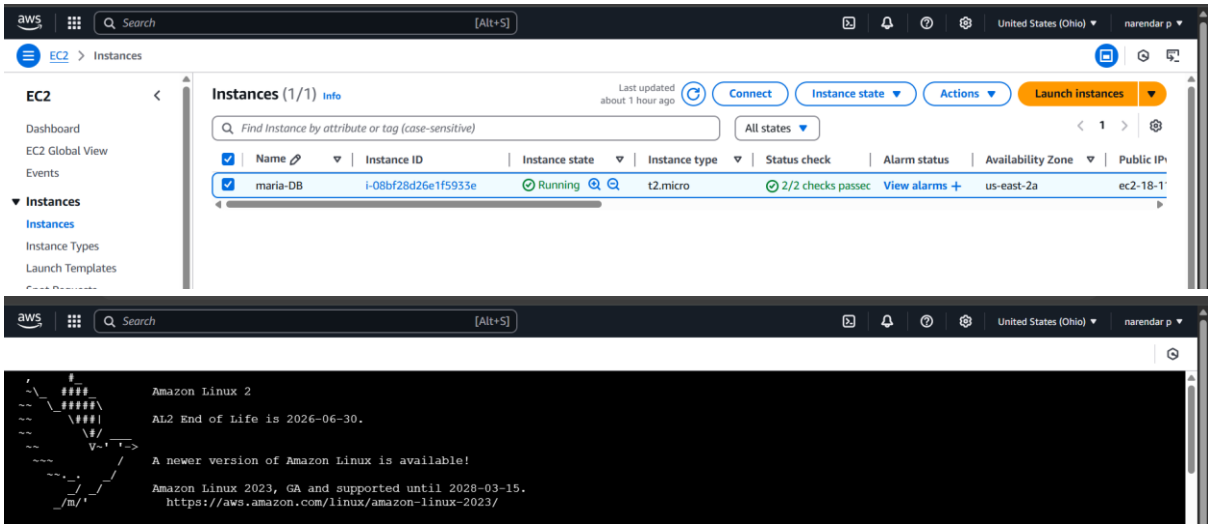
TASK ON RDS

1) Create mariadb db on ec2:

→create on ec2 instance and install mariadb and start it:




```
[root@ip-172-31-10-255 ~]# yum -y install mariadb-server
```

```
Complete!
[root@ip-172-31-10-255 ~]# systemctl enable mariadb
Created symlink from /etc/systemd/system/multi-user.target.wants/mariadb.service to /usr/lib/systemd/system/mariadb.service.
[root@ip-172-31-10-255 ~]# systemctl start  mariadb
[root@ip-172-31-10-255 ~]# systemctl status  mariadb
● mariadb.service - MariaDB database server
   Loaded: loaded (/usr/lib/systemd/system/mariadb.service; enabled; vendor preset: disabled)
   Active: active (running) since Mon 2025-03-10 09:33:03 UTC; 11s ago
  Process: 3933 ExecStartPost=/usr/libexec/mariadb-wait-ready $MAINPID (code=exited, status=0/SUCCESS)
  Process: 3850 ExecStartPre=/usr/libexec/mariadb-prepare-db-dir %n (code=exited, status=0/SUCCESS)
 Main PID: 3932 (mysqld_safe)
   CGroup: /system.slice/mariadb.service
           ├─3932 /bin/sh /usr/bin/mysqld_safe --basedir=/usr
           └─4098 /usr/libexec/mysqld --basedir=/usr --datadir=/var/lib/mysql --plugin-dir=/usr/lib64/mysql/plugin --log-error=/var/log/mariadb
```

→set environmental variables:

```
[root@ip-172-31-10-255 ~]# DBName=ec2db
[root@ip-172-31-10-255 ~]# DBPassword=admin123456
[root@ip-172-31-10-255 ~]# DBRootPassword=admin123456
[root@ip-172-31-10-255 ~]# DBUser=ec2dbuser
[root@ip-172-31-10-255 ~]# echo $DBName
ec2db
```

→mariadb Database Setup on EC2 Instance:

Created and connected to database:

```
[root@ip-172-31-10-255 ~]# echo "CREATE DATABASE ${DBName};" >> /tmp/db.setup
[root@ip-172-31-10-255 ~]# cd /tmp/
[root@ip-172-31-10-255 tmp]# ls
db.setup  systemd-private-de5e25228a564d53933339aa9d59d667-chronyd.service-yOibyB  systemd-private-de5e25228a564d53933339aa9d59d667-mariadb.service-jAwp6f
[root@ip-172-31-10-255 tmp]# cat db.setup
CREATE DATABASE ec2db;
[root@ip-172-31-10-255 tmp]# cd
[root@ip-172-31-10-255 ~]# echo "CREATE USER '${DBUser}' IDENTIFIED BY '${DBPassword}';" >> /tmp/db.setup
[root@ip-172-31-10-255 ~]# echo "GRANT ALL PRIVILEGES ON *.* TO '${DBUser}'@'%';" >> /tmp/db.setup
[root@ip-172-31-10-255 ~]# echo "FLUSH PRIVILEGES;" >> /tmp/db.setup
[root@ip-172-31-10-255 ~]# mysqladmin -u root password "${DBRootPassword}"
[root@ip-172-31-10-255 ~]# mysql -u root --password="${DBRootPassword}" < /tmp/db.setup
[root@ip-172-31-10-255 ~]# mysql -u root --password="${DBRootPassword}" < /tmp/db.setup
ERROR 1007 (HY000) at line 1: Can't create database 'ec2db'; database exists
[root@ip-172-31-10-255 ~]# rm /tmp/db.setup
rm: remove regular file '/tmp/db.setup'?
```

