**TASK ON RDS:**

**1.Create MariaDB DB on EC2:**

Navigate to ec2 and launch a instance with all default configurations.

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we shall connect using aws cli

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We shall update the packages.

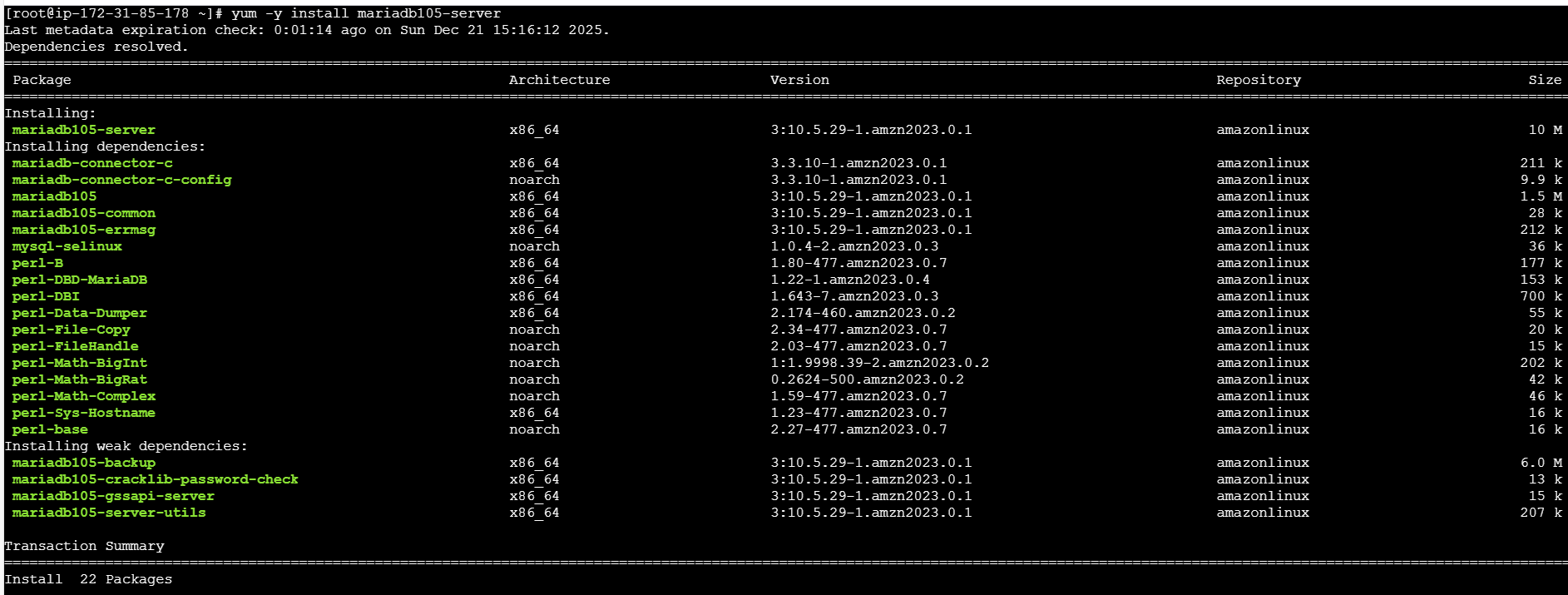
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Its time to install Maria DB package on the cli.

Command to install Maria DB- yum -y install mariadb105-server.

105 is version 10.5 of Maria db and Amazon Linux provides support to that version as of now.



Package is installed successfully.

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Successfully, the package is installed. Now, lets create some credentials including DB name, DB password, DB Root password and DB user.

Credentials updated

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Once credentials updated in cli for Maria db, we need to provide access and privileges to user.

**There are few commands that needs to be run including:**

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

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

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

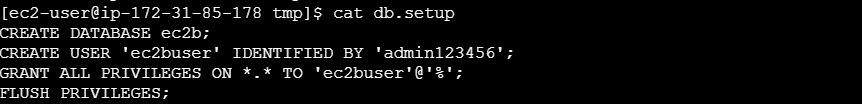
**Flush Privileges-** echo "FLUSH PRIVILEGES;" >> /tmp/db.setup

Once provided, change Directory to /tmp and list all the files.

