby DB instances.

## Settings

DB instance identifier

We need to give name for the DB instance

Credentials Settings

Master username

Credentials management

Master password

## Settings

### DB instance identifier [Info](#)

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.

database-1

The DB instance identifier is case-insensitive, but is stored as all lowercase (as in "mydbinstance"). Constraints: 1 to 60 alphanumeric characters or hyphens. First character must be a letter. Can't contain two consecutive hyphens. Can't end with a hyphen.

### ▼ Credentials Settings

#### 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.

☒ **Self managed**  
Create your own password or have RDS create a password that you manage.

- Instance configuration

### Instance configuration

The DB instance configuration options below are limited to those supported by the engine that you selected above.

#### DB instance class [Info](#)

##### ▼ Hide filters

- ☐ **Show instance classes that support Amazon RDS Optimized Writes [Info](#)**  
Amazon RDS Optimized Writes improves write throughput by up to 2x at no additional cost.
- ☐ **Include previous generation classes**
- ☐ Standard classes (includes m classes)
- ☐ Memory optimized classes (includes r and x classes)
- ☒ **Burstable classes (includes t classes)**

db.t3.micro  
2 vCPUs 1 GiB RAM Network: 2,085 Mbps

- Standard Classes
  - Standard instances provide a balance of compute, memory, and network resources. They are a good choice for many database workloads.
- Memory optimized classes
  - Memory optimized instances accelerate performance for workloads that process large data sets in memory.
- Burstable classes

- Burstable performance instances provide a baseline level of CPU performance with the ability to burst above the baseline.

- Storage

## Storage

### Storage type [Info](#)

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)



Baseline performance determined by volume size

### Allocated storage [Info](#)

20

GiB

The minimum value is 20 GiB and the maximum value is 6,144 GiB

 After you modify the storage for a DB instance, the status of the DB instance will be in storage-optimization. Your instance will remain available as the storage-optimization operation completes. [Learn more](#) 

### ▼ Storage autoscaling

### Storage autoscaling [Info](#)

Provides dynamic scaling support for your database's storage based on your application's needs.

#### ☒ Enable storage autoscaling

Enabling this feature will allow the storage to increase after the specified threshold is exceeded.

### Maximum storage threshold [Info](#)

Charges will apply when your database autoscales to the specified threshold

1000

GiB

The minimum value is 22 GiB and the maximum value is 6,144 GiB

- Storage type

#### Storage type [Info](#)

Provisioned IOPS SSD (io2) storage volumes are now available.

General Purpose SSD (gp2)	Baseline performance determined by volume size
General Purpose SSD (gp2)	Baseline performance determined by volume size
General Purpose SSD (gp3)	Performance scales independently from storage
Provisioned IOPS SSD (io1)	Flexibility in provisioning I/O
Provisioned IOPS SSD (io2)	Low latency, highly durable, I/O intensive storage
Magnetic	Limited to a maximum of 1,000 IOPS (not recommended)

- Allocated storage
  - Storage autoscaling
- Connectivity

#### Connectivity [Info](#)



##### Compute resource

Choose whether to set up a connection to a compute resource for this database. Setting up a connection will automatically change connectivity settings so that the compute resource can connect to this database.



##### Don't connect to an EC2 compute resource

Don't set up a connection to a compute resource for this database. You can manually set up a connection to a compute resource later.



##### Connect to an EC2 compute resource

Set up a connection to an EC2 compute resource for this database.

##### Virtual private cloud (VPC) [Info](#)

Choose the VPC. The VPC defines the virtual networking environment for this DB instance.

Default VPC (vpc-0d99beb6e3b0a72af)

4 Subnets, 4 Availability Zones



Only VPCs with a corresponding DB subnet group are listed.



After a database is created, you can't change its VPC.

##### DB subnet group [Info](#)

Choose the DB subnet group. The DB subnet group defines which subnets and IP ranges the DB instance can use in the VPC that you selected.

default



#### Public access [Info](#)

☐ Yes

RDS assigns a public IP address to the database. Amazon EC2 instances and other resources outside of the VPC can connect to your database. Resources inside the VPC can also connect to the database. Choose one or more VPC security groups that specify which resources can connect to the database.

