



Hands-on Lab: Joins 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.

Objectives

After completing this lab, you will be able to:

1. Determine the correct type of join to use for a given problem.
2. Write and execute joins to query data from multiple tables.

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](#)

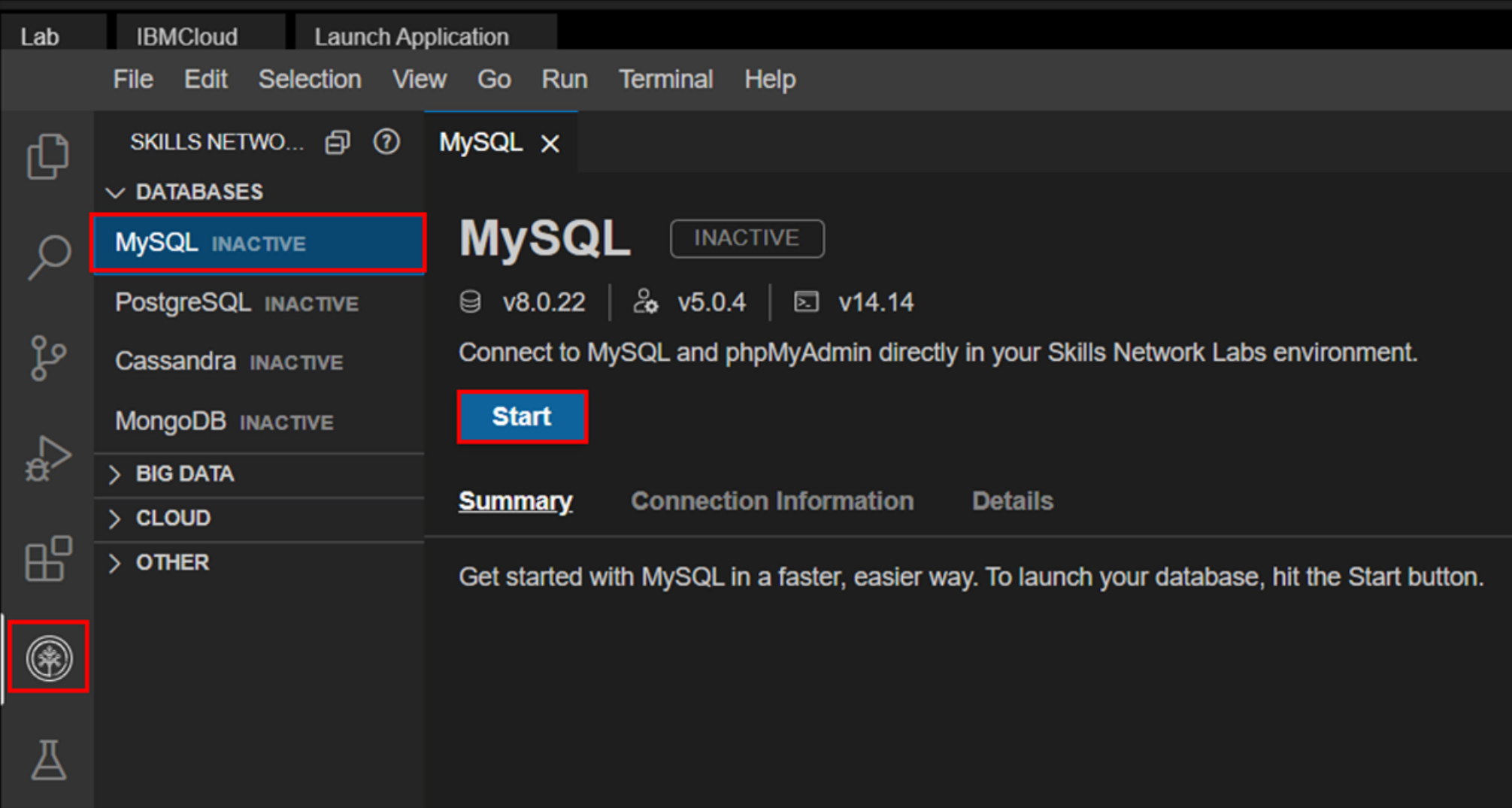
[chicago_crime](#)

[chicago_socioeconomic_data](#)