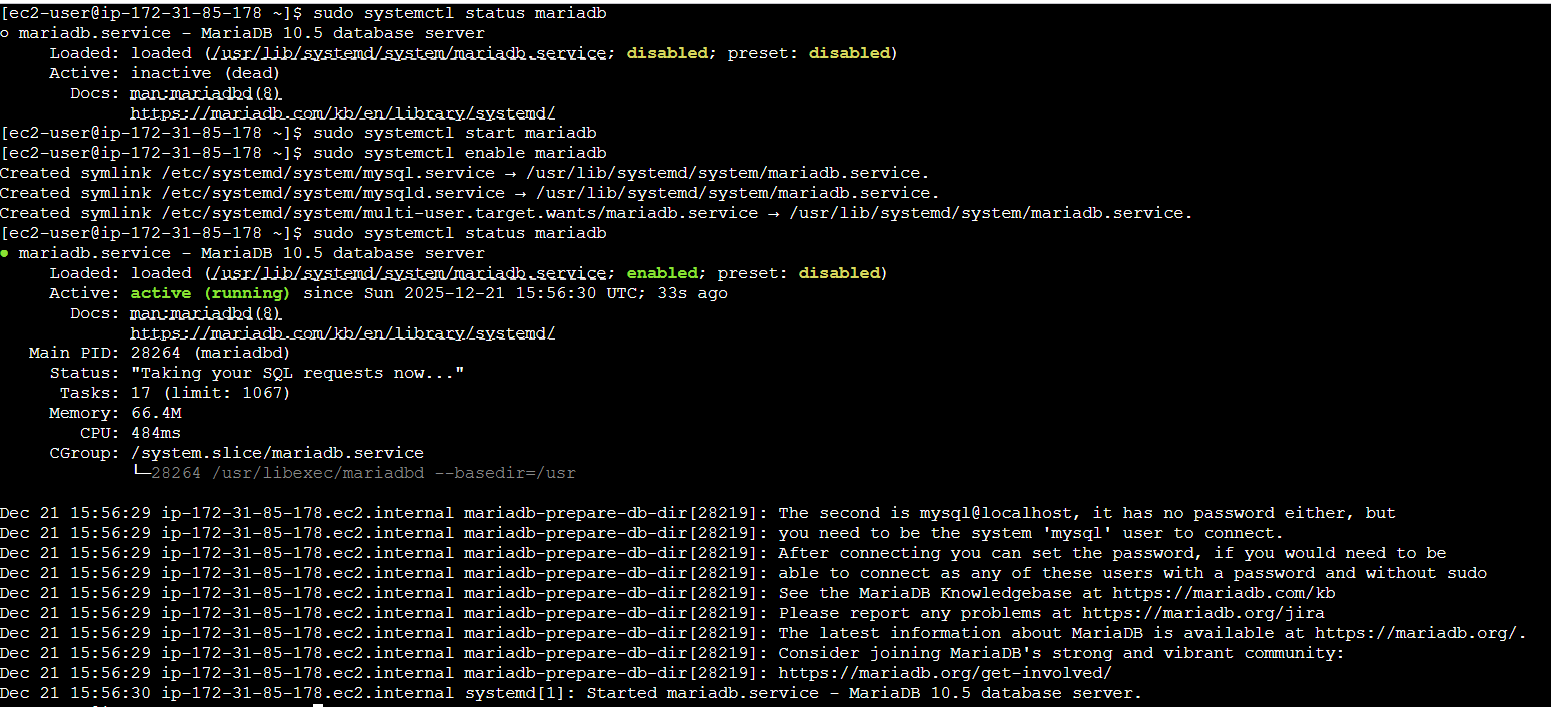
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We can verify the privileges by using command- cat db.setup

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**Finally, we shall start and enable the service**

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Let’s secure the installation using command- **sudo mysql\_secure\_installation**

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**2.Insert some dummy data:**

Using command- mysql -u root -p login to maria db.

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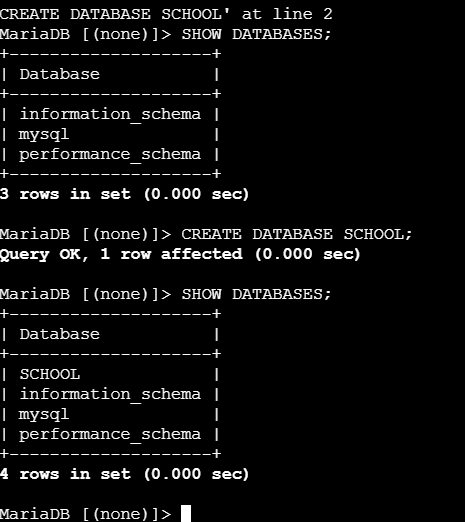
Now, let’s check if we have existing Databases- SHOW DATABASES;

