

## RDS

**Amazon Relational Database Service (Amazon RDS) makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while automating time-consuming administration tasks such as hardware provisioning, database setup, patching and backups.**

### Step 1 open RDS create subnet groups.

The screenshot shows the 'Subnet groups' page in the RDS Management Console. The left sidebar includes links for Dashboard, Databases, Query Editor, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, Subnet groups (which is highlighted in orange), Parameter groups, Option groups, Custom engine versions, Events, Event subscriptions, Recommendations (0), and Certificate update. The main content area displays a table titled 'Subnet groups (0)' with columns for Name, Description, Status, and VPC. A message states 'No db subnet groups' and 'You don't have any db subnet groups.' A prominent orange button at the bottom right says 'Create DB subnet group'.

  

The screenshot shows the 'Create DB subnet group' wizard. The left sidebar is identical to the previous screenshot. The main content area has two tabs: 'Subnet group details' and 'Add subnets'. In 'Subnet group details', fields are filled with 'Name: subnetgrp-db' and 'Description: all'. In 'VPC', the identifier 'vpc-020a4bc761cab313' is selected. In 'Add subnets', under 'Availability Zones', 'ap-south-1a', 'ap-south-1b', and 'ap-south-1c' are listed. Under 'Subnets', the subnet 'subnet-0e0cd480f0de994af (172.31.16.0/20)' is selected. The bottom of the screen shows a Windows taskbar with various icons and system status.

RDS Management Console

https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#create-db-subnet-group:

Amazon RDS

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

Events Event subscriptions

Recommendations 0 Certificate update

Add subnets

Availability Zones Choose the Availability Zones that include the subnets you want to add. Choose an availability zone ap-south-1a X ap-south-1b X ap-south-1c X

Subnets Choose the subnets that you want to add. The list includes the subnets in the selected Availability Zones. Select subnets subnet-0e0cd480f0de994af (172.31.16.0/20) X subnet-036fc2256d0a43410 (172.31.32.0/20) X subnet-0d615778e43fcf276 (172.31.0.0/20) X

Subnets selected (3)

Availability zone	Subnet ID	CIDR block
ap-south-1a	subnet-036fc2256d0a43410	172.31.32.0/20
ap-south-1b	subnet-0d615778e43fcf276	172.31.0.0/20
ap-south-1c	subnet-0e0cd480f0de994af	172.31.16.0/20

Create

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RDS Management Console

https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#db-subnet-groups-list:

Amazon RDS

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

Events Event subscriptions

Recommendations 0 Certificate update

Successfully created subnetgrp-db. View subnet group

RDS > Subnet groups

Subnet groups (1)

Name	Description	Status	VPC
subnetgrp-db	all	Complete	vpc-020a4bc761caab313

Step 2 create database instance.

**Create database**

**Choose a database creation method** [Info](#)

- 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.

**Engine options**

Engine type [Info](#)

- Amazon Aurora
- MySQL
- MariaDB
- PostgreSQL
- Oracle
- Microsoft SQL Server

Edition

- MySQL Community

**Known issues/limitations**  
Review the Known issues/limitations [\[?\]](#) to learn about potential compatibility issues with specific database versions.

**PostgreSQL**

PostgreSQL is a powerful, open-source object-relational database system with a strong reputation of reliability, stability, and correctness.

- High reliability and stability in a variety of workloads.
- Advanced features to perform in high-volume environments.
- Vibrant open-source community that releases new features multiple times per year.
- Supports multiple extensions that add even more functionality to the database.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- The most Oracle-compatible open-source database.

Feedback Looking for language selection? Find it in the new Unified Settings [\[?\]](#)

86°F Mostly cloudy RDS Management Console + https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

aws Services Search [Alt+S] Mumbai Harikrishna

**Known issues/limitations**  
Review the Known issues/limitations [\[?\]](#) to learn about potential compatibility issues with specific database versions.

**Engine Version**  
MySQL 8.0.31

**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.

- Single DB instance (not supported for Multi-AZ DB cluster snapshot)  
Creates a single DB instance with no standby DB instances.
- 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.
- Multi-AZ DB Cluster - new  
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.