☒ No

RDS doesn't assign a public IP address to the database. Only Amazon EC2 instances and other resources inside the VPC can connect to your database. Choose one or more VPC security groups that specify which resources can connect to the database.

#### VPC security group (firewall) [Info](#)

Choose one or more VPC security groups to allow access to your database. Make sure that the security group rules allow the appropriate incoming traffic.

☒ Choose existing

Choose existing VPC security groups

☐ Create new

Create new VPC security group

#### Existing VPC security groups

Choose one or more options ▼

default ✕

#### Availability Zone [Info](#)

us-west-2a ▼

#### RDS Proxy

RDS Proxy is a fully managed, highly available database proxy that improves application scalability, resiliency, and security.

☐ Create an RDS Proxy [Info](#)

RDS automatically creates an IAM role and a Secrets Manager secret for the proxy. RDS Proxy has additional costs. For more information, see [Amazon RDS Proxy pricing](#).

#### Certificate authority - optional [Info](#)

Using a server certificate provides an extra layer of security by validating that the connection is being made to an Amazon database. It does so by checking the server certificate that is automatically installed on all databases that you provision.

rds-ca-rsa2048-g1 (default) ▼

Expiry: May 25, 2061

If you don't select a certificate authority, RDS chooses one for you.

#### ▼ Additional configuration

##### Database port [Info](#)

TCP/IP port that the database will use for application connections.

3306

- RDS Proxy

- RDS Proxy allows your applications to pool and share database connections to help them scale. An RDS proxy simplifies connection management and makes applications more resilient to database failures.

- Tags



- Database authentication

### Tags

A tag consists of a case-sensitive key-value pair.

Key

🔍 Name



Value - *optional*

🔍 trail



Remove

Add new tag

You can add up to 49 more tags.

### Database authentication

Database authentication options [Info](#)



Password authentication

Authenticates using database passwords.



Password and IAM database authentication

Authenticates using the database password and user credentials through AWS IAM users and roles.



Password and Kerberos authentication

Choose a directory in which you want to allow authorized users to authenticate with this DB instance using Kerberos Authentication.

- Password authentication
  - Manage your database user credentials through your DB engine's native password authentication features.
- Password and IAM database authentication
  - Manage your database user credentials through your DB engine's native password authentication features and IAM users and roles.
- Password and Kerberos authentication
  - Manage your database user credentials through your DB engine's native password authentication features and an AWS Managed Microsoft AD created with AWS Directory Service.

- Monitoring

### Monitoring



Enable Enhanced Monitoring

Enabling Enhanced Monitoring metrics are useful when you want to see how different processes or threads use the CPU.

- Additional configuration

## ▼ Additional configuration

Database options, encryption turned on, backup turned on, backtrack turned off, maintenance, CloudWatch Logs, delete protection turned off.

### Database options

Initial database name [Info](#)

If you do not specify a database name, Amazon RDS does not create a database.

DB parameter group [Info](#)

Option group [Info](#)

Backup retention period [Info](#)

The number of days (1-35) for which automatic backups are kept.

 day

Backup window [Info](#)

The daily time range (in UTC) during which RDS takes automated backups.

☐ Choose a window

☒ No preference

☒ Copy tags to snapshots

Backup replication [Info](#)

☐ Enable replication in another AWS Region

Enabling replication automatically creates backups of your DB instance in the selected Region, for disaster recovery, in addition to the current Region.

## Encryption

### ☒ Enable encryption

Choose to encrypt the given instance. Master key IDs and aliases appear in the list after they have been created using the AWS Key Management Service console. [Info](#)

AWS KMS key [Info](#)

(default) aws/rds ▼

Account

520261045384

KMS key ID

alias/aws/rds

## Log exports

Select the log types to publish to Amazon CloudWatch Logs

- ☐ Audit log
- ☐ Error log
- ☐ General log
- ☐ Slow query log

IAM role

The following service-linked role is used for publishing logs to CloudWatch Logs.

