**RDS**

1. **Create mariadb db on ec2.**

Step-1

Launch a ec2 instance

Connect to your EC2

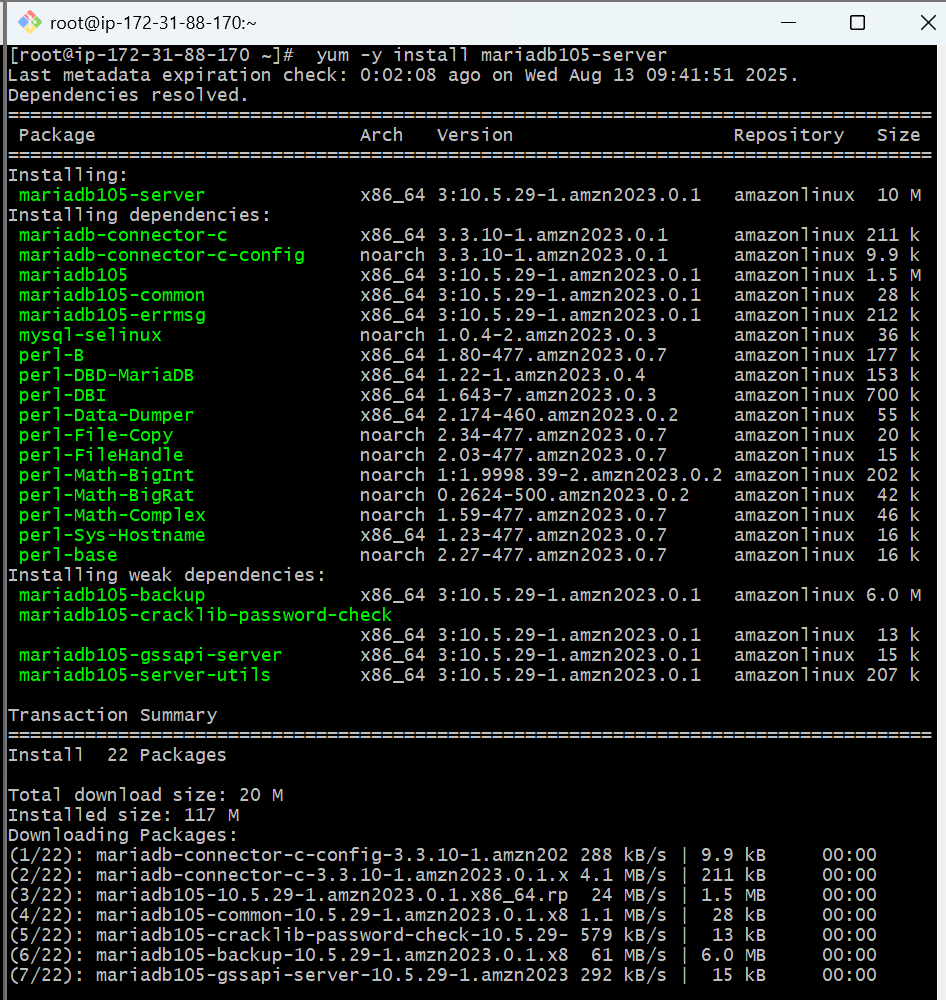
ssh -i <your-key>.pem ec2-user@<EC2\_PUBLIC\_IP>

switch to root user > sudo su –

Step -2

Install MariaDB 10.5 server

yum -y install mariadb105-server

****

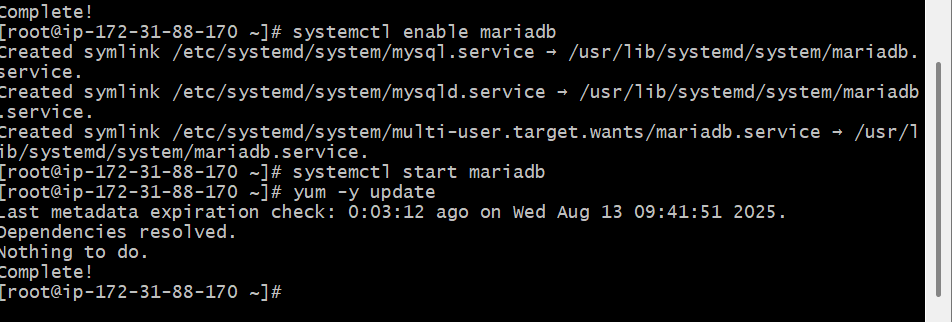
Step -3

**Enable and start MariaDB**

systemctl enable mariadb

systemctl start mariadb

yum -y update

****

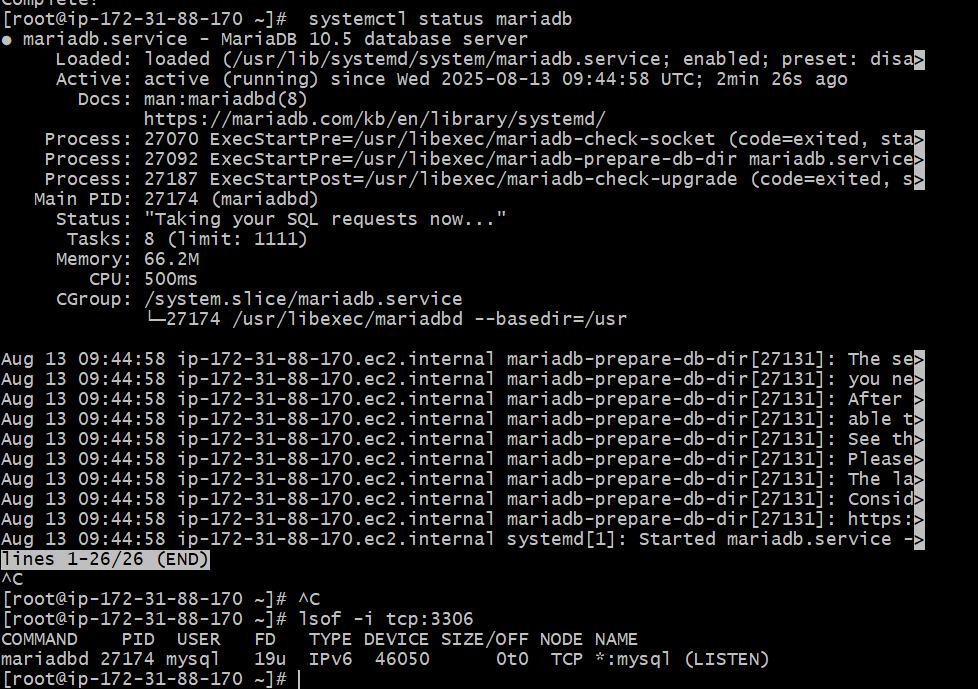
Step -4

**Check service status**

systemctl status mariadb

**Confirm port 3306 is listening**

lsof -i tcp:3306

****

Step -5:-

**Set Environmental Variables**

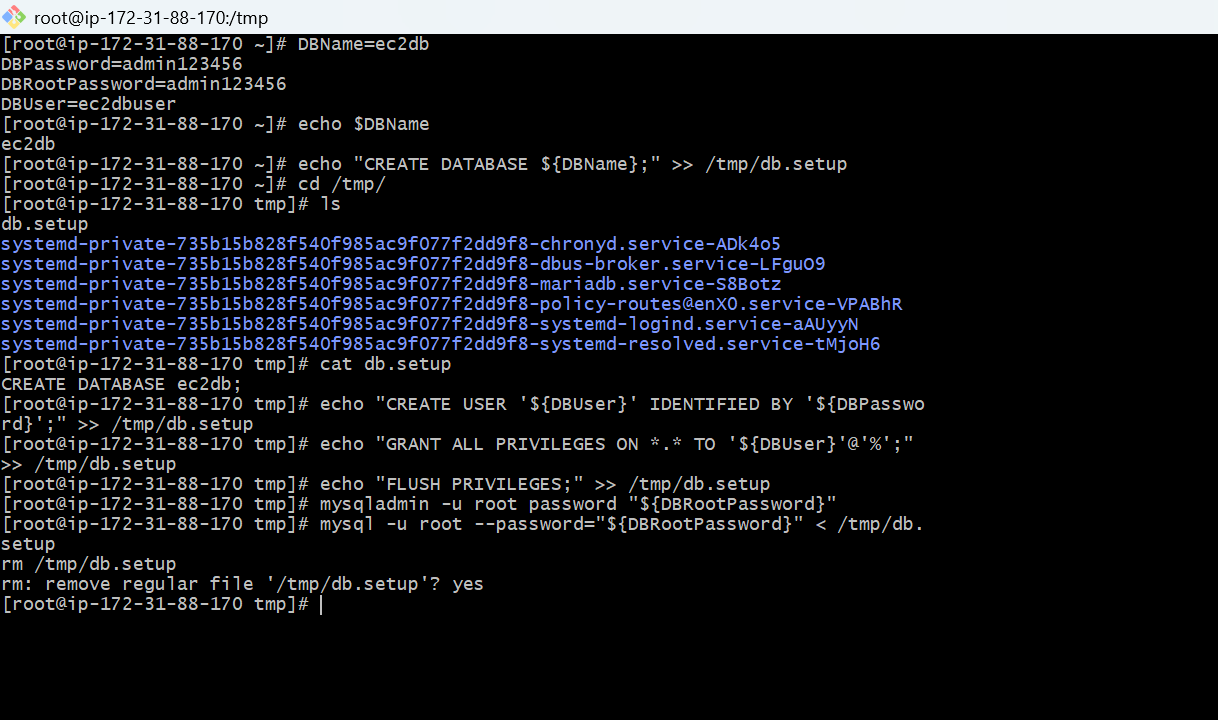
**===========================**

**DBName=ec2db**

**DBPassword=admin123456**

**DBRootPassword=admin123456**

**DBUser=ec2dbuser**

****

Step -6:

**Database Setup on EC2 Instance:**

**===============================**

**echo "CREATE DATABASE ${DBName};" >> /tmp/db.setup**

**echo "CREATE USER '${DBUser}' IDENTIFIED BY '${DBPassword}';" >> /tmp/db.setup**

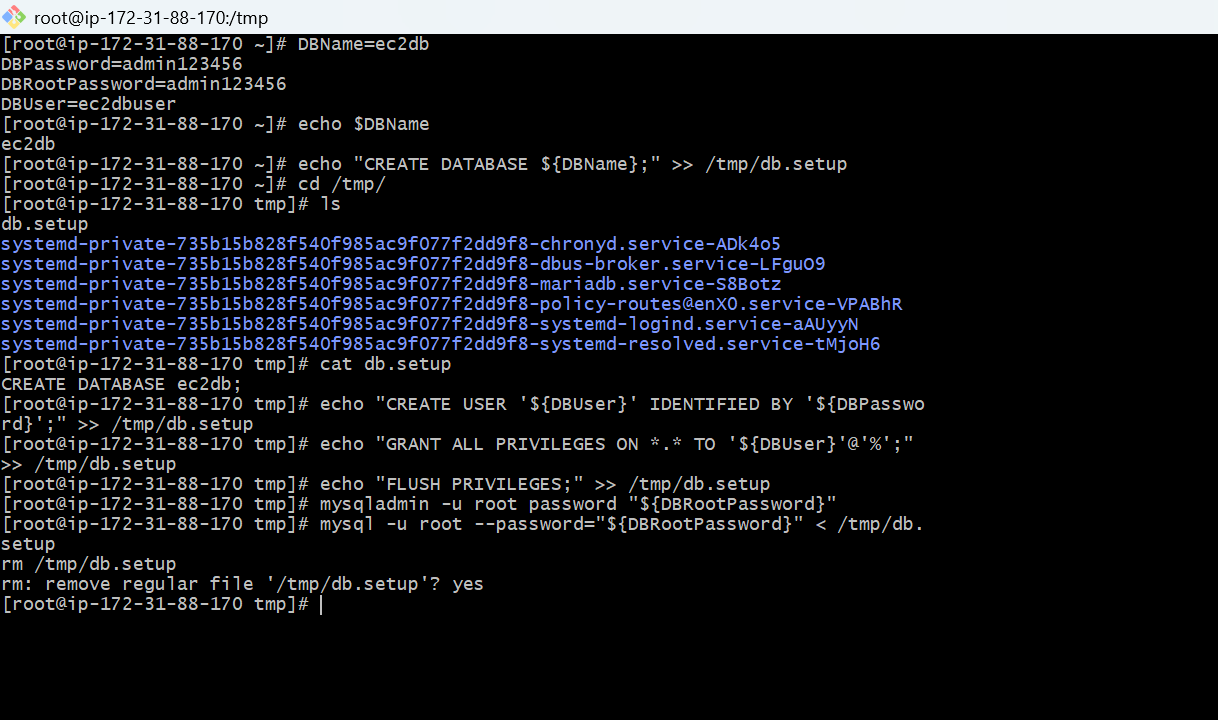
**echo "GRANT ALL PRIVILEGES ON \*.\* TO '${DBUser}'@'%';" >> /tmp/db.setup**

