Skills Network

Hands-on Lab: Stored Procedures 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.

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.

Database Used in this Lab

Mysql_learners database has been used in this lab.

Data Used in this Lab

The data used in this lab is internal data. You will be working on the **PETSALE** table.

ID ▲	ANIMAL	SALEPRICE	SALEDATE	QUANTITY
1	Cat	450.09	2018-05-29	9
2	Dog	666.66	2018-06-01	3
3	Parrot	50.00	2018-06-04	2
4	Hamster	60.60	2018-06-11	6
5	Goldfish	48.48	2018-06-14	24

This lab requires you to have the PETSALE table populated with sample data on mysql phpadmin interface. You might have created and populated a PETSALE table in a previous lab. But for this lab, it is recommended you download the `PETSALE-CREATE-v2.sql` script below, upload it to phpadmin console and run it. The script will create a new PETSALE table dropping any previous PETSALE table if exists, and will populate it with the required sample data.

- [PETSALE-CREATE-v2.sql](#)

Objectives

After completing this lab, you will be able to:

- Create stored procedures
- Execute stored procedures

Exercise 1

In this exercise, you will create and execute a stored procedure to read data from a table on mysql phpadmin using SQL.

1. Make sure you have created and populated the **PETSALE** table following the steps in the **"Data Used in this Lab"** section of this lab.

ID ▲	ANIMAL	SALEPRICE	SALEDATE	QUANTITY
1	Cat	450.09	2018-05-29	9
2	Dog	666.66	2018-06-01	3
3	Parrot	50.00	2018-06-04	2
4	Hamster	60.60	2018-06-11	6
5	Goldfish	48.48	2018-06-14	24

2.
   ○ You will create a stored procedure routine named **RETRIEVE_ALL**.
   ○ This **RETRIEVE_ALL** routine will contain an SQL query to retrieve all the records from the PETSALE table, so you don't need to write the

   same query over and over again. You just call the stored procedure routine to execute the query everytime.

   ○ To create the stored procedure routine, copy the code below and paste it to the textarea of the **SQL** page. Click **Go**.

```
DELIMITER //

CREATE PROCEDURE RETRIEVE_ALL()

BEGIN

  SELECT *  FROM PETSALE;


END //

DELIMITER ;
```

Run SQL query/queries on database Mysql_learners: ❓

```
 1  DELIMITER //
 2
 3  CREATE PROCEDURE RETRIEVE_ALL()
 4
 5  BEGIN
 6
 7    SELECT *  FROM PETSALE;
 8
 9
10  END //
11
12  DELIMITER ;
```

[Clear] [Format] [Get auto-saved query]

☐ Bind parameters ❓

[Delimiter | ;]   ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable foreign key checks   [Go]
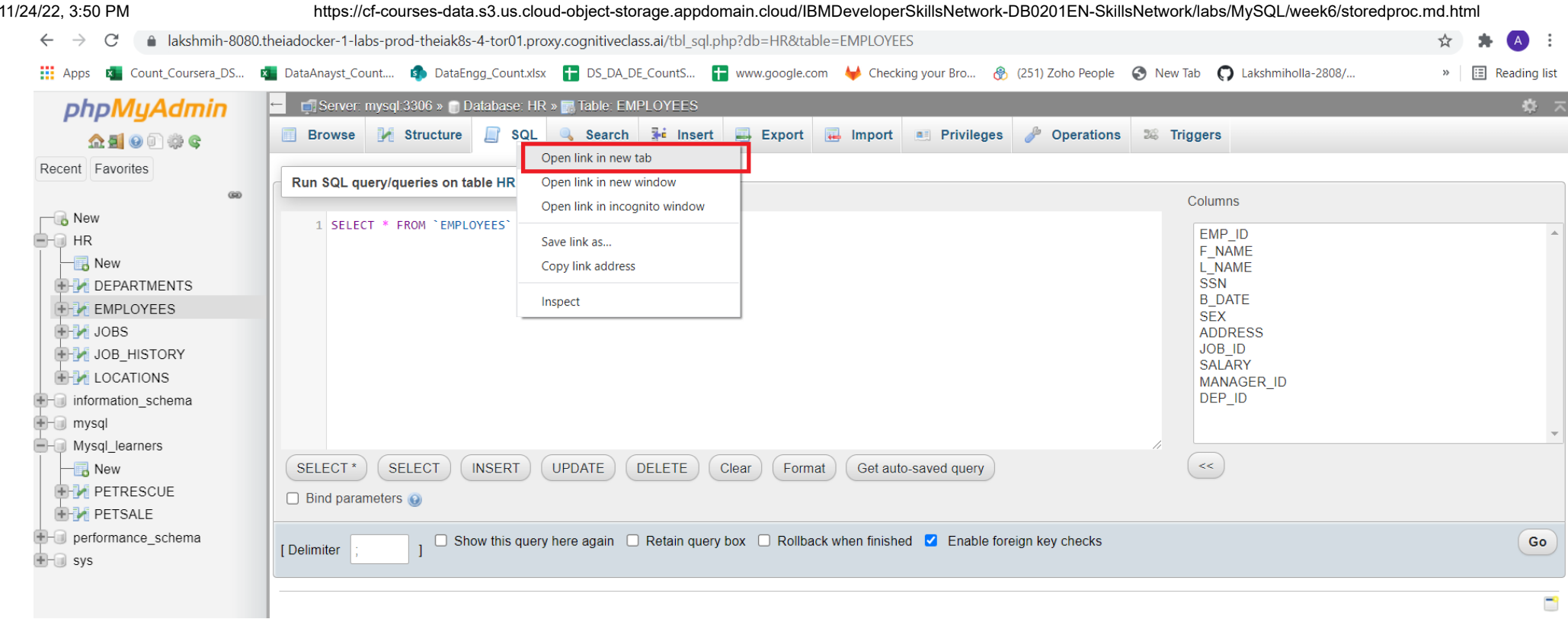
Hide query box