**Settings**

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Give database name and set username and password

**RDS Management Console**

<https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false>

**Services** Search [Alt+S]

Multi-AZ DB Cluster - new  
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.

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- The most Oracle-compatible open-source database.

**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.

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.

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

**Auto generate a password**  
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), '(single quote)', "(double quote)" and @ (at sign).

**Confirm master password** [Info](#)

**Instance configuration**

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

**DB instance class** [Info](#)  
 Standard classes (includes m classes)  
 Memory optimized classes (includes r and x classes)  
 **Burstable classes (includes t classes)**

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https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

Services Search [Alt+S]

**Instance configuration**

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

**DB instance class** [Info](#)  
 db.t3.micro  
2 vCPUs 1 GiB RAM Network: 2,085 Mbps  
 **Include previous generation classes**

**Storage**

**Storage type** [Info](#)  
General Purpose SSD (gp2)  
Baseline performance determined by volume size

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

**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.

**Connectivity** [Info](#)

Compute resource

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https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

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https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

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Next we have to create security group to enable mysql/aurora & ssh.

**Create security group** [Info](#)

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

### Basic details

Security group name <a href="#">Info</a>	db-securitygroup
Name cannot be edited after creation.	
Description <a href="#">Info</a>	ssh,mysql
VPC <a href="#">Info</a>	vpc-020a4bc761caab313

### Inbound rules

Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Source <a href="#">Info</a>	Description - optional <a href="#">Info</a>
MySQL/Aurora	TCP	3306	Custom	
SSH	TCP	22	Custom	

[Add rule](#)

### Outbound rules

Type <a href="#">Info</a>	Protocol <a href="#">Info</a>	Port range <a href="#">Info</a>	Destination <a href="#">Info</a>	Description - optional <a href="#">Info</a>
All traffic	All	All	Custom	0.0.0.0/0

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RDS Management Console VPC Management Console +

https://ap-south-1.console.aws.amazon.com/vpc/home?region=ap-south-1#SecurityGroup:groupId=sg-0f3a3b522b77f7ec8

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**Security group (sg-0f3a3b522b77f7ec8 | db-securitygroup) was created successfully**

[Details](#)

VPC > Security Groups > sg-0f3a3b522b77f7ec8 - db-securitygroup

[Actions](#)

### Details

Security group name	db-securitygroup	Security group ID	sg-0f3a3b522b77f7ec8	Description	ssh,mysql
Owner	832823375801	Inbound rules count	2 Permission entries	Outbound rules count	1 Permission entry

[Inbound rules](#) [Outbound rules](#) [Tags](#)

You can now check network connectivity with Reachability Analyzer [Run Reachability Analyzer](#)

### Inbound rules (2)

<input type="checkbox"/>	Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
<input type="checkbox"/>	-	sgr-01516c08ea91bc28b	IPv4	MySQL/Aurora	TCP	3306	0.0.0.0/0	-
<input type="checkbox"/>	-	sgr-090166c07fb88c6c	IPv4	SSH	TCP	22	0.0.0.0/0	-

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**RDS Management Console** **VPC Management Console**

https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false&import=false

**Services** **Search** [Alt+S]

**Virtual private cloud (VPC) Info**  
Choose the VPC. The VPC defines the virtual networking environment for this DB instance.  
**Default VPC (vpc-020a4bc761caab313)**

Only VPCs with a corresponding DB subnet group are listed.

**MySQL**

MySQL is the most popular open source database in the world. MySQL on RDS offers the rich features of the MySQL community edition with the flexibility to easily scale compute resources or storage capacity for your database.

- Supports database size up to 64 TiB.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- Supports automated backup and point-in-time recovery.
- Supports up to 5 Read Replicas per instance, within a single Region or cross-region.