RDS service-linked role

## Maintenance

Auto minor version upgrade [Info](#)

### ☒ Enable auto minor version upgrade

Enabling auto minor version upgrade will automatically upgrade to new minor versions as they are released. The automatic upgrades occur during the maintenance window for the database.

Maintenance window [Info](#)

Select the period you want pending modifications or maintenance applied to the database by Amazon RDS.

- ☐ Choose a window
- ☒ No preference

## Deletion protection

### ☐ Enable deletion protection

Protects the database from being deleted accidentally. While this option is enabled, you can't delete the database.

## Estimated monthly costs

The Amazon RDS Free Tier is available to you for 12 months. Each calendar month, the free tier will allow you to use the Amazon RDS resources listed below for free:

- 750 hrs of Amazon RDS in a Single-AZ db.t2.micro, db.t3.micro or db.t4g.micro Instance.
- 20 GB of General Purpose Storage (SSD).
- 20 GB for automated backup storage and any user-initiated DB Snapshots.

[Learn more about AWS Free Tier.](#)

When your free usage expires or if your application use exceeds the free usage tiers, you simply pay standard, pay-as-you-go service rates as described in the [Amazon RDS Pricing page](#).

**i** You are responsible for ensuring that you have all of the necessary rights for any third-party products or services that you use with AWS services.