2) Insert some dummy data:

→First login to database:

```
[root@ip-172-31-10-255 ~]# mysql -u root --password="${DBRootPassword}"
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 5
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.
```
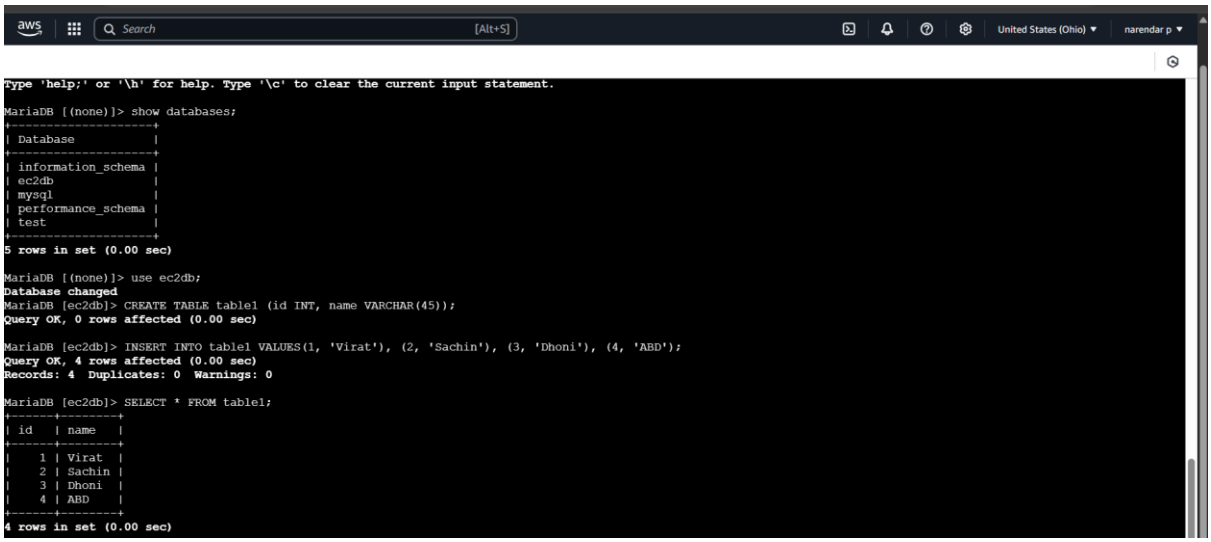
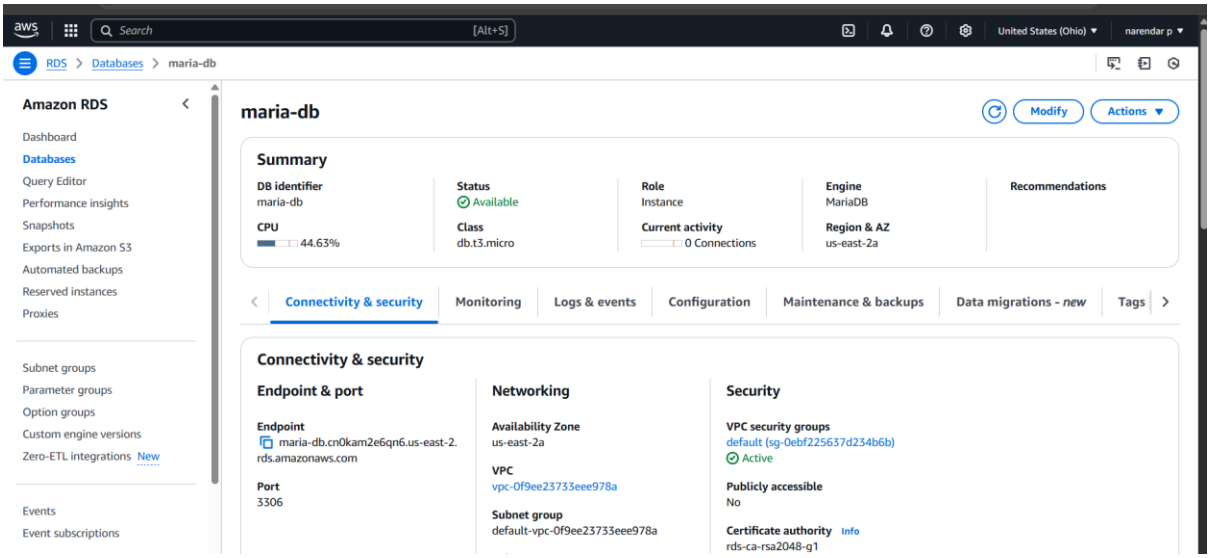

→Now insert dummy data:



3) Take the backup of dummy data on ec2:

```
[root@ip-172-31-10-255 ~]# mysqldump -u root -p ec2db > file_backup.sql
Enter password:
[root@ip-172-31-10-255 ~]# ls
ec2db.sql  file_backup.sql  file_name.sql
```

4) launch Mariadb RDS instance:



5) Migrate database from ec2 to RDS:

→Get the dump of your existing DB on EC2:

```
[root@ip-172-31-10-255 ~]# mysqldump -u root -p ec2db > file_backup.sql
Enter password:
[root@ip-172-31-10-255 ~]# ls
ec2db.sql  file_backup.sql  file_name.sql
```

