



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

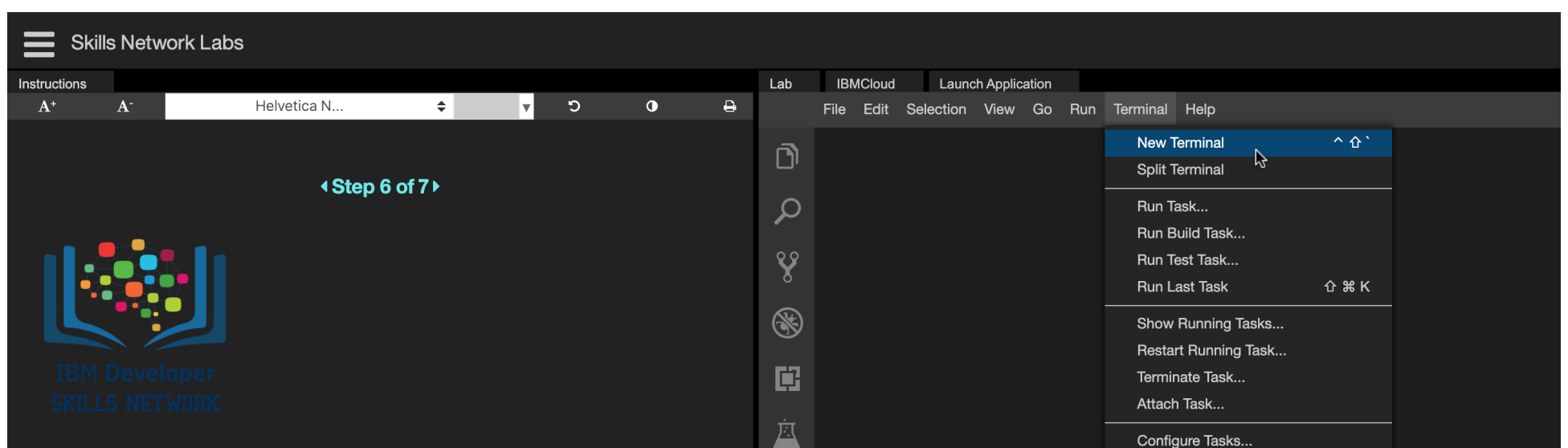
Here we will be using 2 dump files for this purpose.

[chicago_public_schools](#)

[chicago_socioeconomic_data](#)

Task A: Create a database

1. Go to **Terminal** > **New Terminal** to open a terminal from the side by side launched Cloud IDE.



2. Start MySQL service session in the Cloud IDE using the command below in the terminal. Find your MySQL service session password from the highlighted location of the terminal shown in the image below. Note down your MySQL service session password because you may need to use it later in the lab.

```
start_mysql

theia@theiadocker-sandipsahajo:/home/project$ start_mysql
Starting your MySQL database....
This process can take up to a minute.

MySQL database started, waiting for all services to be ready....

Your MySQL database is now ready to use and available with username: root password: MTY5MTUtc2FuZGJw

You can access your MySQL database via:
• The browser at: https://sandipsahajo-8080.theiadocker-27.proxy.cognitiveclass.ai
• CommandLine: mysql --host=127.0.0.1 --port=3306 --user=root --password=MTY5MTUtc2FuZGJw
theia@theiadocker-sandipsahajo:/home/project$
```

3. Copy your phpMyAdmin weblink from the highlighted location of the terminal shown in the image below. Past it into the address bar in a new tab of your web browser. This will open the phpMyAdmin tool.

