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Step 1 of 7

Hands-on Lab: Create Tables using SQL Scripts and Load Data into Tables 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

The database used in this lab is an internal database. You will be working on a sample HR database. This HR database schema consists of 5 tables called **EMPLOYEES**, **JOB_HISTORY**, **JOBS**, **DEPARTMENTS** and **LOCATIONS**. Each table has a few rows of sample data. The following diagram shows the tables for the HR database:

SAMPLE HR DATABASE TABLES

EMPLOYEES

EMP_ID	F_NAME	L_NAME	SSN	B_DATE	SEX	ADDRESS	JOB_ID	SALARY	MANAGER_ID	DEP_ID
E1001	John	Thomas	123456	1976-01-09	M	5631 Rice, OakPark,IL	100	100000	30001	2
E1002	Alice	James	123457	1972-07-31	F	980 Berry ln, Elgin,IL	200	80000	30002	5
E1003	Steve	Wells	123458	1980-08-10	M	291 Springs, Gary,IL	300	50000	30002	5

JOB_HISTORY

EMPL_ID	START_DATE	JOBS_ID	DEPT_ID
E1001	2000-01-30	100	2
E1002	2010-08-16	200	5
E1003	2016-08-10	300	5

JOBS

JOB_IDENT	JOB_TITLE	MIN_SALARY	MAX_SALARY
100	Sr. Architect	60000	100000
200	Sr.SoftwareDeveloper	60000	80000
300	Jr.SoftwareDeveloper	40000	60000

DEPARTMENTS

DEPT_ID_DEP	DEP_NAME	MANAGER_ID	LOC_ID
2	Architect Group	30001	L0001
5	Software Development	30002	L0002
7	Design Team	30003	L0003
5	Software	30004	L0004

LOCATIONS

LOCT_ID	DEP_ID_LOC
L0001	2
L0002	5
L0003	7

Objectives

After completing this lab, you will be able to use phpMyAdmin with MySQL to:

- Create a database.
- Create tables using SQL scripts
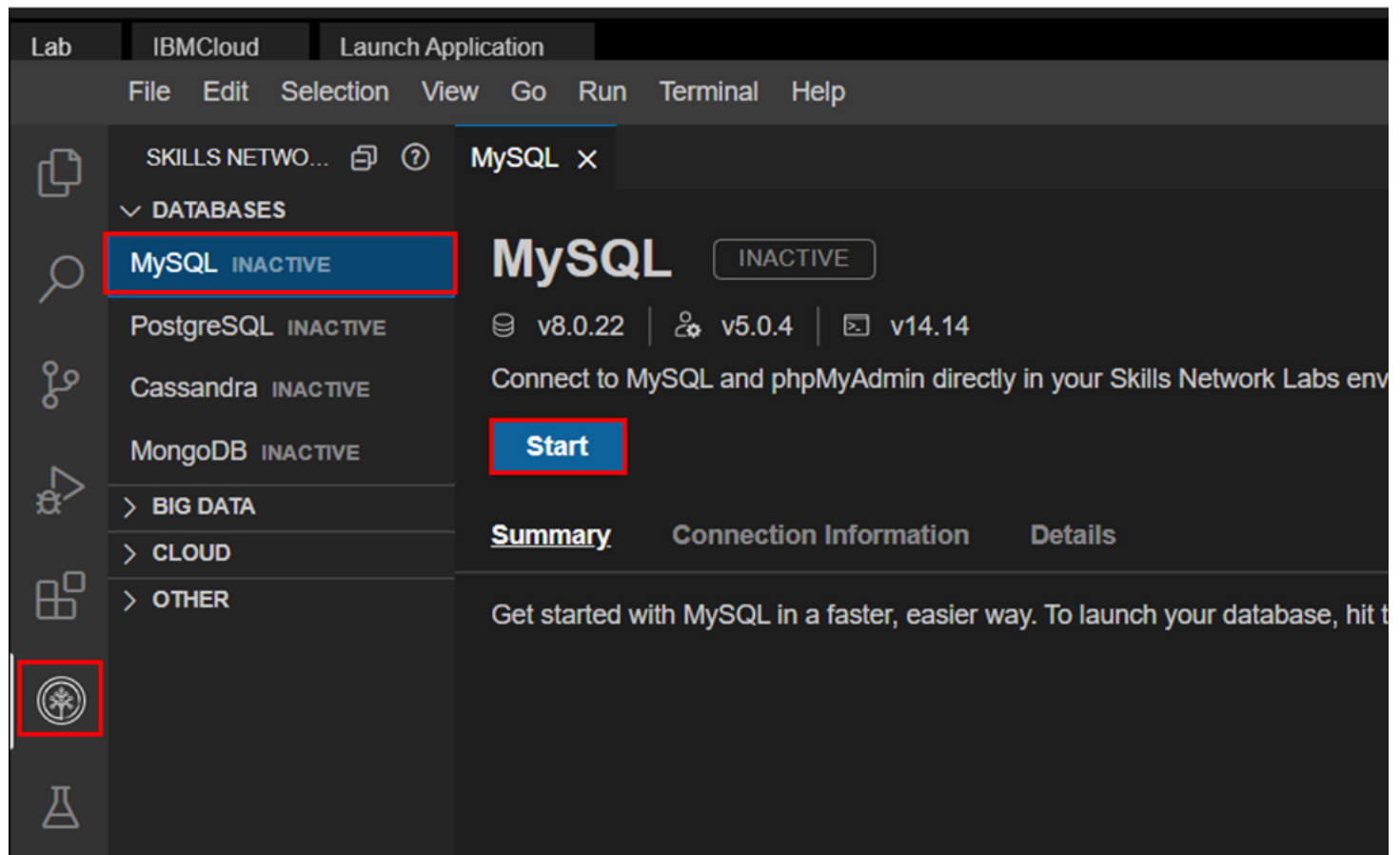- Load data into tables

