

RDS INTEGRATION WITH EC2

Create ec2 instance Select the security group

The screenshot shows the 'Step 6: Configure Security Group' page in the AWS Management Console. The page title is 'Launch instance wizard | EC2 M5'. The breadcrumb trail shows steps 1 through 7, with step 6 being the current one. The page explains that a security group is a set of firewall rules that control traffic for an instance. It offers two options: 'Create a new security group' (selected) or 'Select an existing security group'. The 'Security group name' field is set to 'ALL' and the 'Description' is 'launch-wizard-1 created 2022-09-06T23:53:33.671+05:30'. Below this is a table of rules:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom 0.0.0.0/0	e.g. SSH for Admin Desktop
All traffic	All	0 - 65535	Anywhere 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Custom 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop
MySQL/Aurora	TCP	3306	Custom CIDR, IP or Security Group	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0, ::/0	e.g. SSH for Admin Desktop

At the bottom of the table is an 'Add Rule' button. Below the table are 'Cancel', 'Previous', and 'Review and Launch' buttons. The footer of the console shows 'Feedback', 'Looking for language selection? Find it in the new Unified Settings', '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

Use the below command

Sudo su -

Yum update -y

hostnamectl set-hostname EC2RDSMYSQL

exec bash

The screenshot shows the 'EC2 Instance Connect' terminal window in the AWS Management Console. The terminal displays the following output:

```
Verifying : gnupg2-2.0.22-5.amzn2.0.5.x86_64 3/15
Verifying : chrony-4.2-5.amzn2.0.2.x86_64 4/15
Verifying : 12:dhcp-common-4.2.5-79.amzn2.1.1.x86_64 5/15
Verifying : kernel-5.10.135-122.509.amzn2.x86_64 6/15
Verifying : kernel-tools-5.10.135-122.509.amzn2.x86_64 7/15
Verifying : tzdata-2022c-1.amzn2.noarch 8/15
Verifying : gnupg2-2.0.22-5.amzn2.0.4.x86_64 9/15
Verifying : 12:dhcp-liba-4.2.5-77.amzn2.1.6.x86_64 10/15
Verifying : 12:dhclient-4.2.5-77.amzn2.1.6.x86_64 11/15
Verifying : kernel-tools-5.10.130-119.517.amzn2.x86_64 12/15
Verifying : tzdata-2022a-1.amzn2.noarch 13/15
Verifying : 12:dhcp-common-4.2.5-77.amzn2.1.6.x86_64 14/15
Verifying : chrony-4.0-3.amzn2.0.2.x86_64 15/15

Installed:
kernel.x86_64 0:5.10.135-122.509.amzn2

Updated:
chrony.x86_64 0:4.2-5.amzn2.0.2          dhclient.x86_64 12:4.2.5-79.amzn2.1.1      dhcp-common.x86_64 12:4.2.5-79.amzn2.1.1
dhcp-liba.x86_64 12:4.2.5-79.amzn2.1.1  gnupg2.x86_64 0:2.0.22-5.amzn2.0.5        kernel-tools.x86_64 0:5.10.135-122.509.amzn2
tzdata.noarch 0:2022c-1.amzn2

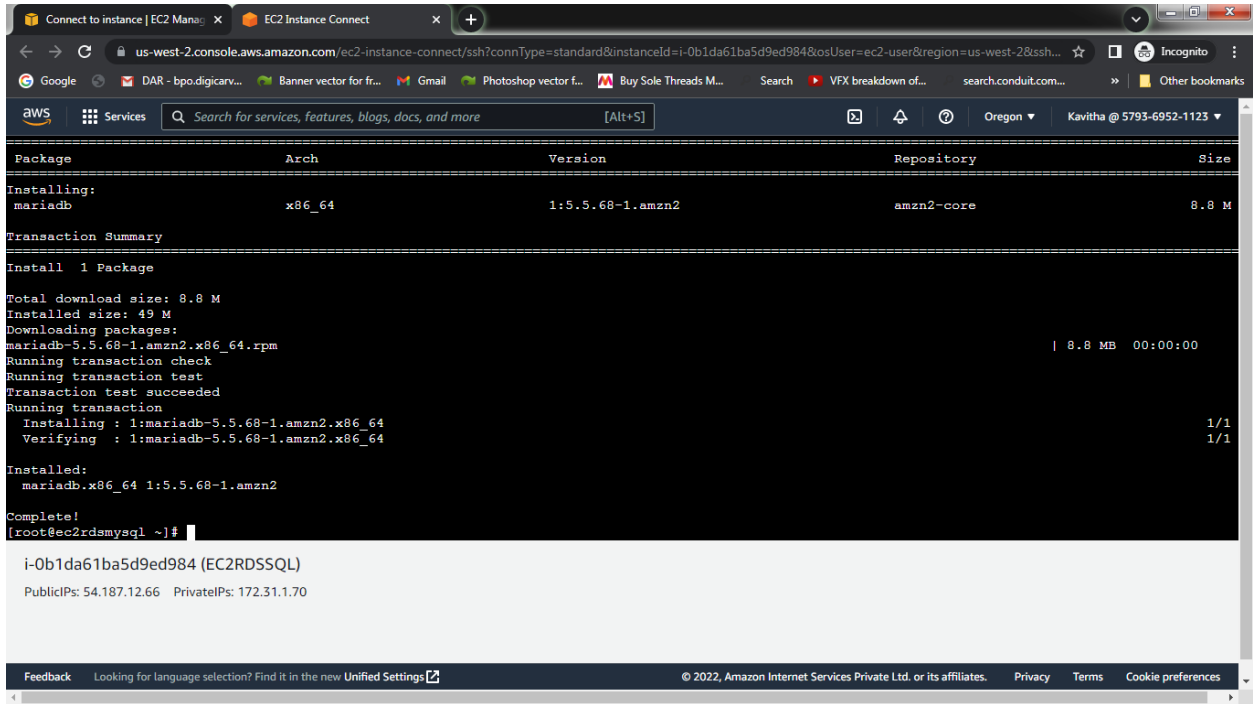
Complete!
[root@ip-172-31-1-70 ~]# hostnamectl set-hostname EC2RDSMYSQL
[root@ip-172-31-1-70 ~]# exec bash
[root@ec2rdsmysql ~]#

i-0b1da61ba5d9ed984 (EC2RDSMySQL)
PublicIPs: 54.187.12.66 PrivateIPs: 172.31.1.70
```

