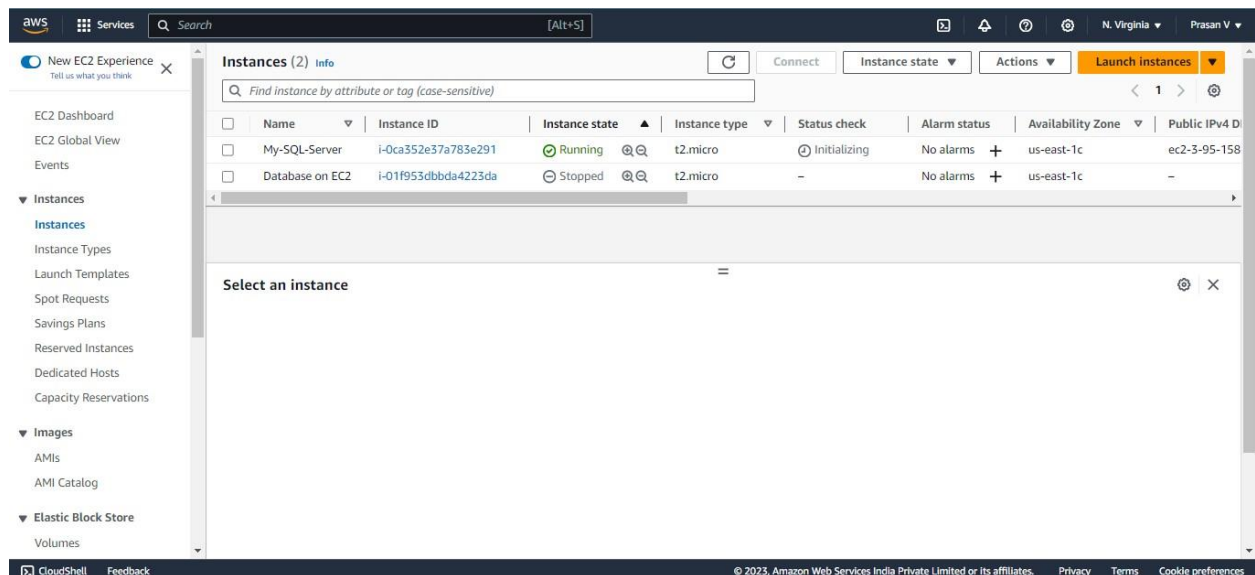


Database-Migration-to-RDS

Migrate an existing database to Amazon RDS for improved scalability, manageability, and cost-effectiveness. Implementation: Set up an RDS instance with the desired database engine (e.g., MySQL, PostgreSQL) and perform the migration using AWS Database Migration Service or other tools.

Here are the steps how to do the Project :

Step 1: Create an EC2 Instance –



Commands used to host MySql Server on AWS EC2 Instance

Step 1: Update the system

```
sudo apt update
```

Step 2: Install MySql

```
sudo apt install mysql-server
```

Step 3: Check the Status of MySql (Active or Inactive)

```
sudo systemctl status mysql
```

Step 4: Login to MySql as a root

```
sudo mysql
```

Step 5: Update the password for the MySql Server

```
ALTER USER 'root'@'localhost' IDENTIFIED WITH  
mysql_native_password BY 'place-your-password-here';
```

```
FLUSH PRIVILEGES;
```

Step 6: Test the MySql server if it is working by running sample sql queries

```
CREATE DATABASE mysql_test;
```

```
USE mysql_test;
```