**echo "FLUSH PRIVILEGES;" >> /tmp/db.setup**

**mysqladmin -u root password "${DBRootPassword}"**

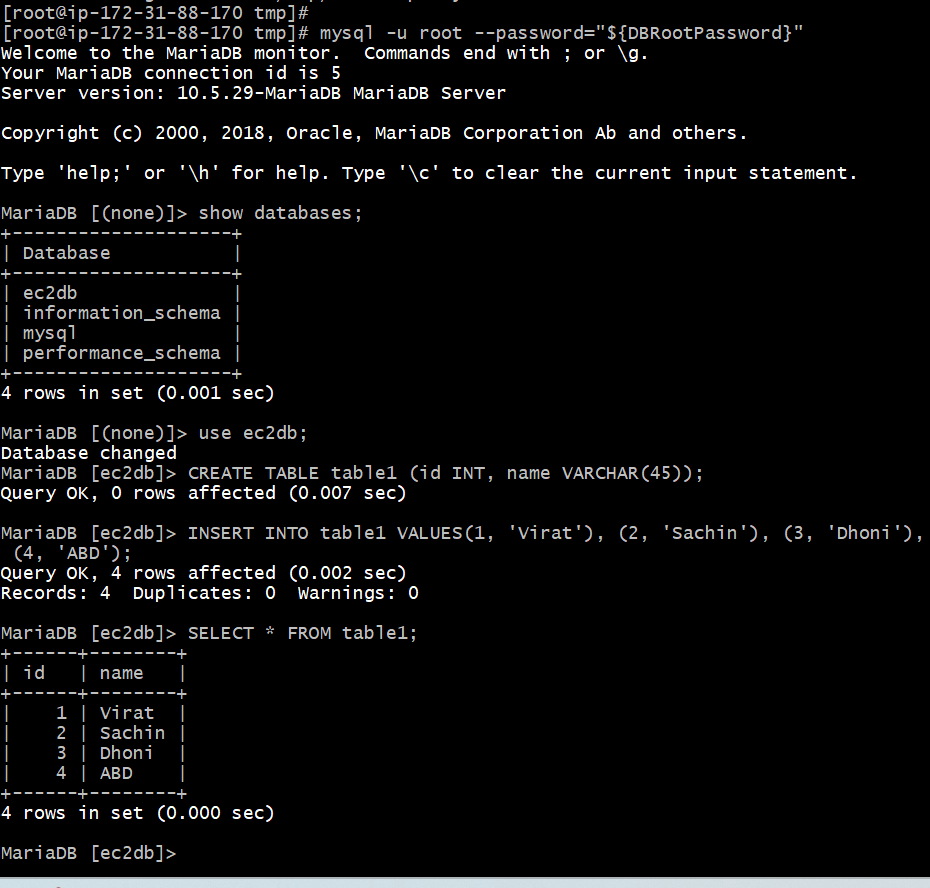
**mysql -u root --password="${DBRootPassword}" < /tmp/db.setup**

**rm /tmp/db.setup**

****

Step -7:

**Show Databases:**

****

1. **Insert some dummy data**

Step-1

**Login to MariaDB as root**

Select the database

Switch to maria db

mysql -u root --password="${DBRootPassword}"

Step-2

USE ec2db;

**Create a sample table**

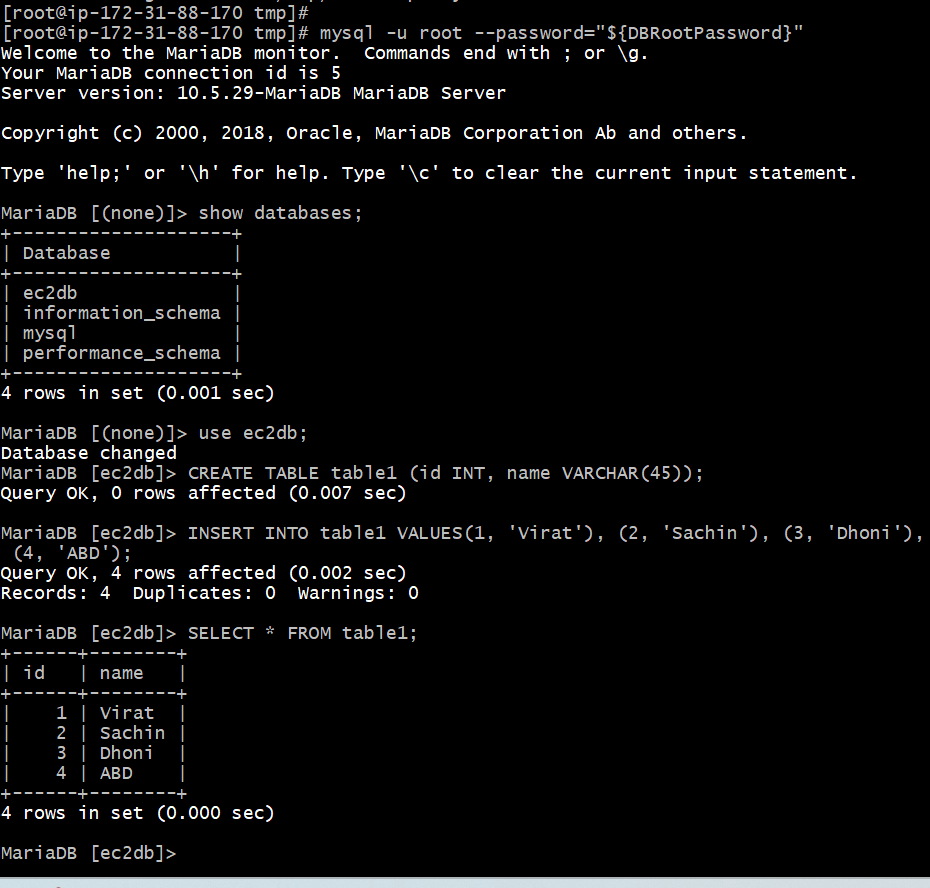
CREATE TABLE table1 (id INT, name VARCHAR(45));

INSERT INTO table1 VALUES(1, 'Virat'), (2, 'Sachin'), (3, 'Dhoni'), (4, 'ABD');

Step-3

Verify inserted records

SELECT \* FROM table1;

****

1. **Take the backup of dummy data on ec2**

Step-1

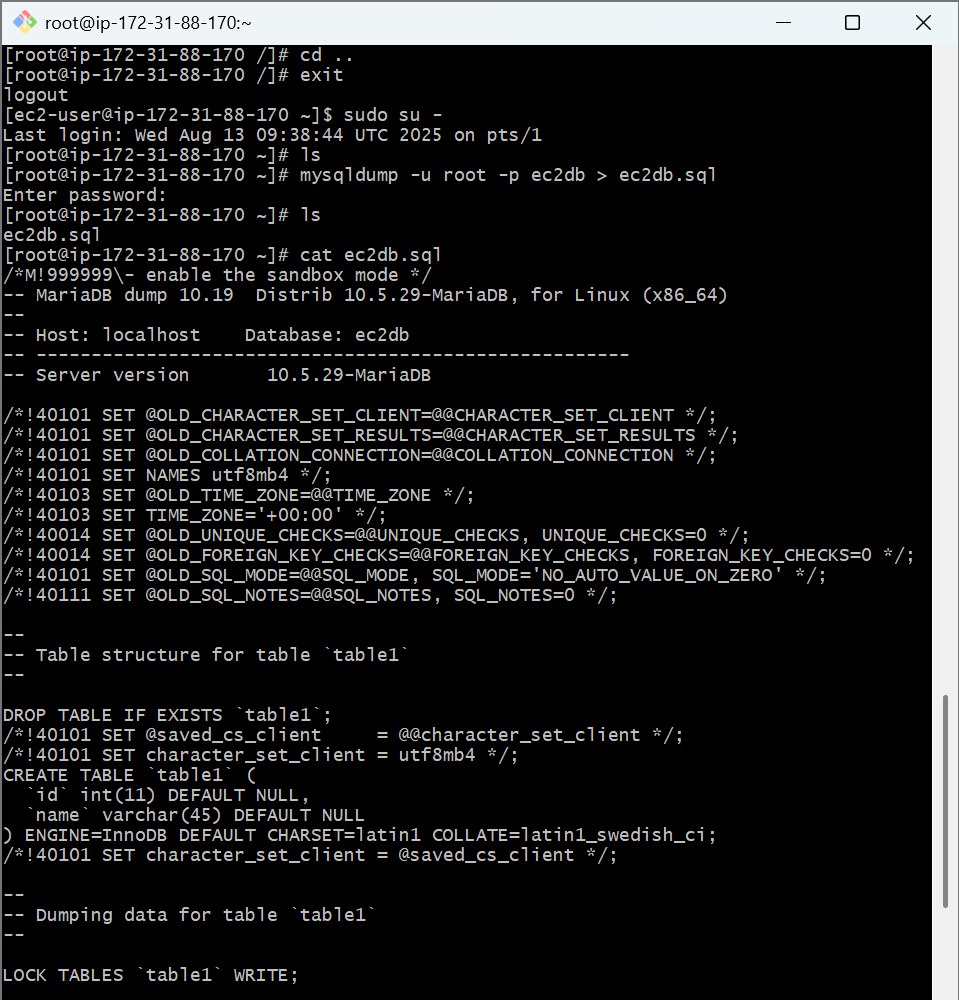
Run the backup command:

