Hands-on Lab:Working with a real world data-set using SQL in MySQL using phpMyAdmin

Estimated time needed: 20 minutes

In this lab, you will learn how to create tables and load data in the MySQL database service using the phpMyAdmin graphical user interface (GUI) tool.

Software Used in this Lab

In this lab, you will use [MySQL](#). MySQL is a Relational Database Management System (RDBMS) designed to efficiently store, manipulate, and retrieve data.

To complete this lab you will utilize MySQL relational database service available as part of IBM Skills Network Labs (SN Labs) Cloud IDE. SN Labs is a virtual lab environment used in this course.

Database Used in this Lab

Mysql_learners database has been used in this lab.

Here you will be creating and inserting data into the below mentioned 2 tables

1.chicago_public_schools
2.chicago_socioeconomic_data
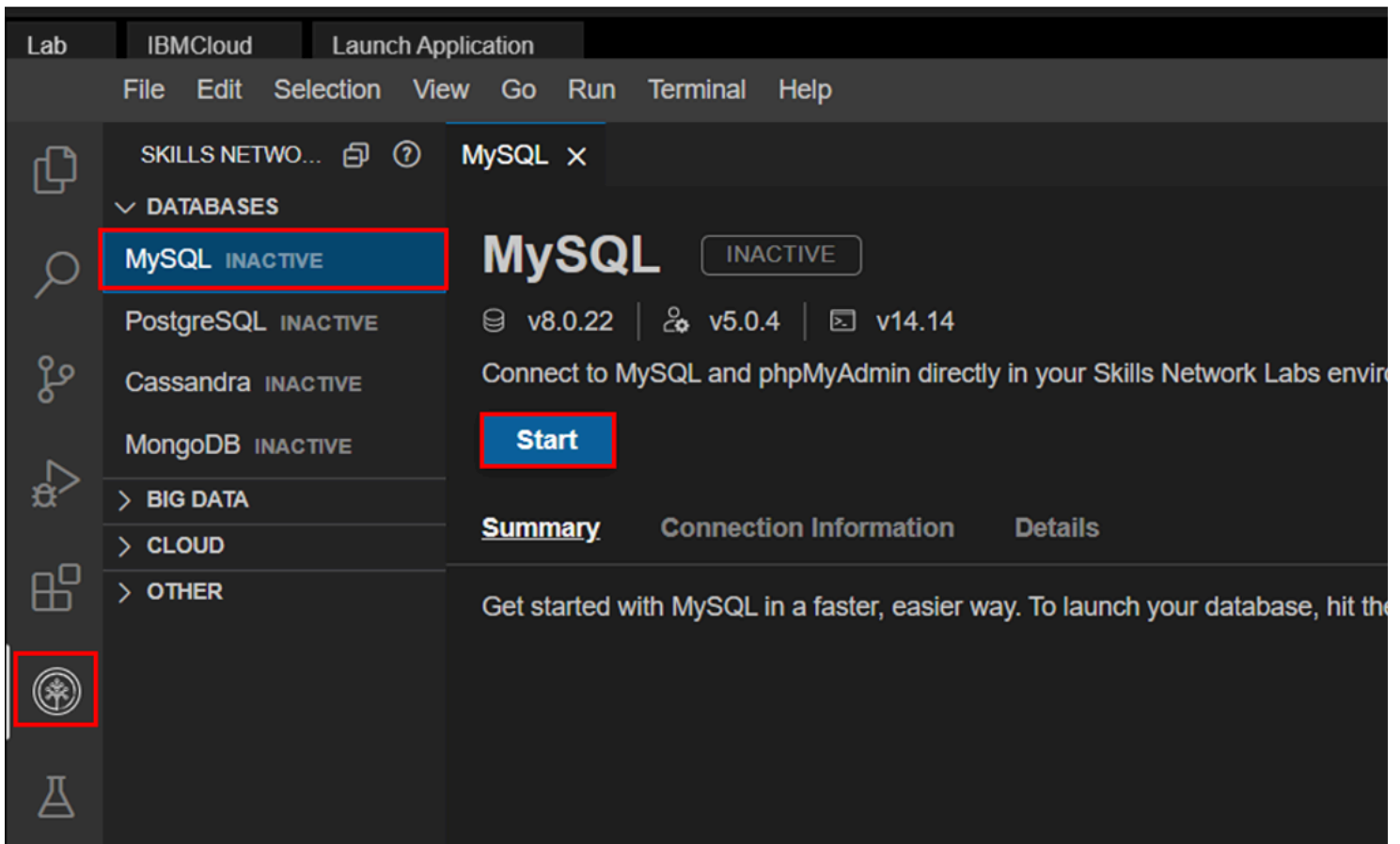
Here we will be using 2 dump files for this purpose.