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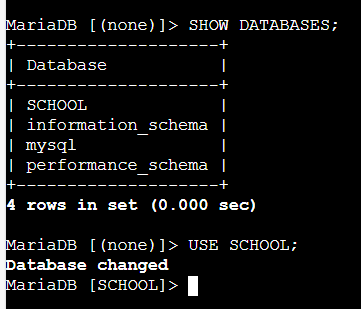
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After verifying, create- CREATE DATABASE <SCHOOL>;

Once again verify the Databases- SHOW DATABASES;



Now, we changed our Database to School using command- USE SCHOOL;



Let’s create a table under our Database School- CREATE TABLE <Students> (id INT, name VARCHAR(45));

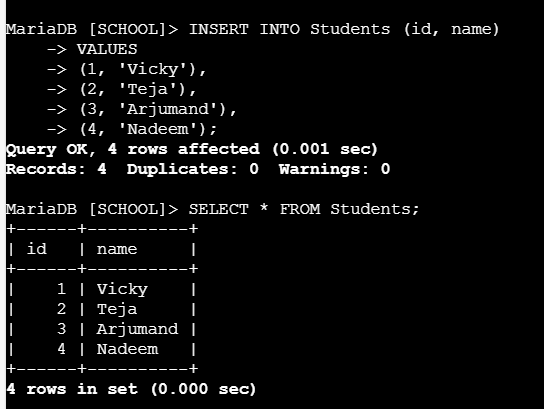
Using command to verify if the Table is created- **SHOW TABLES**

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Once Table created as Students, now, we need to add the Students to the list. Used command**- INSERT INTO <STUDENTS> (id, name)**

Then use command**- SELECT \* FROM <Students>** to list the added Students in the list.

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**3.Take the backup of dummy data on EC2:**

First, we need to exit from the previous work using command**- ctrl+z**

Login back using command**- sudo mysql -u root -p**

Change the directory to root.

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Now, let’s take the backup of our Database created earlier using command- **mysqldump -u root -p <SCHOOL> >SCHOOLbackup.sql**

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Now, lets verify if the backup is successful.Use command- **cat SCHOOLbackup.sql**

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**4.Launch MariaDB RDS instance:**

Navigate to Aurora and RDS and create a new database for our requirement.

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Select MariaDB from the list.

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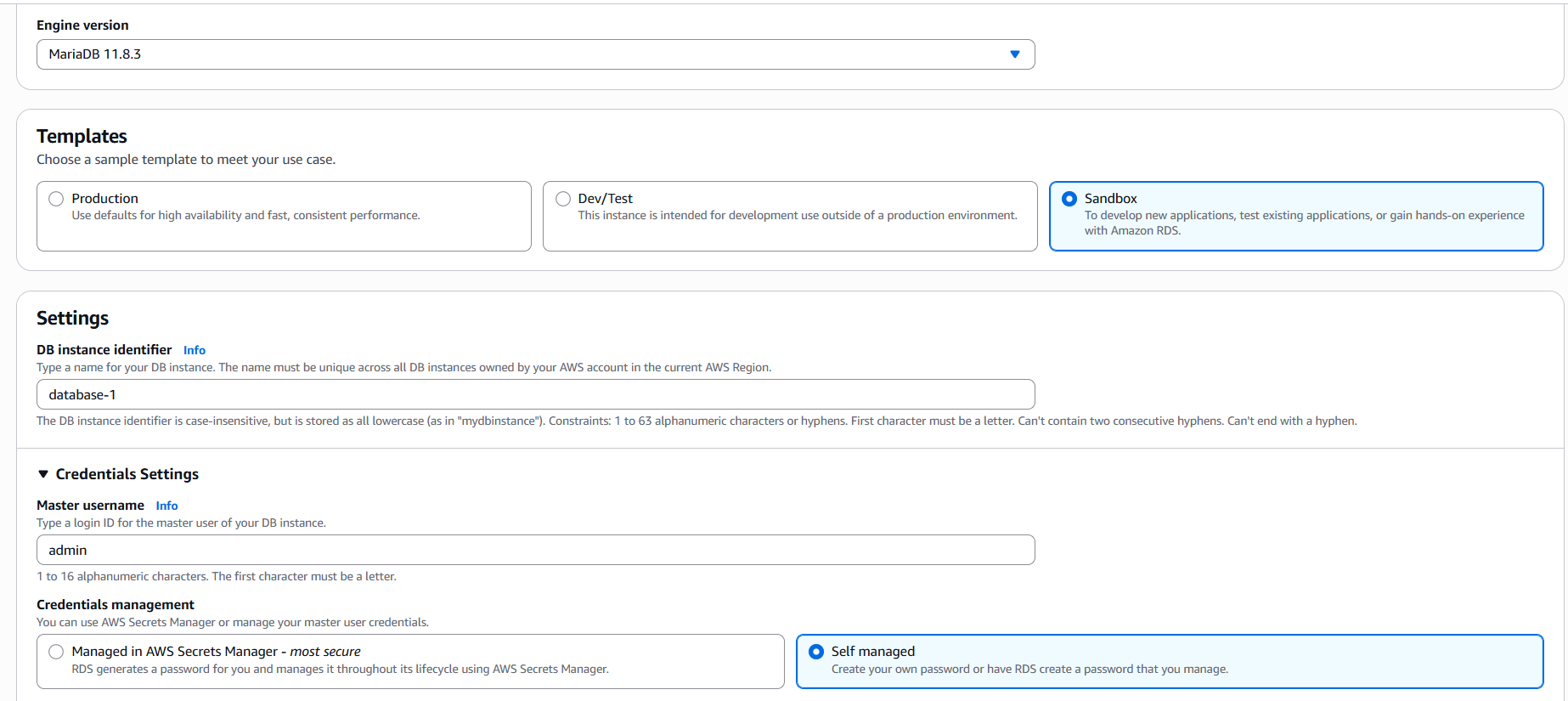
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Select the Engine Size and choose a sample template.

