Executing SQL Queries

Skills Network

Hands-on Lab : Executing SQL Queries

Estimated time needed: 30 minutes

In this lab you will be using phpMyAdmin, which is a free tool embedded in this lab environment to work on MySQL.

Objectives

After completing this lab you will be able to:

- Create a Database
- Create and load tables using csv files
- Execute SQL queries

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.

MySQL

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.

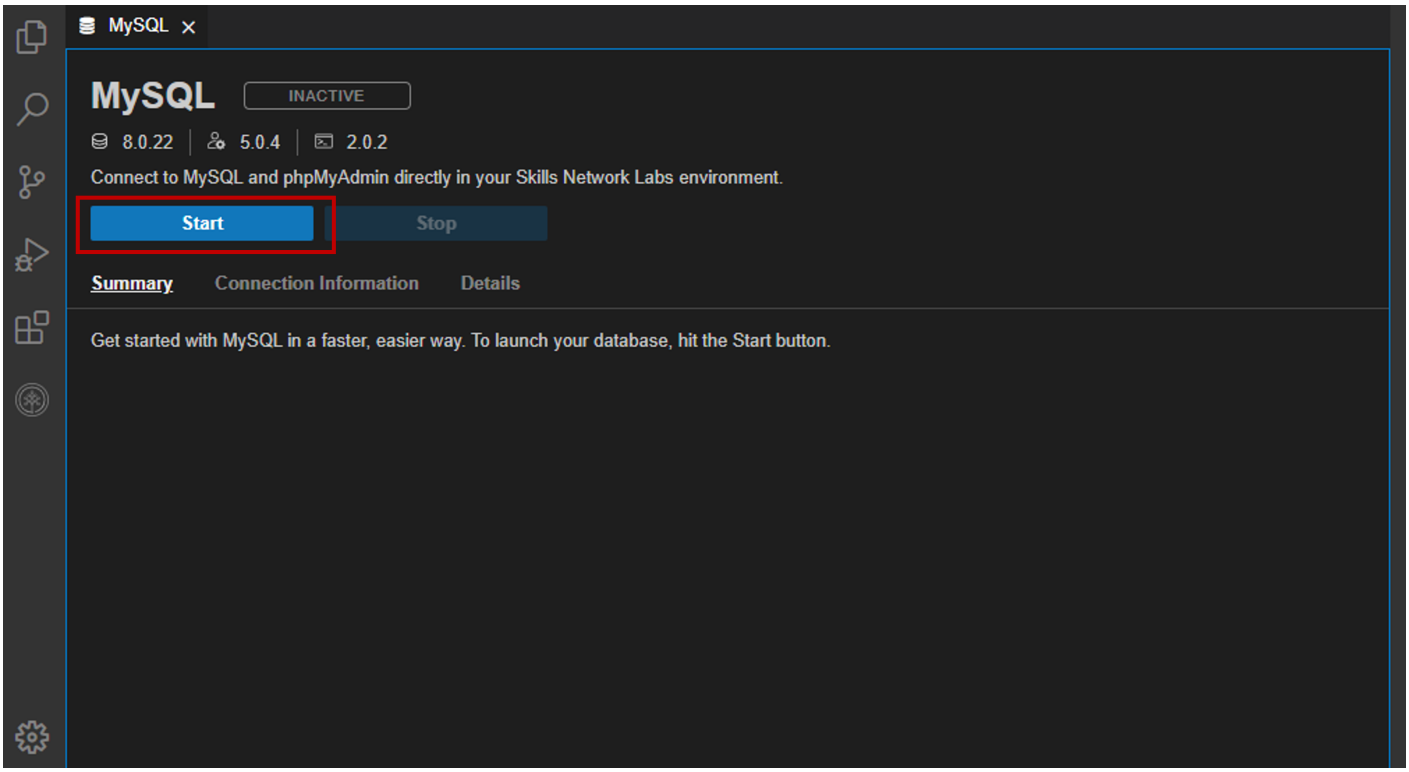
Prework - Create and populate database