Exercise

In this exercise through different tasks, you will learn how to create tables and load data in the MySQL database service using the phpMyAdmin graphical user interface (GUI) tool.
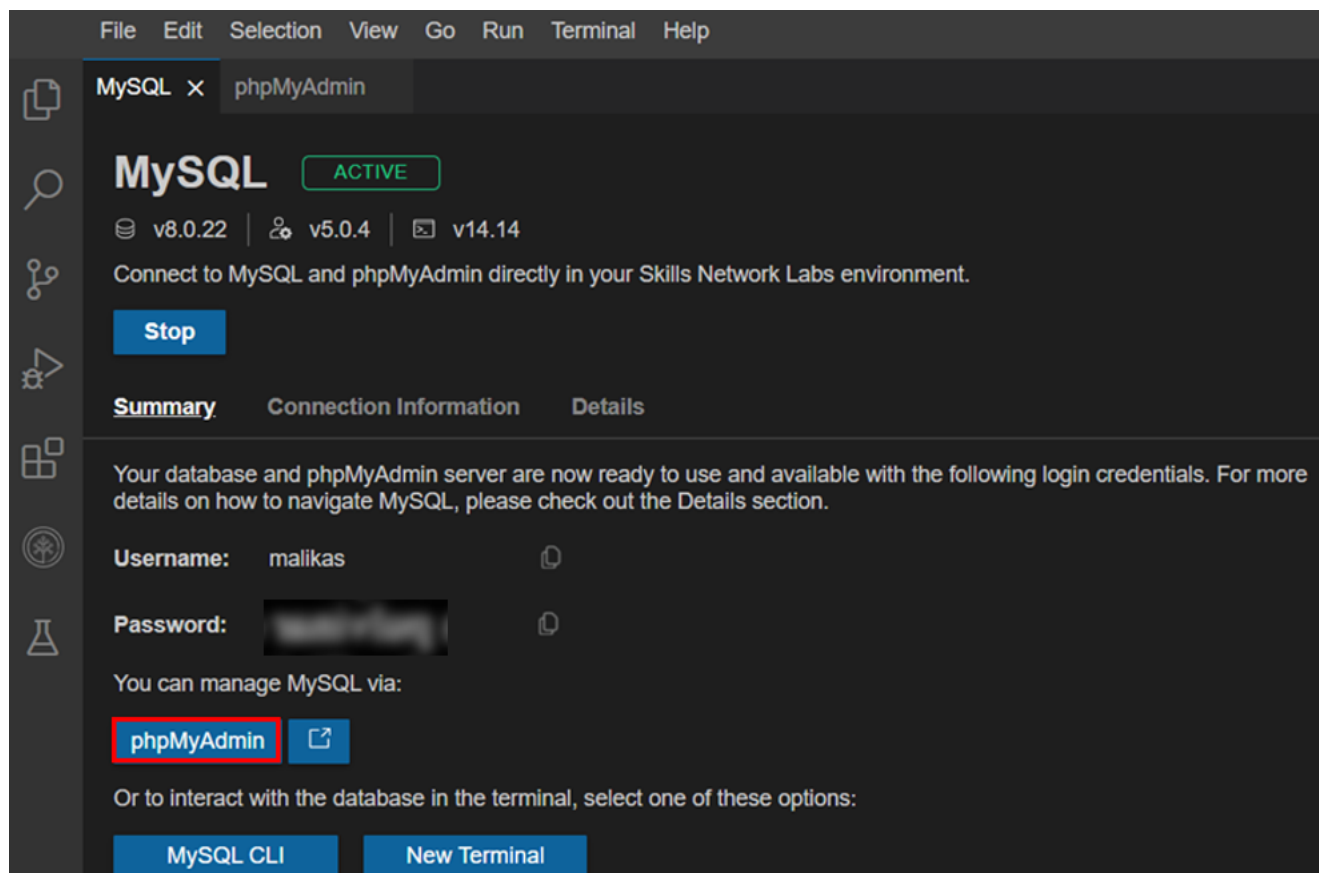
Task A: Create a database

 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.

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 **HR** 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.

Exercise 1: Create tables using SQL scripts

In this exercise, you will learn how to execute a script containing the CREATE TABLE commands for all the tables rather than create each table manually by typing the DDL commands in the SQL editor.

1. Download the script file to your computer:

   ○ HR*Database*Create*Tables*Script.sql

- Select the HR database. Later click on the Import tab.

- Click on **choose file**. Browse for the file and upload it .

- Later scroll down and click on **Go**.

- The script then gets imported successfully.

- Click on any of the tables and you will see its Table Definition (that is, its list of columns, data types, etc).

Exercise 2: Load data into tables

In this exercise, you will learn how data can be loaded into MySQL. You could manually insert each row into the table one by one, but that would take a long time. Instead, MySQL (and almost every other database) allows you to load data from .CSV files.

The steps below explain the process of loading data into the tables you created earlier in exercise 1.

1. Download the 5 .csv files below to your local computer:

   - Departments.csv
   - Employees.csv
   - Jobs.csv
   - Locations.csv
   - JobsHistory.csv

To load each table do the following steps.

- Select each table .

- Click on Import tab.

- Select the **csv** file and click on **Go** to load the csv file.

phpMyAdmin

Recent Favorites

- New
- HR
  - New
  - DEPARTMENTS
  - **EMPLOYEES**
  - JOBS
  - JOB_HISTORY
  - LOCATIONS
- information_schema
- mysql
- Mysql_learners
  - New
  - PETSALE
- performance_schema
- sys

Server: mysql:3306 » Database: HR » Table: EMPLOYEES

Browse   Structure   SQL   Search   Insert   Export   Import

Importing into the table "EMPLOYEES"

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   Employees.csv   (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*

Skip this number of queries (for SQL) starting from the first one: 0

Other options:

☑ Enable foreign key checks

Format:

CSV

■ Console

HR_Database_Crea....sql   ^

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

| Browse | Structure | SQL | Search | Insert | Export | Import | Privileges | Operations |

✔ 1 row inserted. (Query took 0.0038 seconds.)