mysqldump -u root -p database\_name > file\_name.sql

mysqldump -u root -p ec2db > ec2db.sql

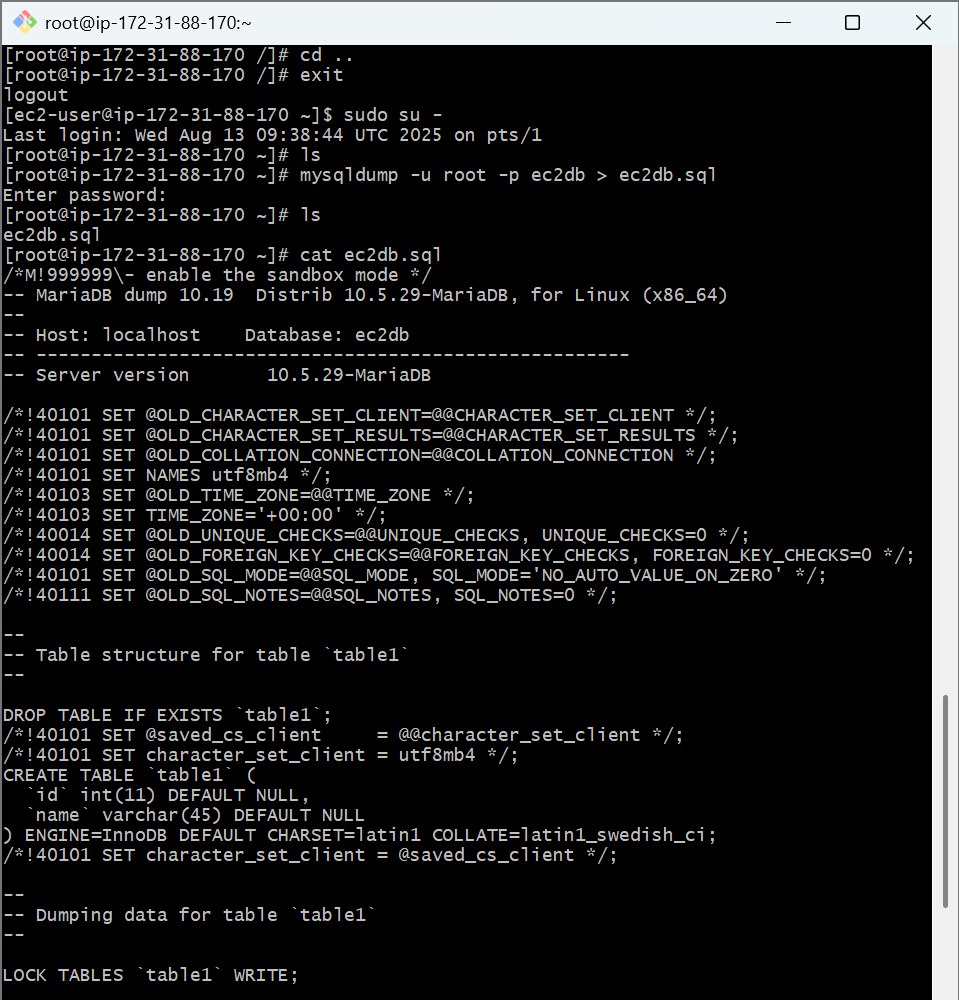
Enter password

Checking file exist or not. :- ls

****

Check the backup file

Cat ec2db.sql

****

1. **launch MariaDB RDS instance.**

Go to **AWS Console → RDS → Databases → Create database**.

Choose:

**Engine type**: MariaDB

**Templates**: Free tier (if eligible)

**Settings**:

DB instance identifier: mariadb-rds

Master username: admin

Master password: (set something strong, e.g. Admin123456!)

**Instance size**:

Choose db.t3.micro (free tier eligible)

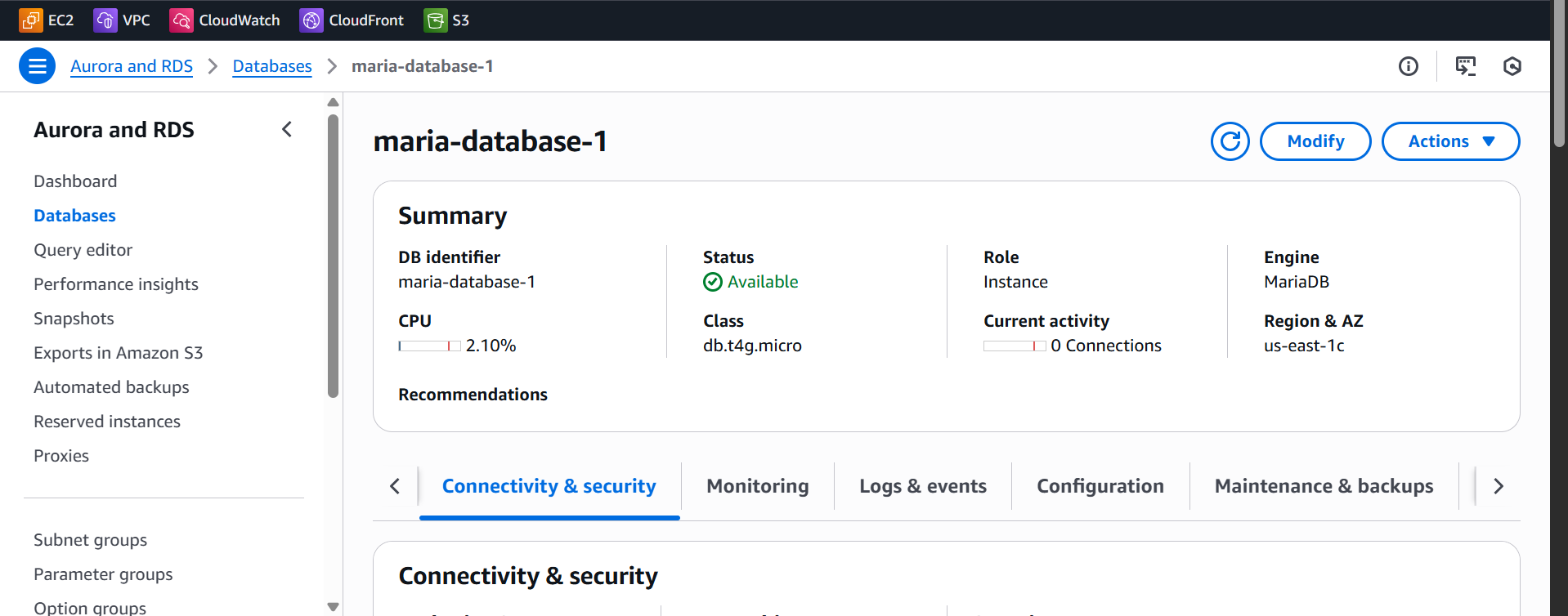
**Connectivity**:

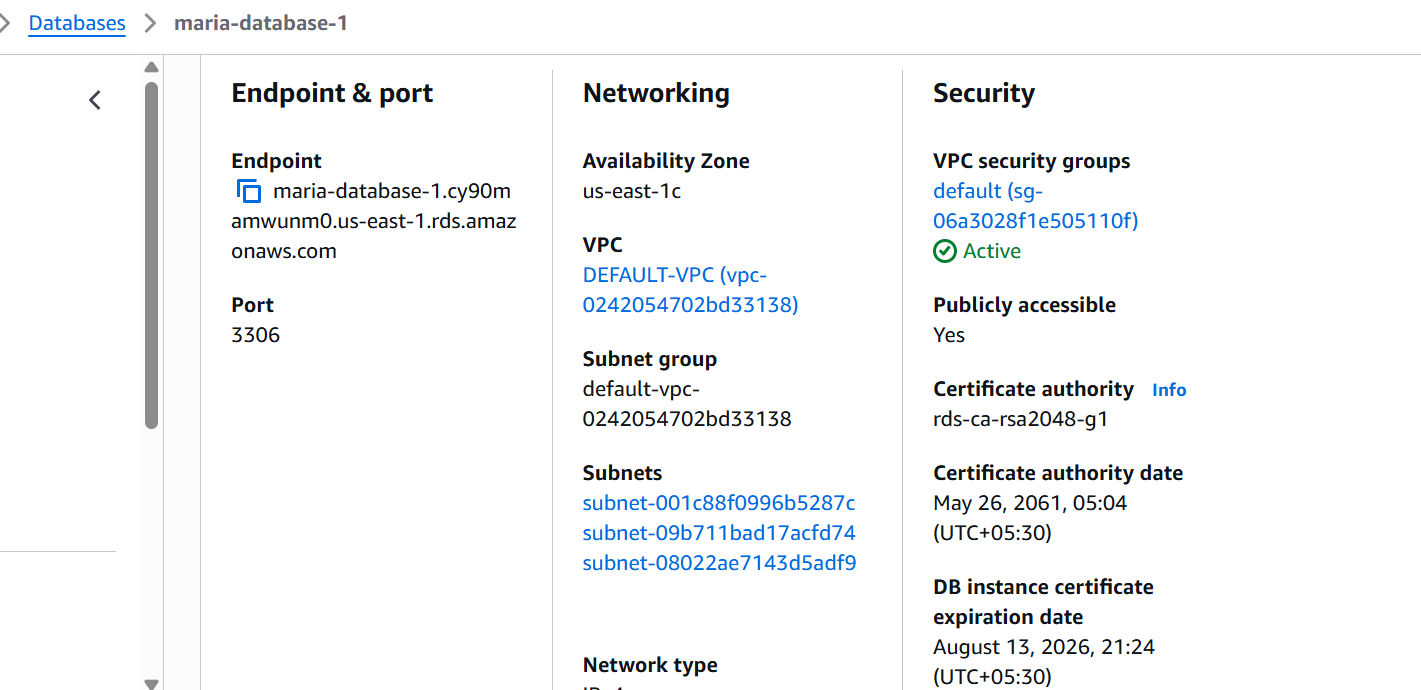
Choose your **VPC** (ideally the same one where your EC2 lives).

Enable **Public Access** = Yes (for testing).

Select a **VPC Security Group** that allows **inbound port 3306** from your EC2 instance’s security group or IP.

Click **Create Database**.