TASK A: Create a Database

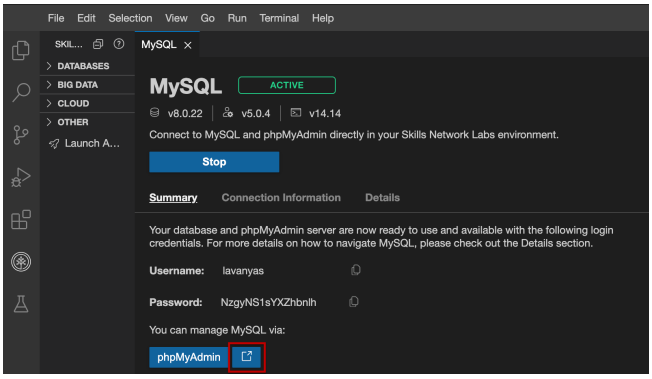
1. Start the MySQL service session using the `Open MySQL Page in IDE` button.

`Open MySQL Page in IDE`

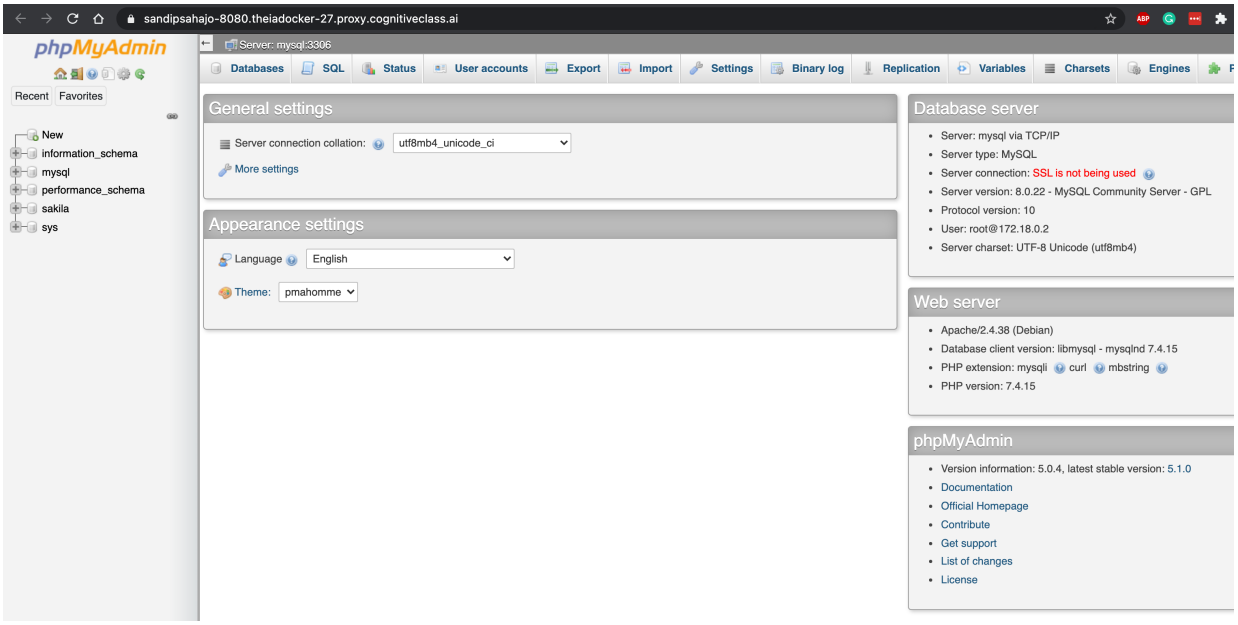
To start the MySQL, click `Start`.



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

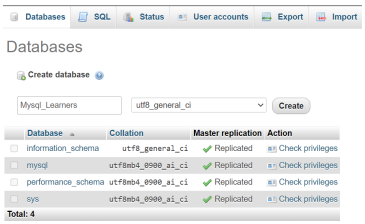


3. You will see the phpMyAdmin GUI tool.



4. In the tree-view, click **New** to create a new empty database. Then enter **Mysql_Learners** as the name of the database and select utf8_general_ci and click **Create**.