Here, we selected free tier for development purposes.

Master username is admin

I have selected self-managed, instead of aws managed for credentials.



Master password is set.

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Select the configuration- here as per the free trail- Burstable class is available.

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Storage is allocated.

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Connectivity is updated to connect to ec2 and updated default VPC.

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Here, we are not selecting any monitoring services.

A close-up of a computer screen

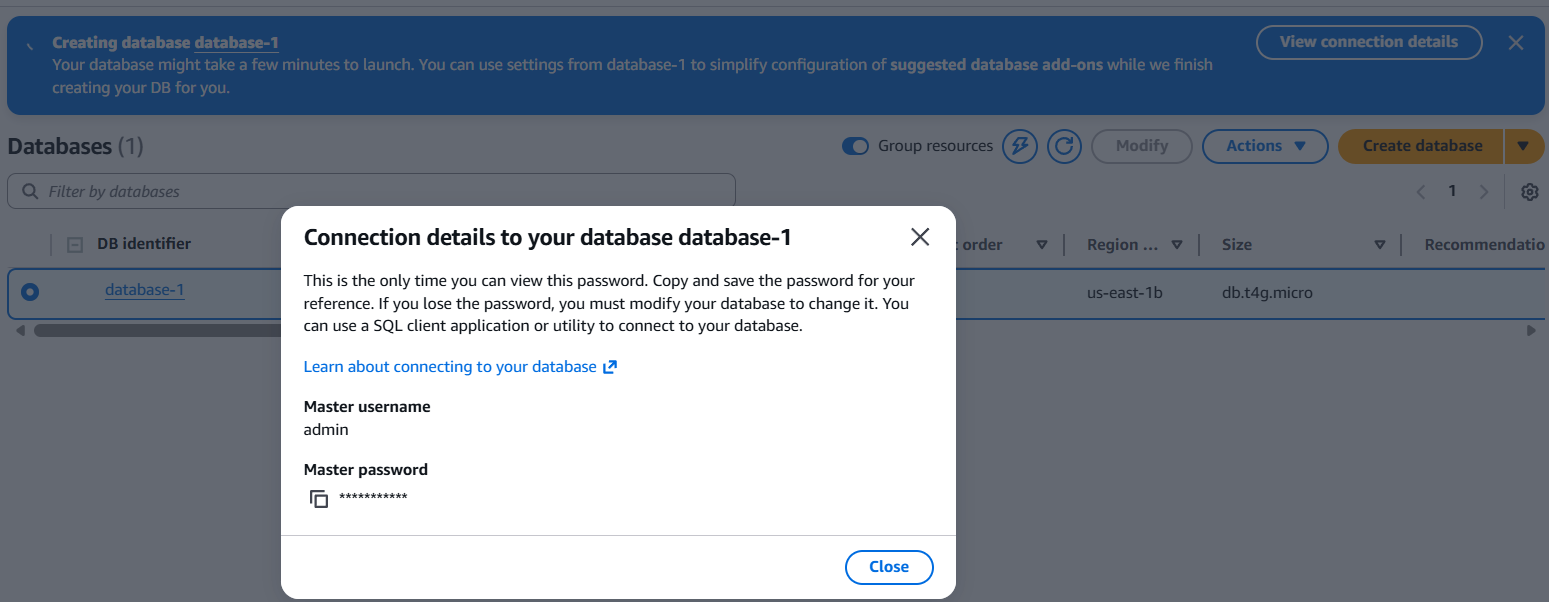
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Its taking sometime to create a RDS.

