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Step 5 of 5



## 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.chicagopublicschools 2.chicagosocioeconomicdata 3.chicago\_crime

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

[chicagopublicschools](#)

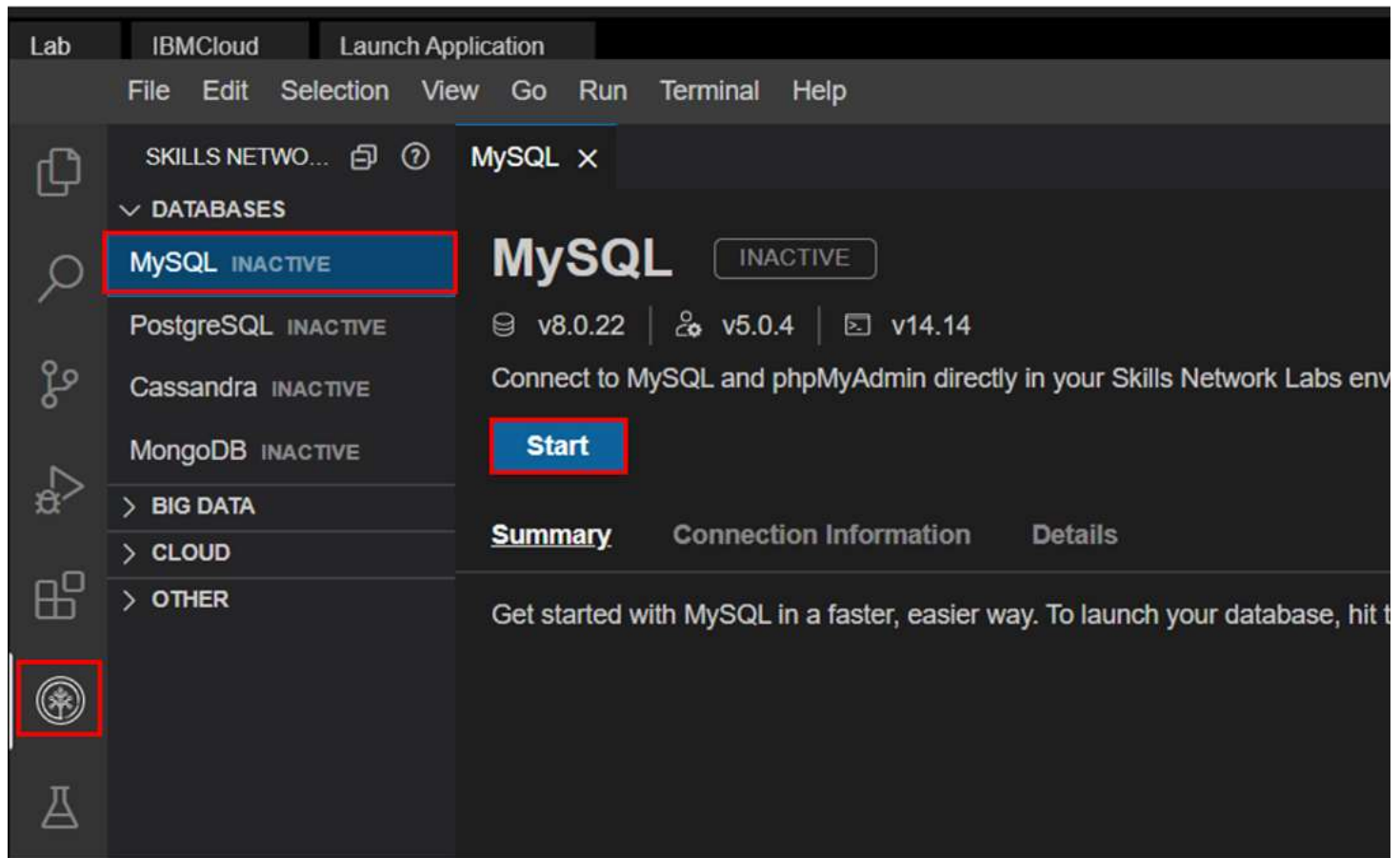
[chicago\\_crime](#)

[chicagosocioeconomicdata](#)

