

Hands-on Lab: Using Views 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

EMPLOYE	ES														
EMP_ID	F_NAME	L_NAME	SSN	B_DATE		SEX	ADDRESS		JOB_ID	SALAF	RY I	MANAGE	R_ID	DEP_IC	
E1001	John	Thomas	123456	1976-0	1-09	М	5631 Rice, C	akPark,IL	100	10000	00 3	30001		2	
E1002	Alice	James	123457	1972-0	7-31	F	980 Berry In	, Elgin,IL	200	80000	0 3	30002		5	
E1003	Steve	Wells	123458	1980-0	8-10	М	291 Springs,	Gary,IL	300	50000		30002		5	
JOB_HIST	ORY					J	OBS								
EMPL_ID	START_D	START_DATE JO		BS_ID DEPT_I		JC	DB_IDENT	JOB_TIT	JOB_TITLE		MIN_SALARY		MA	X_SALA	
E1001	2000-01	2000-01-30 10		2		10	00 Sr. Arch		itect		60000		100	100000	
E1002	2010-08	2010-08-16		5		20	00	Sr.SoftwareDeveloper		60000		800	00		
E1003	2016-08	2016-08-10 300		5		30	Jr.Softw		vareDeveloper		40000		600	00	
DEPARTIV	IENTS						LOCATIO	ONS							
DEPT_ID_D	EP DEP_NA	DEP_NAME		MANAGER_ID			LOCT_ID		DEP_ID_LOC						
2	Architec	Architect Group		30001			L0001		2	2					
5	Softwar	Software Development		30002			L0002	L0002		5					
7	Design 1	Design Team		30003			L0003		7	7					
5	Softwar	Software		30004 L000											

Objectives

After completing this lab, you will be able to:

• Create a View and show a selection of data for a given table

- Update a View to combine two or more tables in meaningful ways
- Drop a created View

In this lab, you will learn about using views. In SQL, a view is an alternative way of representing data that exists in one or more tables. Just like a real table, it contains rows and columns. The fields in a view are fields from one or more real tables in the database. Though views can be queried like a table, views are dynamic; only the definition of the view is stored, not the data.

How does the syntax of a CREATE VIEW statement look?

```
CREATE VIEW view_name AS

SELECT column1, column2, ...

FROM table_name
WHERE condition;
```

How does the syntax of a REPLACE VIEW statement look?

```
CREATE OR REPLACE VIEW view_name AS

SELECT column1, column2, ...

FROM table_name
WHERE condition;
```

How does the syntax of a DROP VIEW statement look?

```
DROP VIEW view_name;
```

Exercise 1: Create a View

In this exercise, you will create a View and show a selection of data for a given table.

1. Let's create a view called **EMPSALARY** to display salary along with some basic sensitive data of employees from the HR database. To create the **EMPSALARY** view from the **EMPLOYEES** table, Copy the code below and paste it to the textarea of the **SQL** page. Click **Go**.