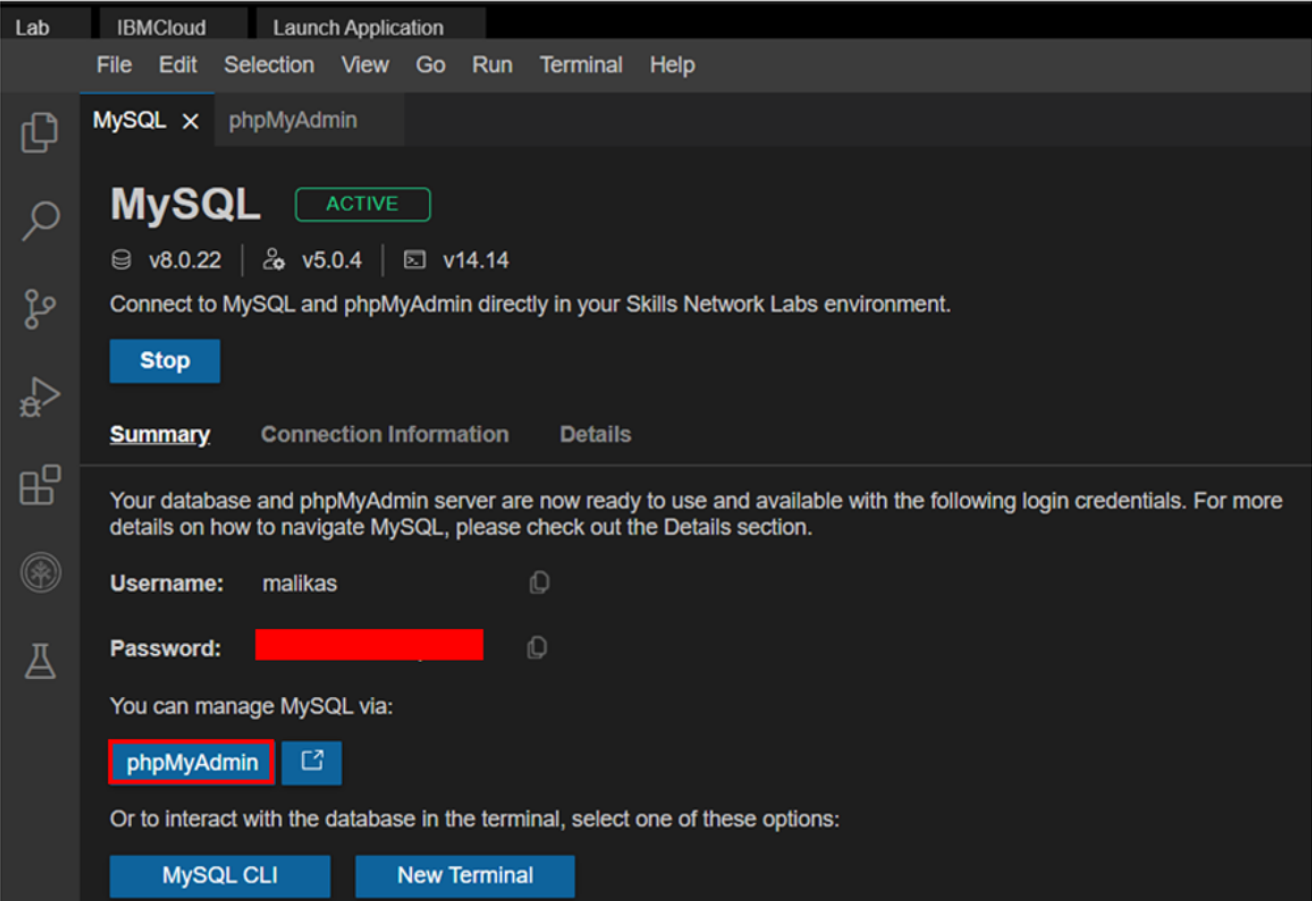
Task A: Create a database

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

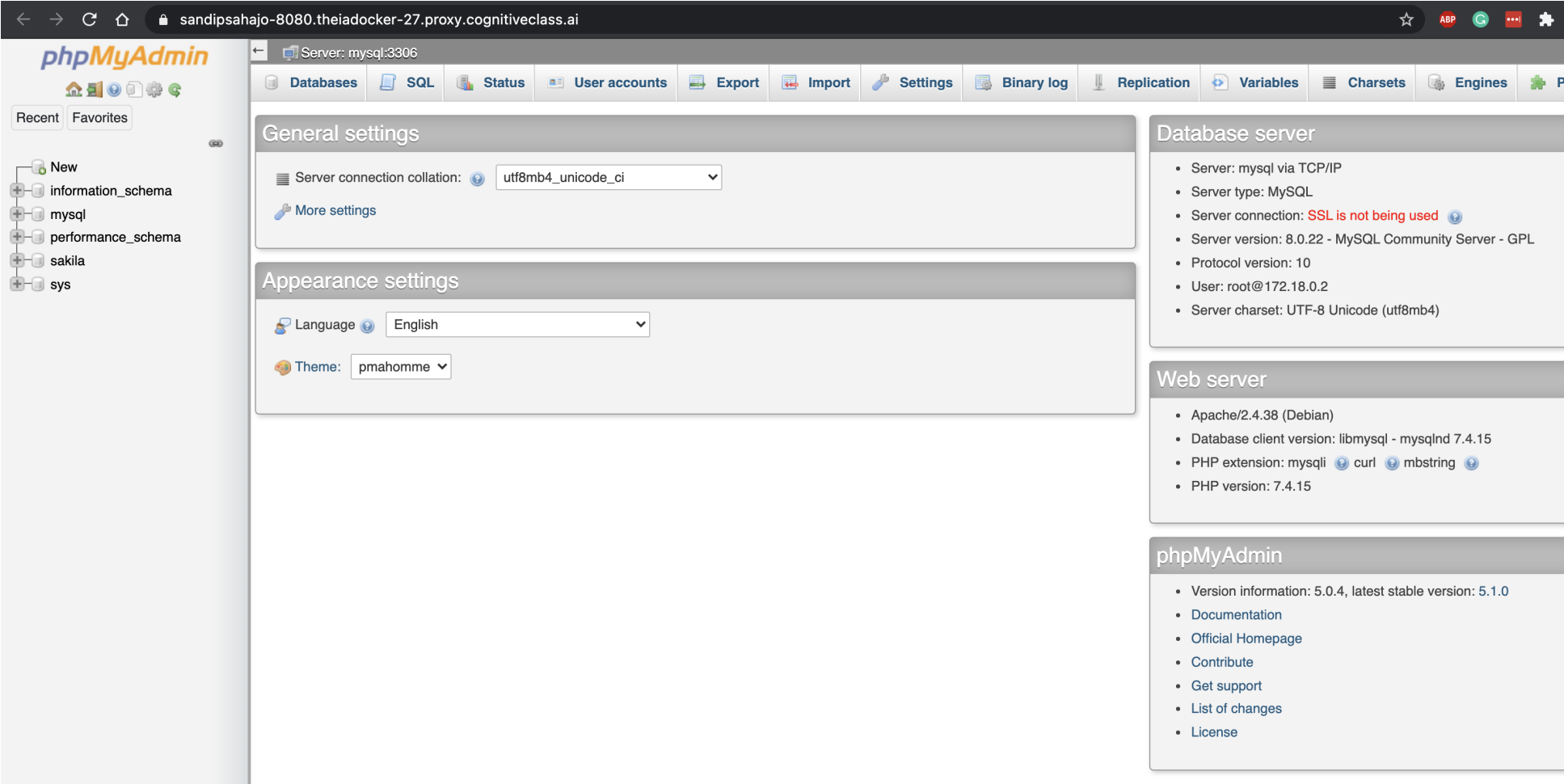
