

# Setting up a MySQL Database

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# MySQL Database Set-Up Options

- In order to connect to a MySQL database from Java, you must have a MySQL database server running
- There are multiple ways of setting up and configuring a MySQL database server. Here are SOME of the ways:
  - Set up a MySQL database server **on your local machine**
  - Set up a MySQL database **in the cloud using Amazon Web Services**
  - Set up a MySQL database **in the cloud using Google Cloud**

# Set Up a MySQL Database Server On Your Local Machine

- MySQL can be downloaded from the website: <https://dev.mysql.com/downloads/mysql/>
- Install MySQL by following the on-screen instructions
- Start up the MySQL Command Line Client

Reference <https://dev.mysql.com/doc> for more information about MySQL

# Set Up a MySQL Database Server On Your Local Machine

- You will need to create a new database and table(s) after logging in. You can use SQL (Structured Query Language) to do this.
- Create a database using the CREATE DATABASE statement:  
`CREATE DATABASE <database_name>;`
- Show all existing databases with the SHOW DATABASES statement:  
`SHOW DATABASES;`
- Select the database to use with the USE statement:  
`USE <database_name>;`
- Delete the database with the DROP DATABASE statement:  
`DROP DATABASE <database_name>;`

Reference <https://dev.mysql.com/doc> for more information about MySQL

# Set Up a MySQL Database Server On Your Local Machine

- Create a table in the database with the CREATE TABLE statement:

```
CREATE TABLE <table_name> ( <column1> <datatype>, <column2> <datatype>, ....);
```

- To list all tables you have defined in the database, use the SHOW TABLES statement:

```
SHOW TABLES;
```

- To list details of a table, use the DESCRIBE statement:

```
DESCRIBE <table_name>;
```

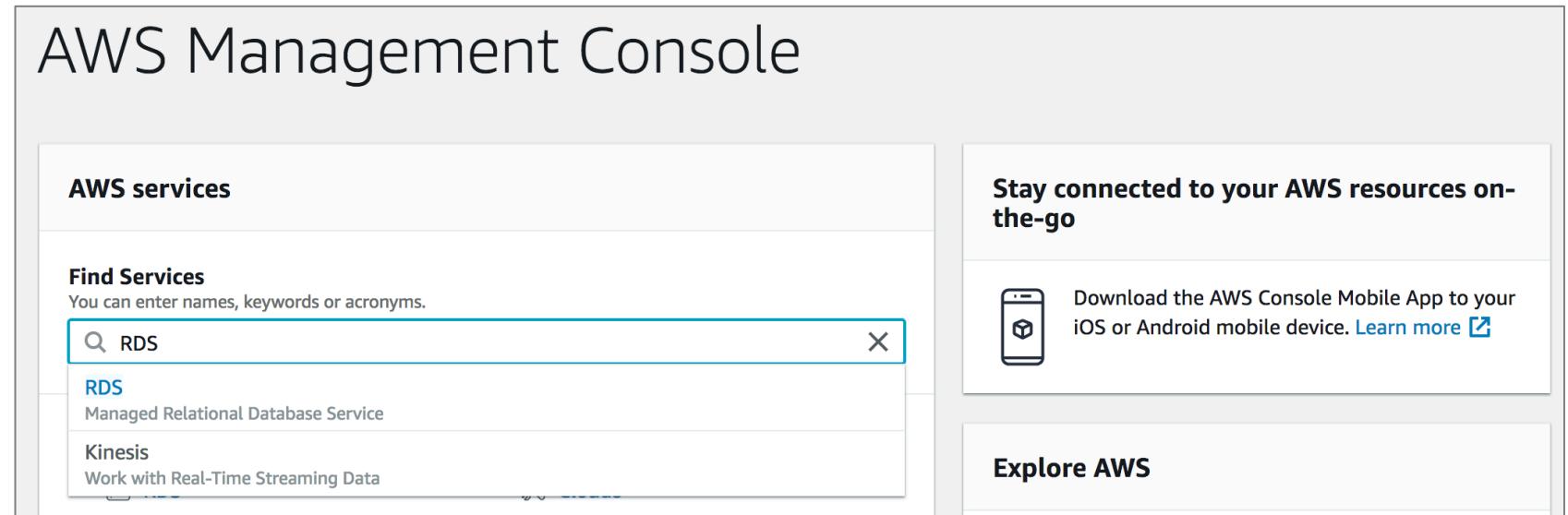
- To delete a table, use the DROP TABLE statement:

```
DROP TABLE <table_name>;
```

Reference <https://dev.mysql.com/doc> for more information about MySQL

# Set Up a MySQL Database In the Cloud Using AWS

- Sign into the AWS console: <http://console.aws.amazon.com>
- In the AWS management console:
  - Find “RDS” in the services



Reference <https://docs.aws.amazon.com/rds/index.html> for more information about Amazon RDS

# Set Up a MySQL Database In the Cloud Using AWS

- In the Create database section:
  - Choose “Create database”
- In the Engine options section:
  - Select “MySQL”
- In the Settings section:
  - Write the name for “DB instance Identifier” (e.g. cit590example)
  - Choose the master username and password

Reference <https://docs.aws.amazon.com/rds/index.html> for more information about Amazon RDS

# Set Up a MySQL Database In the Cloud Using AWS

- In the DB instance size section:
  - It is recommended to use "db.t3.small"
  - You can always change it later
- In the Storage section:
  - It is recommended to select “General Purpose (SSD)” and uncheck “Enable storage autoscaling”

Reference <https://docs.aws.amazon.com/rds/index.html> for more information about Amazon RDS

# Set Up a MySQL Database In the Cloud Using AWS

- In the Connectivity section:
  - It is recommended to use default VPC, select “default” for “Subnet group”, choose “Yes” for “Publicly accessible”, select “default” for the “VPC security group”, and set “Availability zone” to “No preference”
- In the Additional Configuration section:
  - Set “Initial database name” to the name of your database
  - Use default values for the remaining settings
- Scroll to the bottom of the page and click “Create database” to launch the instance

Reference <https://docs.aws.amazon.com/rds/index.html> for more information about Amazon RDS

# Set Up a MySQL Database In the Cloud Using Google Cloud

- Sign into the Google Cloud console: <https://console.cloud.google.com/>
- Create a Cloud project
- Install and initialize the Cloud SDK from the website: <https://cloud.google.com/sdk/docs>
- In the Cloud SQL Instances page on the Google Cloud console:
  - Choose “Create instance”
  - Choose “MySQL”
  - Write the name (e.g. cit590example)
  - Choose the root and password
  - Choose the region and zone for your instance under “Location”
  - Scroll to the bottom of the page and click “Create” to launch the instance

Reference <https://cloud.google.com/sql/docs/mysql> for more information about Cloud SQL for MySQL

# Set Up a MySQL Database In the Cloud Using Google Cloud

- In the Cloud SQL Instances page on the Google Cloud console:
  - Choose the instance that you would like to add the database to.
  - Choose the “DATABASES” tab
  - Choose “Create database”
  - Choose the name of your database
  - Scroll to the bottom of the page and click “Create” to create your database on the Cloud SQL instance

Reference <https://cloud.google.com/sql/docs/mysql> for more information about Cloud SQL for MySQL