The footer of the console shows 'Feedback', 'Looking for language selection? Find it in the new Unified Settings', '© 2022, Amazon Internet Services Private Ltd. or its affiliates.', 'Privacy', 'Terms', and 'Cookie preferences'.

Install my sql

yum install mysql -y



The screenshot shows the AWS Management Console interface for an EC2 instance. The terminal window displays the output of the command `yum install mysql -y`. The output shows that the package `mariadb` is being installed from the `amzn2-core` repository. The transaction summary indicates that 1 package will be installed, with a total download size of 8.8 M and an installed size of 49 M. The transaction test succeeded, and the installation is complete. The terminal output is as follows:

```
Package Arch Version Repository Size
Installing:
mariadb x86_64 1:5.5.68-1.amzn2 amzn2-core 8.8 M

Transaction Summary
-----
Install 1 Package

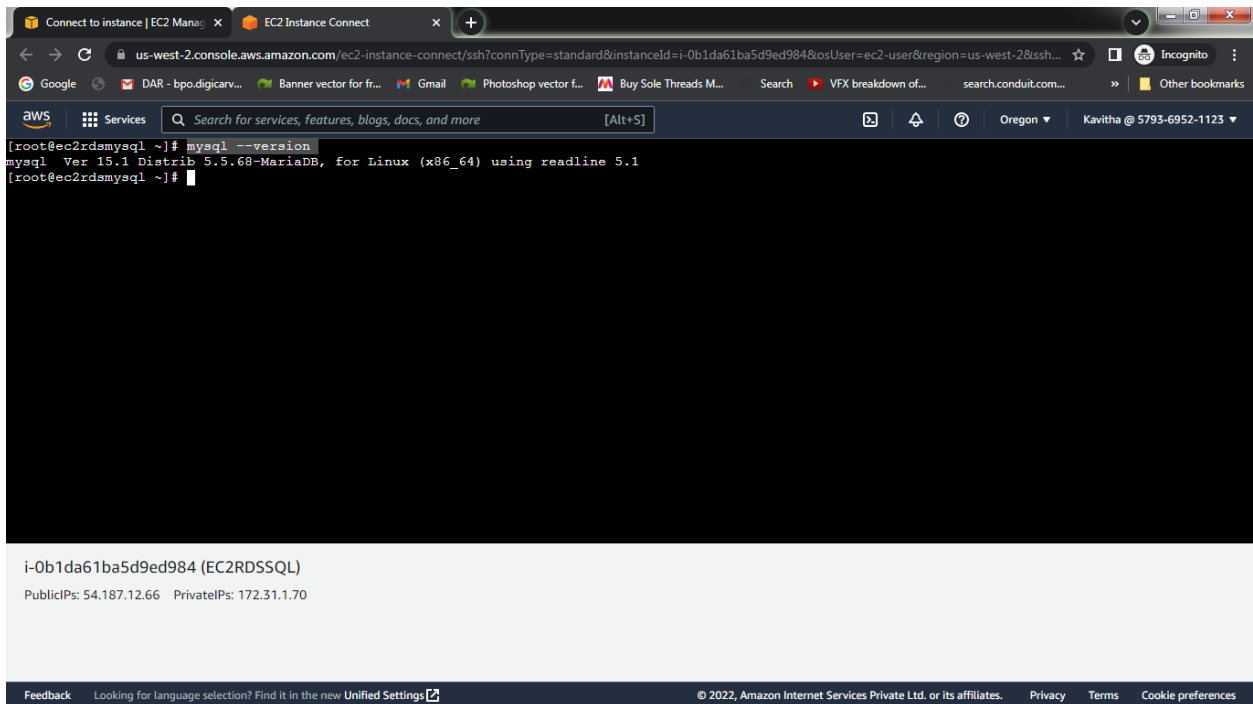
Total download size: 8.8 M
Installed size: 49 M
Downloading packages:
mariadb-5.5.68-1.amzn2.x86_64.rpm | 8.8 MB 00:00:00
Running transaction check
Running transaction test
Transaction test succeeded
Running transaction
Installing : 1:mariadb-5.5.68-1.amzn2.x86_64 1/1
Verifying : 1:mariadb-5.5.68-1.amzn2.x86_64 1/1

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

Complete!
[root@ec2rdsmysql ~]#
```

