

# Assignment 7: Creating an Amazon RDS MySQL Database for Software Configuration

## Project Description

I created a MySQL database using Amazon RDS to store and manage configuration and result data for my reference software (RS).

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Step 1: Create the RDS MySQL Database in AWS Console

Step 2: Connect to EC2 and Install MySQL Client

Step 3: Connect to the RDS MySQL Instance

Step 4: Create the Game Configuration Database

Step 5: Create Table `upcoming_games` and Insert Data

Step 6: Create Table `search_results` and Insert Data

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## Step 1: Create the RDS MySQL Database in AWS Console

- **Start the EC2 instance** if it's not already running.
- Go to the AWS Console → Navigate to **RDS** → Click "**DB Instances**" → Click "**Create database**".
- Configure the database:
  - **Engine type:** MySQL
  - **Template:** Free tier
  - **DB Instance Identifier:** Choose a name (e.g., `eduardo-database-2` )
  - **Master username:** `root`
  - **Master password:** Choose a secure password

- **DB instance class:** `db.t2.micro`
  - **Storage:** Use default settings
  - **Public access:** No
  - **Security Group:** Ensure port **3306** is open from your EC2 instance's security group
  - Click "**Create database**" and wait for the instance to become available.
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## Step 2: Connect to EC2 and Install MySQL Client

1. **Open the terminal and connect to the EC2 instance:** `ssh -i /c/Users/eduar/Downloads/edu.pem ubuntu@<public ip>`
  2. **Install the MySQL client** (follow instructions from [DigitalOcean guide](https://www.digitalocean.com/community/tutorials/how-to-install-mysql-on-ubuntu-20-04): <https://www.digitalocean.com/community/tutorials/how-to-install-mysql-on-ubuntu-20-04>)
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## Step 3: Connect to the RDS MySQL Instance

Use the following command (replace with your actual RDS endpoint):

Example:

```
mysql -h eduardo-database-2.xyz.us-east-1.rds.amazonaws.com -u root -p
```

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## Step 4: Create the Game Configuration Database

1. After logging into MySQL, **create a new database:**

```
CREATE DATABASE my_game_database;
```

2. **Select the database:**

```
USE my_game_database;
```

3. **Verify creation:**

```
SHOW DATABASES;
```

## Step 5: Create Table `upcoming_games` and Insert Data

1. **Create Table:**

```
CREATE TABLE upcoming_games (  
  id INT AUTO_INCREMENT PRIMARY KEY,  
  game_title VARCHAR(255) NOT NULL,  
  release_date DATE NOT NULL,  
  platform VARCHAR(255) NOT NULL,  
  genre VARCHAR(255) NOT NULL,  
  publisher VARCHAR(255) NOT NULL  
);
```

2. **Insert Data into `upcoming_games` :**

```
INSERT INTO upcoming_games (game_title, release_date, platform, genre,  
publisher)  
VALUES  
(  
'Life is Strange: Double Exposure', '2024-10-29', 'PlayStation, Xbox, Nintendo', 'Adventure', 'Square Enix'),  
(  
'NO MORE HUMANS', '2024-10-27', 'Windows', 'Action Indie', 'NO MORE HUMANS'),
```

```
(
    'Phantom Patrol', '2024-10-27', 'Windows, Linux', 'Casual Indie', 'Gamma Interactive'),
    ('Halloween Candy Reclaim', '2024-10-26', 'Windows', 'Action Casual Indie', 'Sourcecity'),
    ('Don't Be Afraid 2', '2024-10-27', 'Windows', 'Horror', 'Untold Tales Eneida Games'),
    ('Bullet Voyage', '2024-10-26', 'Windows', 'Action Adventure Casual Indie', 'Wending Studio'),
    ('Survive Forgotten and Abandoned', '2024-10-27', 'Windows', 'Adventure Indie', 'SurviveACE TEAMBA'),
    ('House of Dred', '2024-10-27', 'Windows', 'Action Indie', 'DrDann'),
    ('Dangerous Line', '2024-10-27', 'Windows', 'Adventure Strategy Simulation Casual', 'gamesforgames'),
    ('Rushmith', '2024-10-27', 'Windows', 'Simulation Casual Indie', 'KusanohitoCreative');

```

### 3. Retrieves all rows and columns from the `upcoming_games` table:

```
SELECT * FROM upcoming_games
```

```
ubuntu@ip-172-31-83-202:~$ mysql -h eduardo-database-2.cvka1424o1ll.us-east-1.rds.amazonaws.com -P 3306 -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 35
Server version: 8.0.39 Source distribution

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

mysql> USE my_game_database;
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
mysql> SELECT * FROM upcoming_games;
+----+-----+-----+-----+-----+-----+
| id | game_title | release_date | platform | genre | publisher |
+----+-----+-----+-----+-----+-----+
| 1 | Life is Strange: Double Exposure | 2024-10-29 | PlayStation, Xbox, Nintendo | Adventure | Square Enix |
| 2 | NO MORE HUMANS | 2024-10-27 | Windows | Action Indie | NO MORE HUMANS |
| 3 | Phantom Patrol | 2024-10-27 | Windows, Linux | Casual Indie | Gamma Interactive |
| 4 | Halloween Candy Reclaim | 2024-10-26 | Windows | Action Casual Indie | Sourcecity |
| 5 | Don't Be Afraid 2 | 2024-10-27 | Windows | Horror | Untold Tales Eneida Games |
| 6 | Bullet Voyage | 2024-10-27 | Windows | Action Adventure Casual Indie | Wending Studio |
| 7 | Survive Forgotten and Abandoned | 2024-10-27 | Windows | Adventure Indie | SurviveACE TEAMBA |
| 8 | House of Dred | 2024-10-27 | Windows | Action Indie | DrDann |
| 9 | Dangerous Line | 2024-10-27 | Windows | Adventure Strategy Simulation Casual | gamesforgames |
| 10 | Rushmith | 2024-10-27 | Windows | Simulation Casual Indie | KusanohitoCreative |
+----+-----+-----+-----+-----+-----+
10 rows in set (0.00 sec)
```

## Step 6: Create Table `search_results` and Insert Data

1. **Select the same database:**

```
USE my_game_database;
```

2. **Create the `search_results` table:**

```
CREATE TABLE search_results (  
  id INT AUTO_INCREMENT PRIMARY KEY,  
  search_term VARCHAR(255) NOT NULL,  
  search_date DATETIME NOT NULL,  
  result_count INT NOT NULL  
);
```

3. **Insert example `search_results` data:**

```
INSERT INTO search_results (search_term, search_date, result_count)  
VALUES  
( 'Vampire', '2024-10-29 12:34:56', 10),  
( 'Hollow Knight', '2024-10-29 14:20:45', 5),  
( 'Life is Strange', '2024-10-28 09:15:30', 3),  
( 'Halloween', '2024-10-28 11:15:20', 7),  
( 'Survival', '2024-10-27 13:05:10', 6),  
( 'Adventure', '2024-10-26 17:30:00', 15),  
( 'Horror', '2024-10-26 19:15:35', 8),  
( 'Arcade', '2024-10-25 08:50:12', 4),  
( 'Strategy', '2024-10-22 22:25:47', 9),  
( 'Nintendo', '2024-10-21 16:35:29', 5);
```

4. **Retrieves all rows and columns from the `search_results` table:**

```
SELECT * FROM search_results
```

```

ubuntu@ip-172-31-83-202:~$ mysql -h eduardo-database-2.cvkai424o1ll.us-east-1.rds.amazonaws.com -P 3306 -u root -p
Enter password:
Welcome to the MySQL monitor.  Commands end with ; or \g.
Your MySQL connection id is 37
Server version: 8.0.39 Source distribution

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

mysql> USE my_game_database;
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
mysql> SELECT * FROM search_results;
+-----+-----+-----+-----+
| id | search_term | search_date | result_count |
+-----+-----+-----+-----+
| 1 | Vampire | 2024-10-29 12:34:56 | 10 |
| 2 | Hollow Knight | 2024-10-29 14:20:45 | 5 |
| 3 | Life is Strange | 2024-10-28 09:15:30 | 3 |
| 4 | Halloween | 2024-10-27 11:45:20 | 7 |
| 5 | Survival | 2024-10-27 13:05:10 | 6 |
| 6 | Adventure | 2024-10-26 17:30:00 | 15 |
| 7 | Horror | 2024-10-26 19:45:35 | 8 |
| 8 | Arcade | 2024-10-25 08:50:12 | 4 |
| 9 | Strategy | 2024-10-24 22:25:47 | 9 |
| 10 | Nintendo | 2024-10-23 16:35:29 | 5 |
+-----+-----+-----+-----+
10 rows in set (0.00 sec)

```