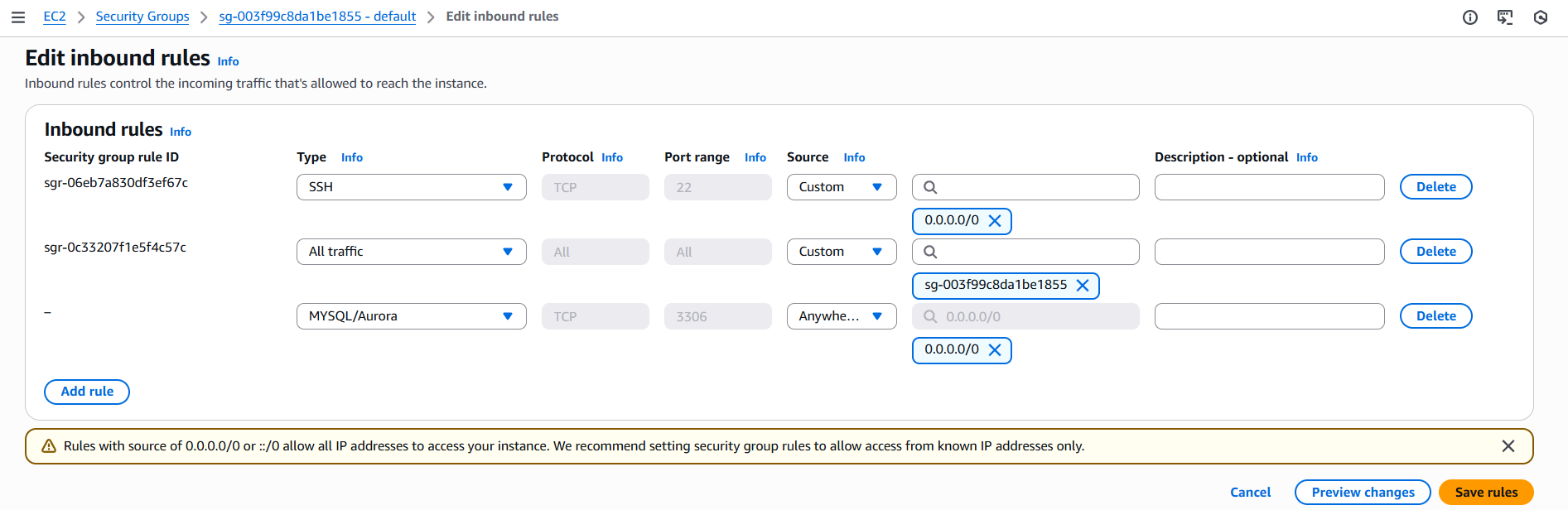
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In meanwhile, the DB is getting created, aws is asking us to save the credentials.