****

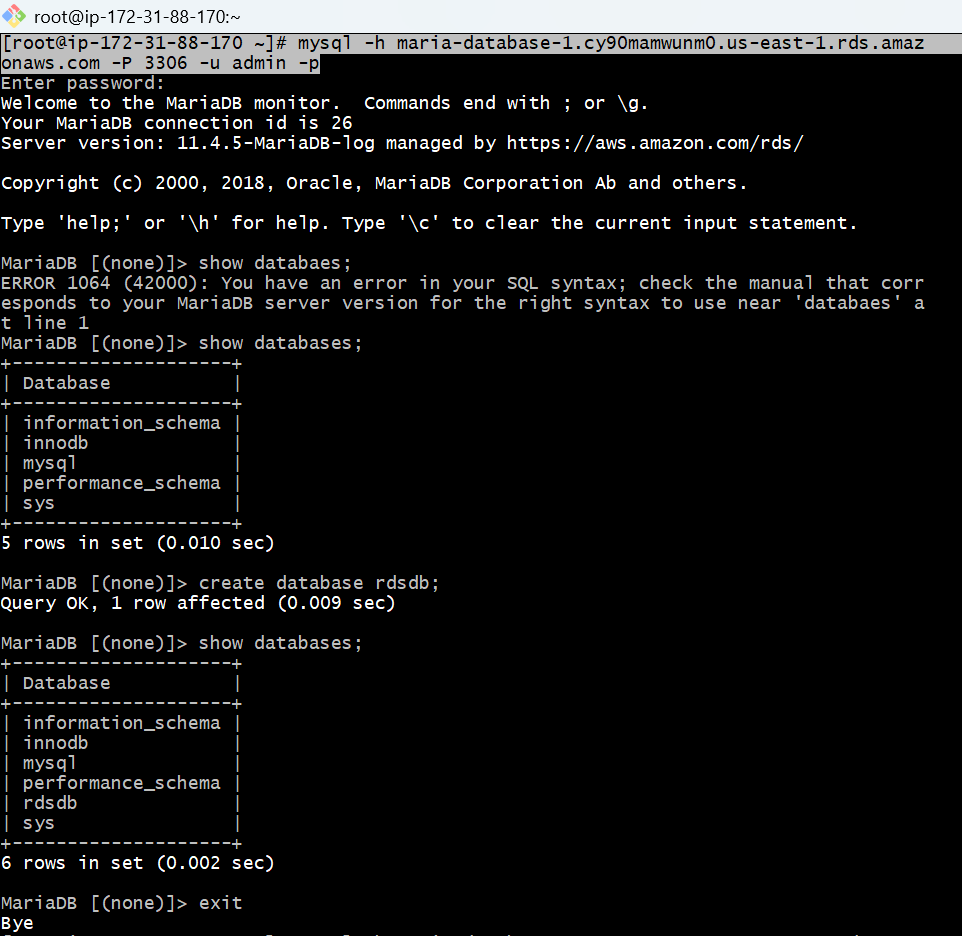
****

1. **Migrate database from ec2 to RDS.**

**Step -1**

Connect to RDS and inspect current databases

mysql -h <replace-rds-end-point-here> -P 3306 -u rdsuser –p

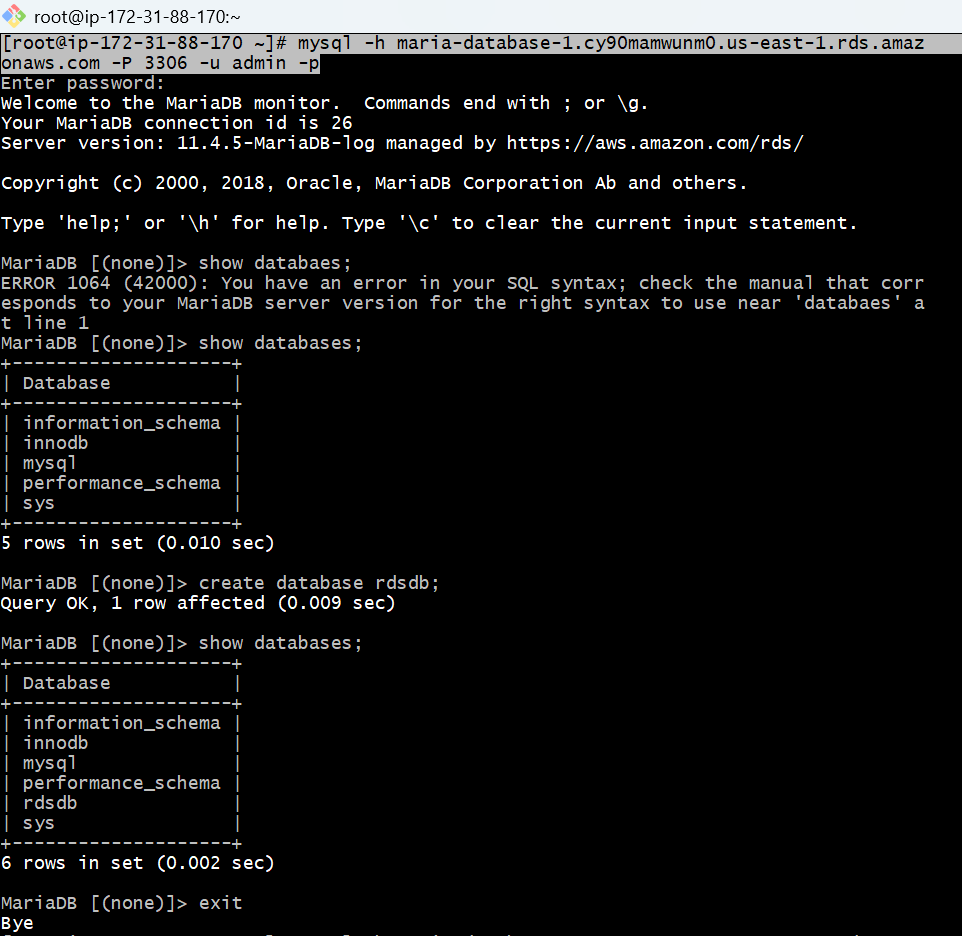
****

**Step -2**

Create the target DB on RDS

CREATE DATABASE rdsdb;

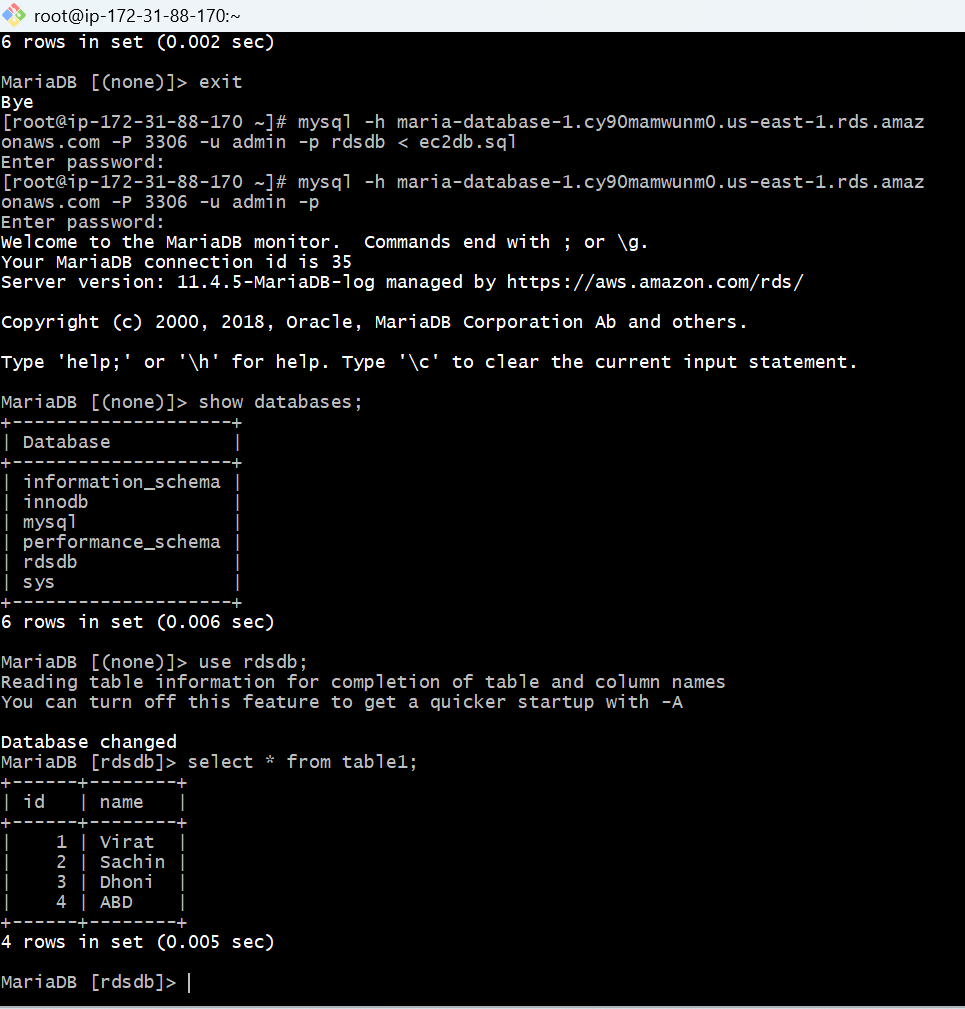
SHOW DATABASES;

****

**Step -3**

Migrate the DB dump that you have taken

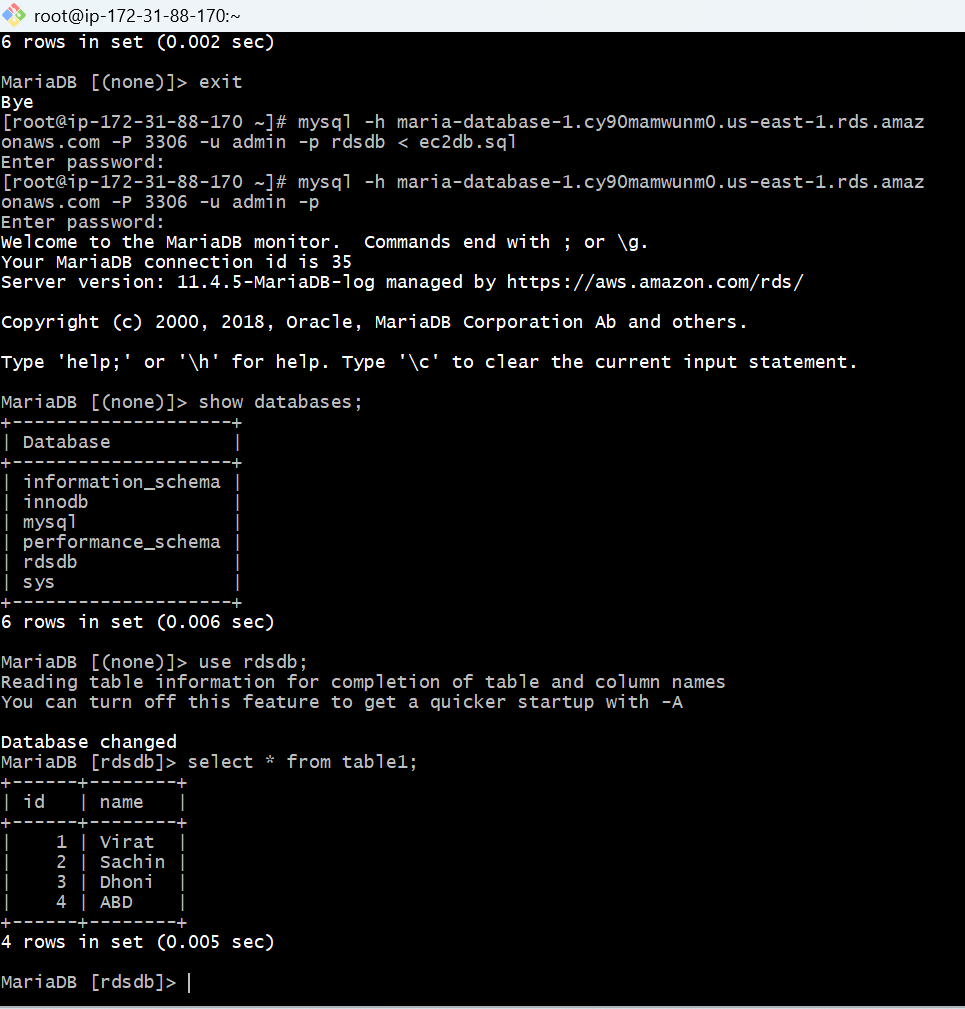
mysql -h <replace-rds-end-point-here> -P 3306 -u <user\_name> -p database\_name < ec2db.sql