Below the terminal output, the instance details are shown, including the instance ID `i-0b1da61ba5d9ed984` (EC2RDSSQL) and the public/private IP addresses.

mysql --version

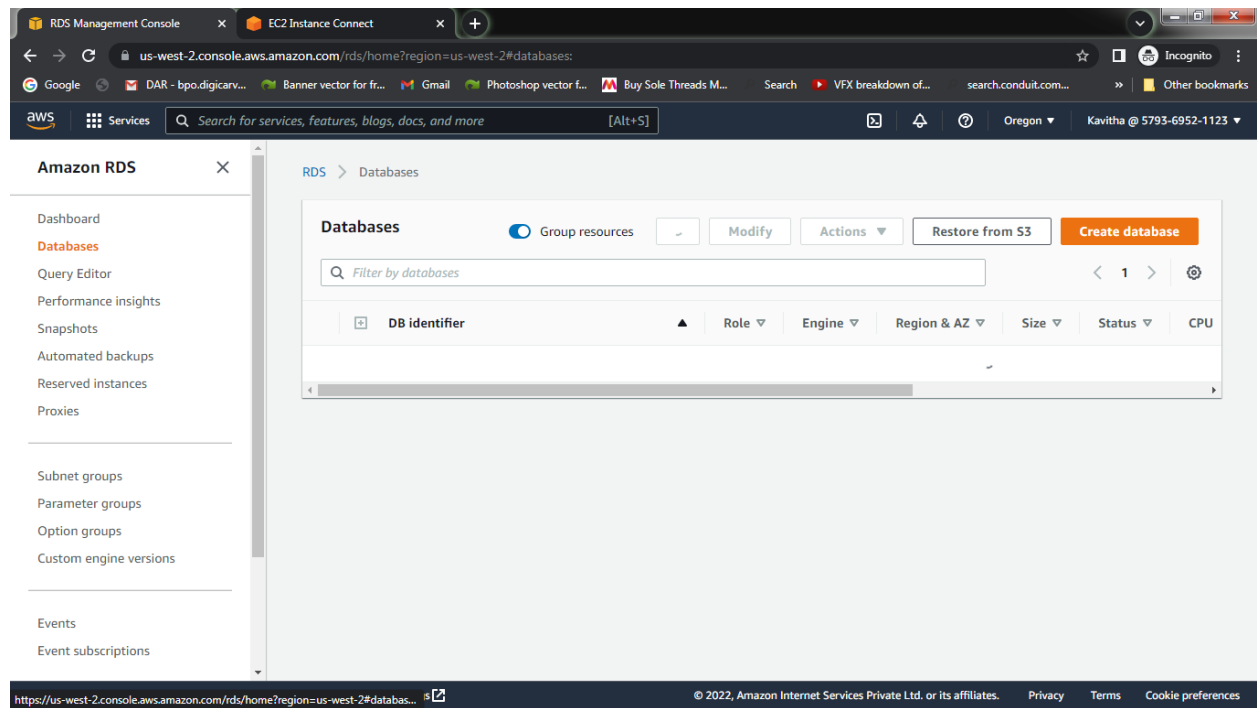


The screenshot shows the AWS Management Console interface for the same EC2 instance. The terminal window displays the output of the command `mysql --version`. The output shows the version of the installed MariaDB distribution, which is 15.1 Distrib 5.5.68-MariaDB, for Linux (x86_64) using readline 5.1. The terminal output is as follows:

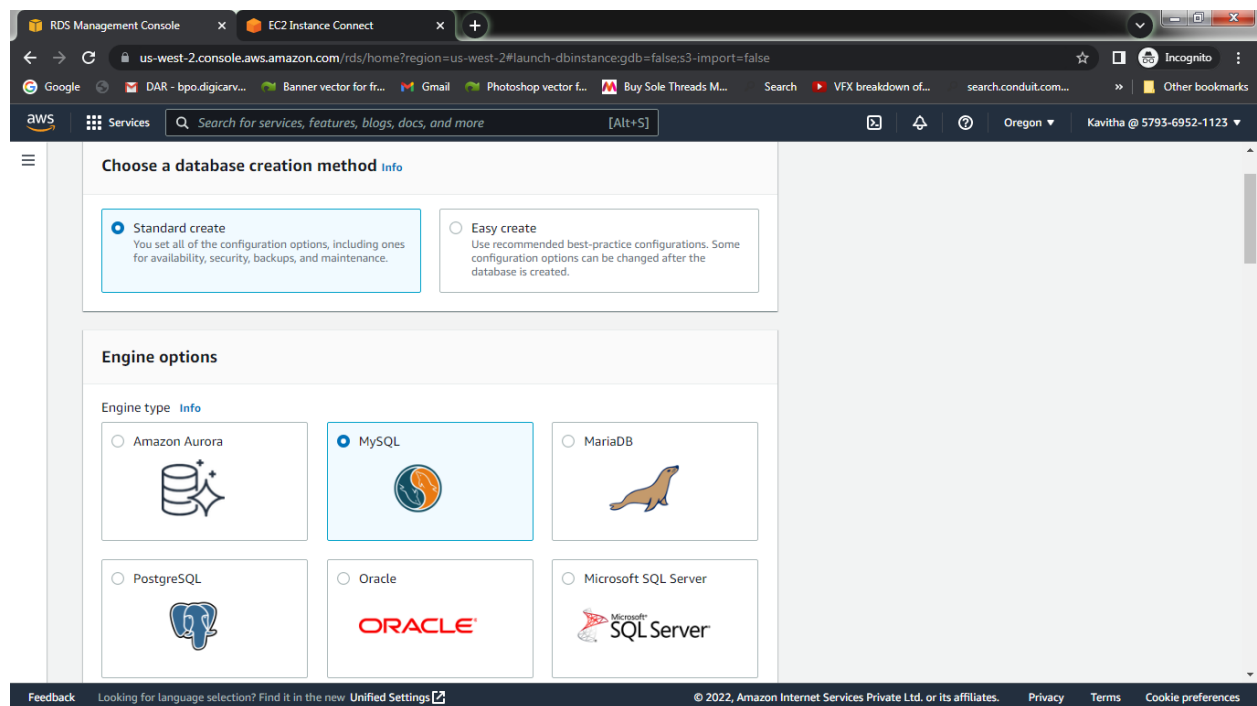
```
[root@ec2rdsmysql ~]# mysql --version
mysql Ver 15.1 Distrib 5.5.68-MariaDB, for Linux (x86_64) using readline 5.1
[root@ec2rdsmysql ~]#
```

Below the terminal output, the instance details are shown, including the instance ID `i-0b1da61ba5d9ed984` (EC2RDSSQL) and the public/private IP addresses.

Open rds and create database



standard create Engine MYSQL



Select the free tier

The screenshot shows the AWS RDS Management Console interface. At the top, there's a navigation bar with the AWS logo, a search bar, and the user's name 'Kavitha @ 5793-6952-1123'. The main content area is titled 'MySQL 8.0.28'. Under the 'Templates' section, three options are listed: 'Production', 'Dev/Test', and 'Free tier'. The 'Free tier' option is selected, indicated by a blue circle and a blue border. Below this, the 'Availability and durability' section is visible, showing deployment options like 'Multi-AZ DB Cluster - new', 'Multi-AZ DB instance', and 'Single DB instance'.

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 - 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.
- ☐ **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)**

name-database , Username admin Password admin123 ,

The screenshot shows the AWS RDS Management Console interface, specifically the 'Credentials Settings' section. The 'Master username' field is filled with 'admin'. The 'Master password' field is filled with 'admin123'. The 'Confirm password' field is also filled with 'admin123'. Below this, the 'Instance configuration' section is visible, showing the 'DB instance class' as 'Burstable classes (includes t classes)'.

Credentials Settings

Master username [Info](#)
Type a login ID for the master user of your DB instance.

admin

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).

admin123

Confirm password [Info](#)
admin123

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)**

Connectivity- Dont connect

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-0bee45d2aec076886)

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

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Create database

Additional configuration
Database options, encryption turned on, backup turned on, backtracking turned off, maintenance, CloudWatch Logs, delete protection turned off.

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.

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

Feedback Looking for language selection? Find it in the new Unified Settings © 2022, Amazon Internet Services Private Ltd. or its affiliates. Privacy Terms Cookie preferences

Database created

The screenshot shows the Amazon RDS console in the 'us-west-2' region. A green banner at the top indicates 'Successfully created database database'. The left sidebar shows the 'Amazon RDS' navigation menu with options like Dashboard, Databases, Query Editor, Performance insights, Snapshots, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engine versions, Events, and Event subscriptions. The main content area displays the 'Databases' list with a table containing one entry: 'database' (Instance, MySQL Community, us-west-2d, db.t3.micro). The table has columns for DB identifier, Role, Engine, Region & AZ, Size, and Status. A 'Create database' button is visible in the top right of the Databases section.