[chicago_public_schools](#)
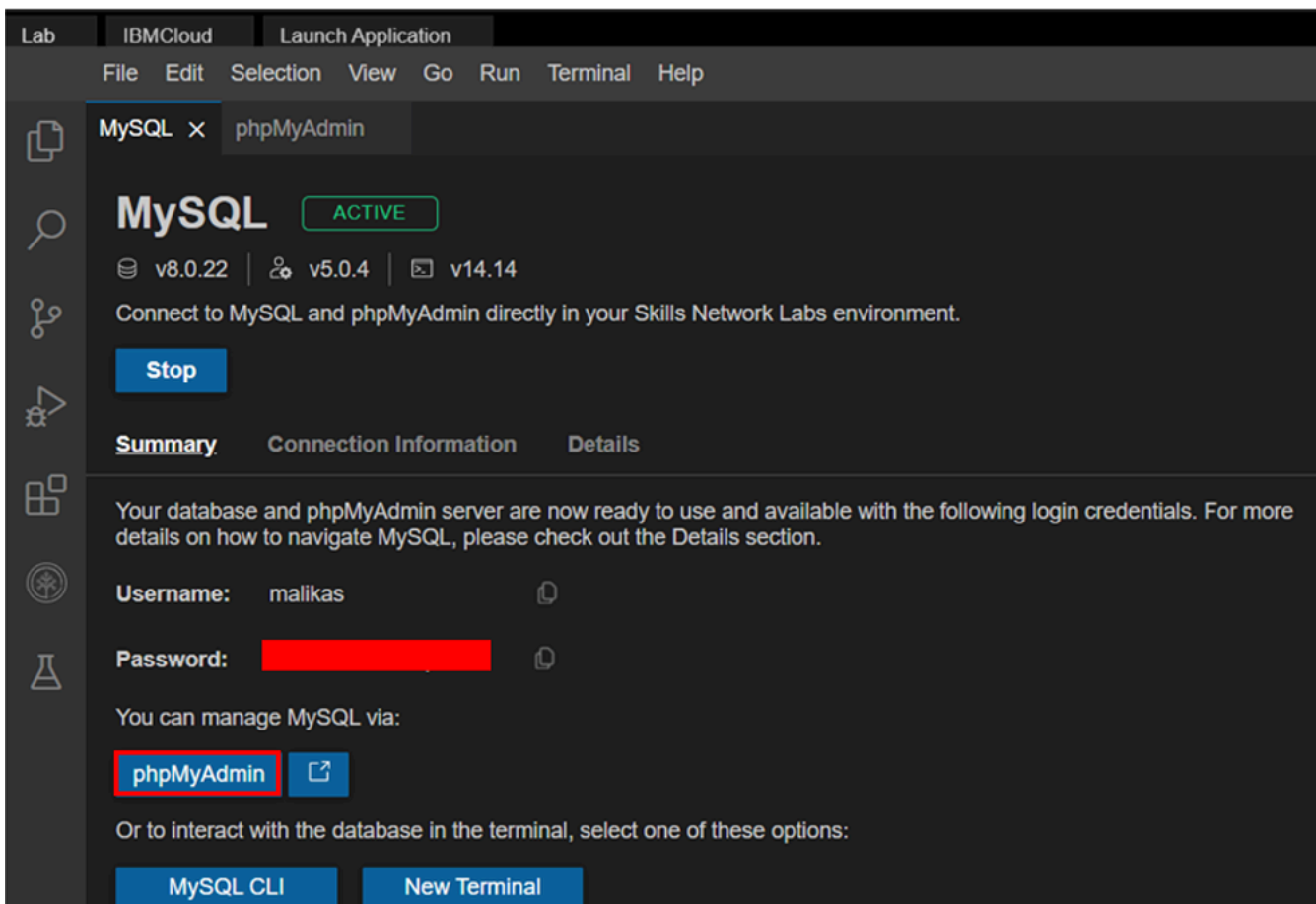
[chicago_socioeconomic_data](#)

Task A: Create a database

1. Click on **Skills Network Toolbox**. In **Database** section, click **MySQL**.

To start the MySQL click **Start**.