**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.  
**subnetgrp-db**

**Public access Info**  
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  
**db-securitygroup**

**Availability Zone Info**  
**ap-south-1a**

**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 [Create an RDS Proxy](#).

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**RDS Management Console** **VPC Management Console**

https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#databases:

**Amazon RDS**

**Databases**

**Creating database database-1**  
Your database might take a few minutes to launch.

**View credential details**

RDS > Databases

**Databases**

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance	VPC
database-1	Instance	MySQL Community	ap-south-1a	db.t3.micro	<b>Creating</b>	-	-	none	vpc-020a4bc761caab313

**Events**

**Recommendations** 0

**Certificate update**

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The screenshot shows the AWS RDS Management Console with a green header bar indicating "Successfully created database database-1". Below the header is a navigation bar with "RDS" and "Databases". The main area is titled "Databases" and contains a table with one row of data. The table columns are: DB identifier, Role, Engine, Region & AZ, Size, Status, CPU, Current activity, Maintenance, VPC, and Multi-AZ. The single row shows "database-1" as the DB identifier, "Instance" as the role, "MySQL Community" as the engine, "ap-south-1a" as the region & AZ, "db.t3.micro" as the size, "Available" as the status, "-" as the CPU, "none" as the current activity, and "vpc-020a4bc761caab313" as the VPC. The "Multi-AZ" column shows "No". At the top right of the table are buttons for "Group resources", "Modify", "Actions", "Restore from S3", and "Create database". A search bar at the top left says "Filter by databases". The bottom of the screen shows a Windows taskbar with various icons and a weather widget showing "87°F Mostly cloudy".

**Step 3 we have to create ec2 instance.**

Screenshot of the AWS EC2 Management Console showing the Instances page. A single instance named 'myinstance1' is listed, showing it is running in the t2.micro instance type, located in the ap-south-1a availability zone, with a Public IPv4 address of 65.0.76.210.

```

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root@ip-172-31-45-193:~#
login as: ec2-user
Authenticating with public key "linuxkeypair"
[ec2-user@ip-172-31-45-193 ~]# 
[ec2-user@ip-172-31-45-193 ~]# Amazon Linux 2 AMI
[ec2-user@ip-172-31-45-193 ~]# 

https://aws.amazon.com/amazon-linux-2/
1 package(s) needed for security, out of 1 available
Run "sudo yum update" to apply all updates.
[ec2-user@ip-172-31-45-193 ~]# sudo yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
You will be prompted to perform this command.
[ec2-user@ip-172-31-45-193 ~]# sudo -i
[root@ip-172-31-45-193 ~]# yum update -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core
Resolving Dependencies
--> Running transaction check
--> Package kernel.x86_64 0:5.10.149-133.644.amzn2 will be installed
--> Finished Dependency Resolution
Dependencies Resolved

=====
Package      Arch    Version           Repository      Size
=====
Installing: kernel   x86_64  5.10.149-133.644.amzn2  amzn2extra-kernel1-5.10   32 M
Transaction Summary
=====
Install 1 Package

Total download size: 32 M
Installed size: 136 M
Downloading packages:
Delta RPMs disabled because /usr/bin/applydeltarpm not installed.
kernel-5.10.149-133.644.amzn2.x86_64.rpm          | 32 MB  00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : kernel-5.10.149-133.644.amzn2.x86_64
  Verifying   : kernel-5.10.149-133.644.amzn2.x86_64
Installed:
  kernel.x86_64 0:5.10.149-133.644.amzn2
Complete!
[root@ip-172-31-45-193 ~]# 

```

## Step 4 install mysql server in instance.

```
[root@ip-172-31-45-193 ~]# yum install mysql -y
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
--> Package mariadb.x86_64 1:5.5.68-1.amzn2 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

=====
Package           Arch      Version       Repository   Size
=====
Installing:
mariadb          x86_64   1:5.5.68-1.amzn2 amzn2-core    8.0 M

Transaction Summary
=====
Install 1 Package

Total download size: 8.0 M
Installed size: 49 M
Downloading packages:
mariadb-5.5.68-1.amzn2.x86_64.rpm | 8.0 MB  00:00:00

Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
  Installing : 1:mariadb-5.5.68-1.amzn2.x86_64
  Verifying  : 1:mariadb-5.5.68-1.amzn2.x86_64

Installed:
  mariadb.x86_64 1:5.5.68-1.amzn2

Complete!
[root@ip-172-31-45-193 ~]#
```