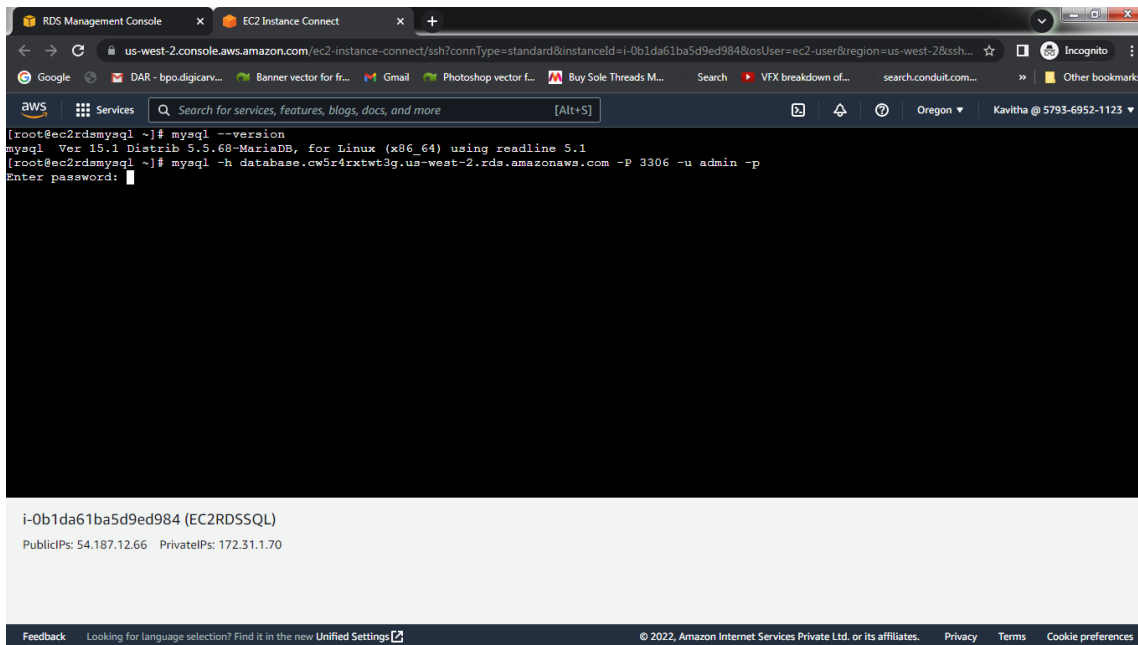
DB identifier	Role	Engine	Region & AZ	Size	Status
database	Instance	MySQL Community	us-west-2d	db.t3.micro	Active

Endpoint

The screenshot shows the 'Connectivity & security' tab for the 'database' instance. The left sidebar is the same as the previous screenshot. The main content area displays the 'Connectivity & security' section with three columns: Endpoint & port, Networking, and Security. The 'Endpoint & port' column shows the endpoint 'database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com' and port '3306'. The 'Networking' column shows the availability zone 'us-west-2d', VPC 'vpc-0bee45d2aec076886', subnet group 'default-vpc-0bee45d2aec076886', and subnets 'subnet-08d158d3878e1e90c', 'subnet-028a3bf3f65ab399e', 'subnet-0ecf25cc0a395f728', and 'subnet-0a7ac366a6eb1d2f6'. The 'Security' column shows the VPC security groups 'default (sg-0d8bf0e6c263de544)' and 'Active', publicly accessible status 'No', certificate authority 'rds-ca-2019', and certificate authority date 'August 22, 2024, 22:38 (UTC+05:30)'.

Endpoint & port	Networking	Security
Endpoint database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com	Availability Zone us-west-2d	VPC security groups default (sg-0d8bf0e6c263de544) Active
Port 3306	VPC vpc-0bee45d2aec076886	Publicly accessible No
	Subnet group default-vpc-0bee45d2aec076886	Certificate authority rds-ca-2019
	Subnets subnet-08d158d3878e1e90c subnet-028a3bf3f65ab399e subnet-0ecf25cc0a395f728 subnet-0a7ac366a6eb1d2f6	Certificate authority date August 22, 2024, 22:38 (UTC+05:30)