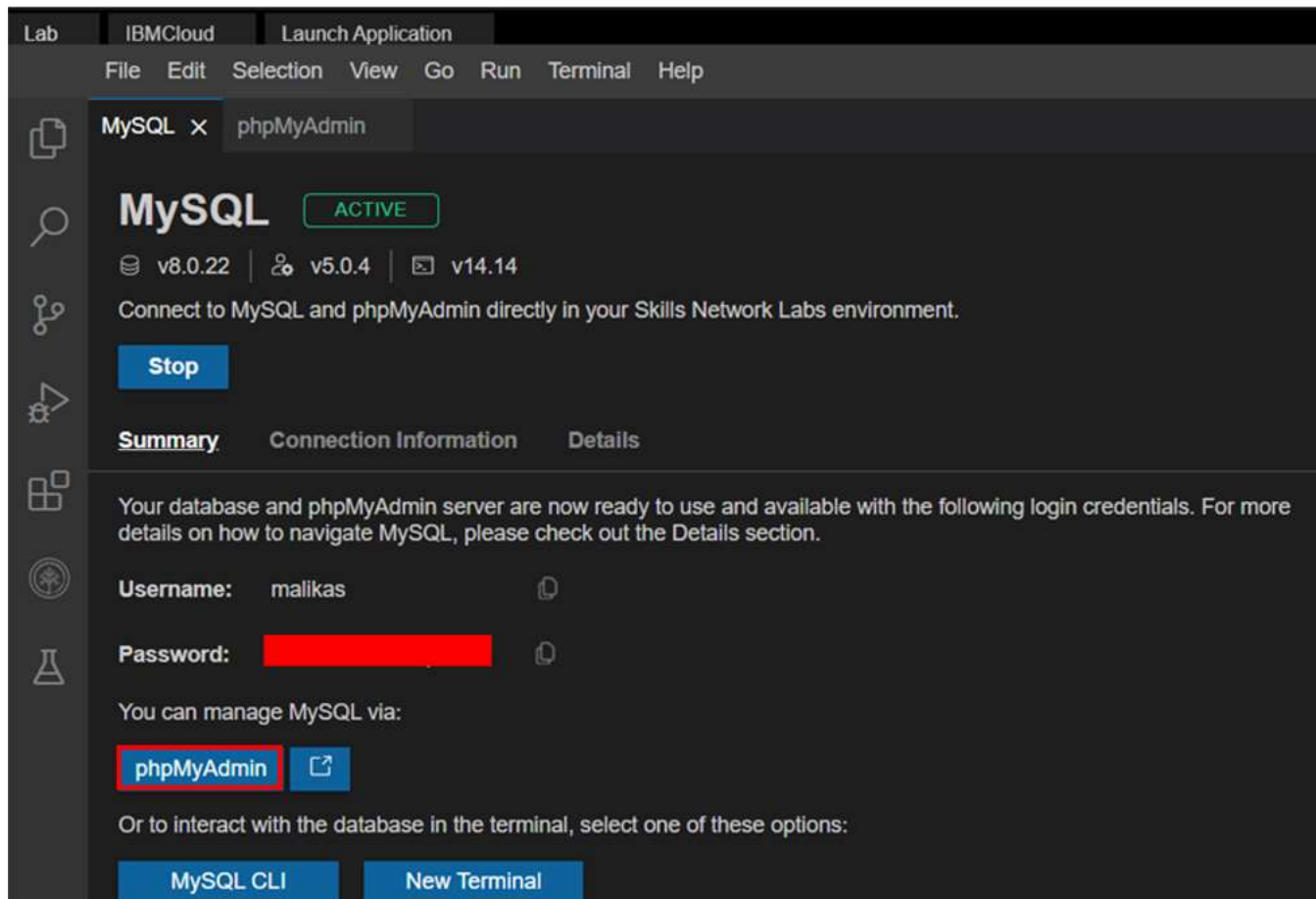
### Task A: Create a database

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.

The screenshot displays the phpMyAdmin web interface. The browser's address bar shows the URL: `sandipsahajo-8080.theiadocker-27.proxy.cognitivecl`. The interface is divided into a left sidebar and a main content area. The sidebar features the phpMyAdmin logo, navigation icons, and tabs for 'Recent' and 'Favorites'. Below these, a tree view lists databases: 'New', 'information\_schema', 'mysql', 'performance\_schema', 'sakila', and 'sys'. The main content area has a top navigation bar with 'Databases', 'SQL', and 'Status' tabs. Below this, the 'General settings' section shows 'Server connection collation' set to 'utf8ml' with a 'More settings' link. The 'Appearance settings' section shows 'Language' set to 'English' and 'Theme' set to 'pmahomme'.

phpMyAdmin

Recent Favorites

New

information\_schema

mysql

performance\_schema

sakila

sys

Server: mysql:3306

Databases SQL Status

General settings

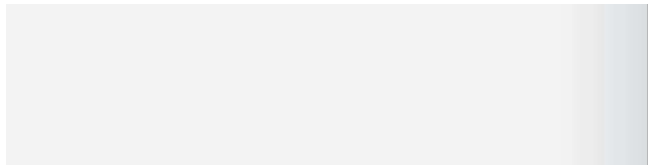
Server connection collation: utf8ml

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

## Databases

Create database

Mysql\_learners

utf8mb4\_0900\_ai\_ci

Create

	Database	Collation	Master replication	Action
<input type="checkbox"/>	information_schema	utf8_general_ci	✓ Replicated	<a href="#">Check privileges</a>
<input type="checkbox"/>	mysql	utf8mb4_0900_ai_ci	✓ Replicated	<a href="#">Check privileges</a>
<input type="checkbox"/>	performance_schema	utf8mb4_0900_ai_ci	✓ Replicated	<a href="#">Check privileges</a>
<input type="checkbox"/>	sys	utf8mb4_0900_ai_ci	✓ Replicated	<a href="#">Check privileges</a>
Total: 4				