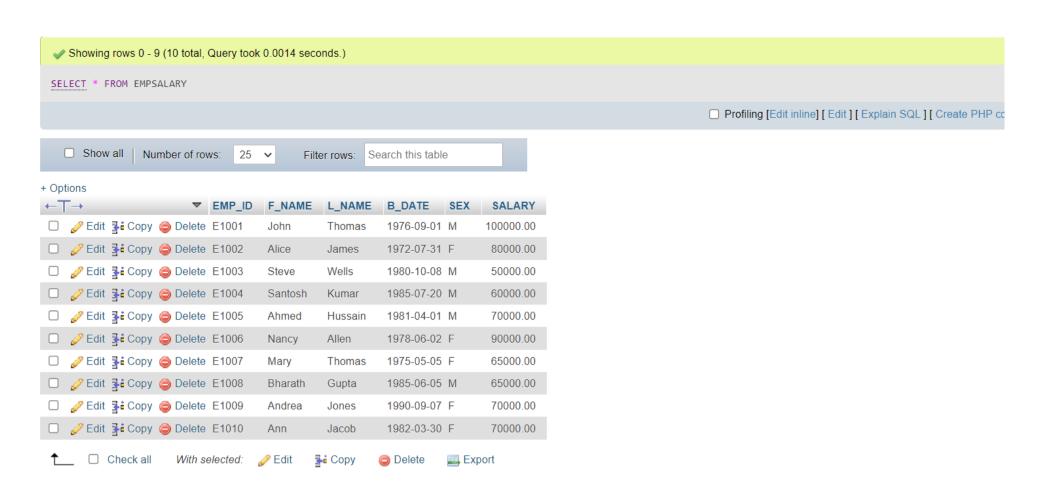
```
CREATE VIEW EMPSALARY AS
 SELECT EMP_ID, F_NAME, L_NAME, B_DATE, SEX, SALARY
 FROM EMPLOYEES;
   1 CREATE VIEW EMPSALARY AS
        SELECT EMP_ID, F_NAME, L_NAME, B_DATE, SEX, SALARY
                                                                                                                           F_NAME
        FROM EMPLOYEES;
                                                                                                                           LNAME
                                                                                                                           SSN
                                                                                                                           B DATE
                                                                                                                           SEX
                                                                                                                          ADDRESS
                                                                                                                           JOB_ID
                                                                                                                           SALARY
                                                                                                                           MANAGER_ID
                                                                                                                           DEP_ID
                                              DELETE
                                                                                                                         ( << )
 SELECT*) (SELECT
                        INSERT )
                                  UPDATE
                                                                            Get auto-saved query
                                                                  Format

    Bind parameters (g)

                   Show this query here again ☐ Retain query box ☐ Rollback when finished ☑ Enable foreign key checks
Delimiter
Hide query box
MySQL returned an empty result set (i.e. zero rows). (Query took 0.0116 seconds.)
CREATE VIEW EMPSALARY AS SELECT EMP_ID, F_NAME, L_NAME, B_DATE, SEX, SALARY FROM EMPLOYEES
                                                                                                                                             [Edit inline] [ Edit ] [ Create PHP code ]
```

2. Using SELECT, query the **EMPSALARY** view to retrieve all the records. Copy the code below and paste it to the textarea of the **SQL** page. Click **Go**.

```
SELECT * FROM EMPSALARY;
```



Exercise 2: Update a View

In this exercise, you will update a View to combine two or more tables in meaningful ways.

- 1. It now seems that the **EMPSALARY** view we created in exercise 1 doesn't contain enough salary information, such as max/min salary and the job title of the employees. Let's update the **EMPSALARY** view:
 - o combining two tables **EMPLOYEES** and **JOBS** so that we can display our desired information from the HR database.
 - including the columns JOB_TITLE, MIN_SALARY, MAX_SALARY of the JOBS table as well as excluding the SALARY column of the EMPLOYEES table.

Copy the code below and paste it to the textarea of the **SQL** page. Click **Go**..

```
CREATE OR REPLACE VIEW EMPSALARY AS

SELECT EMP_ID, F_NAME, L_NAME, B_DATE, SEX, JOB_TITLE, MIN_SALARY, MAX_SALARY

FROM EMPLOYEES, JOBS

WHERE EMPLOYEES.JOB_ID = JOBS.JOB_IDENT;
```

NOTE: Don't worry if you don't understand how to combine to two tables using implicit inner join. You will learn more about joins later on. For now, just think you are combining the data of two different tables, **EMPLOYEES** and **JOBS** by connecting their respective columns **JOB_ID** and **JOB_IDENT** since both the columns contain common unique data. You can have a look at the diagram (at the beginning of the lab) showing the tables for the HR database to observe how the **JOB_ID** and **JOB_IDENT** columns from the **EMPLOYEES** and **JOBS** tables respectively contain common unique data.



2. Using SELECT, query the updated **EMPSALARY** view to retrieve all the records. Copy the code below and paste it to the textarea of the **SQL** page. Click **Go**.