****

**Step -4**

Reconnect to RDS and verify data

mysql -h <replace-rds-end-point-here> -P 3306 -u rdsuser -p

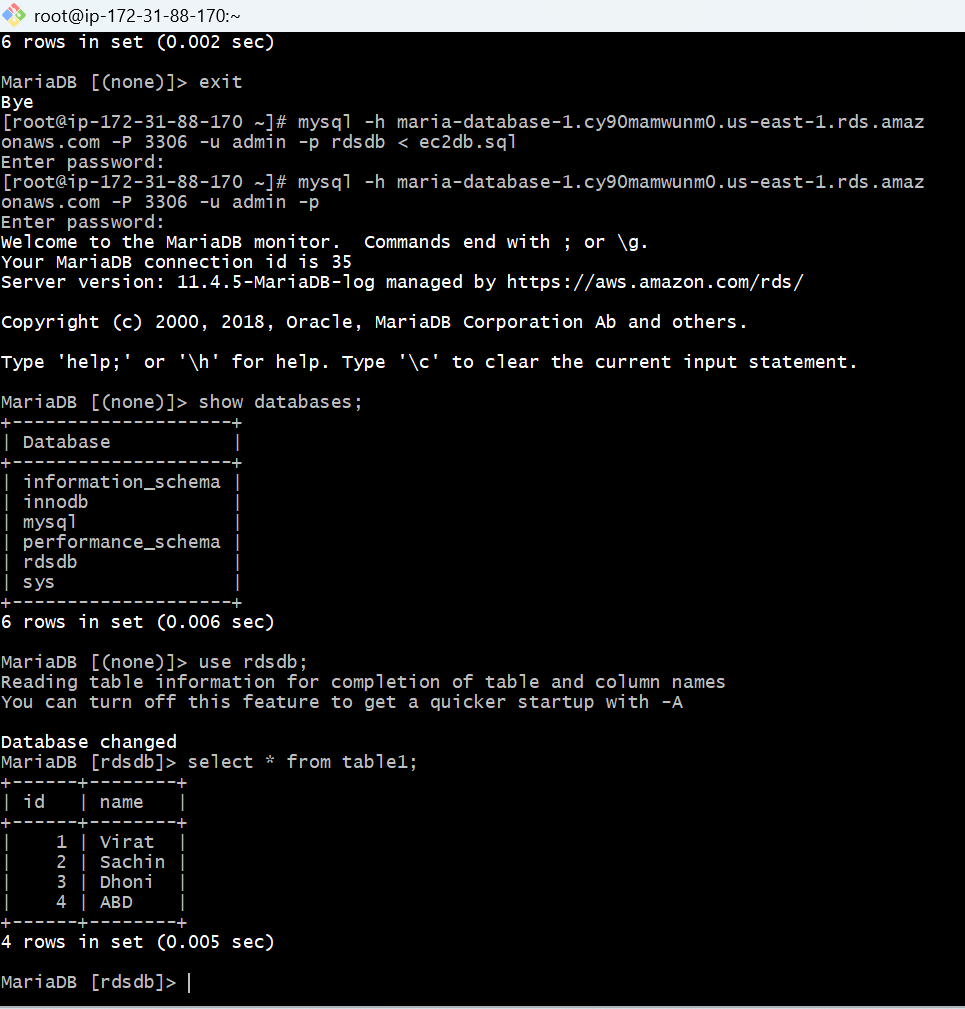
****

**Step -5**

USE rdsdb;

SHOW TABLES;

SELECT \* FROM table1;

****

1. **Install MySQL DB on ec2**

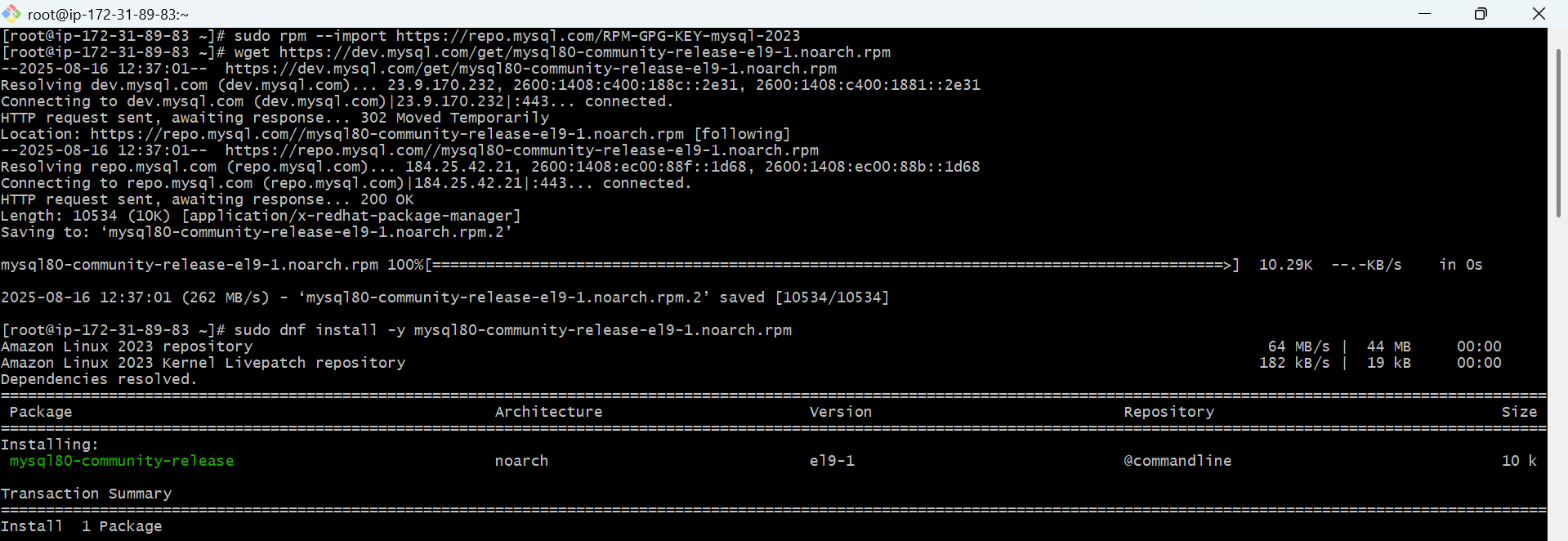
### **Import the correct new MySQL GPG key**

sudo rpm --import <https://repo.mysql.com/RPM-GPG-KEY-mysql-2023>

install the official repo

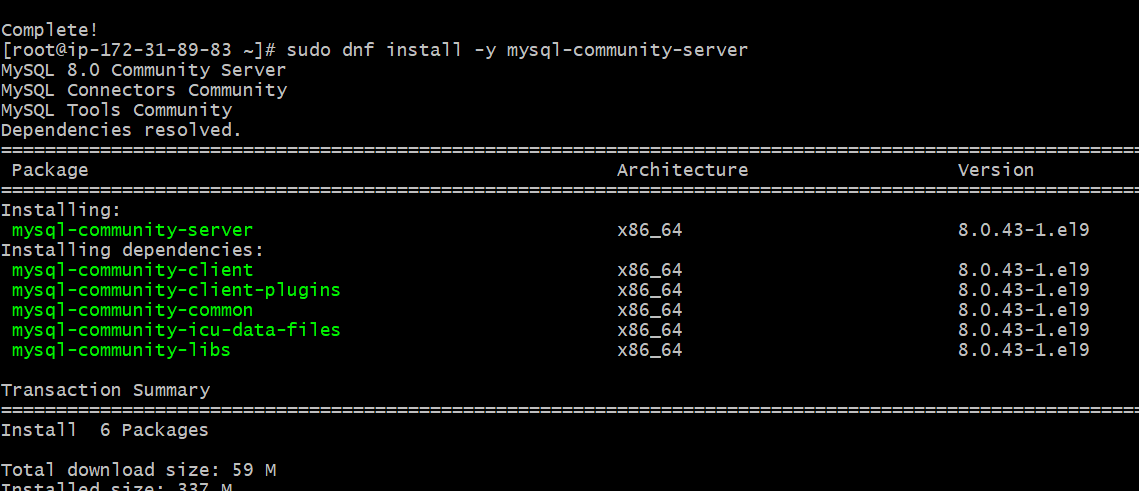
wget https://dev.mysql.com/get/mysql80-community-release-el9-1.noarch.rpm

sudo dnf install -y mysql80-community-release-el9-1.noarch.rpm



Install MySQL server

sudo dnf install -y mysql-community-server



Start & enable MySQL

sudo systemctl enable --now mysqld

systemctl status mysqld

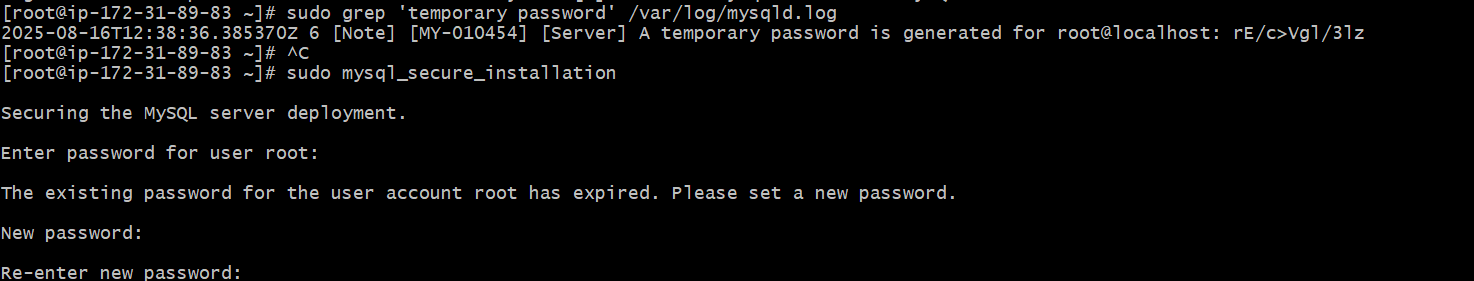


Get root temporary password

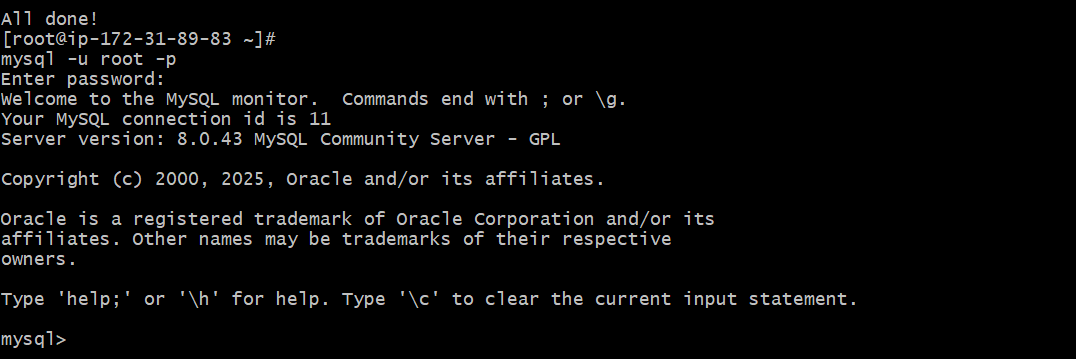
sudo grep 'temporary password' /var/log/mysqld.log