UTF-8 is the most commonly used character encoding for content or data.



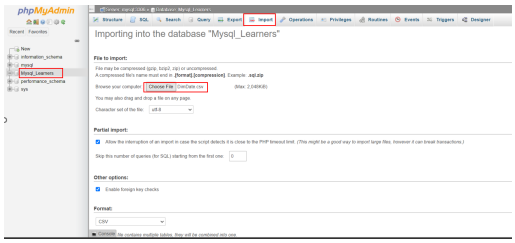
TASK B: Create and load tables using csv files.

1. Download the **4 csv** files below to your local computer:

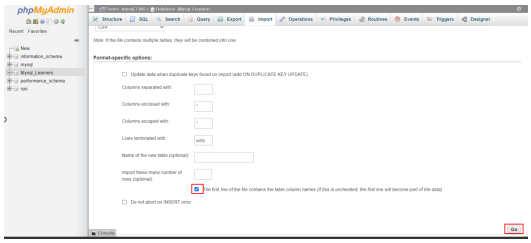
- dimdate.csv
- dimtrack.csv
- dimstation.csv
- facttrips.csv

2. To load each **csv** file do the following steps.

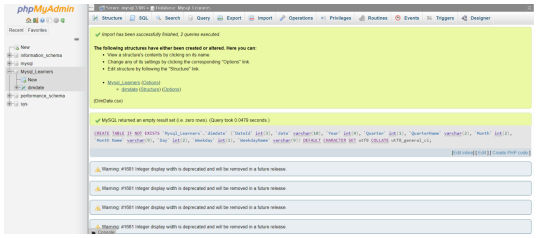
- Select your database **Mysql_Learners** and click on **Import** tab and select the **csv** file.



- Then scroll down and check the box as shown below and click on **Go** to load the csv file.

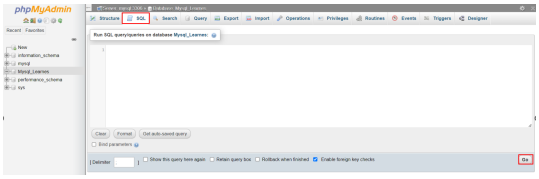


- Once the tables are loaded , you will get a message that the records are inserted successfully.



Further You can import all the other **csv** files in the same way.

3. To run the SQL queries you need to copy the given codes and paste it to the text area of the SQL page and click on **Go**.



Execute SQL Queries

Exercise 1: List all stations in an alphabetical order. Output should contain StationId, StationName.

- Solution Syntax
- Output

Exercise 2: List all trips that collected waste > 40. Output should contain TripId, Waste.

- Solution Syntax
- Output

Exercise 3: List average waste collected for each date. Output should contain DateId, average waste.

- Solution Syntax
- Output

Exercise 4: List truck Names with their count. Output should contain TruckName, count

- Solution Syntax
- Output

Exercise 5: List City with total waste collected. Output should contain CityName, total_Waste

- Solution Syntax
- Output

Exercise 6: List minimum waste collected per quarter in 2019. Output should contain QuarterName, minimum waste.

- Solution Syntax
- Output

Exercise 7: List maximum waste collected in Q1 in Sao Paulo. Output should contain QuarterName, City, maximum Waste.

- Solution Syntax
- Output

Exercise 8: List the days of the week results in the highest average waste collected by Volvo trucks. Output should contain WeekDayName, TruckName, avg_Waste.

- Solution Syntax
- Output

Exercise 9: List the dates when each city collected its maximum Waste. Output should contain city, date, maximum Waste.

- Solution Syntax
- Output

Congratulations! You have completed this lab successfully.

Authors

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Other Contributors

Pratiksha Verma

Change Log

Date (YYYY-MM-DD)	Version	Changed By	Change Description
2022-12-08	1.0	Pratiksha Verma	Created initial version
2022-12-21	1.1	Pratiksha Verma	Updated screenshot
2024-06-05	1.2	Anita Verma	Updated instruction and screenshot