

1) Create MariaDB DB on ec2.

Created aslamdb

```
terminal Sessions View X server Tools Games Settings Macros Help
Session Servers Tools Games Sessions View Split MultiExec Tunneling Packages Settings Help
Quick connect... 1 root@ip-172-31-12-214 ~
-> clear
-> Ctrl-C -- exit!
Aborted
[root@ip-172-31-12-214 ~]# mysql -u root --password=aslam@123
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 7
Server version: 5.5.68-MariaDB MariaDB Server

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

MariaDB [(none)]> CREATE DATABASE aslamdb
-> CREATE USER aslam IDENTIFIED BY aslam@123
-> GRANT ALL PRIVILEGES ON aslamdb.* TO aslam;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'CRE
ATE USER aslam IDENTIFIED BY aslam@123
GRANT ALL PRIVILEGES ON aslamdb.* TO a' at line 2
MariaDB [(none)]> CREATE DATABASE aslamdb;
Query OK, 1 row affected (0.00 sec)

MariaDB [(none)]> CREATE USER aslam IDENTIFIED BY aslam@123;
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that
corresponds to your MariaDB server version for the right syntax to use near 'asl
am@123' at line 1
MariaDB [(none)]> CREATE USER aslam IDENTIFIED BY 'aslam@123';
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> GRANT ALL PRIVILEGES ON aslamdb.* TO 'aslam';
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> FLUSH PRIVILEGES
Query OK, 0 rows affected (0.00 sec)

-> ;
MariaDB [(none)]> FLUSH PRIVILEGES;
Query OK, 0 rows affected (0.00 sec)

MariaDB [(none)]> use aslamdb
Database changed
MariaDB [aslamdb]>
```

2) Insert some dummy data

```
at line 1
MariaDB [aslamdb]> INSERT INTO table1 VALUES (1, 'Mohammed Aslam'), (2, 'Mohamme
d Imran'), (3, 'Gopichand Mirayala'), (4, 'MS Dhoni'), (5, 'techie');
Query OK, 5 rows affected (0.01 sec)
Records: 5 Duplicates: 0 Warnings: 0

MariaDB [aslamdb]>
```

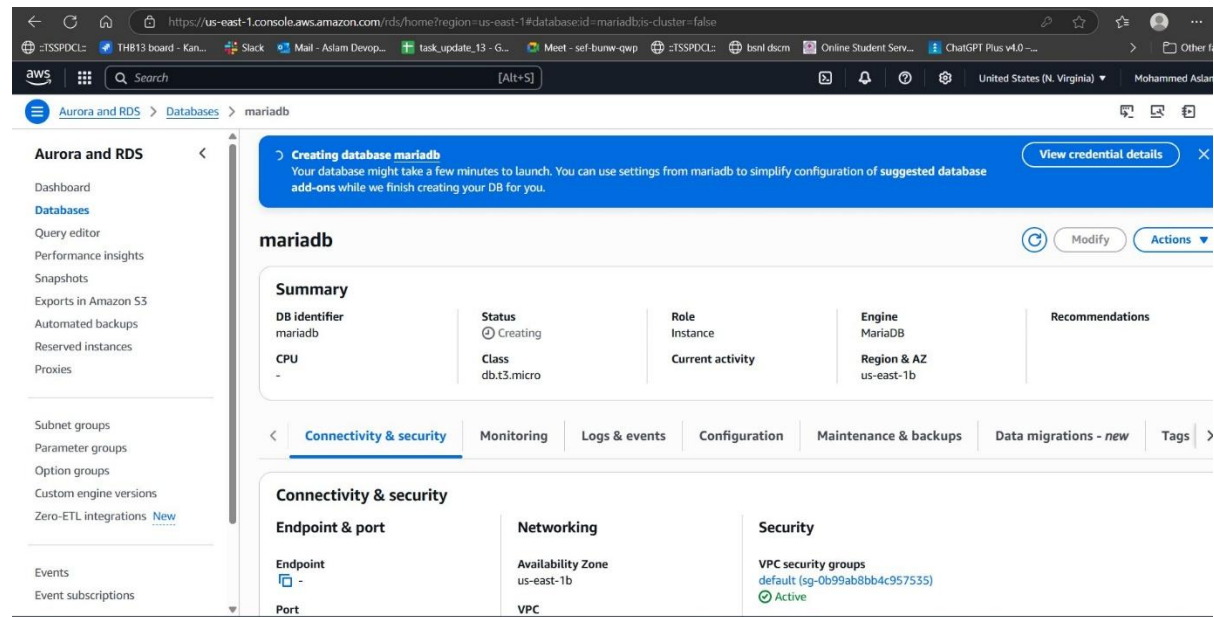
```
at line 1
MariaDB [aslamdb]> SELECT * FROM table1
-> ;
+-----+-----+
| id | name |
+-----+-----+
| 1 | Mohammed Aslam |
| 2 | Mohammed Imran |
| 3 | Gopichand Mirayala |
| 4 | MS Dhoni |
| 5 | techie |
+-----+-----+
5 rows in set (0.00 sec)

MariaDB [aslamdb]>
```

