



Hands-on Lab:Peer graded assignment 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 3 tables

1.chicago_public_schools 2.chicago_socioeconomic_data 3.chicago_crime

Here you will be using 3 dump files for this purpose.

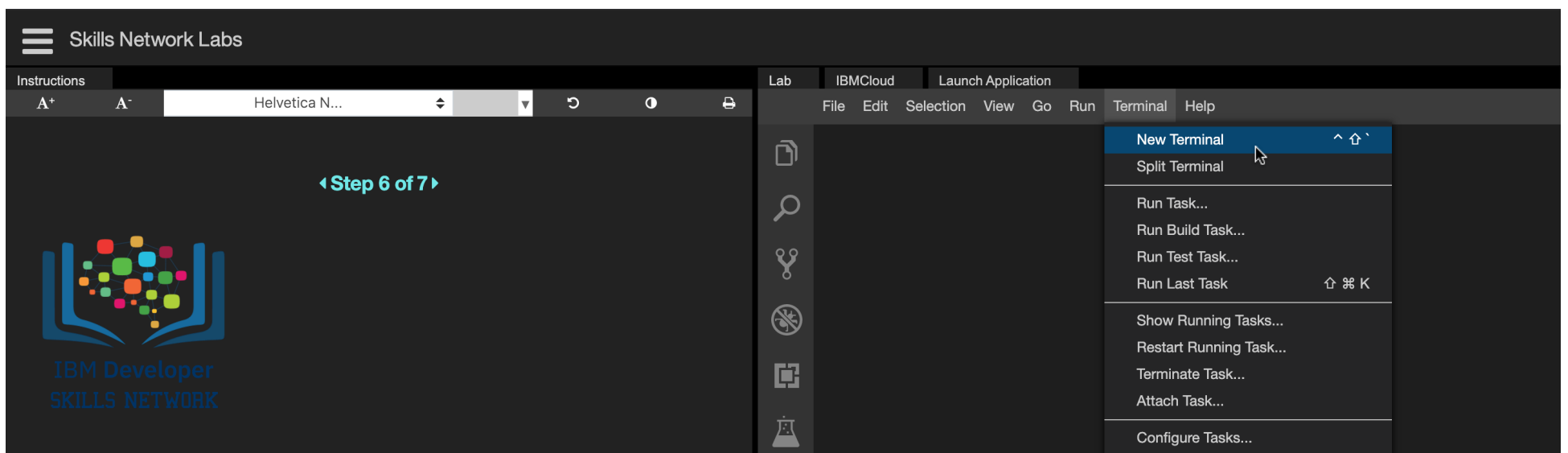
[chicago_public_schools](#)

[chicago_crime](#)

[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.

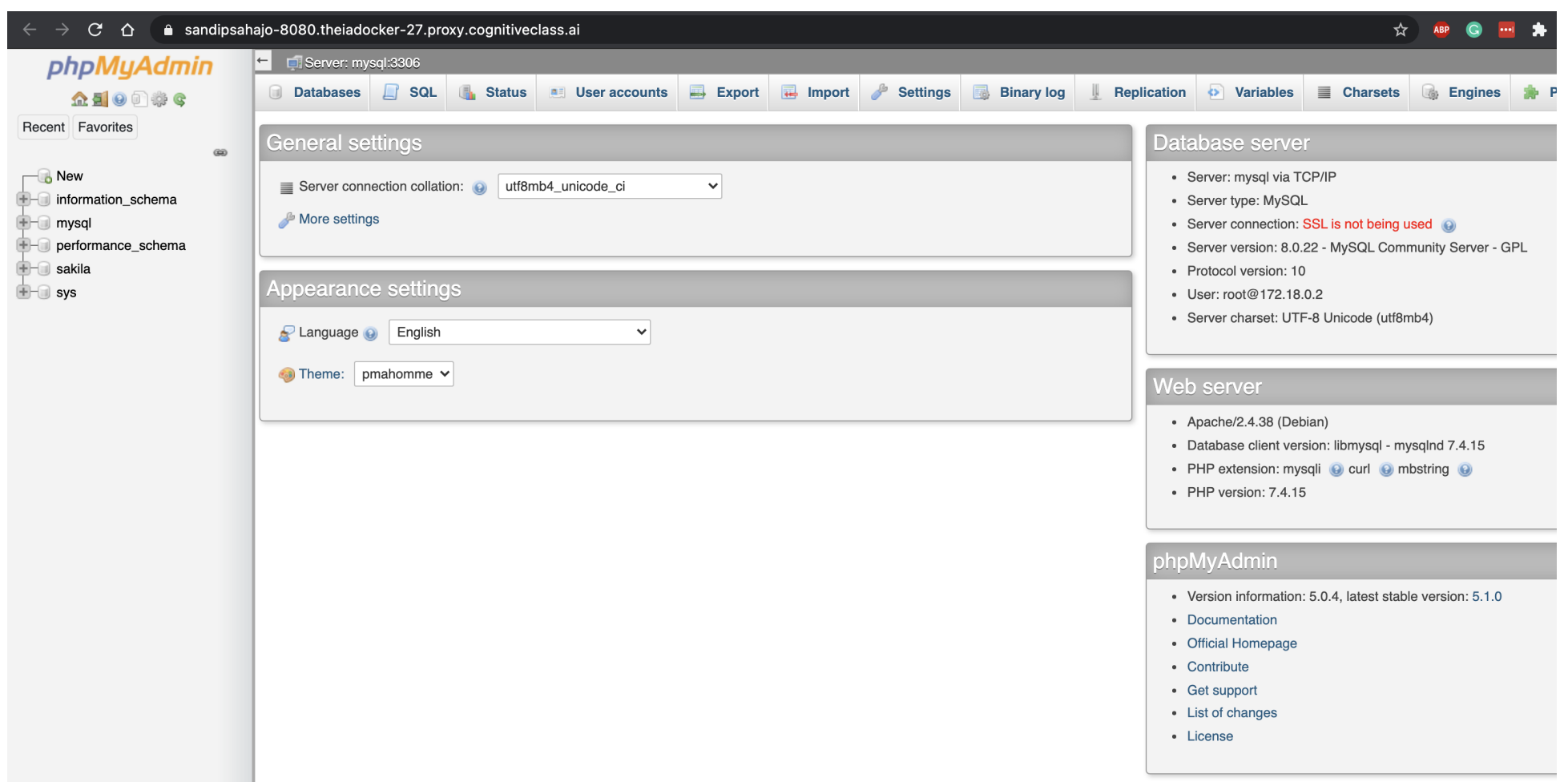
```
theia@theiadocker-sandipsahajo:/home/project$ start_mysql
Starting your MySQL database....
This process can take up to a minute.

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

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

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theia@theiadocker-sandipsahajo:/home/project$
```

