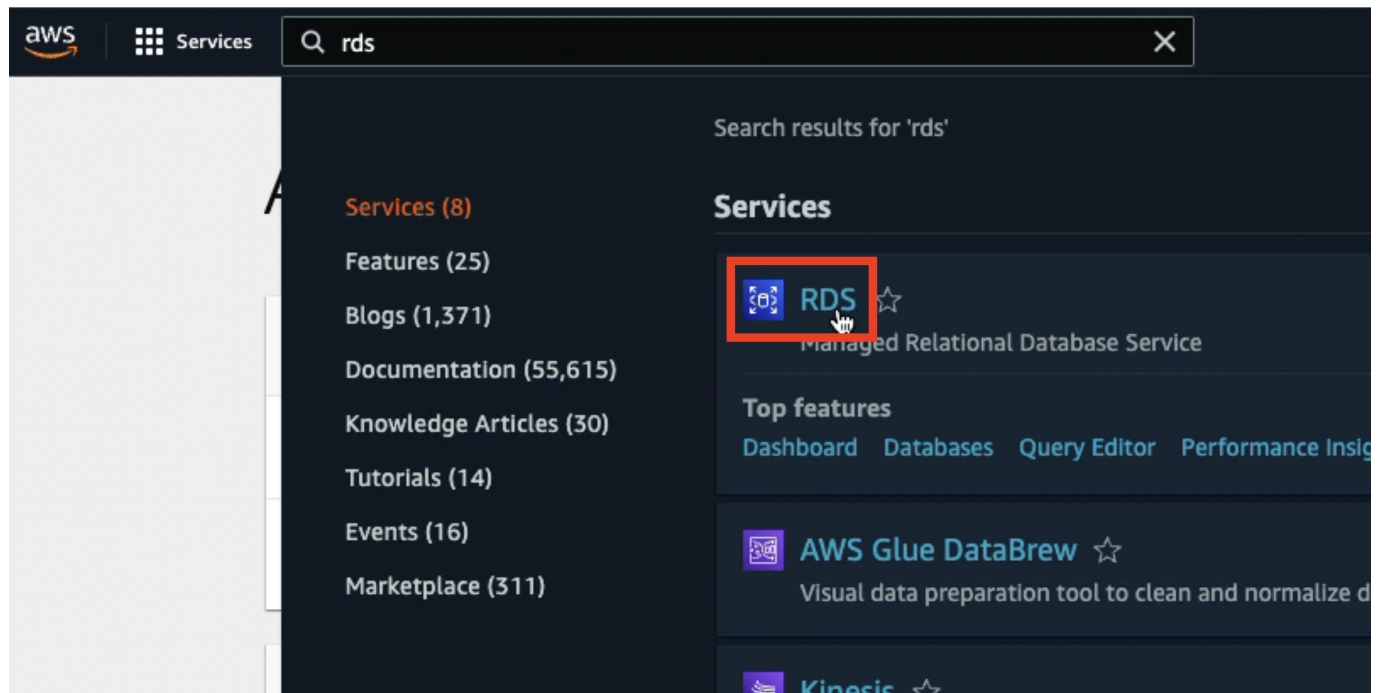


Creating a PostgreSQL Database in AWS RDS

- **Important:** Review the disclaimer for [AWS Free Tier](#) services documentation to avoid accidentally incurring charges.
- Log in to the AWS Management Console and navigate to the RDS section under Database.



- Click the "Create database" button from the "Create database" section. The "Engine options" page displays a menu of different relational databases. **Note:** If you have accessed the service previously, AWS may present a different screen than the one depicted in the following image.

Amazon RDS

Dashboard

Databases

Query Editor

Performance insights

Snapshots

Automated backups

Reserved instances

Proxies

Subnet groups

Parameter groups

Option groups

Custom engine versions

Events

Event subscriptions

Recommendations 1

Certificate update

Try the new Amazon RDS Multi-AZ deployment option for MySQL

For your Amazon RDS for MySQL and PostgreSQL workloads, improve read scalability with two readable standby DB instances by deploying

Create database

Or, [Restore Multi-AZ DB Cluster from Snapshot](#)

Resources

You are using the following Amazon RDS resources in the US West (Oregon) Region:

DB Instances (1/40)	Parameter groups
Allocated storage (0.02 TB/100 TB)	Default
Click here to increase DB instances limit	Custom
DB Clusters (0/40)	Option groups
Reserved instances (0/40)	Default
Snapshots (8)	Custom
Manual (0/100)	Subnet groups
Automated (8)	Supported
Recent events (4)	Default
Event subscriptions (0/20)	

Create database

Amazon Relational Database Service (Amazon RDS) is easy to set up, operate, and scale.