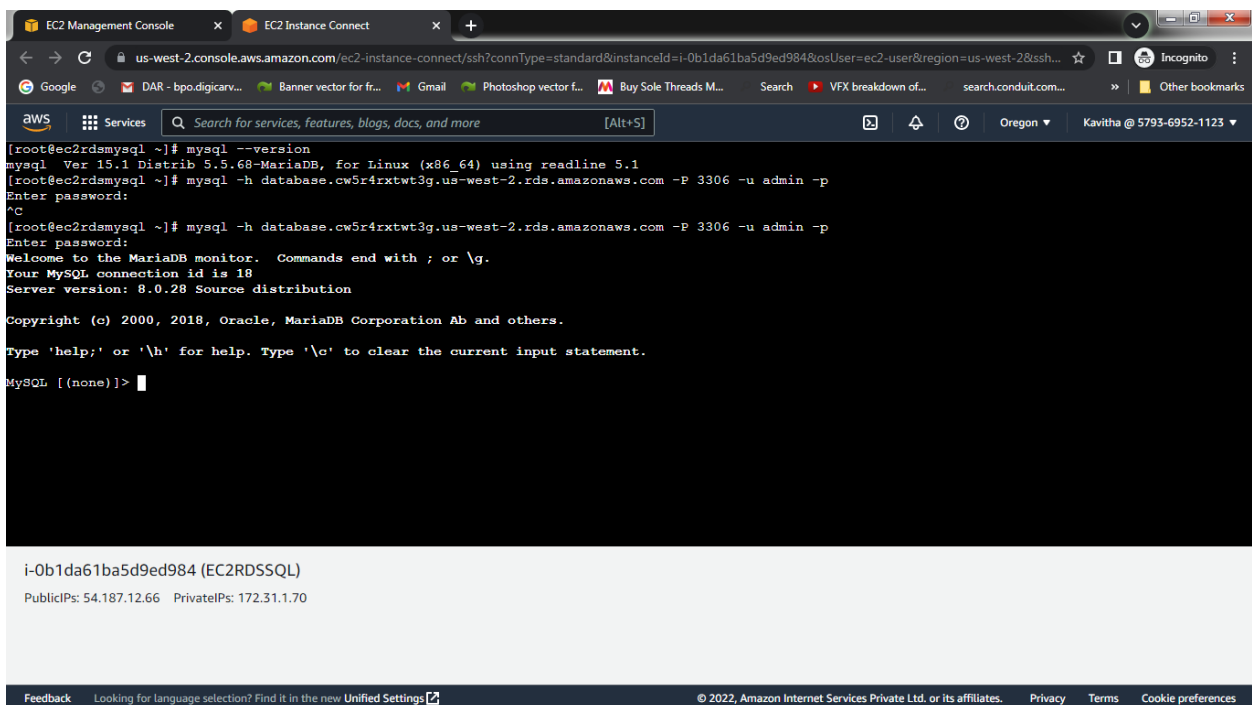
Establish the communication between ec2-rds using mysql -h database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com -P 3306 -u admin -p



The screenshot shows the AWS RDS Management Console with an EC2 Instance Connect session open. The terminal window displays the following commands and output:

```
[root@ec2rdsmysql ~]# mysql --version
mysql Ver 15.1 Distrib 5.5.68-MariaDB, for Linux (x86_64) using readline 5.1
[root@ec2rdsmysql ~]# mysql -h database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
```

Below the terminal window, the instance details for `i-0b1da61ba5d9ed984 (EC2RDSSQL)` are shown, including Public IPs: 54.187.12.66 and Private IPs: 172.31.1.70.



The screenshot shows the AWS RDS Management Console with an EC2 Instance Connect session open. The terminal window displays the following commands and output:

```
[root@ec2rdsmysql ~]# mysql --version
mysql Ver 15.1 Distrib 5.5.68-MariaDB, for Linux (x86_64) using readline 5.1
[root@ec2rdsmysql ~]# mysql -h database.cw5r4rxtwt3g.us-west-2.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 18
Server version: 8.0.28 Source distribution

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

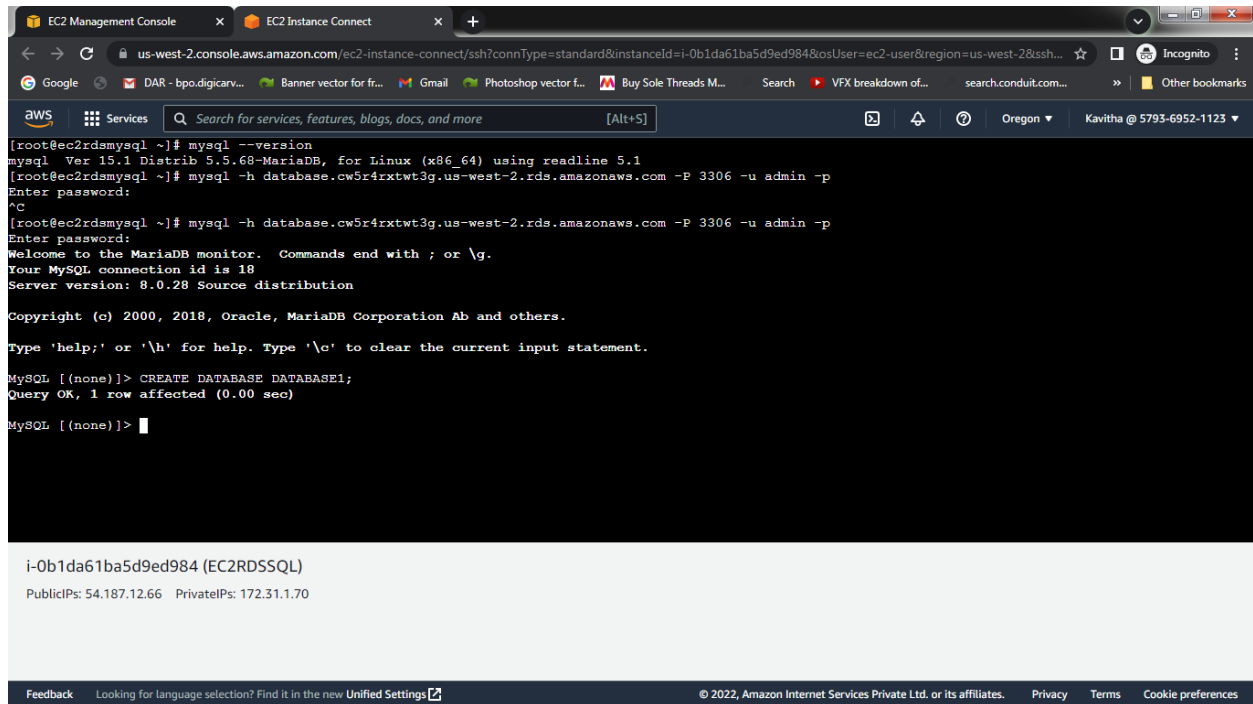
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]>
```