Cancel

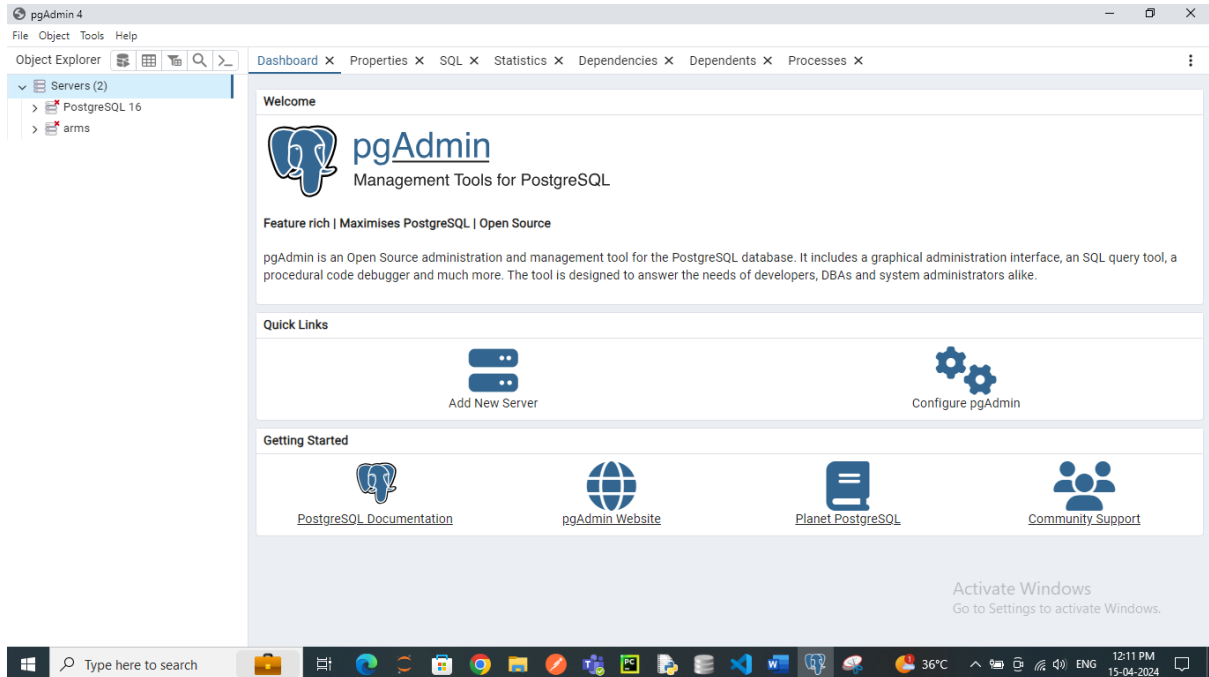
Create database

## Creating the AWS RDS Instance

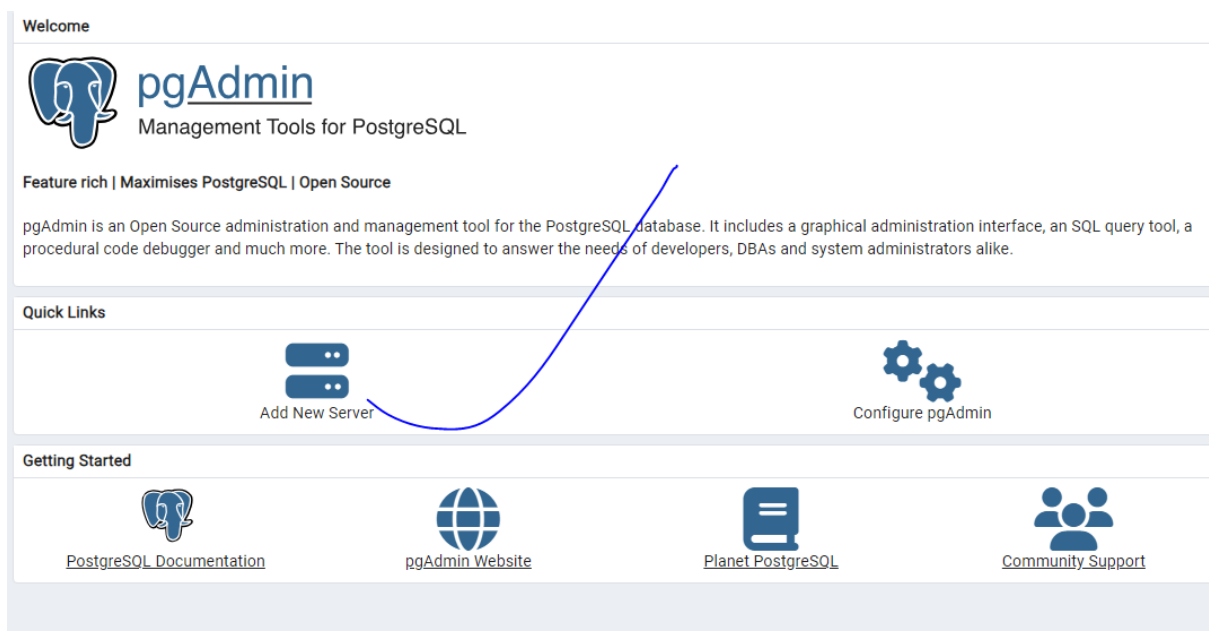
The screenshot shows the AWS Management Console interface for Amazon RDS. The left sidebar contains navigation links for Dashboard, Databases, Query Editor, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engine versions, Zero-ETL integrations, Events, and Event subscriptions. The main content area displays a notification for 'Creating RDS Proxy' and 'Creating database database'. Below the notifications, there is a section for 'Databases (1)' with a table showing the database 'database' in the 'Creating' state. The table columns include DB identifier, Status, Role, Engine, Region & AZ, Size, Recommendations, CPU, Current activity, Maintenance, and VPC. The database 'database' is shown with a status of 'Creating', role of 'Instance', engine of 'MySQL Community', region of 'us-west-2d', size of 'db.t3.micro', and VPC of 'vpc-0d99'.

DB identifier	Status	Role	Engine	Region & AZ	Size	Recommendations	CPU	Current activity	Maintenance	VPC
database	Creating	Instance	MySQL Community	us-west-2d	db.t3.micro		-		none	vpc-0d99

Open pgadmin :



Click on Add new server



Enter name of the server

Register - Server

General

Connection

Parameters

SSH Tunnel

Advanced

Name

aja

Server group

Servers

Background

X

Foreground

X

Connect now?

Comments

Either Host name or Service must be specified.

i

?

X Close

Reset

Save

Click on connection tab and enter the host name given in rds

Enter username and password given in rds

Register - Server

General

Connection

Parameters

SSH Tunnel

Advanced

Host name/address

Port

5432

Maintenance database

postgres

Username

postgres

Kerberos authentication?

☐

Password

.....

Save password?

☐

Role

Service

Either Host name or Service must be specified.

i

?

Close

Reset

Save

Click on save

Connections is established