## Step 5 connect endpoint in server

```
[root@ip-172-31-45-193 ~]# mysql -h database-1.cqqnkstbvr2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 19
Server version: 8.0.31 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]>
```

```
[root@ip-172-31-45-193-]# mysql -h database-1.cqqnkstbwr2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 19
Server version: 8.0.31 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.00 sec)

MySQL [(none)]> create database haris;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| haris |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]>
```

We created new database and we can create tables and insert the data in the tables.

```
[root@ip-172-31-45-193-]#
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 19
Server version: 8.0.31 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
4 rows in set (0.00 sec)

MySQL [(none)]> create database haris;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| haris |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]> use haris;
Database changed
MySQL [haris]> create table hari (id int, name varchar(25), email varchar (26));
Query OK, 0 rows affected (0.02 sec)

MySQL [haris]> insert into hari (id,name,email) values('111',"Karthik Raja","awskarthik7@gmail.com");
Query OK, 1 row affected (0.00 sec)

MySQL [haris]> insert into hari (id,name,email) values('111',"Karthik Raja","awskarthik7@gmail.com");
Query OK, 1 row affected (0.00 sec)

MySQL [haris]> insert into hari (id,name,email) values('222',"Damodaran","Damokrishnan@gmail.com");
Query OK, 1 row affected (0.01 sec)

MySQL [haris]> insert into hari (id,name,email) values('333',"Mohan Krishna","tmohan79@gmail.com");
Query OK, 1 row affected (0.01 sec)

MySQL [haris]> select * from hari;
+----+-----+-----+
| id | name | email |
+----+-----+-----+
| 111 | Karthik Raja | awskarthik7@gmail.com |
| 111 | Karthik Raja | awskarthik7@gmail.com |
| 222 | Damodaran | Damokrishnan@gmail.com |
| 333 | Mohan Krishna | tmohan79@gmail.com |
+----+-----+-----+
4 rows in set (0.00 sec)

MySQL [haris]>
```

This is single db instance

Step 6 we can create multideployment zone db instance in Aurora MySQL

**RDS Management Console** Launch an instance | EC2 Man... Instances | EC2 Management C...

Services Search [Alt+S]

### Choose a database creation method Info

- 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.

### Engine options

Engine type Info

- Amazon Aurora 
- MySQL 
- MariaDB 
- PostgreSQL 
- Oracle 
- Microsoft SQL Server 

Edition

- Amazon Aurora MySQL-Compatible Edition
- Amazon Aurora PostgreSQL-Compatible Edition

Engine version Info

View the engine versions that support the following database features.

Show versions that support the global database feature Allows a single Amazon Aurora database to span multiple AWS Regions.

Show versions that support the parallel query feature

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### 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.

### Settings

DB cluster identifier Info

Enter a name for your DB cluster. The name must be unique across all DB clusters owned by your AWS account in the current AWS Region.

The DB cluster identifier is case-insensitive, but is stored as all lowercase (as in "mydbcluster"). 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.

**PostgreSQL**

PostgreSQL is a powerful, open-source object-relational database system with a strong reputation of reliability, stability, and correctness.

- High reliability and stability in a variety of workloads.
- Advanced features to perform in high-volume environments.
- Vibrant open-source community that releases new features multiple times per year.
- Supports multiple extensions that add even more functionality to the database.
- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- The most Oracle-compatible open-source database.

**Credentials Settings**

Master username Info

Type a login ID for the master user of your DB instance.

1 to 32 alphanumeric characters. First character must be a letter.

Auto generate a password 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), '(single quote), "(double quote) and @ (at sign).

Confirm master password Info

\*\*\*\*\*

Feedback Looking for language selection? Find it in the new Unified Settings ?