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0064 seconds.)

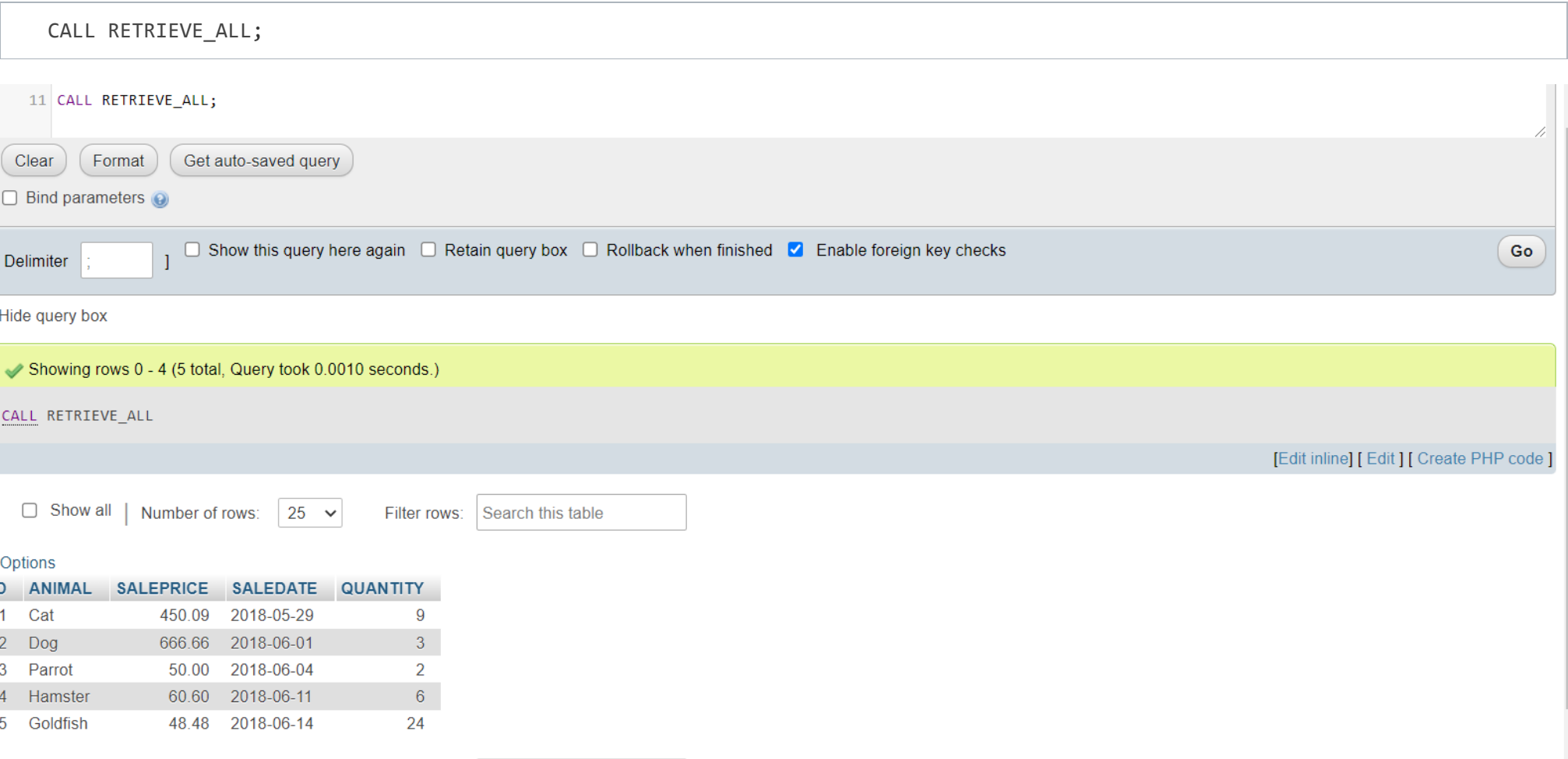CREATE PROCEDURE RETRIEVE_ALL() BEGIN SELECT * FROM PETSALE; END

[Edit inline] [Edit] [Create PHP code]

3. To call the RETRIEVE_ALL routine, open another **SQL** tab by clicking **Open in new Tab**

Delete the default line which appears so that you will get a blank window.

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

```
CALL RETRIEVE_ALL;
```

4. You can view the created stored procedure routine RETRIEVE_ALL. Click on the **Routines** and view the procedure.
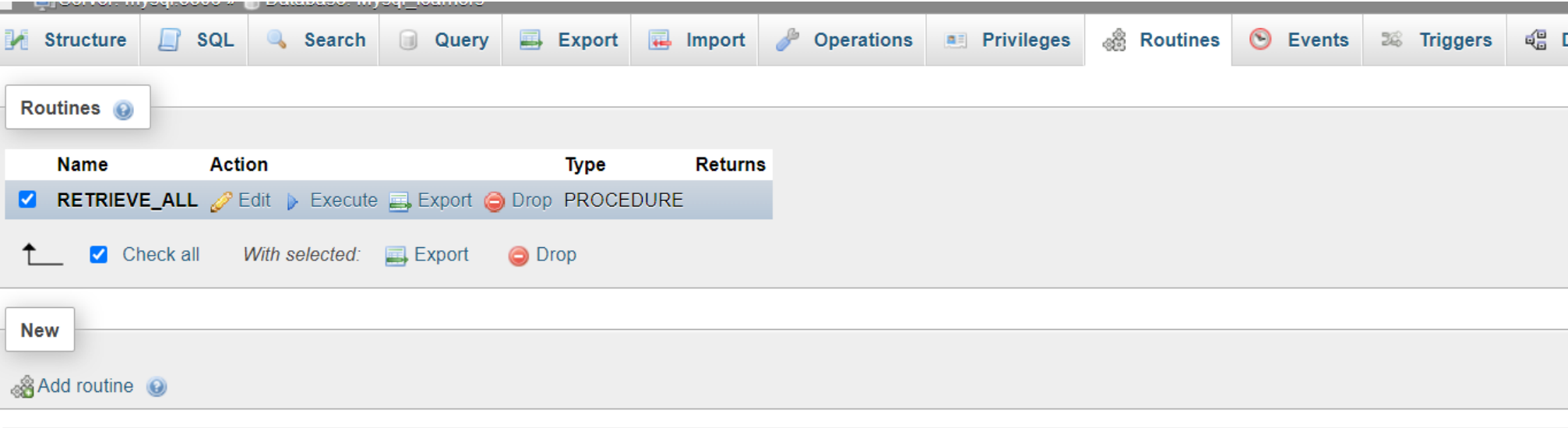
5. If you wish to drop the stored procedure routine RETRIEVE_ALL, copy the code below and paste it to the textarea of the **SQL** page. Click

Go.

```
DROP PROCEDURE RETRIEVE_ALL;

CALL RETRIEVE_ALL;
```

| | Structure | SQL | Search | Query | Export | Import | Operations | Privileges | Routines | Events | Triggers | Designer |

```
1
2    DROP PROCEDURE RETRIEVE_ALL;
3
4    CALL RETRIEVE_ALL;
5
6
```

Clear   Format   Get auto-saved query

☐ Bind parameters ❓

[Delimiter ;]   ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable foreign key checks   Go

Error

SQL query: Copy

    CALL RETRIEVE_ALL

MySQL said: ❓

#1305 - PROCEDURE Mysql_learners.RETRIEVE_ALL does not exist

Exercise 2

In this exercise, you will create and execute a stored procedure to write/modify data in a table on Db2 using SQL.