Edit the security rules in ec2 instance to allow **MySQL- 3306.**



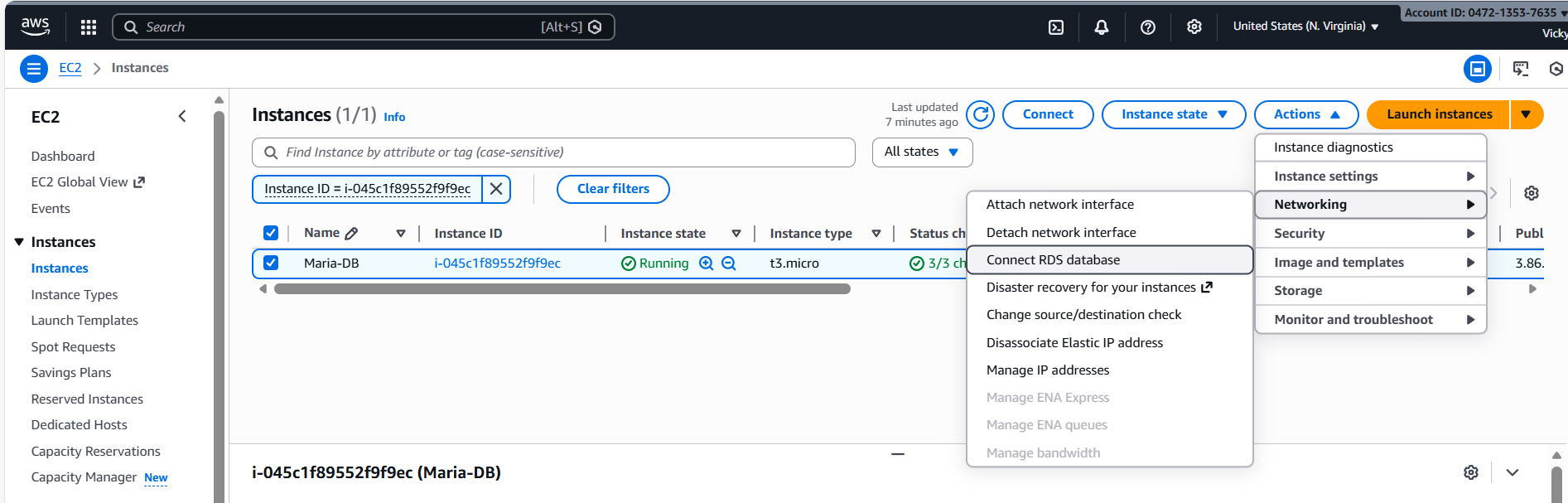
**Successfully, we created a Maria DB RDS in aws.**

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**5.Migrate database from EC2 to RDS:**

Navigate to ec2 and click on actions 🡪 Networking 🡪 Connect to RDS Database.



Connect to Instance and continue

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Now we have connected to RDS database.

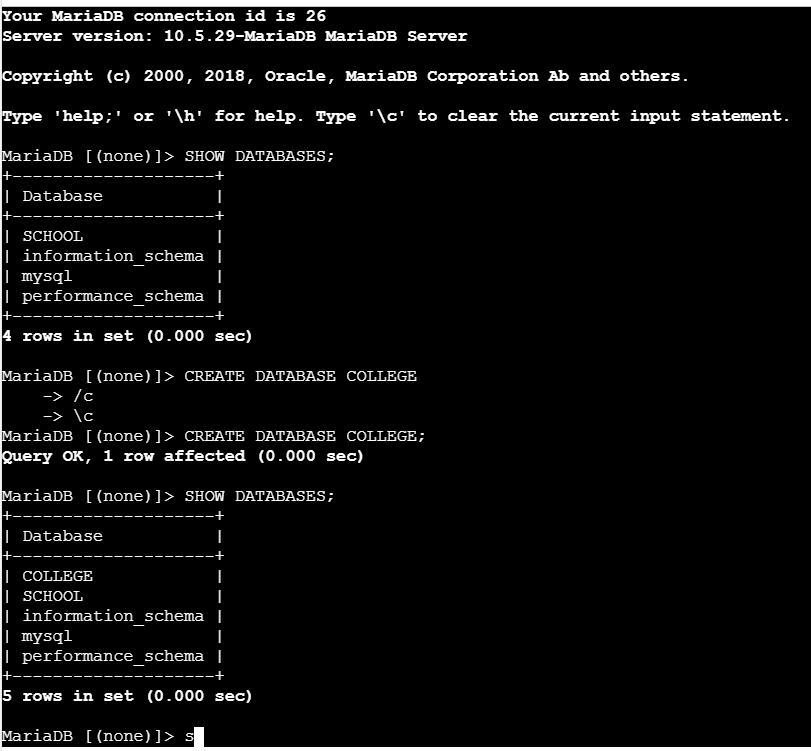
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Logged into MariaDB via ec2

Listed Databases

Created a new Database and verified

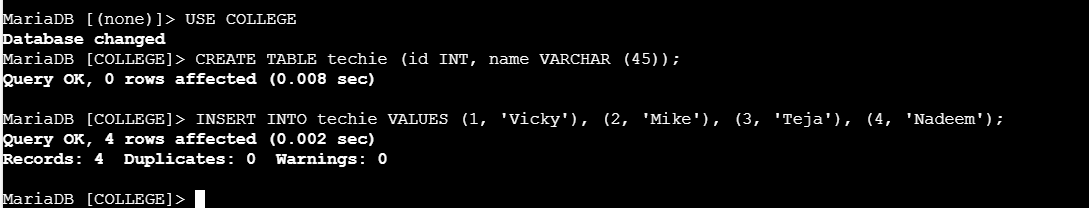


Let’s create a table below

Checked into College DB.