↑

☐ Check all

With selected:

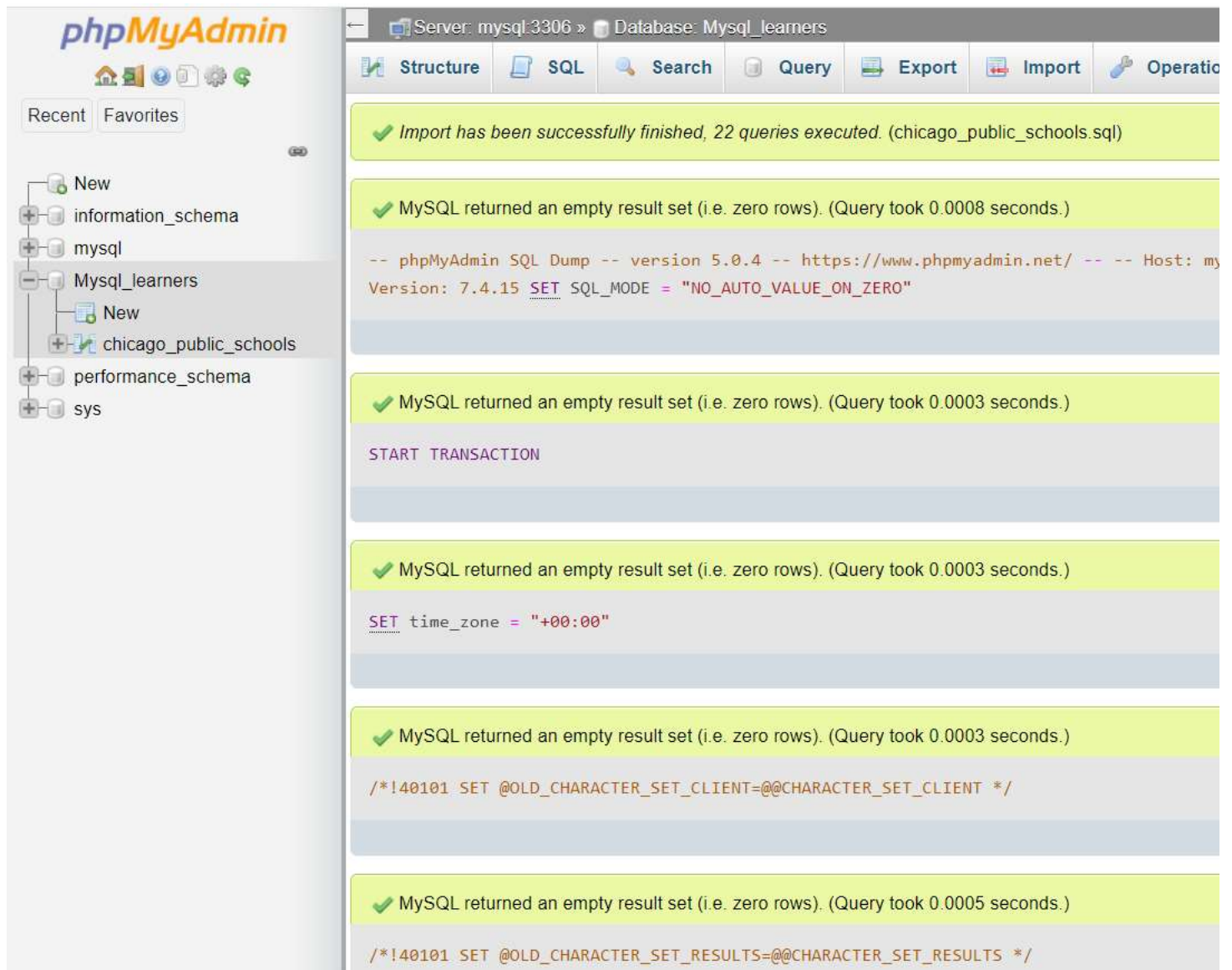
[Drop](#)

⚠ 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.





The screenshot shows the phpMyAdmin interface. On the left, the database tree is expanded to show the 'Mysql\_learners' database, which contains a table named 'chicago\_public\_schools'. The main panel displays the 'SQL' tab with a query log showing the following messages:

- 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.)
- MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
- MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
- MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)
- MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)

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



## 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 *chicagopublicschools* and *chicagosocioeconomicdata*.

#### ▼ 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 *chicagocrime* and *chicagosocioeconomic\_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 communityareanumbers and the case\_numbers.

▼ Hint 1  
Use tables *chicagocrime* and *chicagosocioeconomic\_data*.

▼ Hint 2  
Use the union operator with LEFT and RIGHT outer joins.

▼ Hint 3  
Use COMMUNITYAREANUMBER from *chicagosocioeconomicdata*.

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
2022-05-11	0.3	Appalabhaktula Hema	Updated hint
2022-04-07	0.2	Malika Singla	Updated screenshot
2022-02-10	0.1	Lakshmi Holla, Malika Singla	Initial Version

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