Secure installation

sudo mysql\_secure\_installation



Login to mysql --mysql -u root -p



1. **Launch MySQL RDS image**

### ****1. Open RDS Console****

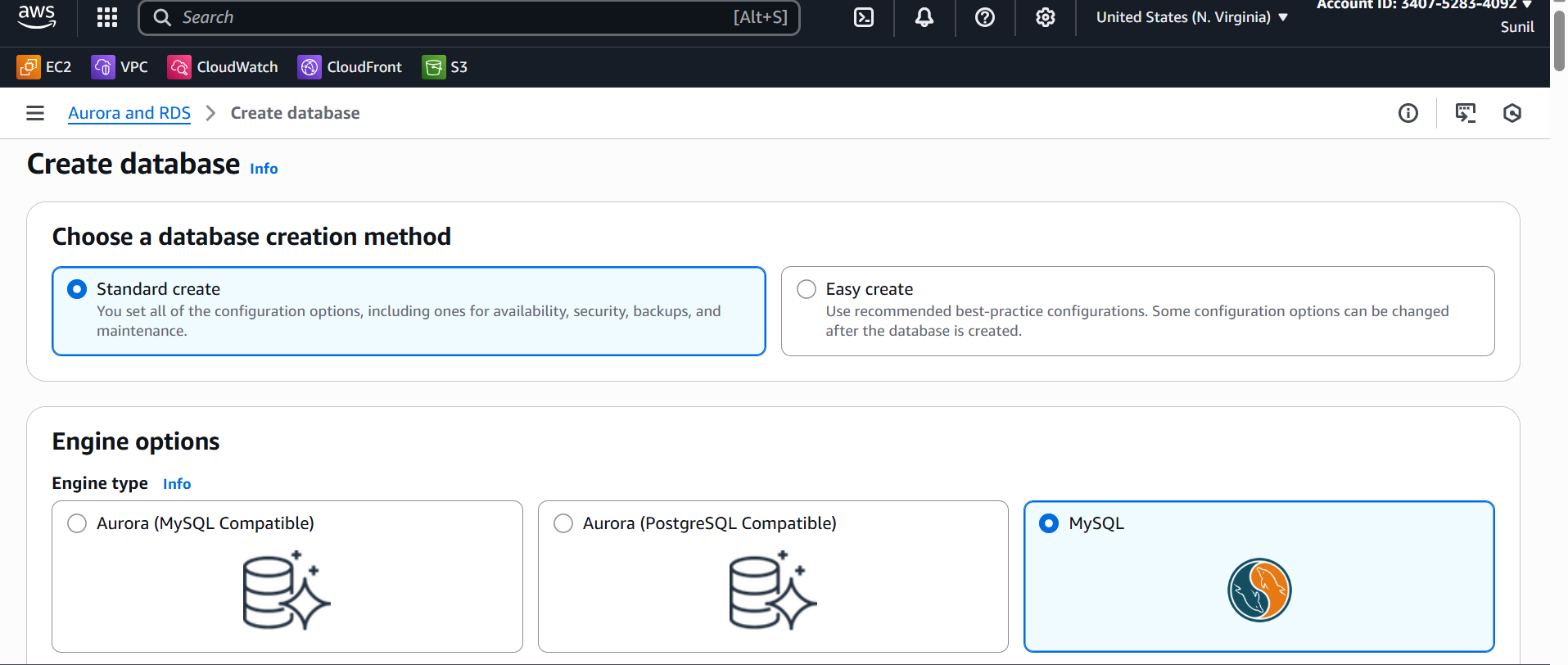
* **Go to AWS Management Console → RDS.**
* **Click Databases → Create database.**

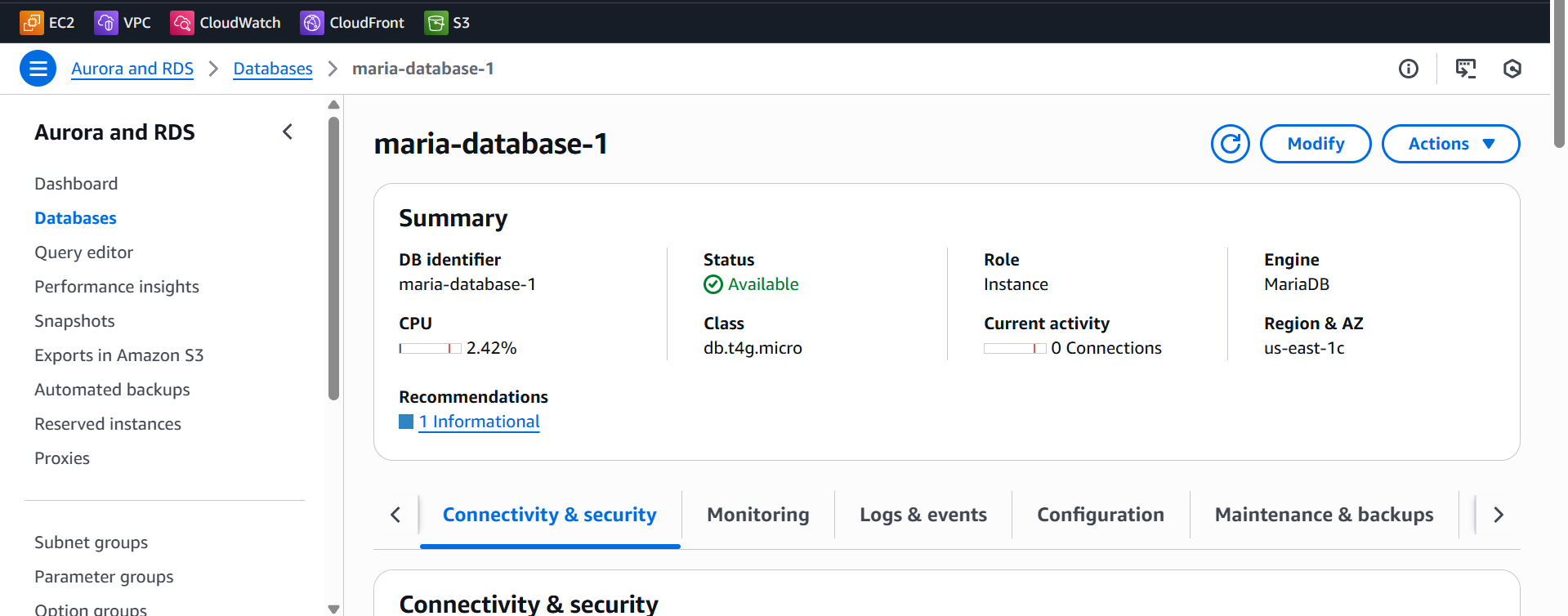
### ****Settings****

* **DB instance identifier: my-mysql-db**
* **Master username: admin (or your choice)**
* **Master password: set a strong password’**