3) Take the backup of dummy data on ec2

```
[root@ip-172-31-12-214 ~]# mysqldump -u root -p aslamdb > aslamdb.sql
Enter password:
[root@ip-172-31-12-214 ~]# ls
aslamdb.sql
```

4) launch MariaDB RDS instance.



5) Migrate database from ec2 to RDS.

```
mysql -h mariadb.colk064wuf6z.us-east-1.rds.amazonaws.com -P 3306 -u
admin -p testrds < aslamdb.sql
```

```
MariaDB [(none)]> create database testrds
-> ;
Query OK, 1 row affected (0.01 sec)

MariaDB [(none)]> show databases
-> ;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| sys |
| testrds |
+-----+
6 rows in set (0.01 sec)

MariaDB [(none)]> exit
Bye
[root@ip-10-0-0-14 ~]# mysql -h mariadb.colk064wuf6z.us-east-1.rds.amazonaws.com -P 3306 -u admin -p testrds < aslamdb.sql
Enter password:
[root@ip-10-0-0-14 ~]#
```

```
[root@ip-10-0-0-14 ~]# mysql -h mariadb.colk064wuf6z.us-east-1.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 160
Server version: 11.4.5-MariaDB-log managed by https://aws.amazon.com/rds/

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

MariaDB [(none)]> use testrds
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
MariaDB [testrds]> select * from table1
-> ;
+-----+-----+
| id | name |
+-----+-----+
| 1 | Mohammed Aslam |
| 2 | Mohammed Imran |
| 3 | Gopichand Mirayala |
| 4 | MS Dhoni |
| 5 | techie |
+-----+-----+
5 rows in set (0.00 sec)

MariaDB [testrds]> █
```

6) Install MySQL DB on ec2

```
1. root@ip-10-0-0-9:~
[root@ip-10-0-0-9 ~]# systemctl status mysqld
● mysqld.service - MySQL Server
   Loaded: loaded (/usr/lib/systemd/system/mysqld.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2025-06-23 15:02:03 UTC; 23s ago
     Docs: man:mysqld(8)
           http://dev.mysql.com/doc/refman/en/using-systemd.html
   Main PID: 3709 (mysqld)
    Status: "Server is operational"
   CGroup: /system.slice/mysqld.service
           └─3709 /usr/sbin/mysqld

Jun 23 15:01:56 ip-10-0-0-9.ec2.internal systemd[1]: Starting MySQL Server...
Jun 23 15:02:03 ip-10-0-0-9.ec2.internal systemd[1]: Started MySQL Server.
[root@ip-10-0-0-9 ~]# █
```

7) Launch MySQL RDS image

The screenshot shows the AWS Management Console interface for a MySQL RDS instance named 'mysql-aslam'. The left sidebar contains navigation links for 'Aurora and RDS', '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 the instance details under the 'mysql-aslam' header. The 'Summary' section shows the DB identifier 'mysql-aslam', Status 'Available', Role 'Instance', Engine 'MySQL Community', and Region & AZ 'us-east-1a'. The 'Connectivity & security' section is expanded, showing the Endpoint 'mysql-aslam.colk064wuf6z.us-east-1.rds.amazonaws.com', Port '3306', Availability Zone 'us-east-1a', VPC 'aslam-vpc (vpc-07353e2a1f3da1733)', and Subnet group 'dbsubnet1'. The 'Security' section shows VPC security groups 'default (sg-0b99ab8bb4c957535)' and 'Publicly accessible' set to 'No'.