To start the MySQL click **Start**.



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



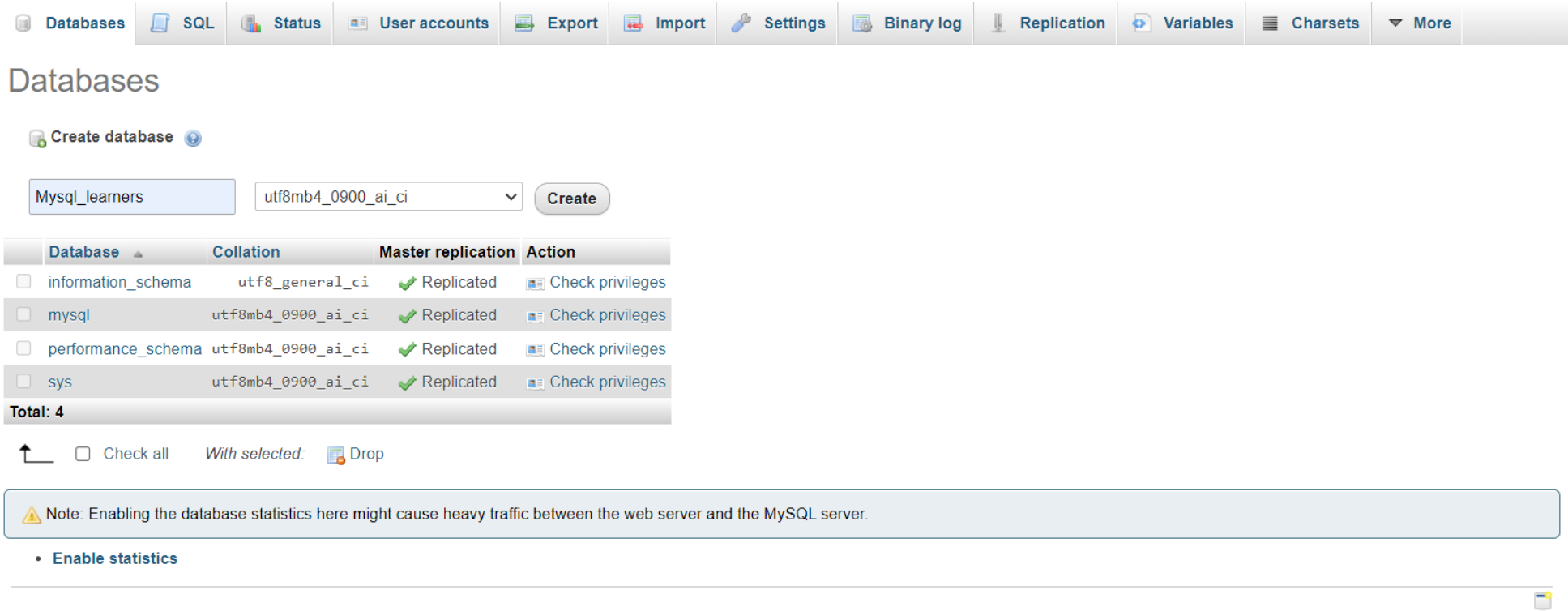
3. You will see the phpMyAdmin GUI tool.