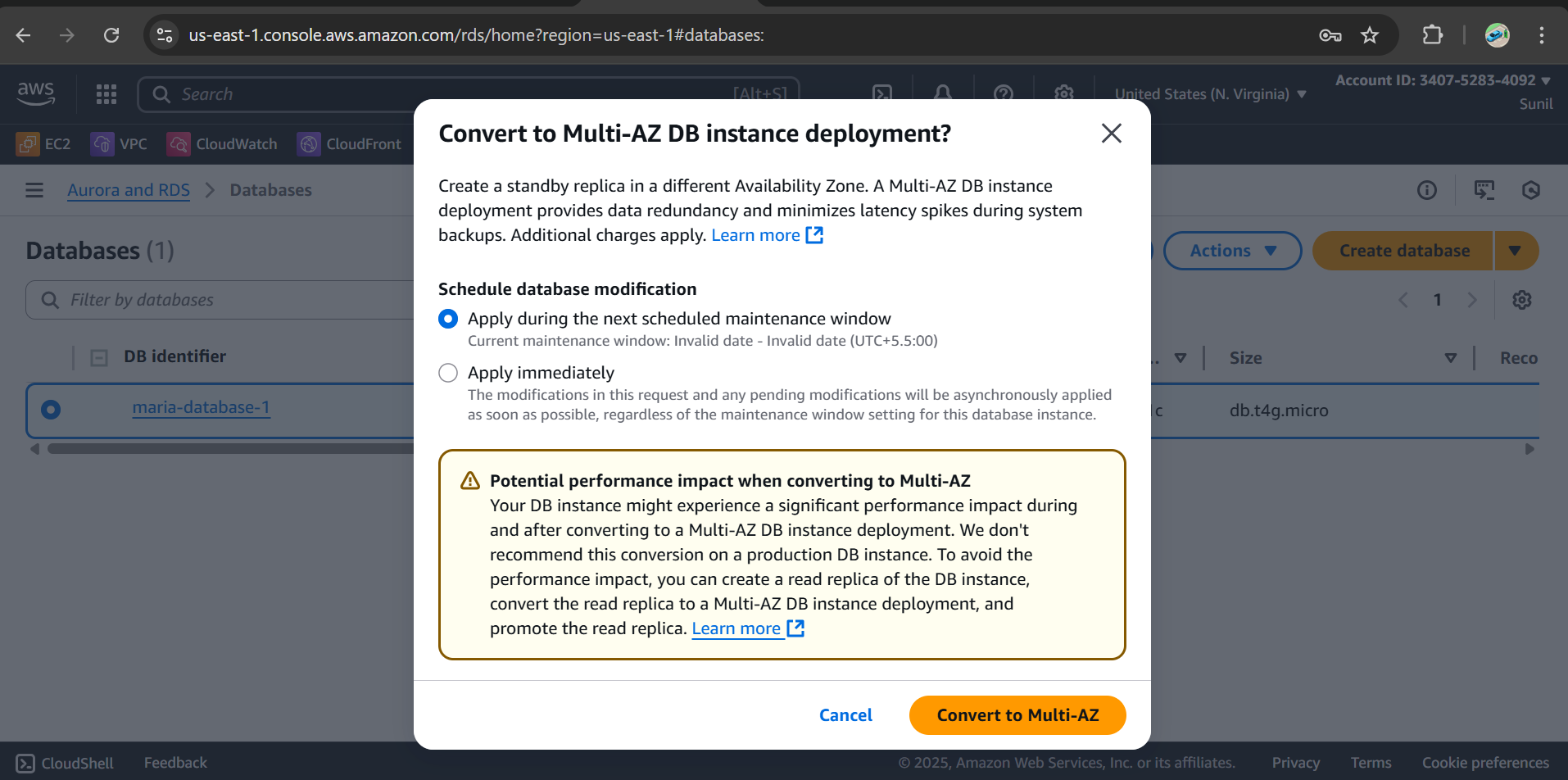
### ****Create Database****

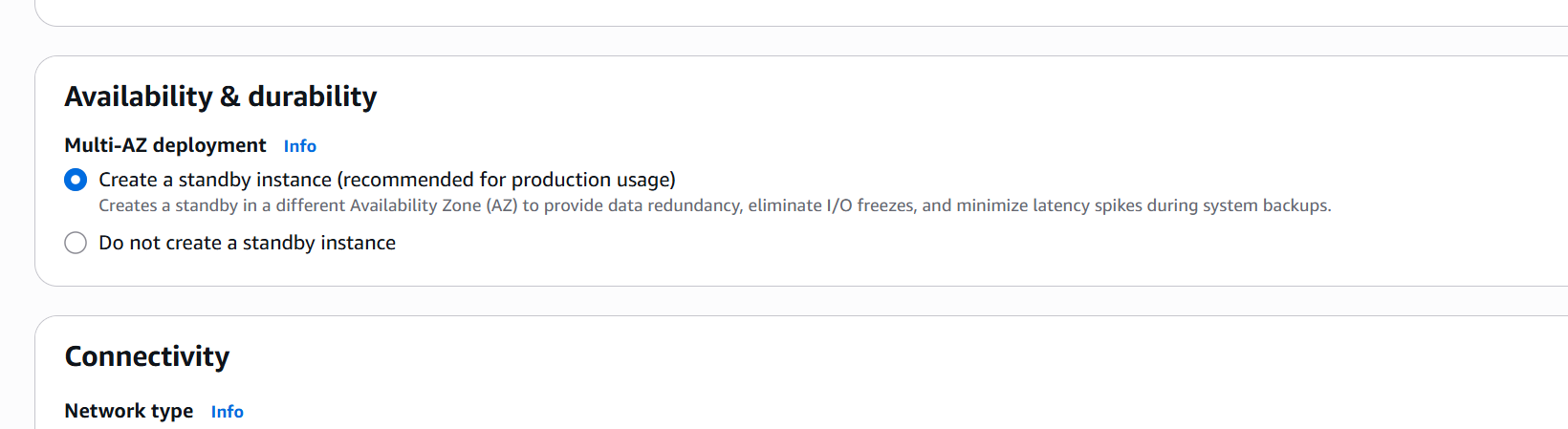
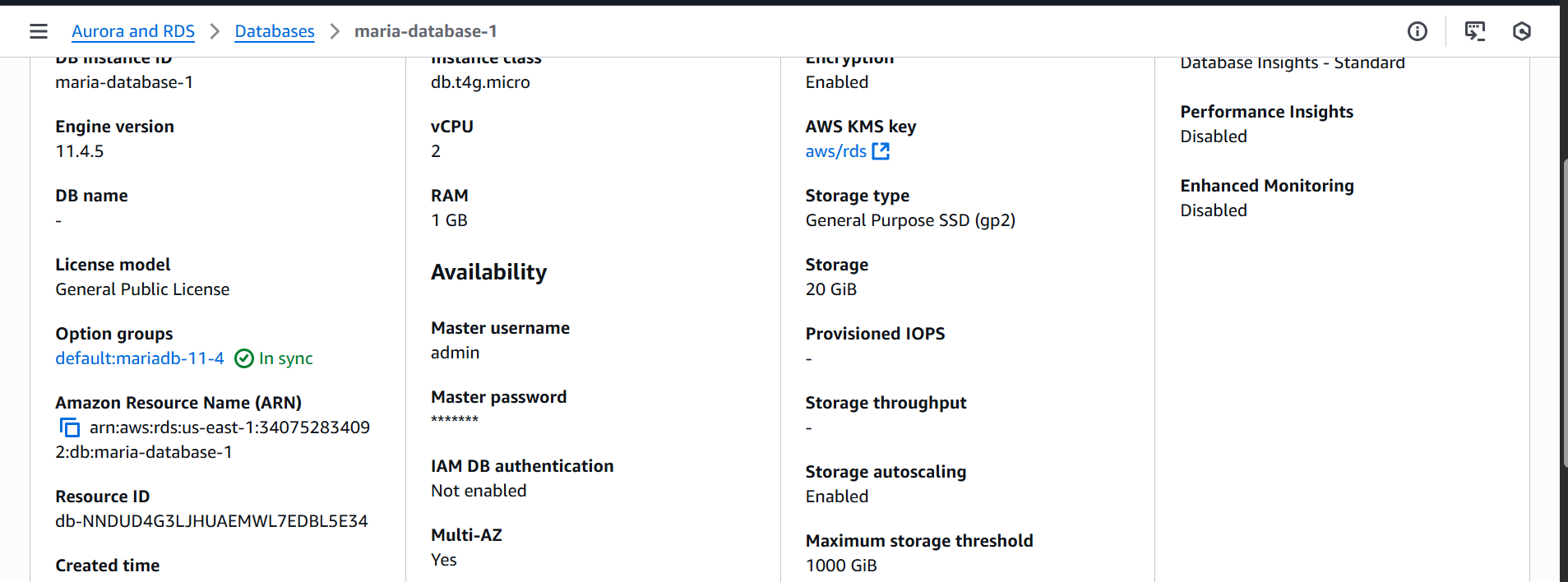
* **Click Create database.**

****

****

**8) Configure multi AZ**

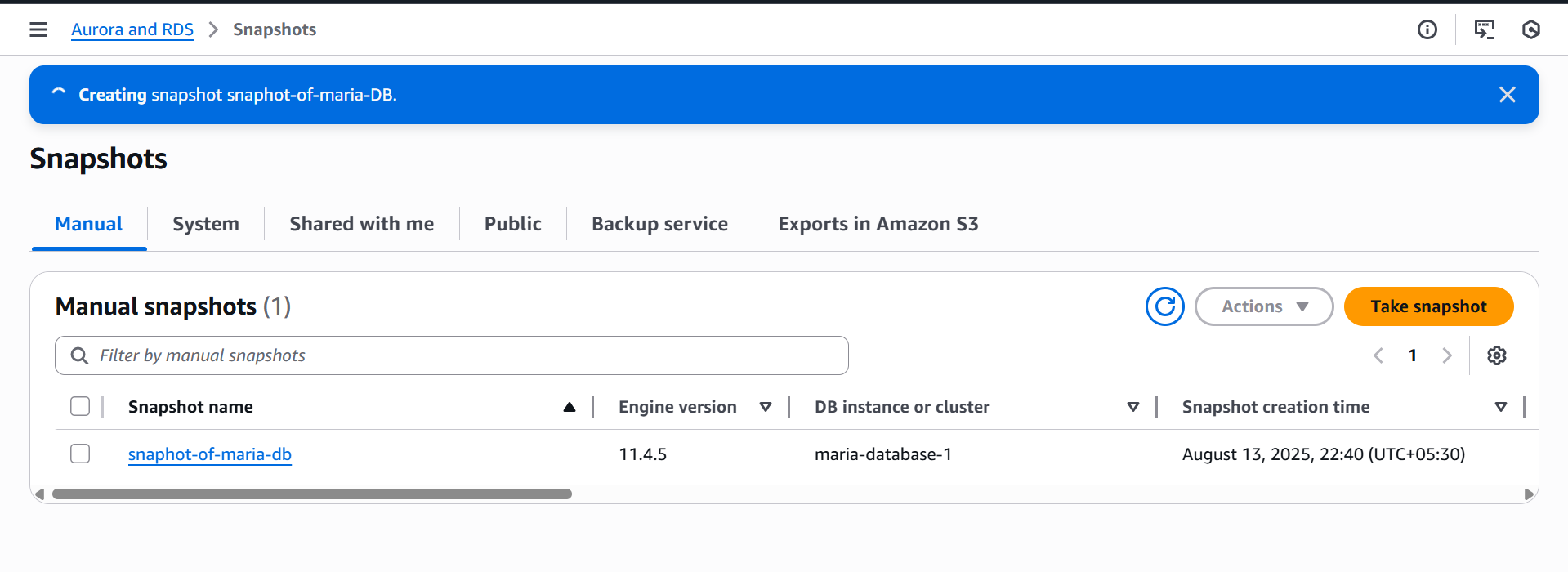
****

****

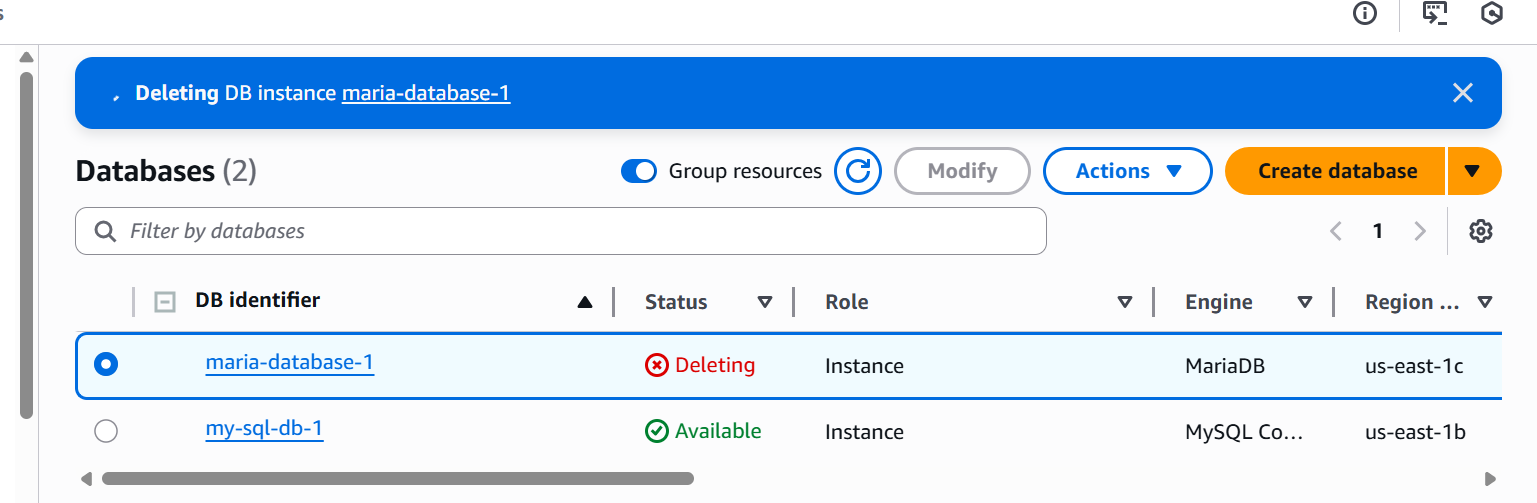
**9)Take Backup of DB and restore the DB**

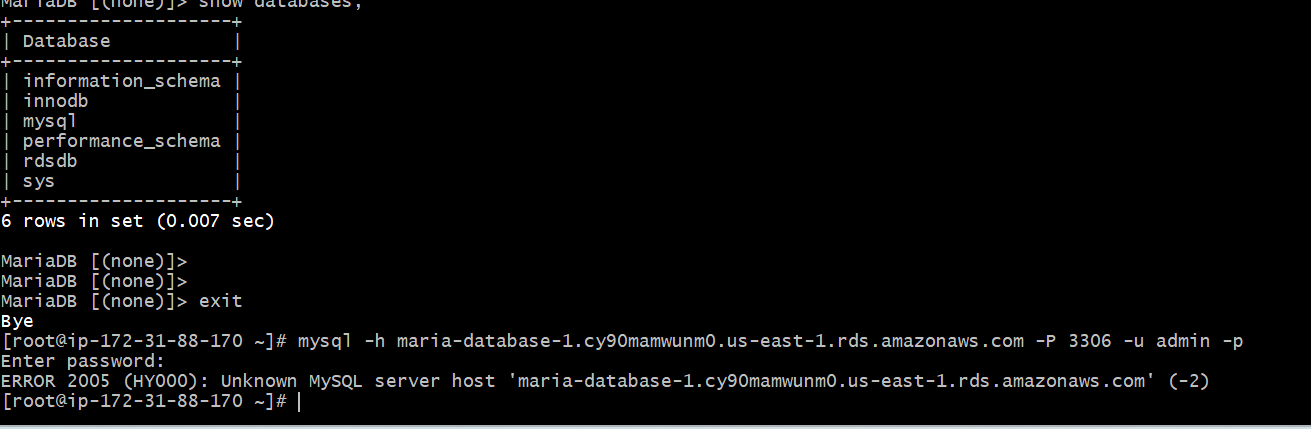
# Step 1: Create a Manual Snapshot

1. Go to **AWS Console → RDS**.
2. In the left panel, click **Databases**.
3. Select your **RDS MySQL instance**.
4. On the top right, click **Actions → Take snapshot**.
5. Enter a **Snapshot name** (e.g., snapshot-ofmaria-db).
6. Click **Take snapshot**.