86°F Mostly cloudy RDS Management Console Launch an instance | EC2 Man... Instances | EC2 Management C...

Services Search [Alt+S]

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ENG IN 13:20 04-12-2022

RDS Management Console Launch an instance | EC2 Man... Instances | EC2 Management C... + https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

aws Services Search [Alt+S]

Confirm master password [Info](#)  
\*\*\*\*\*

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

DB instance class [Info](#)  
 Memory optimized classes (includes r classes)  
 Burstable classes (includes t classes)

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

Include previous generation classes

**Availability & durability**

Multi-AZ deployment [Info](#)  
 Don't create an Aurora Replica  
 Create an Aurora Replica or Reader node in a different AZ (recommended for scaled availability)  
Creates an Aurora Replica for fast failover and high availability.

**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.

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aws Services Search [Alt+S]

**PostgreSQL**

NO RDS doesn't assign a public IP address to the cluster. Only Amazon EC2 instances and other resources inside the VPC can connect to your cluster. Choose one or more VPC security groups that specify which resources can connect to the cluster.

**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  
db-securitygroup X

**Availability Zone** [Info](#)  
ap-south-1b

**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](#).

**Additional configuration**

**Database port** [Info](#)  
TCP/IP port that the database will use for application connections.  
3306

**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.

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Cloud 86°F Mostly cloudy RDS Management Console Launch an instance | EC2 Man... Instances | EC2 Management C... + https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#launch-dbinstance:gdb=false;s3-import=false

aws Services Search [Alt+S]

**RDS Management Console** Launch an instance | EC2 Man... Instances | EC2 Management C...

Services Search [Alt+S]

**Additional configuration**

Database options

Initial database name [Info](#) sampledatabase

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

DB cluster parameter group [Info](#) default.aurora-mysql5.7

DB parameter group [Info](#) default.aurora-mysql5.7

Option group [Info](#) default:aurora-mysql-5.7

Failover priority No preference

**Backup**

Backup retention period [Info](#) 1 day

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

Copy tags to snapshots

**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](#)

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**PostgreSQL**

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- Supports General Purpose, Memory Optimized, and Burstable Performance instance classes.
- The most Oracle-compatible open-source database.

## Reader and Writer has been created

**RDS Management Console** Launch an instance | EC2 Man... Instances | EC2 Management C...

Services Search [Alt+S]

**Amazon RDS**

**Creating replica mydbinstance in Asia Pacific (Mumbai).**  
Your database might take a few minutes to launch.

RDS > Databases

**Databases**

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity
database-1	Instance	MySQL Community	ap-south-1a	db.t3.micro	Available	2.53%	0 Connect
database-2	Regional cluster	Aurora MySQL	ap-south-1	2 instances	Available	-	-
database-2-instance-1	Writer instance	Aurora MySQL	ap-south-1b	db.t3.small	Configuring-enhanced-monitoring	-	-
mydbinstance	Reader instance	Aurora MySQL	ap-south-1c	db.t3.small	Creating	-	-

Feedback Looking for language selection? Find it in the new Unified Settings [?](#)

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If we connect database2 already created database1 database is available in writer replica.

```
[root@ip-172-31-45-193 ~]
# login as: ec2-user
# Authenticating with public key "linuxkeypair"
Last login: Sun Dec  4 07:35:23 2022 from 49.37.216.173

[ec2-user@ip-172-31-45-193 ~]$ sudo -i
[ec2-user@ip-172-31-45-193 ~]# mysql -h database-1.cqqnkstbwzr2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.31 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| haris   |
| information_schema |
| mysql   |
| performance_schema |
| sys     |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]>
```

We can create database in writer replica also.

```
[root@ip-172-31-45-193 ~]
# login as: ec2-user
# Authenticating with public key "linuxkeypair"
Last login: Sun Dec  4 07:35:23 2022 from 49.37.216.173

[ec2-user@ip-172-31-45-193 ~]$ sudo -i
[ec2-user@ip-172-31-45-193 ~]# mysql -h database-1.cqqnkstbwzr2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.31 Source distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| haris   |
| information_schema |
| mysql   |
| performance_schema |
| sys     |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]> create database writer;
Query OK, 1 row affected (0.01 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| haris   |
| information_schema |
| mysql   |
| performance_schema |
| sys     |
| writer  |
+-----+
6 rows in set (0.00 sec)

MySQL [(none)]>
```