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

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

```
SELECT * FROM table1;
```

```
System load: 0.18310546875 Processes: 101
Usage of /: 30.1% of 7.57GB Users logged in: 0
Memory usage: 61% IPv4 address for eth0: 172.31.80.145
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

131 updates can be applied immediately.
71 of these updates are standard security updates.
To see these additional updates run: apt list --upgradable

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

Last login: Thu Sep 28 13:42:32 2023 from 18.206.107.29
ubuntu@ip-172-31-80-145:~$ sudo systemctl status mysql
● mysql.service - MySQL Community Server
   Loaded: loaded (/lib/systemd/system/mysql.service; enabled; vendor preset: enabled)
   Active: active (running) since Thu 2023-09-28 13:46:23 UTC; 1min 17s ago
     Process: 2837 ExecStartPre=/usr/share/mysql/mysql-systemd-start pre (code=exited, status=0/SUCCESS)
    Main PID: 2845 (mysqld)
      Status: "Server is operational"
        Tasks: 37 (limit: 1141)
       Memory: 356.6M
          CPU: 1.395s
      CGroup: /system.slice/mysql.service
              └─2845 /usr/sbin/mysqld

Sep 28 13:46:22 ip-172-31-80-145 systemd[1]: Starting MySQL Community Server...
Sep 28 13:46:23 ip-172-31-80-145 systemd[1]: Started MySQL Community Server.
ubuntu@ip-172-31-80-145:~$
```

```
ubuntu@ip-172-31-80-145:~$ sudo mysql
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 8
Server version: 8.0.34-0ubuntu0.22.04.1 (Ubuntu)

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affiliates. Other names may be trademarks of their respective
owners.

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

mysql>
```

```
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]> SELECT * FROM table1;
+----+-----+
| id | name |
+----+-----+
| 1  | Virat |
| 2  | Sachin |
| 3  | Dhoni |
| 4  | ABD |
+----+-----+
4 rows in set (0.00 sec)

MariaDB [rdsdb]>
```

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Databases on EC2 Instance

Begin Configuration :

sudo su -

yum -y install mariadb-server wget

systemctl enable mariadb

systemctl start mariadb

yum -y update

Set Environmental Variables

DBName=ec2db

DBPassword=admin123456

DBRootPassword=admin123456

DBUser=ec2dbuser

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

Adding some dummy data to the Database inside EC2 Instance:

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

USE ec2db;

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

```
us-east-1.console.aws.amazon.com/ec2-instance-connect/ssh?region=us-east-1&connType=standard&instanceId=i-01f953dbbda4223da&osUser=ec2-...
aws Services Search [Alt+S] N. Virginia Prasan V
type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> USE ec2db;
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 [ec2db]> CREATE TABLE table1 (id INT, name VARCHAR(45));
ERROR 1050 (42S01): Table 'table1' already exists
MariaDB [ec2db]> INSERT INTO table1 VALUES(1, 'Virat'), (2, 'Sachin'), (3, 'Dhoni'), (4, 'ABD');
Query OK, 4 rows affected (0.01 sec)
Records: 4 Duplicates: 0 Warnings: 0

MariaDB [ec2db]> SELECT * FROM table1;
+----+-----+
| id | name |
+----+-----+
| 1 | Virat |
| 2 | Sachin |
| 3 | Dhoni |
| 4 | ABD |
| 1 | Virat |
| 2 | Sachin |
| 3 | Dhoni |
| 4 | ABD |
| 1 | Virat |
| 2 | Sachin |
| 3 | Dhoni |
| 4 | ABD |
+----+-----+
2 rows in set (0.00 sec)

MariaDB [ec2db]>
```

```
aws Services Search [Alt+S] N. Virginia Prasan V
[root@ip-172-31-92-121 ~]# mysql -h demo-rds-database.chv7z3lpl1lb.us-east-1.rds.amazonaws.com -P 3306 -u rdsuser -p rdsdb < ec2db.sql
Enter password:
[root@ip-172-31-92-121 ~]# mysql -h demo-rds-database.chv7z3lpl1lb.us-east-1.rds.amazonaws.com -P 3306 -u rdsuser -p
Enter password:
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 61
Server version: 10.6.8-MariaDB managed by https://aws.amazon.com/rds/

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

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

MariaDB [(none)]> SHOW Databases;
+-----+
| Database |
+-----+
| information_schema |
| innodb |
| mysql |
| performance_schema |
| rdsdb |
| sys |
+-----+
6 rows in set (0.00 sec)
```

```
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]> SELECT * FROM table1;
+----+-----+
| id | name |
+----+-----+
| 1  | Virat |
| 2  | Sachin |
| 3  | Dhoni |
| 4  | ABD |
+----+-----+
4 rows in set (0.00 sec)

MariaDB [rdsdb]>
```

This is How we migrate DataBase to RDS

Thank You.....

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