→ Migrate the DB dump that you have taken in step 1 to RDS:

Created database and added:

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

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

MariaDB [(none)]> show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| innodb             |
| mysql              |
| performance_schema |
| rdsdb              |
| sys                |
```

→ Migrate the DB dump that you have taken in step 1 to RDS:

```
[root@ip-172-31-10-255 ~]# mysql -h maria-db.cn0kam2e6qn6.us-east-2.rds.amazonaws.com -P 3306 -u admin -p rdsdb < file_backup.sql
Enter password:
```

→Switch to the database and verify the details:

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

MariaDB [(none)]> use rdsdb
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 [rdsdb]> show tables;
+-----------------+
| Tables_in_rdsdb |
+-----------------+
| table1          |
+-----------------+
1 row in set (0.00 sec)

MariaDB [rdsdb]> select * from table1;
+------+--------+
| id   | name   |
+------+--------+
|    1 | Virat  |
|    2 | Sachin |
|    3 | Dhoni  |
|    4 | ABD    |
+------+--------+
4 rows in set (0.00 sec)
```

6) Install mysql db on ec2:

```
  mysql57-community-release.noarch 0:el7-11

Complete!
[root@ip-172-31-10-255 ~]# sudo yum install -y mysql-community-server
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
63 packages excluded due to repository priority protections
Package mysql-community-server-5.7.44-1.el7.x86_64 already installed and latest version
Nothing to do
[root@ip-172-31-10-255 ~]# sudo systemctl start mysqld
^C
[root@ip-172-31-10-255 ~]# mysql -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 4
Server version: 5.5.68-MariaDB MariaDB Server

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owners.

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

mysql> show databases;
+--------------------+
| Database           |
+--------------------+
```
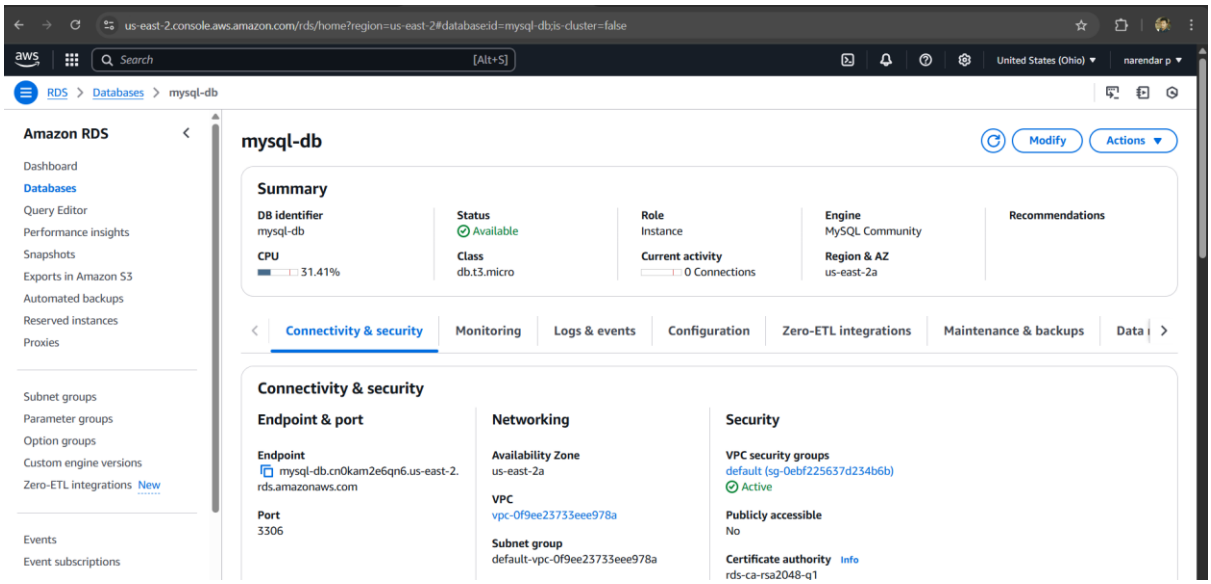

7) Launch mysql RDS image :

Created mysql database:



Connected to mysql RDS:

```
[root@ip-172-31-10-255 ~]# mysql -h mysql-db.cn0kam2e6qn6.us-east-2.rds.amazonaws.com -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 25
Server version: 8.0.40 Source distribution

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

mysql>
```
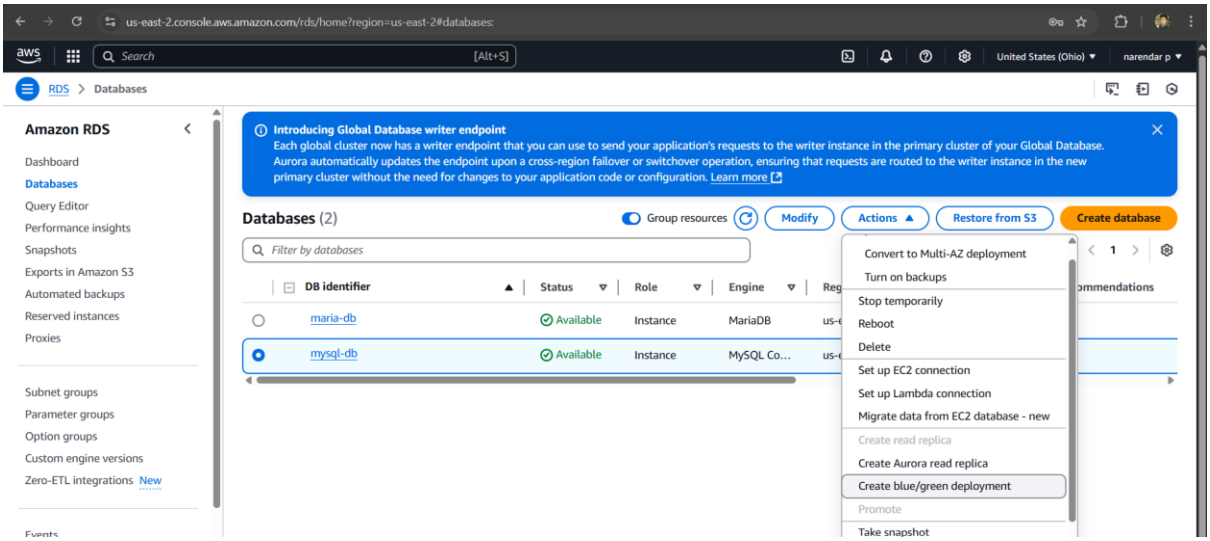
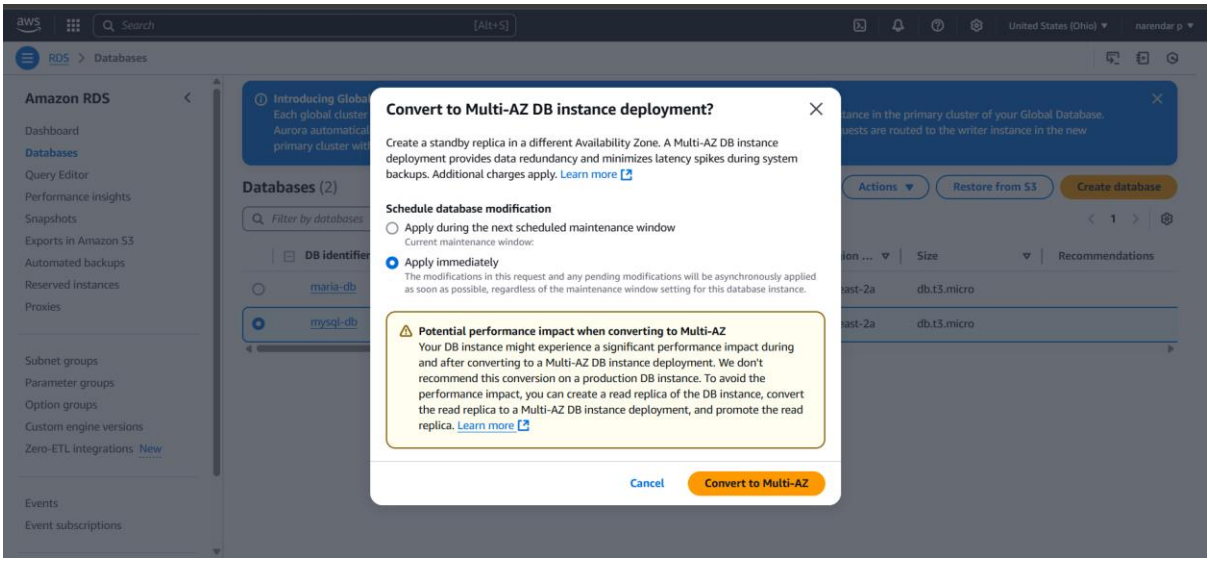

8) Configure multi AZ :

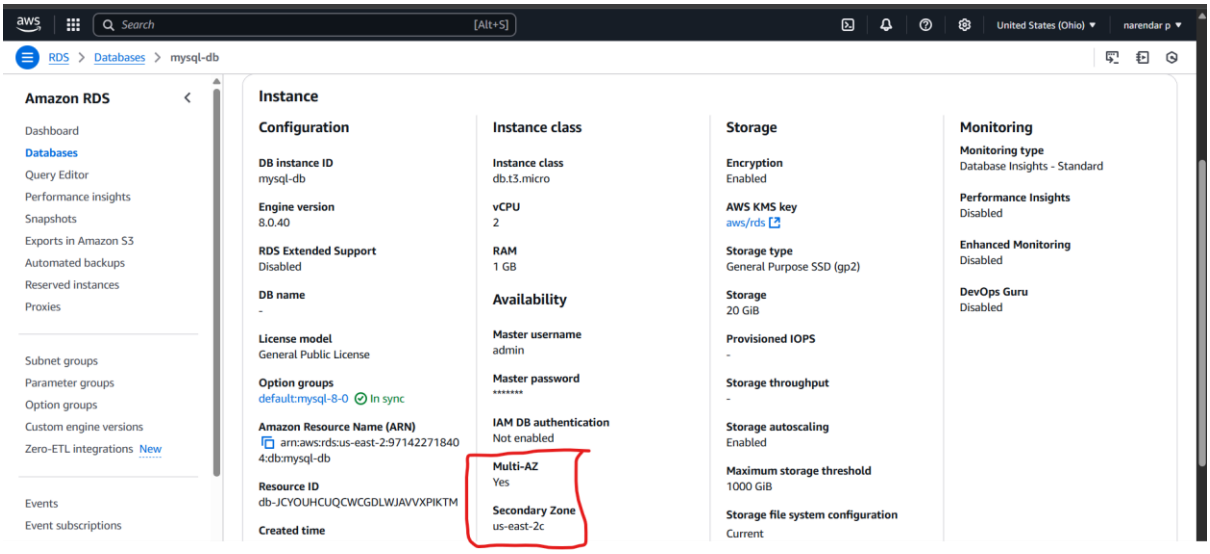
→Goto actions select Convert to multi AZ deployment:



→Now select Apply Immediately click on Convert Multi-AZ:

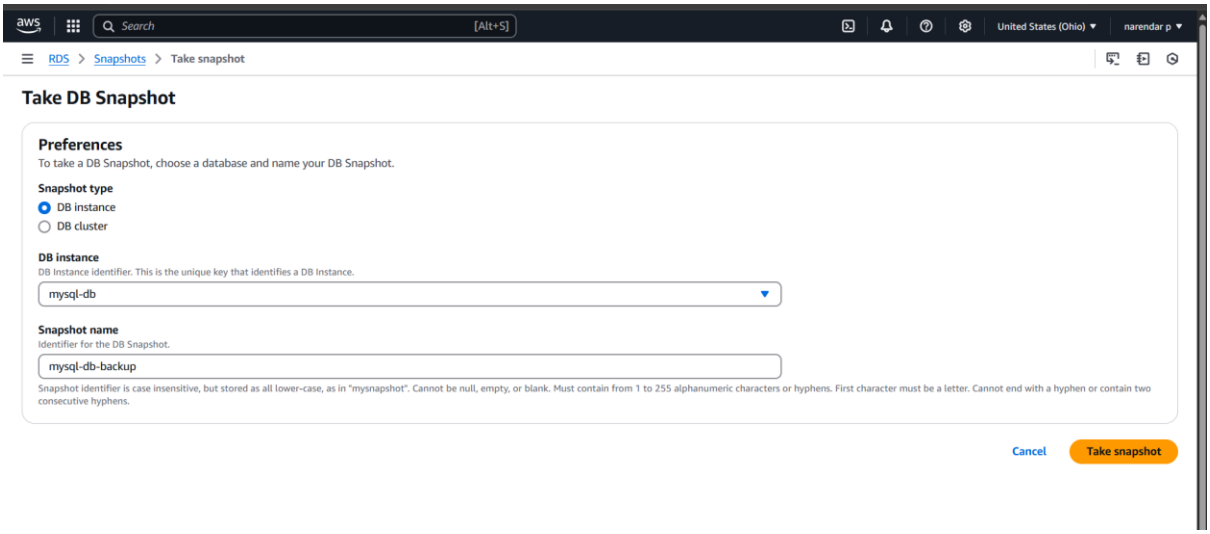


→Configured multi AZ:

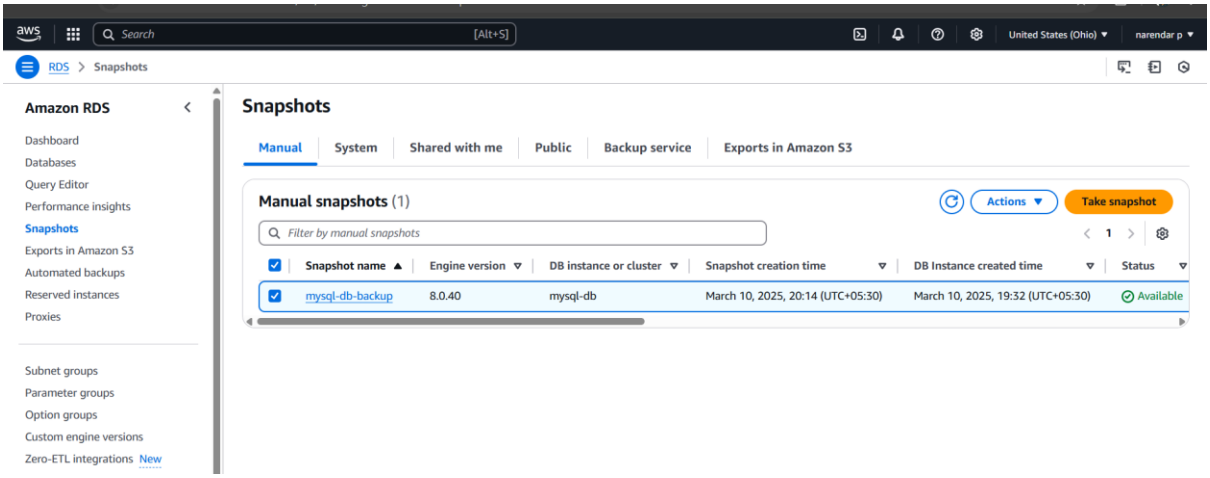


9) Take Backup of db and restore the DB:

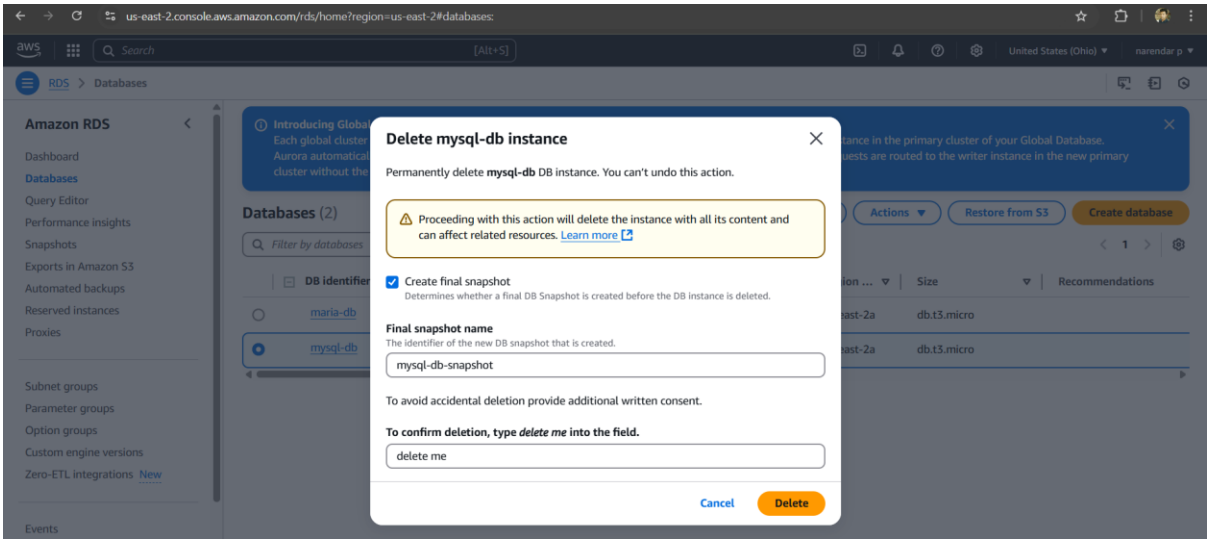
→Take a manual backup:

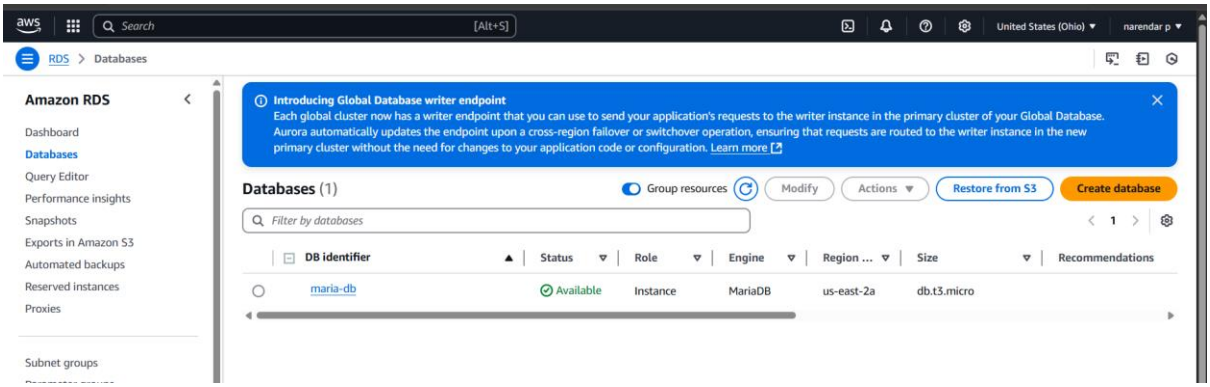


→Created snapshot:

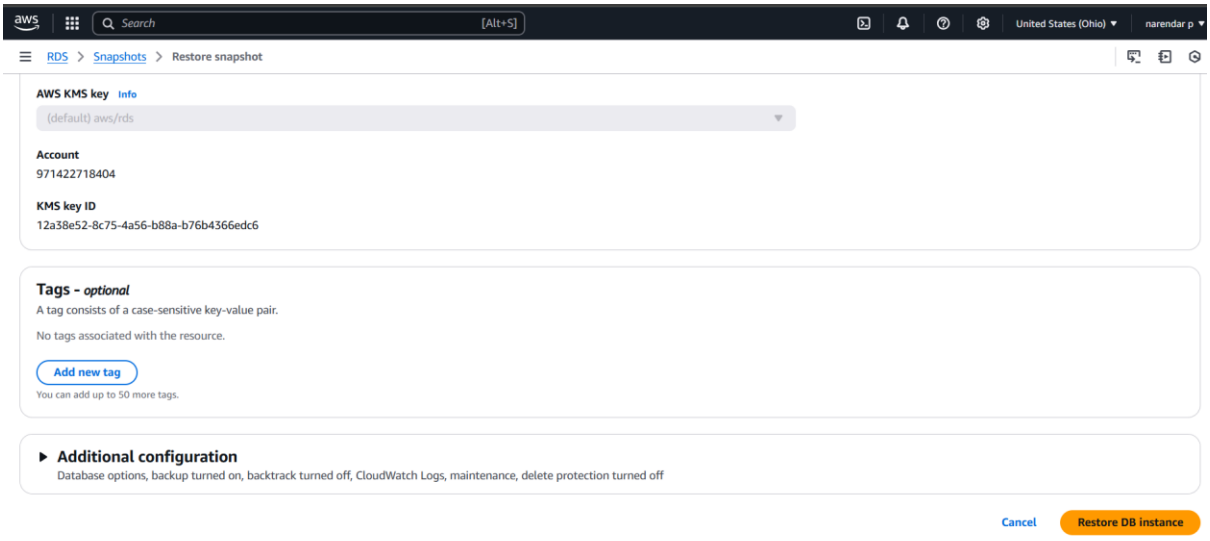


→Deleted mysql-db:

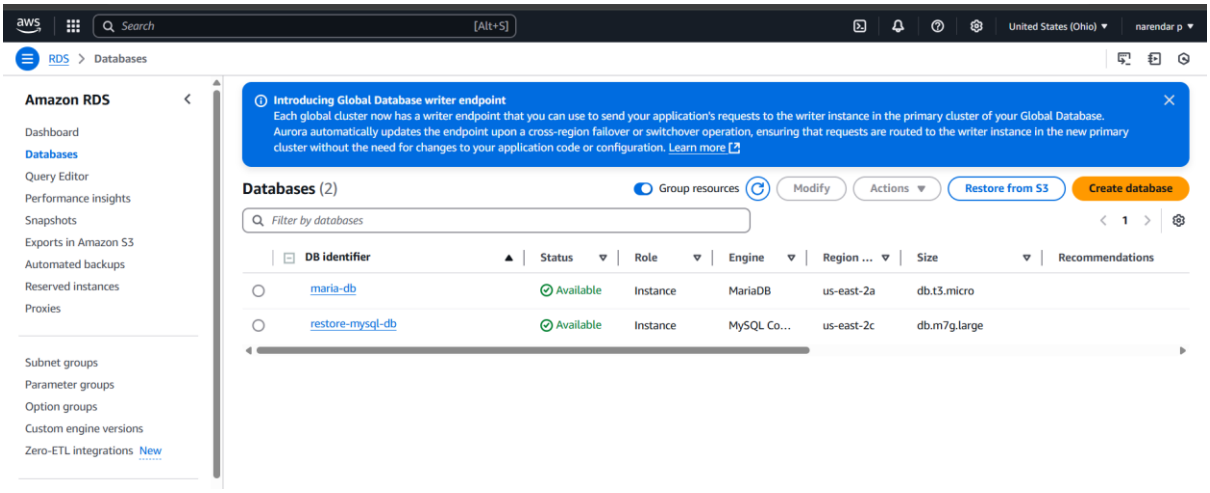




→Restore Mysql db from a Snapshot:

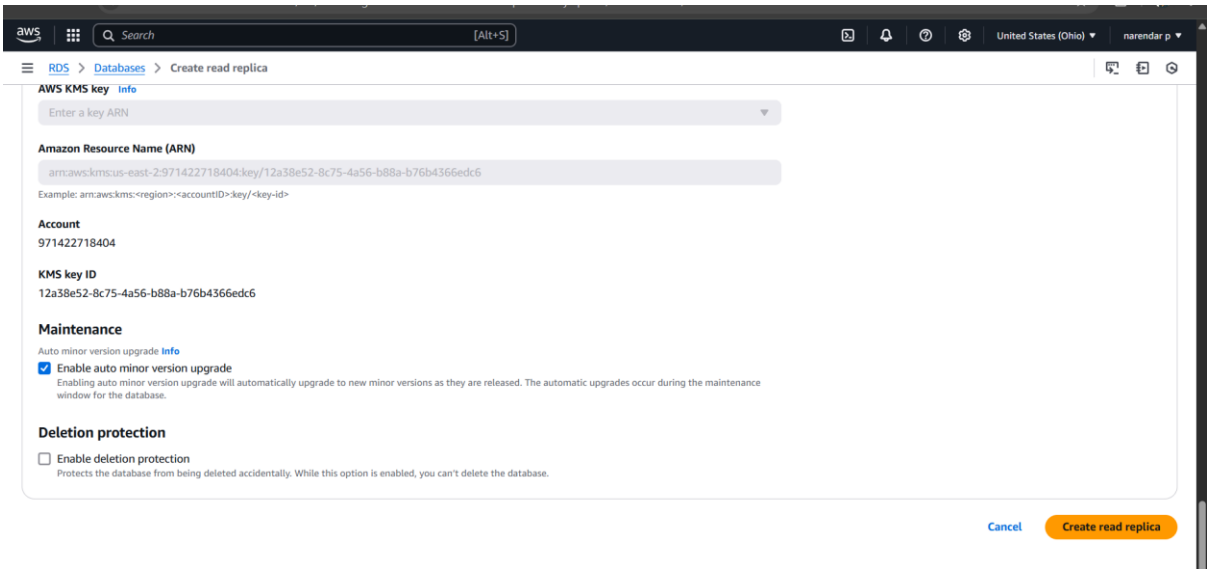


→Restored:

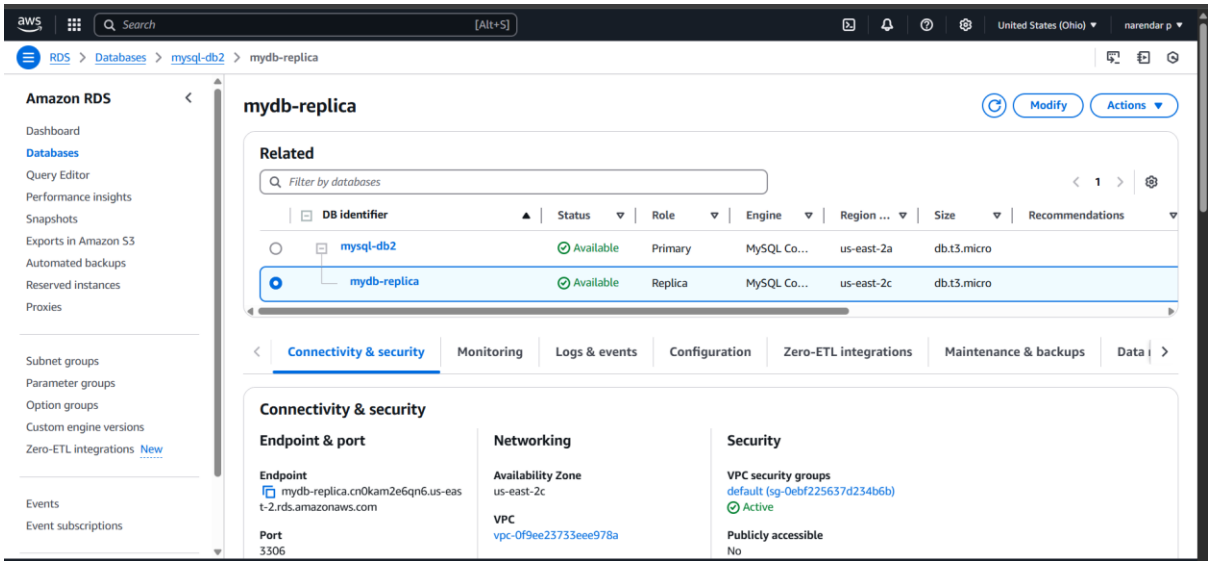


10) Create Read Replica:

→Click on actions create read replica:



→Created replica from mysql-db2:



→ connect with created replica endpoint :

```
[ec2-user@ip-172-31-10-255 ~]$ sudo -i
[root@ip-172-31-10-255 ~]# mysql -h mydb-replica.cn0kam2e6qn6.us-east-2.rds.amazonaws.com -P 3306 -u admin -p rdsdb < ec2db.sql
Enter password:
ERROR 1049 (42000): Unknown database 'rdsdb'
[root@ip-172-31-10-255 ~]# mysql -h mydb-replica.cn0kam2e6qn6.us-east-2.rds.amazonaws.com -P 3306 -u admin -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 26
Server version: 8.0.40 Source distribution

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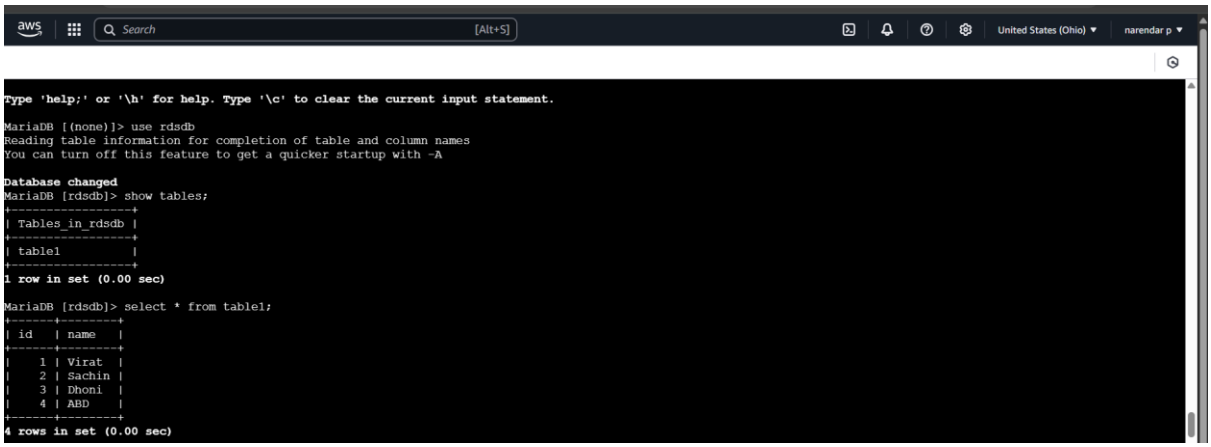
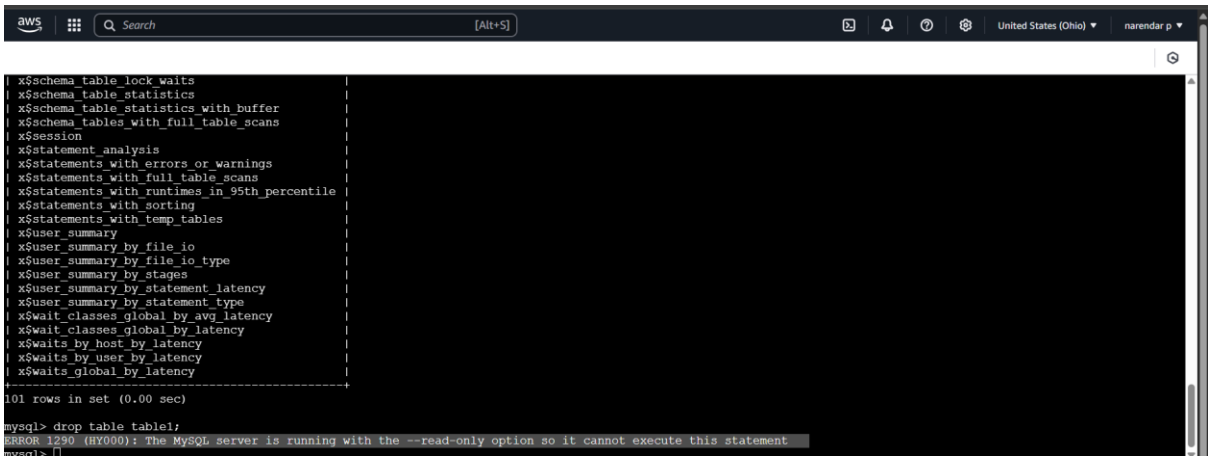

→Try to delete any table:



→ it shows error because we connected with read replica, so we cannot delete tables: