

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

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. Under Database section, click MySQL.

To start the MySQL click **Create**.

The screenshot shows the Skills Network Tools interface. On the left, there's a sidebar with various icons and sections like 'Databases', 'Big Data', 'Cloud', 'Embeddable AI', and 'Other'. The 'MySQL INACTIVE' entry under 'Databases' is highlighted with a red box and circled with a red number '1'. On the right, a detailed panel for MySQL is open, showing version 8.0.22 and 5.0.4, a 'Create' button, and links for 'Summary' and 'Connect'. The MySQL section is also highlighted with a red box and circled with a red number '2'.

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

The screenshot shows the Skills Network Tools interface. On the left, there's a sidebar with various icons: a file icon, a magnifying glass, a gear, a triangle, a flask, and a tree. Below these are sections for 'DATASES', 'BIG DATA', 'CLOUD', 'EMBEDDABLE AI', 'OTHER', and 'Launch Application'. The 'DATASES' section has a dropdown menu open, showing 'MySQL ACTIVE' (which is highlighted with a red box), 'PostgreSQL INACTIVE', 'Cassandra INACTIVE', and 'MongoDB INACTIVE'. To the right of the sidebar is a main panel titled 'MySQL'. It displays the MySQL logo, version information (8.0.22), and connection details (5.0.4). Below this is a 'Create' button. Further down, there are 'Summary' and 'Connect' tabs, followed by a summary of the database and PHPMyAdmin details. A large blue button labeled 'phpMyAdmin' is present, with a red box highlighting its 'Copy' icon. At the bottom, there's a 'MySQL CLI' button.

File Edit Selection View Go Run Terminal Help

← → | □

SKILLS NETWORK TOO... ⚙️ ⓘ Welcome MySQL

DATABASES

MySQL ACTIVE

PostgreSQL INACTIVE

Cassandra INACTIVE

MongoDB INACTIVE

> BIG DATA

> CLOUD

> EMBEDDABLE AI

> OTHER

Launch Application

MySQL

8.0.22 | 5.0.4

Connect to MySQL and ...

Create

Summary Connect

Your database and phpMyAdmin details on how to navigate the MySQL interface.

You can manage MySQL using the following tools:

phpMyAdmin Copy

Or to interact with the database:

MySQL CLI

3. You will see the phpMyAdmin GUI tool.

The screenshot shows the phpMyAdmin interface with the title bar "Server: labs-mysql-echoing-cold-eggplant:3306". The left sidebar lists databases: information_schema, mysql, performance_schema, and sys. The main area has two tabs: "General settings" and "Appearance settings". In "General settings", the "Server connection collation" dropdown is set to "utf8mb4_unicode_ci". In "Appearance settings", the "Language" dropdown is set to "English", and the "Theme" is "pmahomme". On the right, there are two sections: "Database server" and "Web server". The "Database server" section lists the server configuration, noting that SSL is not being used. The "Web server" section lists Apache and MySQLd versions.

General settings

Server connection collation: utf8mb4_unicode_ci

More settings

Appearance settings

Language English

Theme pmahomme

View all

Database server

- Server: labs-mysql-echoing-cold-eggplant via TCP/IP
- Server type: MySQL
- Server connection: **SSL is not being used**
- Server version: 8.0.37 - MySQL Community Server - GPL
- Protocol version: 10
- User: root@172.17.25.218
- Server charset: UTF-8 Unicode (utf8mb4)

Web server

- Apache
- Database client version: libmysql - mysqlnd 8.2.23

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.

PhpMyAdmin

Recent Favorites

New information_schema mysql performance_schema sys

1

2 HR

Check

Data

infor

mys

perf

sys



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. Click the link below to 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 screenshot shows the phpMyAdmin interface for the 'HR' database. The left sidebar lists databases: New, HR (selected), information_schema, mysql, Mysql_learners, performance_schema, and sys. The main panel is titled 'Importing into the database "HR"'.

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: HR_Database...es_Script.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 m

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

Other options:
 Enable foreign key checks

Format:
 Console

- The script then gets imported successfully.

phpMyAdmin

Server: mysql:3306 » Database: HR

Structure SQL Search Query Export Import Operations

Recent Favorites

New

HR

- New
- DEPARTMENTS
- EMPLOYEES
- JOB_HISTORY
- LOCATIONS

information_schema

mysql

Mysql_learners

- New
- PETSALE

performance_schema

sys

Import has been successfully finished, 10 queries executed. (HR_Database_Create_Tables_Script.sql)

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0033 seconds.)

```
DROP TABLE IF EXISTS EMPLOYEES
```

Note: #1051 Unknown table 'HR.EMPLOYEES'

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0024 seconds.)

```
DROP TABLE IF EXISTS JOB_HISTORY
```

Note: #1051 Unknown table 'HR.JOB_HISTORY'

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0051 seconds.)

```
DROP TABLE IF EXISTS JOBS
```

Note: #1051 Unknown table 'HR.JOB_HISTORY'

Console returned an empty result set (i.e. zero rows) (Query took 0.0037 seconds)

The screenshot shows the phpMyAdmin interface for the 'HR' database. On the left, there's a tree view of the database schema. The 'HR' schema contains tables: DEPARTMENTS, EMPLOYEES, JOB_HISTORY, and LOCATIONS. Other schemas listed include information_schema, mysql, Mysql_learners, PETSALE, performance_schema, and sys. The main pane displays the results of an import operation. It shows four successful messages indicating empty result sets for the DROP TABLE IF EXISTS statements. Below these are two warning messages: 'Note: #1051 Unknown table 'HR.EMPLOYEES'', 'Note: #1051 Unknown table 'HR.JOB_HISTORY'', and 'Note: #1051 Unknown table 'HR.JOB_HISTORY''. At the bottom, there's a console message about an empty result set for a query. The top navigation bar includes tabs for Structure, SQL, Search, Query, Export, Import, and Operations.

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

The screenshot shows the phpMyAdmin interface for a MySQL database named 'HR'. The left sidebar lists various databases and their tables. The 'EMPLOYEES' table is selected in the 'DEPARTMENTS' schema. The main panel displays the table structure with 11 columns:

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra
1	EMP_ID	char(9)	utf8mb4_0900_ai_ci		No	None		
2	F_NAME	varchar(15)	utf8mb4_0900_ai_ci		No	None		
3	L_NAME	varchar(15)	utf8mb4_0900_ai_ci		No	None		
4	SSN	char(9)	utf8mb4_0900_ai_ci		Yes	NULL		
5	B_DATE	date			Yes	NULL		
6	SEX	char(1)	utf8mb4_0900_ai_ci		Yes	NULL		
7	ADDRESS	varchar(30)	utf8mb4_0900_ai_ci		Yes	NULL		
8	JOB_ID	char(9)	utf8mb4_0900_ai_ci		Yes	NULL		
9	SALARY	decimal(10,2)			Yes	NULL		
10	MANAGER_ID	char(9)	utf8mb4_0900_ai_ci		Yes	NULL		
11	DEP_ID	char(9)	utf8mb4_0900_ai_ci		No	None		

Below the table, there are buttons for Check all, With selected:, Browse, Change, Drop, Primary, and a Go button. At the bottom, there's an Indexes section and a table for defining indexes:

Action	Keyname	Type	Unique	Packed	Column	Cardinality	Collation	Null	Comments
Console	Drop	PRIMARY	BTREE	Yes	EMP_ID	0	A	No	

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 DEPARTMENTS EMPLOYEES JOBS JOB_HISTORY LOCATIONS information_schema mysql Mysql_learners 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: Employees.csv (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 m

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

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.

The screenshot shows a MySQL Workbench interface with the following details:

- Server:** MySQL 5.5.00
- Database:** HR
- Table:** EMPLOYEES
- Toolbar:** Browse, Structure, SQL, Search, Insert, Export, Import, Privileges, Operations.

The main area displays five successful INSERT queries, each followed by a green checkmark and a message indicating 1 row inserted. The queries insert data for employees E1004, E1005, E1006, E1007, and E1008 respectively, with their names, titles, and other details.

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

Console

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

The screenshot shows the MySQL Workbench interface with the 'Browse' tab selected (highlighted by a red box). A query has been run: `SELECT * FROM `EMPLOYEES``. The results are displayed in a table format with 10 rows of data. The columns are: EMP_ID, F_NAME, L_NAME, SSN, B_DATE, SEX, ADDRESS, JOB_ID, and SALARY.

	EMP_ID	F_NAME	L_NAME	SSN	B_DATE	SEX	ADDRESS	JOB_ID	SALARY
<input type="checkbox"/>	E1001	John	Thomas	123456	1976-09-01	M	5631 Rice, OakPark,IL	100	100000.
<input type="checkbox"/>	E1002	Alice	James	123457	1972-07-31	F	980 Berry In, Elgin,IL	200	80000.
<input type="checkbox"/>	E1003	Steve	Wells	123458	1980-10-08	M	291 Springs, Gary,IL	300	50000.
<input type="checkbox"/>	E1004	Santosh	Kumar	123459	1985-07-20	M	511 Aurora Av, Aurora,IL	400	60000.
<input type="checkbox"/>	E1005	Ahmed	Hussain	123410	1981-04-01	M	216 Oak Tree, Geneva,IL	500	70000.
<input type="checkbox"/>	E1006	Nancy	Allen	123411	1978-06-02	F	111 Green Pl, Elgin,IL	600	90000.
<input type="checkbox"/>	E1007	Mary	Thomas	123412	1975-05-05	F	100 Rose Pl, Gary,IL	650	65000.
<input type="checkbox"/>	E1008	Bharath	Gupta	123413	1985-06-05	M	145 Berry Ln, Naperville,IL	660	65000.
<input type="checkbox"/>	E1009	Andrea	Jones	123414	1990-09-07	F	120 Fall Creek, Gary,IL	234	70000.
<input type="checkbox"/>	E1010	Ann	Jacob	123415	1982-03-30	F	111 Britany Springs,Elgin,IL	220	70000.

Below the table, there are buttons for 'Check all', 'With selected:', and various actions: Edit, Copy, Delete, and Export. There are also filters and sorting options at the bottom.

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

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