Created Table <techie>

Added values

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Listed the table created.

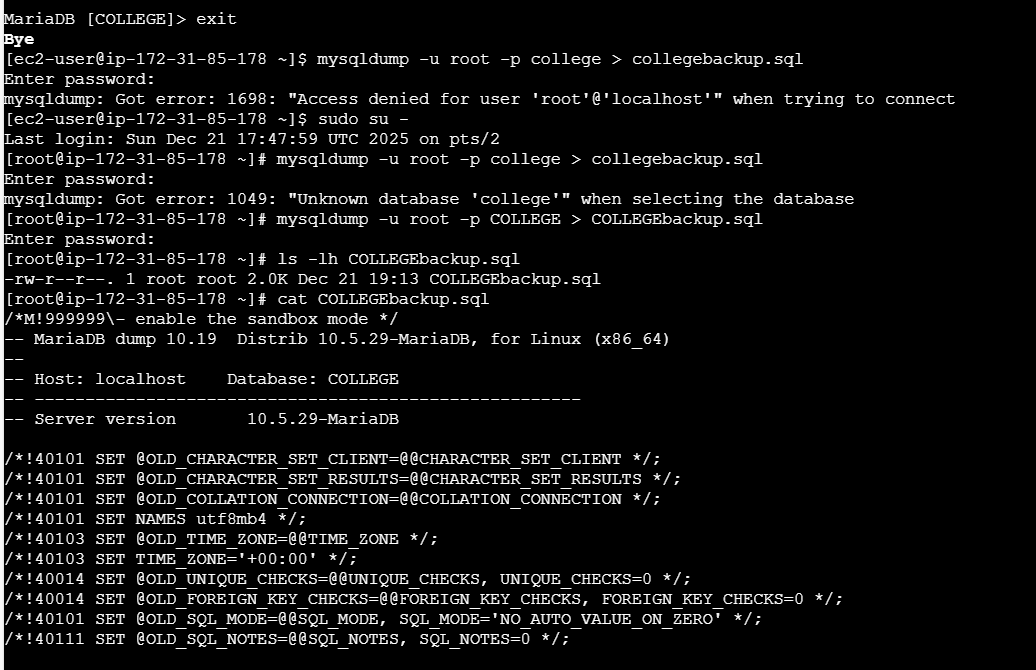
**A screen shot of a black screen

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Using command- mysqldump -u root -p <COLLEGE> >COLLEGEbackup.sql, we did backup the data**.**

Using command- **ls -lh**, we verified the backup is successful.

Using command- **cat COLLEGEbackup.sql**, we verified the tables backup is successful.

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exit from the server and login back using the endpoint- **mysql -h <endpoint> -u admin -p -ssl**

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Now let’s create same Databases as we have in maria db.

Created COLLEGE and SCHOOL, which we have in maria db.

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Missed out a step in previous step, we need to change our Database to COLLEGE, which we created in RDS DB.

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Now, we need to backup from ec2 to RDS. Used command- mysql -h <endpoint> -u admin -p <rds db\_name> <Master\_Username from RDS> -p COLLEGE < backup.sql

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Now, backup is complete. Used command- ls -lh <DB\_NAME>backup.sql

**6.Install MySQL DB on EC2:**

Launched a new instance named- MySQL DB

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Navigate to website and get a installation URL.

Installed My SQL DB package

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Installed MySQL Repository package as well.

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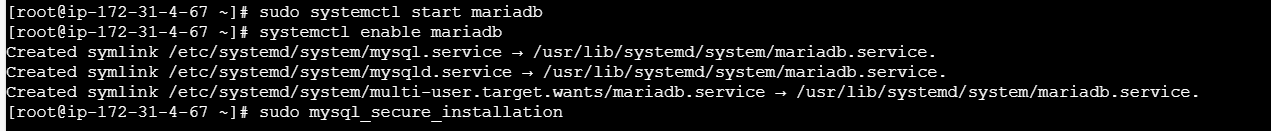
Let’s install maria db package

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Started, enabled the service.

Installed mysql using command- sudo mysql\_secure\_installation

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Finally, we can login to our mysql using mysql -u root -p

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**7.Launch MySQL RDS image:**

Navigate to Aurora and RDS- Create a Database (MySQL)

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Select Engine Version and Choose Template

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Name provided for DB.

Master Username and Password is managed by user, not aws.

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Choose the Instance config.

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Storage is updated and allocated until 20 GB.