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.



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:

phpMyAdmin

Recent

Favorites

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 2 dump files to create and load the tables.

You will see a screen as below

Recent

Favorites

There are no favorite tables.

New

information_schema

mysql

Mysql_learners

- New
 - chicago_crime
 - chicago_public_schools
 - chicago_socioeconomic_data
- performance_schema
- sys

StructureSQLSearchQueryExportImportOperationsPrivilegesRoutinesEventsTriggersDesigner

"PERCENT_OF_HOUSING_CROWDED", "PERCENT_HOUSEHOLDS_BELOW_POVERTY", "PERCENT_AGED_16_UNEMPLOYED", "PERCENT_AGED_25_WITHOUT_HIGH_SCHOOL_DIPLOMA", "PERCENT_AGED_UNDER_18_OR_OVER_64", "PER_CAPITA_INCOME", "HARDSHIP_INDEX" VALUES ('1', 'Rogers Park', '7.7', '23.6', '8.7', '18.2', '27.5', 23939, '39'), ('2', 'West Ridge', '7.8', '17.2', '8.8', '20.8', '38.5', 23040, '46'), ('3', 'Uptown', '3.8', '24.0', '8.9', '11.8', '22.2', 35787, '20'), ('4', 'Lincoln Square', '3.4', '10.9', '8.2', '13.4', '25.5', 37524, '17'), ('5', 'North Center', '0.3', '7.5', '5.2', '4.5', '26.2', 57123, '6'), ('6', 'Lake View', '1.1', '11.4', '4.7', '2.6', '17.0', 60058, '5'), ('7', 'Lincoln Park', '0.8', '12.3', '5.1', '3.6', '21.5', 71551, '2'), ('8', 'Near North Side', '1.9', '12.9', '7.0', '2.5', '22.6', 88669, '1'), ('9',

[Edit]

✔ 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=OLD_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=OLD_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=OLD_COLLATION_CONNECTION */

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

Exercise

Problem 1

List the case number, type of crime and community area for all crimes in community area number 18.

- ▼ Hint 1
- Use tables `chicago_public_schools` and `chicago_socioeconomic_data`.
- ▼ Hint 2
- Use an inner join.
- ▼ Hint 3
- The column `PRIMARY_TYPE` contains the crime type.

Problem 2

List all crimes that took place at a school. Include case number, crime type and community name.

- ▼ Hint 1
- Use tables `chicago_crime` and `chicago_socioeconomic_data`.
- ▼ Hint 2
- Use a left join or a right join.
- ▼ Hint 3
- The column `LOCATION_DESCRIPTION` will help you find the crime location.

Problem 3

For the communities of Oakland, Armour Square, Edgewater and CHICAGO list the associated `community_area_numbers` and the `case_numbers`.

- ▼ Hint 1
- Use tables `chicago_crime` and `chicago_socioeconomic_data`.
- ▼ Hint 2
- Use a full outer join.
- ▼ Hint 3
- Use `COMMUNITY_AREA_NUMBER` from `chicago_socioeconomic_data`.

Congratulations! You have completed this lab, and you are ready for the next topic.

Author(s)

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Changelog

Date	Version	Changed by	Change Description
2022-04-07	0.2	Malika Singla	Updated screenshot
2022-02-10	0.1	Lakshmi Holla, Malika Singla	Initial Version