Restore from S3

Create database







Note: your DB instance will be created in the US West (Oregon) region.

Note: There may be an option to create a database with Amazon RDS Multi-AZ or Amazon Aurora, which is a paid database. We will not use these options.

- Check the box next to "Only enable options eligible for RDS Free Usage Tier" at the bottom of the menu.
- Select PostgreSQL.

Engine options

Engine type [Info](#)

<input type="radio"/> Amazon Aurora 	<input type="radio"/> MySQL 	<input type="radio"/> MariaDB 
<input checked="" type="radio"/> PostgreSQL 	<input type="radio"/> Oracle 	<input type="radio"/> Microsoft SQL Server 

Version [Info](#)

PostgreSQL 10.6-R1

- Select the "Free tier" template.

Templates

Choose a sample template to meet your use case.

<input type="radio"/> Production Use defaults for high availability and fast, consistent performance.	<input type="radio"/> Dev/Test This instance is intended for development use outside of a production environment.	<input checked="" type="radio"/> Free tier Use RDS Free Tier to develop new applications, test existing applications, or gain hands-on experience with Amazon RDS. Info
---	---	--

- Fill out the fields in the Settings section. Use myPostgresDB as the database instance identifier and root as the master username.

Note: While the database instance identifier and master username can be anything, we recommend keeping these settings for consistency.

- Uncheck the Auto generate password box. Enter a password and be sure to record it somewhere and keep it safe. The other settings will be accessible in the future, but the password will not.

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.

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 (1 to 15 for SQL Server). 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.

2.

1 to 16 alphanumeric characters. First character must be a letter

☐ **Auto generate a password****3.**

Amazon RDS can generate a password for you, or you can specify your own password

Master password [Info](#)

Constraints: At least 8 printable ASCII characters. Can't contain any of the following: / (slash), " (double quote) and @ (at sign).

Confirm password [Info](#)

4.

- Under "Connectivity", click the down arrow next to Additional connectivity configuration. Select Yes for the "Public accessibility" option. Explain that this setting does not mean that anyone can access the database. The database is still password-protected, but connections from outside sources like pgAdmin are permitted.

Connectivity



Virtual Private Cloud (VPC) [Info](#)

VPC that defines the virtual networking environment for this DB instance.

Default VPC (vpc-36ab4f50) ▼

Only VPCs with a corresponding DB subnet group are listed.

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

1.

▼ Additional connectivity configuration

Subnet group [Info](#)

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

default ▼

Publicly accessible [Info](#)

☒ Yes

Amazon EC2 instances and devices outside the VPC can connect to your database. Choose one or more VPC security groups that specify which EC2 instances and devices inside the VPC can connect to the database.

☐ No

RDS will not assign a public IP address to the database. Only Amazon EC2 instances and devices inside the VPC can connect to your database.

- Under Additional configuration, click the down arrow and name the database "my_data_class_db". Keep the default settings in the other fields.

Database options

Database name [Info](#)

my_data_class_db

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

Port [Info](#)

TCP/IP port the DB instance will use for application connections.

5432

DB parameter group [Info](#)

default.postgres10 ▼

Option group [Info](#)

default:postgres-10 ▼

IAM DB authentication [Info](#)

☐ Enable IAM DB authentication

Manage your database user credentials through AWS IAM users and roles.

☒ Disable

- Uncheck the boxes for "Enable automatic backups," "Enable performance insights," and "Enable auto minor version upgrade."

Backup
Creates a point in time snapshot of your database

☐ **Enable automatic backups**
Enabling backups will automatically create backups of your database during a certain time window.

Performance Insights [Info](#)

☐ **Enable Performance Insights**

Monitoring

☐ **Enable Enhanced monitoring**
Enabling Enhanced monitoring metrics are useful when you want to see how different processes or threads use the CPU

Log exports
Select the log types to publish to Amazon CloudWatch Logs

☐ **Postgresql log**

☐ **Upgrade log**

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

RDS Service Linked Role

Ensure that General, Slow Query, and Audit Logs are turned on. Error logs are enabled by default. [Learn more](#)

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.

- Leave everything else as is.
- **Reminder:** We selected AWS Free Tier to avoid charges, and will need clean up the database at the end of class to make sure nothing is left running.
- Finally, click Create Database followed by View DB Instance details to navigate to the instance console page. Database creation will take anywhere from 10 to 15 minutes.