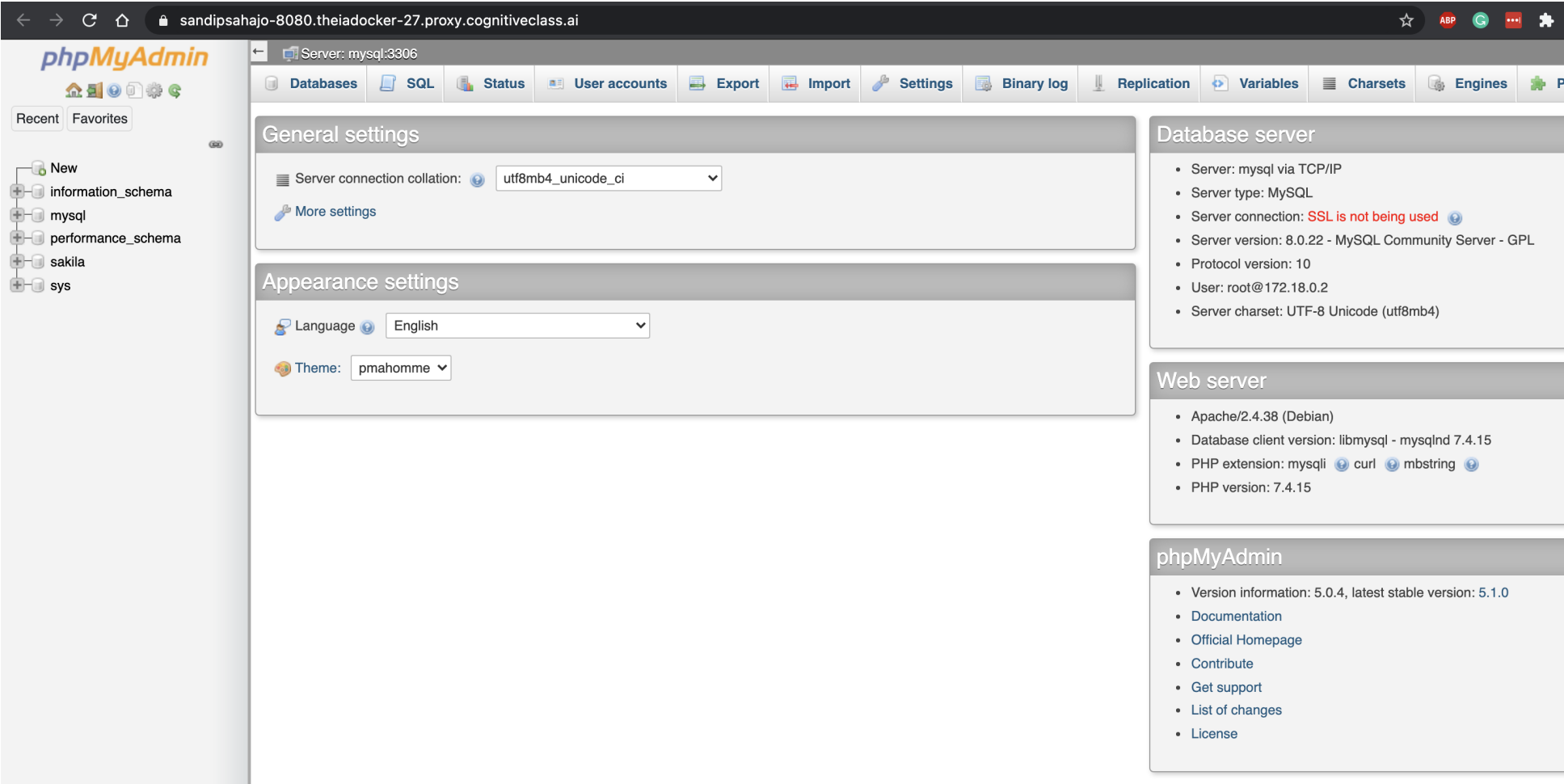
```
theia@theiadocker-sandipsahajo:/home/project$ start_mysql
Starting your MySQL database....
This process can take up to a minute.

MySQL database started, waiting for all services to be ready....

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• CommandLine: mysql --host=127.0.0.1 --port=3306 --user=root --password=MTY5MTUtc2FuZGJw
theia@theiadocker-sandipsahajo:/home/project$
```

4. You will see the phpMyAdmin GUI tool.



5. 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.

DatabasesSQLStatusUser accountsExportImportSettingsBinary logReplicationVariablesCharsetsMore

Databases

Create database ⓘ

Mysql_learners

utf8mb4_0900_ai_ci

Create

	Database	Collation	Master replication	Action
<input type="checkbox"/>	information_schema	utf8_general_ci	✔ Replicated	Check privileges
<input type="checkbox"/>	mysql	utf8mb4_0900_ai_ci	✔ Replicated	Check privileges
<input type="checkbox"/>	performance_schema	utf8mb4_0900_ai_ci	✔ Replicated	Check privileges
<input type="checkbox"/>	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_public_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, however it can break transactions.)*

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

0

Other options:

☒ Enable foreign key checks

Format:

Console

phpMyAdmin

RecentFavorites

New

information_schema

mysql

Mysql_learners

New

chicago_public_schools

performance_schema

sys

Server: mysql:3306 » Database: Mysql_learners

StructureSQLSearchQueryExportImportOperationsPrivilegesRoutinesEventsTriggersDesigner

✔ 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: mysql:3306 -- Generation Time: Nov 22, 2021 at 12:24 PM -- Server version: 8.0.22 -- PHP Version: 7.4.15 SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO"

[Edit inline] [Edit] [Create PHP code]

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

START TRANSACTION

[Edit inline] [Edit] [Create PHP code]

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

SET time_zone = "+00:00"

[Edit inline] [Edit] [Create PHP code]

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

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

[Edit inline] [Edit] [Create PHP code]

✔ 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?

- ▶ Double-click here for a hint
- ▶ Double-click here for another hint
- ▶ Double-click here for the solution.

Problem 2

What is the highest Safety Score?

- ▶ Double-click here for a hint
- ▶ Double-click here for the solution.

Problem 3

Which schools have highest Safety Score?

- ▶ Double-click here for the solution.

Problem 4

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

- ▶ Double-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

- ▶ Double-click here for the solution.

Problem 6

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

- ▶ Double-click here for a hint.
- ▶ Double-click here for the solution.

Problem 7

Which Schools have Average Student Attendance lower than 70%?

- ▶ Double-click here for a hint.
- ▶ Double-click here for another hint
- ▶ Double-click here for the solution.

Problem 8

Get the total College Enrollment for each Community Area

- ▶ Double-click here for a hint.
- ▶ Double-click here for another hint.
- ▶ Double-click here for the solution.

Problem 9

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

- ▶ Double-click here for a hint.
- ▶ Double-click here for the solution.

Problem 10

List 5 schools with lowest safety score.

► [Double-click here for the solution.](#)

Problem 11

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

► [Double-click here for the solution.](#)

Problem 12

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

► [Double-click here for the solution.](#)

Author(s)

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Changelog

Date	Version	Changed by	Change Description
2021-11-01	0.1	Lakshmi Holla, Malika Singla	Initial Version

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