We cant create database in reader replica.

```

root@ip-172-31-45-193:~# mysql -h mydbinstance.cqqnkstbw2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MySQL connection id is 13
Server version: 5.7.12 MySQL Community Server (GPL)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sampledatabase |
| sys |
+-----+
5 rows in set (0.01 sec)

MySQL [(none)]> create database reader;
ERROR 1290 (HY000): The MySQL server is running with the --read-only option so it cannot execute this statement
MySQL [(none)]>

```

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If we delete the writer replica automatically reader instance will act as writer replica..

The screenshot shows the Amazon RDS Management Console interface. On the left, there's a sidebar with navigation links like Dashboard, Databases, Query Editor, etc. The main content area is titled "Deleting DB instance database-2-instance-1". It displays a message: "Creating replica mydbinstance in Asia Pacific (Mumbai). Your database might take a few minutes to launch." Below this, the "Related" section lists three database instances: "database-2" (Regional cluster, Aurora MySQL, ap-south-1, 2 instances, Available), "database-2-instance-1" (Writer instance, Aurora MySQL, ap-south-1b, db.t3.small, Deleting, 9.33%, 3 Selects/Sec, none), and "mydbinstance" (Reader instance, Aurora MySQL, ap-south-1c, db.t3.small, Available, 21.74%, 2 Selects/Sec, none). At the bottom, there are tabs for Connectivity & security, Monitoring, Logs & events, Configuration, Maintenance, and Tags. The Connectivity & security tab is selected, showing details like Endpoint (database-2-instance-1.cqqnkstbw2n.ap-south-1.rds.amazonaws.com), Port (3306), Networking (Availability Zone: ap-south-1b, VPC: vpc-020a4bc761caab313, Subnet group: Subnet group), and Security (VPC security groups: db-securitygroup (sg-0f3a3b522b777ec8), Active). The status bar at the bottom indicates "86°F Mostly cloudy" and the date/time "04-12-2022 13:40".

RDS Management Console | Launch an instance | EC2 Manag... | Instances | EC2 Management C... +

https://ap-south-1.console.aws.amazon.com/rds/home?region=ap-south-1#databases:

Amazon RDS Services Search [Alt+S] Mumbai Harikrishna

**Deleting DB instance database-2-instance-1**

Creating replica mydbinstance in Asia Pacific (Mumbai). Your database might take a few minutes to launch.

RDS > Databases

**Databases**

DB identifier	Role	Engine	Region & AZ	Size	Status	CPU	Current activity	Maintenance
database-1	Instance	MySQL Community	ap-south-1a	db.t3.micro	Available	2.56%	0 Connections	none
database-2	Regional cluster	Aurora MySQL	ap-south-1	2 instances	Available	-	-	none
database-2-instance-1	Reader instance	Aurora MySQL	ap-south-1b	db.t3.small	Deleting	9.81%	3 Selects/Sec	none
mydbinstance	Writer instance	Aurora MySQL	ap-south-1c	db.t3.small	Available	9.99%	2 Selects/Sec	none

Events Event subscriptions

Recommendations (2) Certificate update

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## Now we can create or modify.

```
root@ip-172-31-45-193:~#
[root@ip-172-31-45-193 ~]# mysql -h mydbinstance.cqgnkstbwr2n.ap-south-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MySQL connection id is 9
Server version: 5.7.12 MySQL Community Server (GPL)

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| information_schema |
| mysql |
| performance_schema |
| sampledatabase |
| sys |
+-----+
5 rows in set (0.01 sec)

MySQL [(none)]> create database sample1;
Query OK, 1 row affected (0.02 sec)

MySQL [(none)]>
```

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