1. Make sure you have created and populated the **PETSALE** table following the steps in the **"Data Used in this Lab"** section of this lab.

ID ▲	ANIMAL	SALEPRICE	SALEDATE	QUANTITY
1	Cat	450.09	2018-05-29	9
2	Dog	666.66	2018-06-01	3
3	Parrot	50.00	2018-06-04	2
4	Hamster	60.60	2018-06-11	6
5	Goldfish	48.48	2018-06-14	24

2.
   - You will create a stored procedure routine named **UPDATE_SALEPRICE** with parameters **Animal_ID** and **Animal_Health**.
   - This **UPDATE_SALEPRICE** routine will contain SQL queries to update the sale price of the animals in the PETSALE table depending on their

   health conditions, **BAD** or **WORSE**.

   - This procedure routine will take animal ID and health conditon as parameters which will be used to update the sale price of animal in the

   PETSALE table by an amount depending on their health condition. Suppose - * For animal with ID XX having BAD health condition, the sale price will be reduced further by 25%. * For animal with ID YY having WORSE health condition, the sale price will be reduced further by 50%. * For animal with ID ZZ having other health condition, the sale price won't change.

- To create the stored procedure routine, copy the code below and paste it to the textarea of the **SQL** page. Click **Go**.

```
DELIMITER @
CREATE PROCEDURE UPDATE_SALEPRICE (
    IN Animal_ID INTEGER, IN Animal_Health VARCHAR(5) )
BEGIN

    IF Animal_Health = 'BAD' THEN
        UPDATE PETSALE
        SET SALEPRICE = SALEPRICE - (SALEPRICE * 0.25)
        WHERE ID = Animal_ID;

    ELSEIF Animal_Health = 'WORSE' THEN
        UPDATE PETSALE
        SET SALEPRICE = SALEPRICE - (SALEPRICE * 0.5)
        WHERE ID = Animal_ID;

    ELSE
        UPDATE PETSALE
        SET SALEPRICE = SALEPRICE
        WHERE ID = Animal_ID;

    END IF;

END @

DELIMITER ;
```

| Structure | SQL | Search | Query | Export | Import | Operations | Privileges | Routines | Events | Triggers | Designer |

Run SQL query/queries on database Mysql_learners:

```
15
16      ELSE
17          UPDATE PETSALE
18          SET SALEPRICE = SALEPRICE
19          WHERE ID = Animal_ID;
20
21      END IF;
22
23  END @
24
25  DELIMITER ;
26
```

Clear   Format   Get auto-saved query

☐ Bind parameters

[Delimiter [;]]   ☐ Show this query here again   ☐ Retain query box   ☐ Rollback when finished   ☑ Enable foreign key checks   Go

Hide query box

✔ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0214 seconds.)

```
CREATE PROCEDURE UPDATE_SALEPRICE ( IN Animal_ID INTEGER, IN Animal_Health VARCHAR(5) ) BEGIN IF Animal_Health = 'BAD' THEN UPDATE PETSALE SET SALEPRICE = SALEPRICE -
(SALEPRICE * 0.25) WHERE ID = Animal_ID; ELSEIF Animal_Health = 'WORSE' THEN UPDATE PETSALE SET SALEPRICE = SALEPRICE - (SALEPRICE * 0.5) WHERE ID = Animal_ID; ELSE UPDATE
PETSALE SET SALEPRICE = SALEPRICE WHERE ID = Animal_ID; END IF; END
```

[Edit inline] [Edit] [Create PHP code]

3. Let's call the UPDATE_SALEPRICE routine. We want to update the sale price of animal with ID **1** having **BAD** health condition in the

