Assignment 6.2 – RDS

Today's tasks:

1. Query to RDS from EC2

Submit items below in one pdf file:

1. Screenshot of query executions from EC2 on RDS.

Instruction 1 – Create an RDS and connect from an EC2

1. Create an IAM role for your EC2 that has Amazon RDS Data access
   a. Go to IAM -> Roles -> Create Role
   b. Select type of trusted entity (AWS Service is selected by default) -> Select EC2 -> Click Next permissions
   c. Look for AmazonRDSDataFullAccess. Select it. Then next tags. Then next review.
   d. Give a role a name and click create role button.
   e. Add this IAM role to an existing EC2 instance or select when creating a new EC2 instance in public subnet
2. Create database subnet
   a. Go to RDS -> In sidebar, there is Subnet groups, click on that -> click Create DB subnet group.
   b. Give it a name and description.
   c. Select your VPC
   d. Select AZ us-east-1a and us-east-1b
   e. Select private subnets in those AZs -> Hit create.
3. Create database SG – Allow inbound access from the EC2
   a. Go to EC2 -> In sidebar, there is Security groups, click on that -> Click Create Security Group
   b. Give name as MyRdsSg -> give description -> select your VPC
   c. In inbound rules section, click on add rule
   d. Click on Type -> Look for MYSQL/Aurora
   e. Source -> select the SG of the web server that accesses to the database -> Create Security Group
4. Create RDS database
   a. Templates -> select dev/test
   b. Enter master password. That you will use when logging to the DB. Username is admin.
   c. DB instance class -> Select Burstable classes -> Select db.t3.small
   d. Availability & durability -> Create an Aurora Replica
   e. Select Create an Aurora Replica or Reader node in a different AZ in Availability & Durability section.
   f. Select your VPC, it will automatically select the subnet. Select SG as well.
   g. you must uncheck this default setting in the Additional configuration / Monitoring panel
5. Install mysql client on EC2

```
sudo yum install mysql -y
mysql -h my-database-1.cluster-cqc7tbzm3eby.us-east-1.rds.amazonaws.com -P
3306 -u root -p
show databases;
create database university;
```

6. Create database, table

```
CREATE TABLE TEACHER (
    TEACHER_ID int,
    NAME varchar(255)
);

CREATE TABLE COURSE (
    COURSE_ID int,
    COURSE_CODE varchar(255),
    COURSE_NAME varchar(255),
      TEACHER_ID int
);
```

7. Insert data into it and select it.

```
INSERT INTO TEACHER (TEACHER_ID, NAME)
VALUES (1, "UNUBOLD"),
(2, "ASAAD"),
(3, "UMUR");

INSERT INTO COURSE (COURSE_ID, COURSE_CODE, COURSE_NAME, TEACHER_ID)
VALUES (1, "CS516", "CLOUD COMPUTING", 1),
(2, "CS568", "React", 1),
(3, "CS569", "Angular", 1),
(3, "CS569", "Angular", 2);
```

8. Retrieve data

```
SELECT TEACHER.NAME, COURSE.COURSE_ID, COURSE.COURSE_NAME
FROM TEACHER JOIN COURSE ON TEACHER.TEACHER_ID = COURSE.TEACHER_ID;
```

Refer: [Connecting to a DB instance running the MySQL database engine](#)