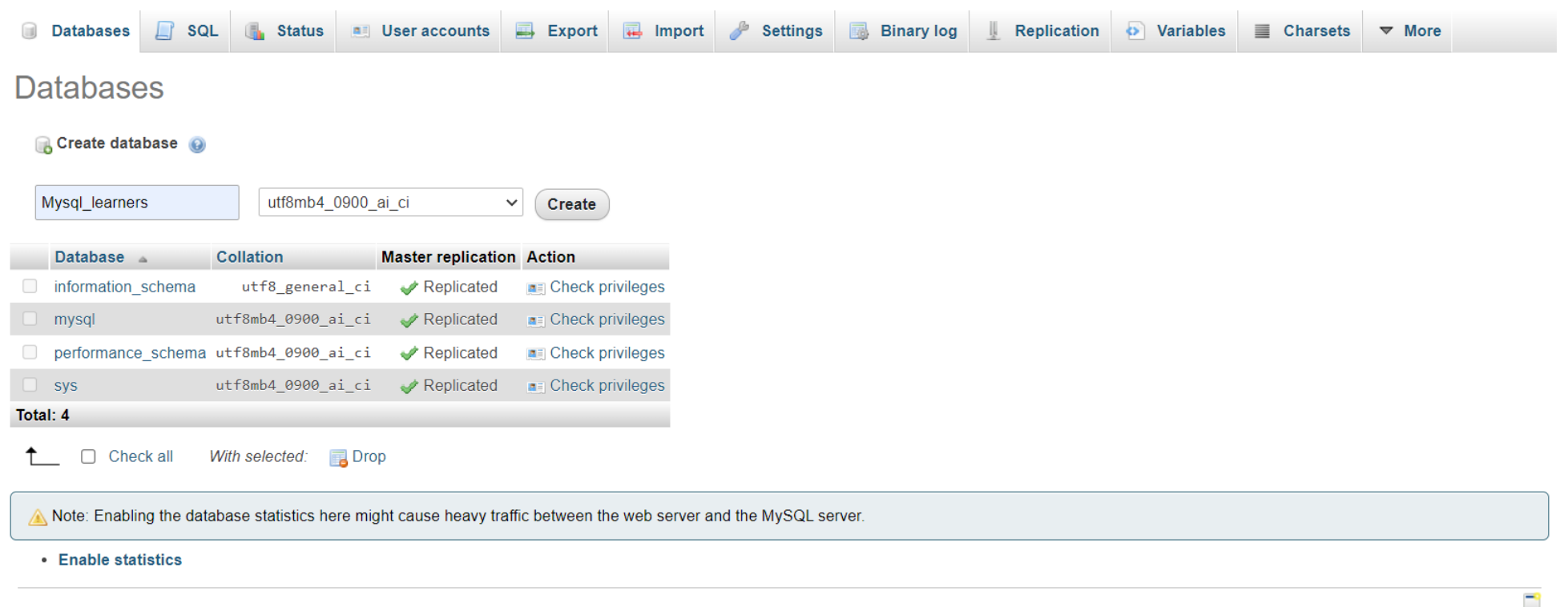
4. You will see the phpMyAdmin GUI tool.



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.



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: `chicago_pu..._schools.sql` (Max: 2,048KiB)

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

Character set of the file:

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:

Other options:

☒ Enable foreign key checks

Format:

Server: mysql:3306 » Database: Mysql_learners

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Designer

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 2 dump files to create and load the tables.

You will see a screen as below

Server: mysql:3306 » Database: Mysql_learners

Structure SQL Search Query Export Import Operations Privileges Routines Events Triggers Designer

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)

COMMIT

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

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

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

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

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0002 seconds.)

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

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

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

/*!40101 SET COLLATION_CONNECTION=@@COLLATION_CONNECTION */

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

Problems

Now write and execute SQL queries to solve assignment problems

Problem 1

Find the total number of crimes recorded in the CRIME table.

Problem 2

List community areas with per capita income less than 11000.

Problem 3

List all case numbers for crimes involving minors?(children are not considered minors for the purposes of crime analysis)

Problem 4

List all kidnapping crimes involving a child?

Problem 5

What kinds of crimes were recorded at schools?

Problem 6

List the average safety score for all types of schools.

Problem 7

List 5 community areas with highest % of households below poverty line

Problem 8

Which community area is most crime prone?

Problem 9

Use a sub-query to find the name of the community area with highest hardship index

Problem 10

Use a sub-query to determine the Community Area Name with most number of crimes?

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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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