Below the terminal window, the instance details for `i-0b1da61ba5d9ed984 (EC2RDSSQL)` are shown, including Public IPs: 54.187.12.66 and Private IPs: 172.31.1.70.

DATABASE CREATION

CREATE DATABASE DATABASE1;



The screenshot shows a terminal window connected to an EC2 instance via AWS Instance Connect. The terminal displays the MySQL command-line interface. The user runs the command `mysql --version`, which shows MySQL 15.1 Distrib 5.5.68-MariaDB. Then, the user runs `mysql -h database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com -P 3306 -u admin -p` and enters the password. The MySQL prompt appears, and the user runs `CREATE DATABASE DATABASE1;`. The output shows "Query OK, 1 row affected (0.00 sec)".

```
[root@ec2rdsmysql ~]# mysql --version
mysql Ver 15.1 Distrib 5.5.68-MariaDB, for Linux (x86_64) using readline 5.1
[root@ec2rdsmysql ~]# mysql -h database.cw5r4rxtwt3g.us-west-2.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
^C
[root@ec2rdsmysql ~]# mysql -h database.cw5r4rxtwt3g.us-west-2.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 18
Server version: 8.0.28 Source distribution

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

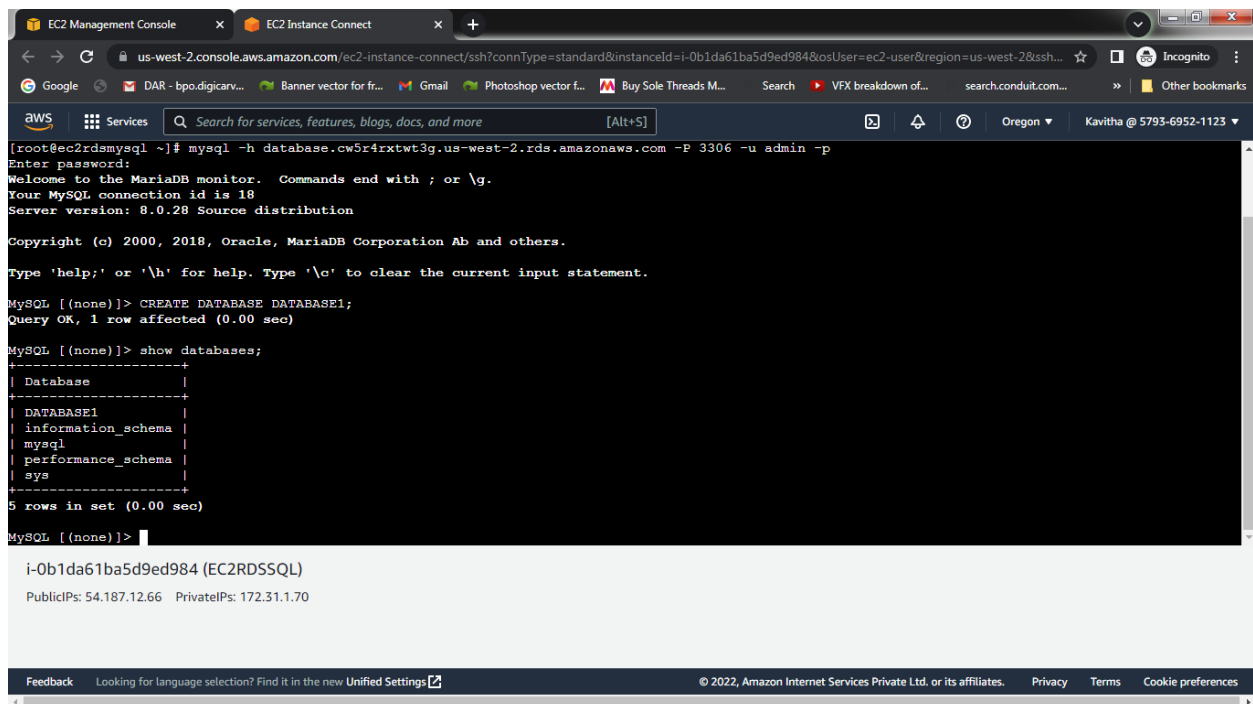
Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MySQL [(none)]> CREATE DATABASE DATABASE1;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]>
```

i-0b1da61ba5d9ed984 (EC2RDSMySQL)
PublicIPs: 54.187.12.66 PrivateIPs: 172.31.1.70

show databases;