****

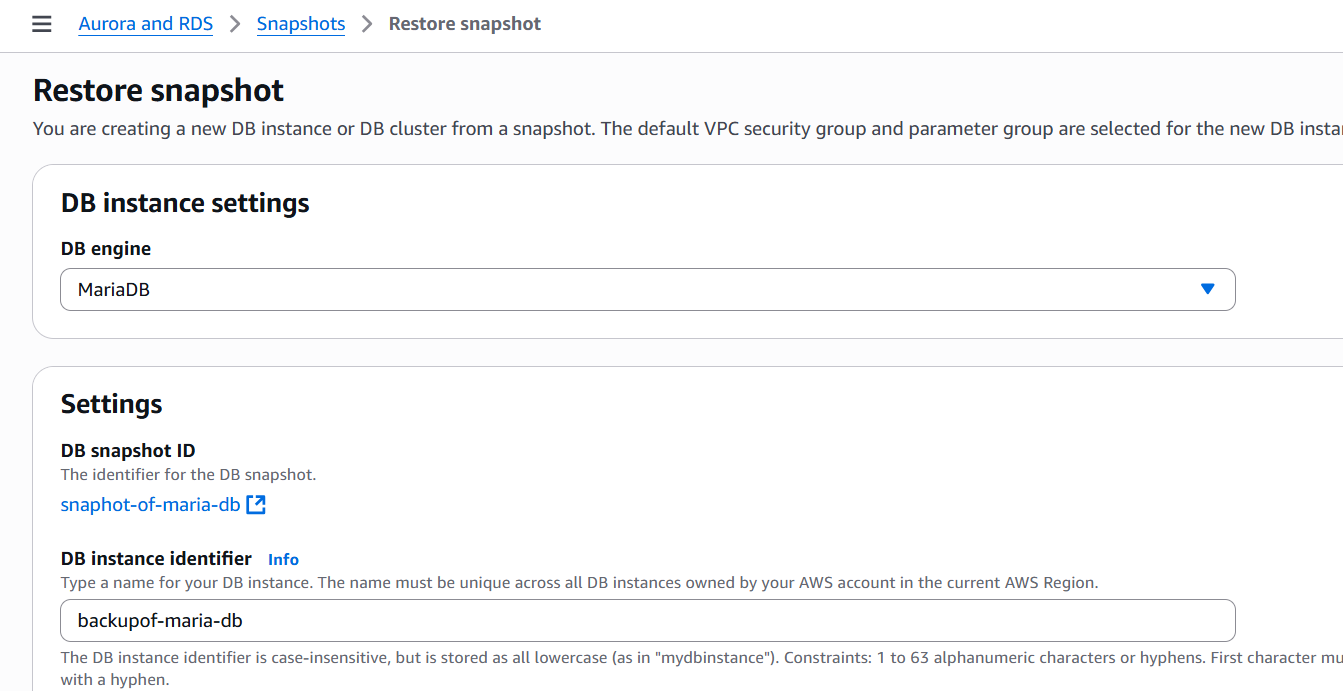
**Delete the Maria -db**

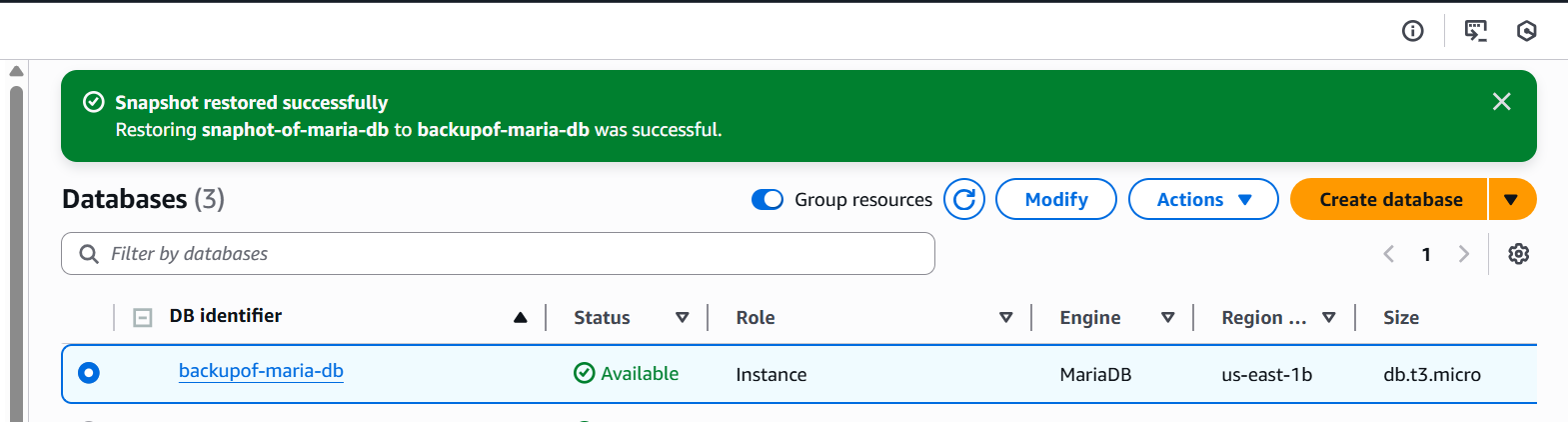
****

****

# Step 2: Restore Database from Snapshot

* Go to **RDS → Snapshots**.
* Select the snapshot you created.
* Click **Actions → Restore snapshot**.
* Click **Restore DB instance**.

****

****

**10) Create Read Replica**

On the **DB instance page**,

click on the database

**Actions → Create read replica**.

Configure the read replica:

**DB instance identifier**: e.g., mysql-db-read-replica.

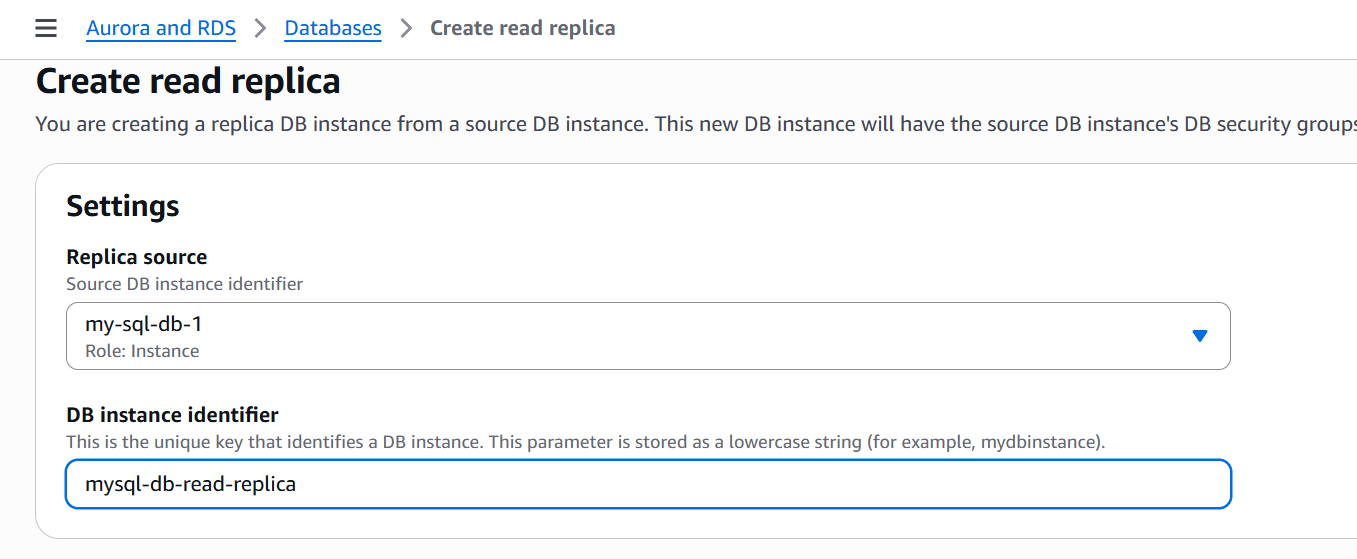
**DB instance class**: Choose based on your workload.

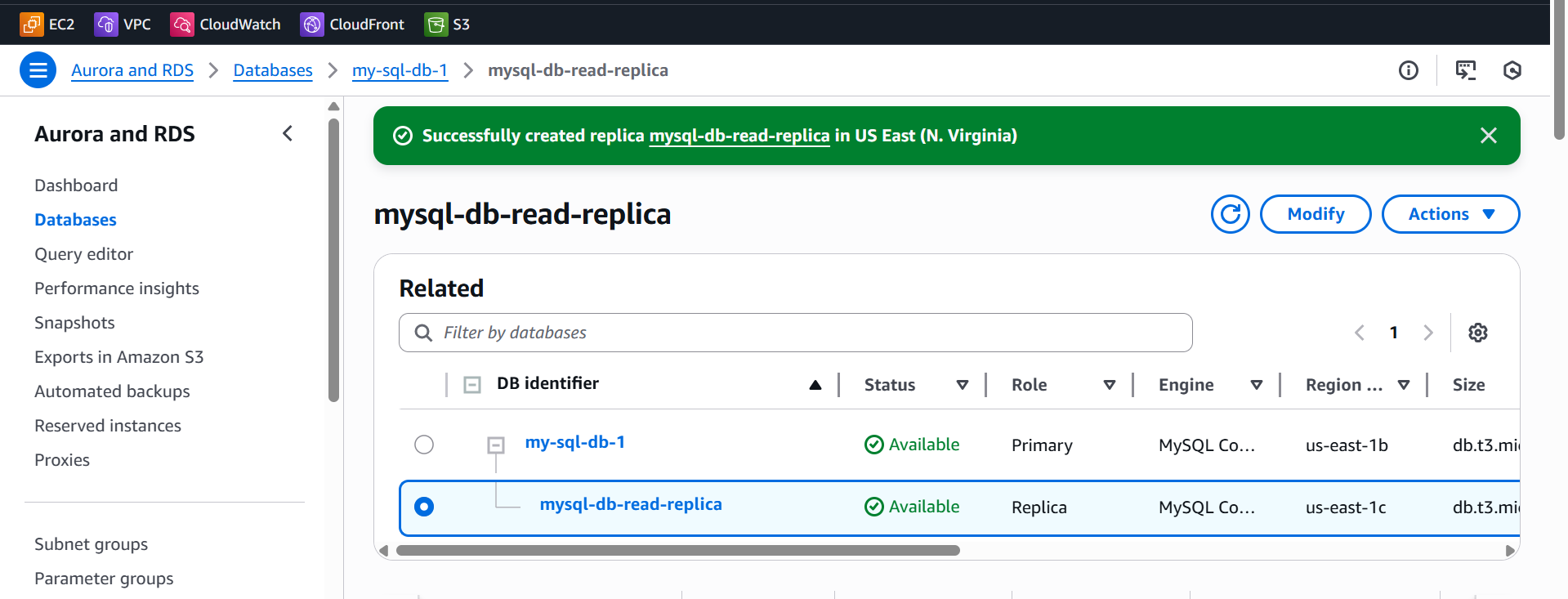
**VPC, Subnet, Security Group**: Must match or allow access from your app.

**Storage type**: Same as primary (recommended).

**Enable replication features**: leave defaults unless specific use case.

Click **Create read replica**.

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****