01 Cloud SQL-Demo -KirkYagami 👨‍💻🕵️

Cloud SQL - Basics

Step-01: Introduction

- Create Cloud SQL MySQL Instance.
- Create and manage Databases in Cloud SQL Instances.
- Perform the above tasks using Web Console and gcloud CLI.

Step-02: Create MySQL Database Instances

Step-02-01: Using Web Console

- Go to Cloud SQL -> MySQL.
- **Cloud SQL edition:** Enterprise.
- **Edition Preset:** Production.
- **Database Version:** MySQL 8.0.
- **Instance ID:** RevDB.
- **Password:** dbpassword11.
- **Choose Region and Zonal Availability:**
  - **Region:** us-central1.
  - **Zonal Availability:** Multi-Zone.
- **Configure Your Instance:**
  - **Machine Configuration:** 1 vCPU, 3.75 GB.
  - **Storage:** SSD/HDD.
  - **Capacity:** 10 GB.
  - **Enable Automatic Storage Increases:** Yes.
- **Connections:**
  - **Enable Public IP.**
- **Data Protection:**
  - **Disable:** Enable deletion protection.

Click on **Create Instance**.

Step-02-02: Connect to MySQL Instance

1. Using Cloud Shell

Connect to Cloud SQL MySQL Instance using Cloud Shell 🔗

- Open Cloud Shell and run the following command:

```
gcloud sql connect RevDB --user=root --quiet
```

- If prompted, enable the API.
- Execute the command again and provide the password.

2. Using Local MySQL Workbench

- First, allow your IP address to connect to the instance:
  - Search "What is my IP address" on Google to obtain your IP address.
  - Allow that as an authorized network:
    - Go to Connections -> Networking -> Authorized networks -> Add a network -> Provide the name and click on **SAVE**.
- Open MySQL Workbench.
- Create a new connection.
  - Click on **Test Connection** and then **OK**.

Using gcloud CLI

- **Additional Reference:** gcloud sql documentation

```
# Create Instance (Very Basic)
gcloud sql instances create INSTANCE_NAME
```

Observation:

- All other options will be set to default values.

```
# Create Instance (Set DB Version, DB Size, Root Password, Zone)
gcloud sql instances create RevDB2 \
            --database-version=MYSQL_8_0 --cpu=2 --memory=4GB \
            --region=us-central1 --root-password=dbpassword11

# List Database Instances
gcloud sql instances list

# Describe Database Instances
gcloud sql instances describe INSTANCE_NAME
gcloud sql instances describe RevDB
gcloud sql instances describe RevDB2
```

Step-03: RevDB - Connect to Database Instance Using Cloud Shell and Load Data

```
# RevDB: Connect to Cloud SQL MySQL Instance using Cloud Shell
gcloud sql connect RevDB --user=root --quiet

# RevDB: MySQL Commands - Create Database Schema
show schemas;
create schema webappdb1;
show schemas;

# RevDB: Create Table
use webappdb1;
CREATE TABLE myusers (firstname VARCHAR(50), lastname VARCHAR(50));
show tables;

# RevDB: Load Data into Table
INSERT INTO myusers (firstname, lastname) VALUES
    ('John', 'Doe'),
    ('Jane', 'Smith'),
    ('Alice', 'Johnson'),
    ('Bob', 'Williams'),
    ('Eva', 'Miller');

# RevDB: Query Table
select * from myusers;
exit
```

Step-04: RevDB2 - Connect to Database Instance Using Cloud Shell

```
# RevDB2: Connect to Cloud SQL MySQL Instance using Cloud Shell
gcloud sql connect RevDB2 --user=root --quiet

# RevDB2: MySQL Commands
show schemas
```

Step-05: Manage Databases in a Database Instance (gcloud CLI)

```
# Create Database in the Database Instance
gcloud sql databases create DATABASE_NAME --instance=INSTANCE_NAME
gcloud sql databases create webappdb2 --instance=RevDB
gcloud sql databases create webappdb3 --instance=RevDB
gcloud sql databases create webappdb4 --instance=RevDB

# List Databases from the Database Instance
gcloud sql databases list --instance=INSTANCE_NAME
```

```
gcloud sql databases list --instance=RevDB

# Also List Databases from Web Console
Go to Cloud SQL → RevDB → Databases

# Delete a Database from the Database Instance
gcloud sql databases delete DATABASE_NAME --instance=INSTANCE_NAME
gcloud sql databases delete webappdb4 --instance=RevDB
gcloud sql databases list --instance=RevDB
```