Summary

DB identifier	Status	Role	Engine	Recommendations
mysql-aslam	Available	Instance	MySQL Community	

Connectivity & security

Endpoint & port	Networking	Security
Endpoint: mysql-aslam.colk064wuf6z.us-east-1.rds.amazonaws.com Port: 3306	Availability Zone: us-east-1a VPC: aslam-vpc (vpc-07353e2a1f3da1733) Subnet group: dbsubnet1	VPC security groups: default (sg-0b99ab8bb4c957535) Active Publicly accessible: No Certificate authority: info

8) Configure multi AZ

The screenshot shows the AWS Management Console interface for the 'Databases' section. A green banner at the top indicates 'Successfully converted DB instance mariadb to a Multi-AZ DB instance deployment.' The 'Databases (1)' section shows a table of database instances. The table has columns for 'Database', 'Recommendations', 'CPU', 'Current activity', 'Maintenance', 'VPC', and 'Multi-AZ'. The instance 't3.micro' is shown with a CPU usage of 3.23%, 0 connections, and is configured for Multi-AZ.

Databases (1)

Database	Recommendations	CPU	Current activity	Maintenance	VPC	Multi-AZ
t3.micro		3.23%	0 Connections	none	vpc-0735...	Yes

9) Take Backup of db and restore the DB

The screenshot shows the AWS Aurora and RDS console with the 'Aurora and RDS' menu on the left. The main panel displays the details for a backup named 'mariadbbbackup'. The details are organized into three columns:

- Details:**
 - ARN:** `arn:aws:rds:us-east-1:787587782337:snapshot:mariadbbbackup`
 - Instance/Cluster Name:** mariadb
 - Master username:** admin
 - DB snapshot name:** mariadbbbackup
 - Snapshot type:** manual
 - DB engine:** mariadb
 - DB engine version:** 11.4.5
 - License model:**
- Option group:** default.mariadb-11-4
- Zone:** us-east-1a
- KMS key ID:** `arn:aws:kms:us-east-1:787587782337:key/ff4d2bca-f28f-4bb4-b6a6-5bb9d5e41528`
- Source region:** N/A
- Snapshot Creation Time:** June 23, 2025, 20:36 (UTC+05:30)
- Original Snapshot Creation Time:** June 23, 2025, 20:36 (UTC+05:30)
- Instance/Cluster Creation:** June 23, 2025, 20:31 (UTC+05:30)

On the right side, there are additional details:

- VPC:** `vpc-07355e2a1f3da1733`
- Status:** Available
- Storage type:** General Purpose SSD (gp2)
- DB storage:** 20 GiB
- IOPS:** -
- Storage throughput:** 0
- Port:** 3306
- Time zone:**

The screenshot shows the AWS Aurora and RDS console with the 'Aurora and RDS' menu on the left. The main panel displays a list of databases under the heading 'Databases (1)'. The list is filtered by 'databases' and shows one database named 'restoredmariadb'.

DB identifier	Status	Role	Engine	Region ...	Size
restoredmariadb	Creating	Instance	MariaDB	us-east-1a	db.t3.micro

10) Create Read Replica

The screenshot displays the AWS Management Console interface for the 'Aurora and RDS' section, specifically the 'Databases' page. A green notification banner at the top states: 'Successfully created replica aslamdbinstance in US East (N. Virginia)'. Below this, the 'mariadb' instance page is shown. The 'Related' section contains a table listing database instances:

DB identifier	Status	Role	Engine	Region ...	Size	Recom...	CPU
mariadb	Available	Primary	MariaDB	us-east-1b	db.t3.micro	2 Informational	3.1
aslamdbinstance	Available	Replica	MariaDB	us-east-1a	db.t3.micro	-	-

Below the table, the 'Connectivity & security' tab is selected, showing options for 'Endpoint & port', 'Networking', and 'Security'.