INSERT INTO `EMPLOYEES` VALUES ('E1004', 'Santosh', 'Kumar', '123459', '1985-07-20', 'M', '511 Aurora Av, Aurora,IL',

✔ 1 row inserted. (Query took 0.0036 seconds.)

INSERT INTO `EMPLOYEES` VALUES ('E1005', 'Ahmed', 'Hussain', '123410', '1981-04-01', 'M', '216 Oak Tree, Geneva,IL',

✔ 1 row inserted. (Query took 0.0038 seconds.)

INSERT INTO `EMPLOYEES` VALUES ('E1006', 'Nancy', 'Allen', '123411', '1978-06-02', 'F', '111 Green Pl, Elgin,IL', '60

✔ 1 row inserted. (Query took 0.0039 seconds.)

INSERT INTO `EMPLOYEES` VALUES ('E1007', 'Mary', 'Thomas', '123412', '1975-05-05', 'F', '100 Rose Pl, Gary,IL', '650'

✔ 1 row inserted. (Query took 0.0051 seconds.)

INSERT INTO `EMPLOYEES` VALUES ('E1008', 'Bharath', 'Gupta', '123413', '1985-06-05', 'M', '145 Berry Ln, Naperville,I

■ Console

Further you can click on browse and view the data of each table.

| | Browse | | Structure | | SQL | | Search | | Insert | | Export | | Import | | Privileges | | Operations |

✅ Showing rows 0 - 9 (10 total, Query took 0.0007 seconds.)

SELECT * FROM `EMPLOYEES`

☐ Profi

☐ Show all | Number of rows: [25 ▾]   Filter rows: [Search this table]   Sort by key: [None ▾]

+ Options

←T→				EMP_ID	F_NAME	L_NAME	SSN	B_DATE	SEX	ADDRESS	JOB_ID	SAL
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1001	John	Thomas	123456	1976-09-01	M	5631 Rice, OakPark,IL	100	10000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1002	Alice	James	123457	1972-07-31	F	980 Berry In, Elgin,IL	200	8000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1003	Steve	Wells	123458	1980-10-08	M	291 Springs, Gary,IL	300	5000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1004	Santosh	Kumar	123459	1985-07-20	M	511 Aurora Av, Aurora,IL	400	6000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1005	Ahmed	Hussain	123410	1981-04-01	M	216 Oak Tree, Geneva,IL	500	7000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1006	Nancy	Allen	123411	1978-06-02	F	111 Green Pl, Elgin,IL	600	9000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1007	Mary	Thomas	123412	1975-05-05	F	100 Rose Pl, Gary,IL	650	6500
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1008	Bharath	Gupta	123413	1985-06-05	M	145 Berry Ln, Naperville,IL	660	6500
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1009	Andrea	Jones	123414	1990-09-07	F	120 Fall Creek, Gary,IL	234	7000
☐	🖊 Edit	⊞ Copy	⊖ Delete	E1010	Ann	Jacob	123415	1982-03-30	F	111 Britany Springs,Elgin,IL	220	7000

↑   ☐ Check all   With selected: 🖊 Edit   ⊞ Copy   ⊖ Delete   🖻 Export

☐ Show all | Number of rows: [25 ▾]   Filter rows: [Search this table]   Sort by key: [None ▾]

■ Console

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

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Changelog

Date	Version	Changed by	Change Description
2022-08-03	0.4	Sathya Priya	Updated CSV Links
2022-07-27	0.3	Lakshmi Holla	Updated HTML tag
2022-04-07	0.2	Malika Singla	Updated screenshot
2021-11-01	0.1	Lakshmi Holla, Malika Singla	Initial Version

Continue