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For connectivity, We are allowing ec2 instance connect and attached ec2 instance which we used earlier to install maria db and Mysql.

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VPC selected and chose AWS managed. A screenshot of a computer

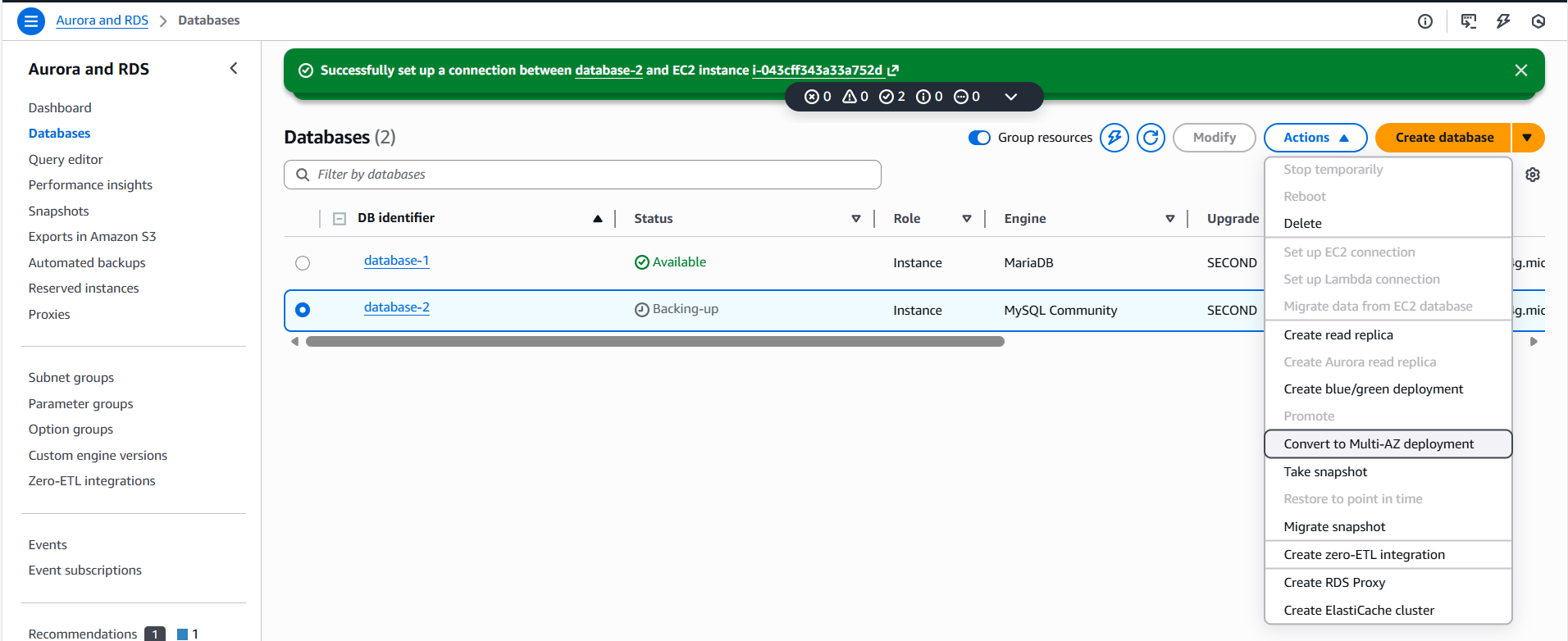
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Finally Mysql DB created and available for use. A screenshot of a computer

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**8.Configure Multi-AZ:**

Navigate to created DB and click 🡪Actions 🡪Convert to Multi-Az deployment.

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Apply Immediately and verify on the main browser, if created.

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Multi-AZ created successfully. We will not be able to access the standby as per default.

Now, we can see the Multi-AZ is greyed out, so it is successfully created.

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**9.Take backup of DB and restore the DB:**

Navigate to RDS and Aurora and take a snapshot of the existing Database available.

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enter the identifier and take snapshot.

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AI-generated content may be incorrect.**Step** Created Snapshot successfully.

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We are removing the DB from main page and restore from Snapshot.

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Navigate to Database and verify, the record is deleted.

**A close-up of a computer screen

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Navigate to Snapshots and click 🡪 Actions and select Restore snapshot, so it will get recovered and DB will be on main page.

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Now, we can see the database-1 is getting restored.

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**10.Create read replica:**

Navigate to Database instance and select the DB, we want to perform Read replica.

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I have already created Read-replica for this DB. So, we cannot duplicate.

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