PETSALE table. open another **SQL** tab by clicking **Open in new Tab**
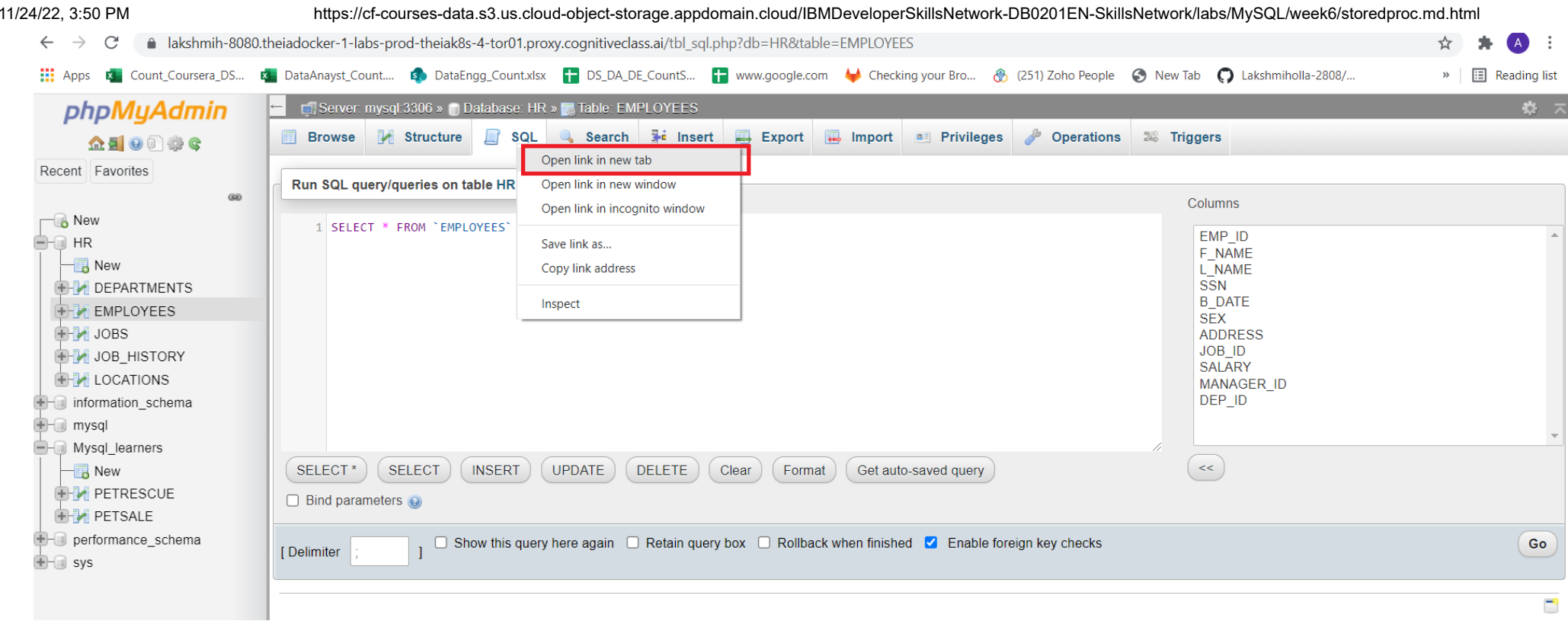
Delete the default line which appears so that you will get a blank window.

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

> Note if you have dropped RETREIVE_ALL procedure rerun the creation script of that procedure before executing these lines.

```
CALL RETRIEVE_ALL;

CALL UPDATE_SALEPRICE(1, 'BAD');

CALL RETRIEVE_ALL;
```
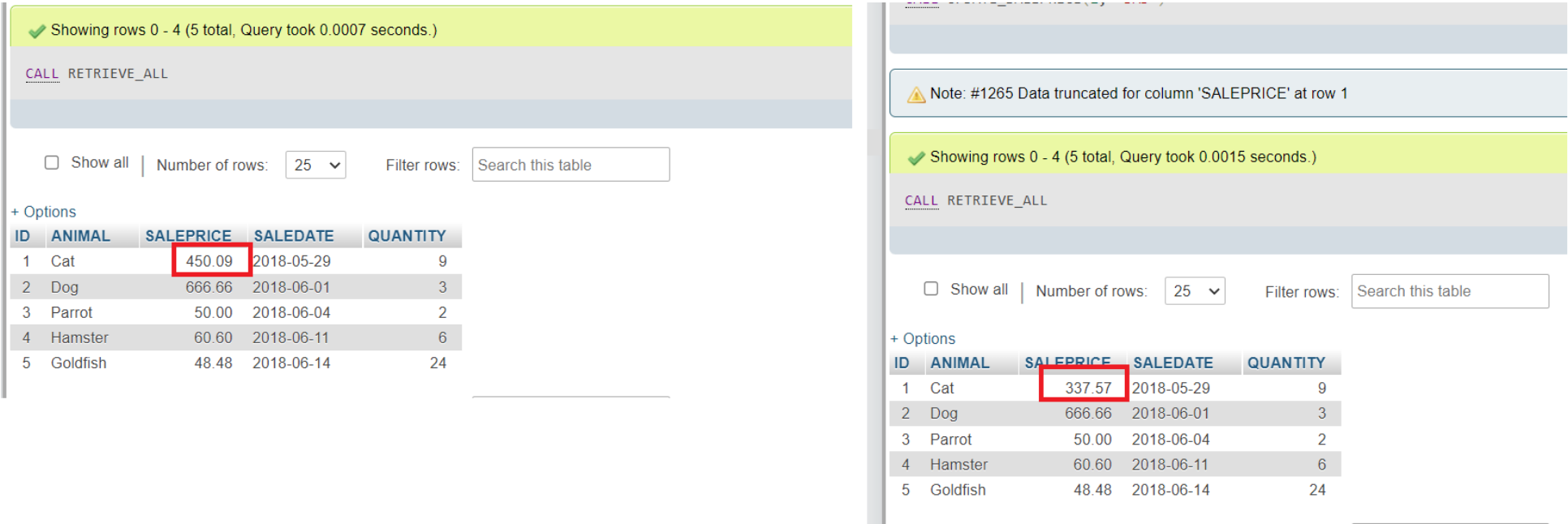