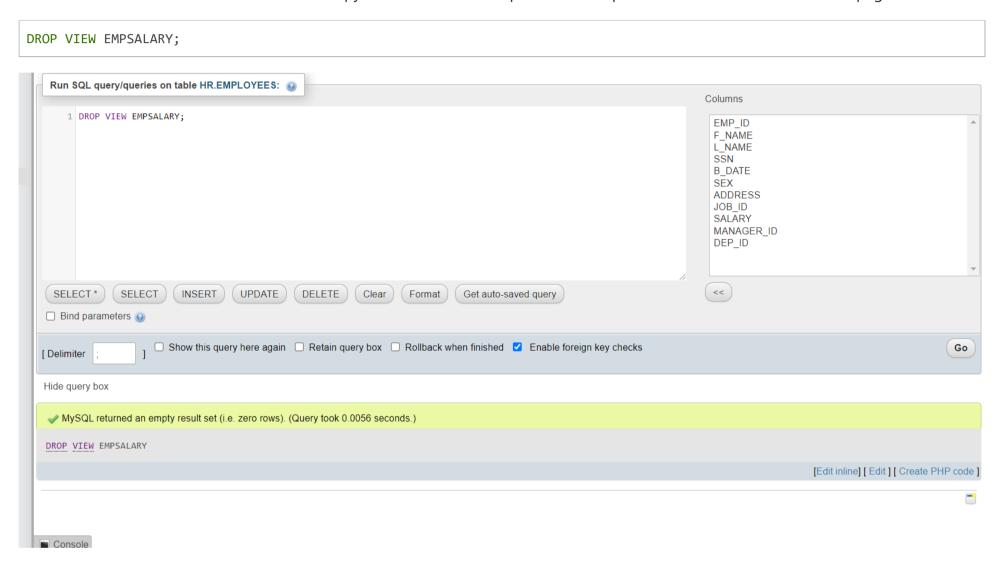
```
SELECT * FROM EMPSALARY;

<img src= "images/2.2.png" width="1200" height="450">
```

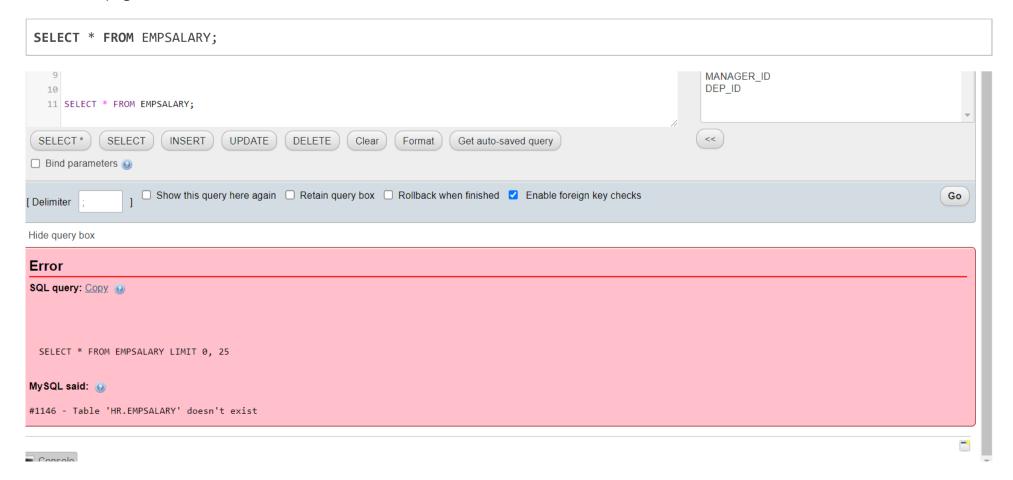
Exercise 3: Drop a View

In this exercise, you will drop a created View.

1. Let's delete the created EMPSALARY view. Copy the code below and paste it to the paste it to the textarea of the SQL page. Click Go..



2. Using SELECT, you can verify whether the **EMPSALARY** view has been deleted or not. Copy the code below and paste it to the textarea of the **SQL** page. Click **Go**..



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
2021-11-01	0.1	Lakshmi Holla, Malika Singla	Initial Version

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