2. Once **MySQL** has started, click on **phpMyAdmin button** to open **phpMyAdmin** in the same window.

3. You will see the phpMyAdmin GUI tool.

phpMyAdmin

Recent | Favorites

- New
- information_schema
- mysql
- performance_schema
- sakila
- sys

Server: mysql:3306

Databases   SQL   Status

General settings

Server connection collation: utf8mb4

More settings

Appearance settings

Language   English

Theme: pmahomme

4. In the tree-view, click **New** to create a new empty database. Then enter **Mysql_Learners** as the name of the database and click **Create**.

The encoding will be left as **utf8mb4_0900_ai_ci**. UTF-8 is the most commonly used character encoding for content or data.

Proceed to Task B.

| Databases | SQL | Status | User accounts | Export | Import | Settings | Binary log | R |

Databases

🗃 **Create database** ❔

| Mysql_learners | | utf8mb4_0900_ai_ci | ⌄ | Create |

	Database ▲	Collation	Master replication	Action
☐	information_schema	utf8_general_ci	✔ Replicated	▪ Check privileges
☐	mysql	utf8mb4_0900_ai_ci	✔ Replicated	▪ Check privileges
☐	performance_schema	utf8mb4_0900_ai_ci	✔ Replicated	▪ Check privileges
☐	sys	utf8mb4_0900_ai_ci	✔ Replicated	▪ Check privileges
Total: 4				

↰ ☐ Check all   *With selected:*   🗑 Drop

⚠ Note: Enabling the database statistics here might cause heavy traffic between the web server and the MySQL server.

- **Enable statistics**

Load the dump files one by one into the database **Mysql_learners** by clicking the **Import** tab and choose the file.
Click on **Go** button.

Importing into the database "Mysql_learners"

File to import:

File may be compressed (gzip, bzip2, zip) or uncompressed.
A compressed file's name must end in **.[format].[compression]**. Example: **.sql.zip**

Browse your computer: | Choose File | chicago_pu..._schools.sql   (Max: 2,048KiB)

You may also drag and drop a file on any page.

Character set of the file: utf-8   ⌄

Partial import:

☑ Allow the interruption of an import in case the script detects it is close to the PHP timeout limit. *(This might be a good way to import large files, howe*

Skip this number of queries (for SQL) starting from the first one: 0

Other options:

☑   Enable foreign key checks

Format:

⌄

 Console

phpMyAdmin

Recent Favorites

- New
- information_schema
- mysql
- Mysql_learners
  - New
  - chicago_public_schools
- performance_schema
- sys

Server: mysql:3306 » Database: Mysql_learners

Structure | SQL | Search | Query | Export | Import | Operations

✔️ *Import has been successfully finished, 22 queries executed. (chicago_public_schools.sql)*

✔️ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

```
-- phpMyAdmin SQL Dump -- version 5.0.4 -- https://www.phpmyadmin.net/ -- -- Host: mysq
Version: 7.4.15 SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO"
```

✔️ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

```
START TRANSACTION
```

✔️ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

```
SET time_zone = "+00:00"
```

✔️ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

```
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */
```

✔️ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

```
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */
```

The tables are created and the data is loaded successfully. Repeat the same operation with the other dump file to create and load the table.

Problems

Problem 1

How many Elementary Schools are in the dataset?

▶ Click here for a hint
▶ Click here for another hint
▶ Click here for the solution.

Problem 2

What is the highest Safety Score?

▶ Click here for a hint
▶ Click here for the solution.

Problem 3

Which schools have highest Safety Score?

▶ Click here for the solution.

Problem 4

What are the top 10 schools with the highest "Average Student Attendance"?

▶ Click here for the solution.

Problem 5

Retrieve the list of 5 Schools with the lowest Average Student Attendance sorted in ascending order based on attendance

▶ Click here for the solution.

Problem 6

Now remove the '%' sign from the above result set for Average Student Attendance column

▶ Click here for a hint.
▶ Click here for the solution.

Problem 7

Which Schools have Average Student Attendance lower than 70%?

▶ Click here for a hint.
▶ Click here for another hint
▶ Click here for the solution.

Problem 8

Get the total College Enrollment for each Community Area

▶ Click here for a hint.
▶ Click here for another hint.
▶ Click here for the solution.

Problem 9

Get the 5 Community Areas with the least total College Enrollment sorted in ascending order

▶ Click here for a hint.
▶ Click here for the solution.

Problem 10

List 5 schools with lowest safety score.

▶ Click here for the solution.

Problem 11

Get the hardship index for the community area which has College Enrollment of 4368

▶ Click here for the solution.

Problem 12

Get the hardship index for the community area which has the school with the highest enrollment.

▶ Click here for the solution.

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