4. Let's call the UPDATE_SALEPRICE routine once again. We want to update the sale price of animal with ID **3** having **WORSE** health condition

in the PETSALE table. copy the code below and paste it to the textarea of the **SQL** page. Click **Go**. You will have all the records retrieved from the PETSALE table.

```
CALL RETRIEVE_ALL;

CALL UPDATE_SALEPRICE(3, 'WORSE');

CALL RETRIEVE_ALL;
```

CALL RETRIEVE_ALL

☑ Showing rows 0 - 4 (5 total, Query took 0.0005 seconds.)

CALL RETRIEVE_ALL

☐ Show all | Number of rows: 25 ⌄ | Filter rows: Search this table

☐ Show all | Number of rows: 25 ⌄ | Filter rows: Search this table

Options

	ANIMAL	SALEPRICE	SALEDATE	QUANTITY
1	Cat	337.57	2018-05-29	9
2	Dog	666.66	2018-06-01	3
3	Parrot	50.00	2018-06-04	2
4	Hamster	60.60	2018-06-11	6
5	Goldfish	48.48	2018-06-14	24

Options

D	ANIMAL	SALEPRICE	SALEDATE	QUANTITY
1	Cat	337.57	2018-05-29	9
2	Dog	666.66	2018-06-01	3
3	Parrot	25.00	2018-06-04	2
4	Hamster	60.60	2018-06-11	6
5	Goldfish	48.48	2018-06-14	24

☐ Show all | Number of rows: 25 ⌄ | Filter rows: Search this table

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Query results operations

5. You can view the created stored procedure routine UPDATE_SALEPRICE. Click on the **Routines** and view the procedure.

| 🔀 Structure | 📄 SQL | 🔍 Search | 🗔 Query | 📤 Export | 📥 Import | 🔧 Operations | ▦ Privileges | 🔩 Routines | 🕐 Events | 🎲 Triggers | 🔩 Designer |

Routines ❓

	Name	Action				Type	Returns
☐	**RETRIEVE_ALL**	✏ Edit	▶ Execute	📄 Export	⊖ Drop	PROCEDURE	
☐	**UPDATE_SALEPRICE**	✏ Edit	▶ Execute	📄 Export	⊖ Drop	PROCEDURE	

⬆ | ☐ Check all | With selected: | 📄 Export | ⊖ Drop

New

🐾 Add routine ❓

6. If you wish to drop the stored procedure routine UPDATE_SALEPRICE, copy the code below and paste it to the textarea of the **SQL** page. Click

Go.

```
DROP PROCEDURE UPDATE_SALEPRICE;

CALL UPDATE_SALEPRICE;
```

```
 7
 8
 9  DROP PROCEDURE UPDATE_SALEPRICE;
10
11  CALL UPDATE_SALEPRICE;
```

Clear | Format | Get auto-saved query

☐ Bind parameters ❓

[Delimiter [;]]   ☐ Show this query here again ☐ Retain query box ☐ Rollback when finished ☑ Enable foreign key checks   Go

Hide query box

Error

SQL query: Copy

```
DROP PROCEDURE UPDATE_SALEPRICE
```

MySQL said: ❓

#1305 - PROCEDURE Mysql_learners.UPDATE_SALEPRICE does not exist

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
2021-08-09	0.2	Sathya Priya	Updated HTML tags and SQL link
2021-11-01	0.1	Lakshmi Holla, Malika Singla	Initial Version