The screenshot shows the same terminal window as before. The user runs the command `show databases;`. The output lists the databases: DATABASE1, information_schema, mysql, performance_schema, and sys.

```
[root@ec2rdsmysql ~]# mysql -h database.cw5r4rxtwt3g.us-west-2.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 18
Server version: 8.0.28 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.

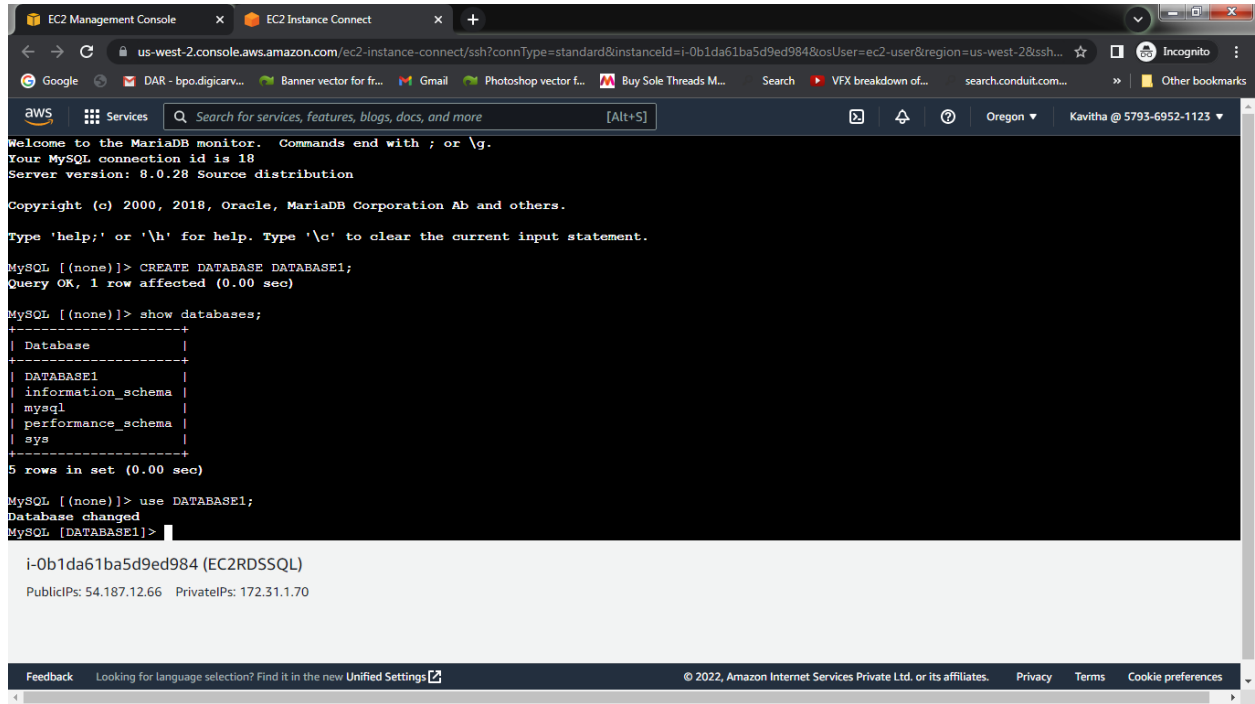
MySQL [(none)]> CREATE DATABASE DATABASE1;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| DATABASE1 |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]>
```

i-0b1da61ba5d9ed984 (EC2RDSMySQL)
PublicIPs: 54.187.12.66 PrivateIPs: 172.31.1.70

**CHANGE DATABASE USE databasename;
use DATABASE1;**



The screenshot shows a web browser window with two tabs: "EC2 Management Console" and "EC2 Instance Connect". The active tab is "EC2 Instance Connect", displaying a terminal session for an EC2 instance. The terminal output is as follows:

```
Welcome to the MariaDB monitor. Commands end with ; or \g.
Your MySQL connection id is 18
Server version: 8.0.28 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)]> CREATE DATABASE DATABASE1;
Query OK, 1 row affected (0.00 sec)

MySQL [(none)]> show databases;
+-----+
| Database |
+-----+
| DATABASE1 |
| information_schema |
| mysql |
| performance_schema |
| sys |
+-----+
5 rows in set (0.00 sec)

MySQL [(none)]> use DATABASE1;
Database changed
MySQL [DATABASE1]>
```

Below the terminal output, the instance details are shown:

i-0b1da61ba5d9ed984 (EC2RD5SQL)
PublicIPs: 54.187.12.66 PrivateIPs: 172.31.1.70

The footer of the browser window contains a "Feedback" link, a language selection prompt, and copyright information for Amazon Internet Services Private Ltd. or its affiliates, along with links for "Privacy", "Terms", and "Cookie preferences".