

Hands-on Lab: CREATE, ALTER, TRUNCATE, DROP

Estimated time needed: 20 minutes

In this lab, you will learn how to create tables and load data using the phpMyAdmin graphical user interface (GUI) tool in the MySQL database service.

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 use 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.

Objectives

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

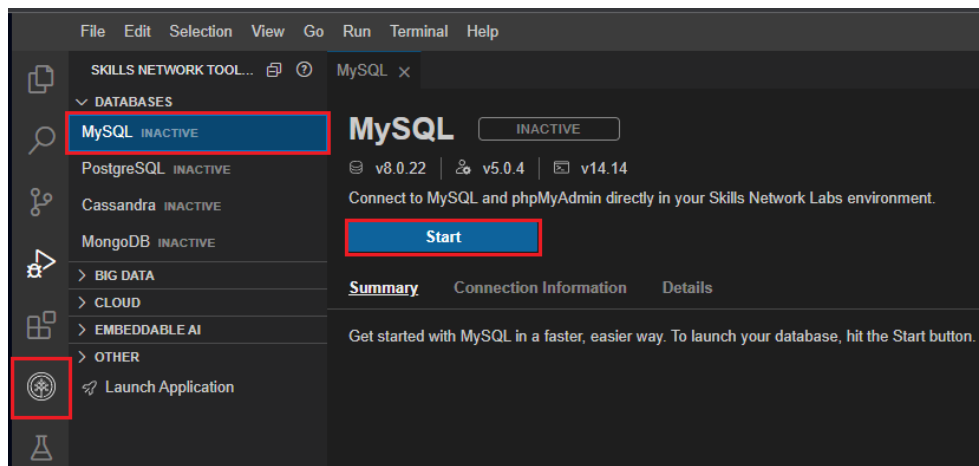
- Create a database.
- Create a new table in a database.
- Add, delete, or modify columns in an existing table.
- Remove all rows from an existing table without deleting the table itself.
- Delete an existing table in a database.

Task 1: Create a database

Follow the steps below to create a new database in the phpMyAdmin GUI of MySQL.

1. Click on **Skills Network Toolbox**. In the **Database** section, click **MySQL**.

To start the MySQL, click **Start**.



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

FileEditSelectionViewGoRunTerminalHelp

MySQL x phpMyAdmin

MySQL

ACTIVE

v8.0.22 | v5.0.4 | v14.14

Connect to MySQL and phpMyAdmin directly in your Skills Network Labs environment.

Stop

SummaryConnection InformationDetails

Your database and phpMyAdmin server are now ready to use and available with the following login credentials. For more details on how to navigate MySQL, please check out the Details section.

Username: malikas

Password:

You can manage MySQL via:

phpMyAdmin

Or to interact with the database in the terminal, select one of these options:

MySQL CLINew Terminal

3. You will see the phpMyAdmin GUI tool.

← → ↻ 🏠 sandipsahajo-8080.theiadocker-27.proxy.cognitiveclass.ai

phpMyAdmin

🏠 📄 ⚙️ 📄 💰

Recent Favorites

- + New
- + information_schema
- + mysql
- + performance_schema
- + sakila
- + sys

Server: mysql:3306

Databases SQL Status User accounts

General settings

Server connection collation: [?](#) utf8mb4_unicode_ci

[More settings](#)

Appearance settings

Language [?](#) English

Theme: pmahomme ▼

4. In the tree view, click **New** to create a new empty database. Then, enter `mysql_learners` as the name of the database, leave the default `utf8` encoding, and click **Create**.

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

Databases

Create database

| Database | Collation | Master replication | Action |
|---|--------------------|--------------------|----------------------------------|
| <input type="checkbox"/> information_schema | utf8_general_ci | ✓ Replicated | Check privileges |
| <input type="checkbox"/> mysql | utf8mb4_0900_ai_ci | ✓ Replicated | Check privileges |
| <input type="checkbox"/> performance_schema | utf8mb4_0900_ai_ci | ✓ Replicated | Check privileges |
| <input type="checkbox"/> sys | utf8mb4_0900_ai_ci | ✓ Replicated | Check privileges |
| Total: 4 | | | |

☐ Check all
 With selected:

Task 2a : CREATE statement

Now, you will use the CREATE statement to create two new tables. Follow the instructions to complete this task.

1. You need to create two tables, PETSale and PET. To create the two tables, copy the code below and paste it into the text area of the SQL tab. Click Go.

```

CREATE TABLE PETSale (
  ID INTEGER NOT NULL,
  PET CHAR(20),
  SALEPRICE DECIMAL(6,2),
  PROFIT DECIMAL(6,2),
  SALEDATE DATE
);
CREATE TABLE PET (
  ID INTEGER NOT NULL,
  ANIMAL VARCHAR(20),
  QUANTITY INTEGER
);
    
```

Run SQL query/queries on database Mysql_Learners:

```

1 CREATE TABLE PETSale (
2   ID INTEGER NOT NULL,
3   PET CHAR(20),
4   SALEPRICE DECIMAL(6,2),
5   PROFIT DECIMAL(6,2),
6   SALEDATE DATE
7 );
8
9 CREATE TABLE PET (
10  ID INTEGER NOT NULL,
11  ANIMAL VARCHAR(20),
12  QUANTITY INTEGER
13 );
    
```

☐ Bind parameters

[Delimiter:]
 ☐ Show this query here again
 ☐ Retain query box
 ☐ Rollback when finished
 ☒ Enable foreign key checks

Hide query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0562 seconds.)

CREATE TABLE PETSale (ID INTEGER NOT NULL, PET CHAR(20), SALEPRICE DECIMAL(6,2), PROFIT DECIMAL(6,2), SALEDATE DATE)

phpMyAdmin

Recent Favorites

- New
- information_schema
- mysql
- Mysql_Learners**
 - New
 - PET
 - PETSale
- performance_schema
- sys

Server: mysql:3306 » Database: Mysql_Learners

[Structure](#)
[SQL](#)
[Search](#)
[Query](#)
[Export](#)
[Import](#)
[Operations](#)
[Privileges](#)

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0196 seconds.)

CREATE TABLE PETSale (ID INTEGER NOT NULL, PET CHAR(20), SALEPRICE DECIMAL(6,2), PROFIT DECIMAL(6,2),

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0189 seconds.)

CREATE TABLE PET (ID INTEGER NOT NULL, ANIMAL VARCHAR(20), QUANTITY INTEGER)

Task 2b: INSERT statement

Now, insert some records into the two newly created tables. You can also add SELECT statements to print the contents of the tables once they are loaded with data.

Copy the code below and paste it into the text area of the SQL tab. Then, click Go.

```
INSERT INTO PETSale VALUES
(1, 'Cat', 450.09, 100.47, '2018-05-29'),
(2, 'Dog', 666.66, 150.76, '2018-06-01'),
(3, 'Parrot', 50.00, 8.9, '2018-06-04'),
(4, 'Hamster', 60.60, 12, '2018-06-11'),
(5, 'Goldfish', 48.48, 3.5, '2018-06-14');

INSERT INTO PET VALUES
(1, 'Cat', 3),
(2, 'Dog', 4),
(3, 'Hamster', 2);

SELECT * FROM PETSale;
SELECT * FROM PET;
```

Showing rows 0 - 4 (5 total, Query took 0.0000 seconds.)

SELECT * FROM PETSale

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

Options

| ID | PET | SALEPRICE | PROFIT | SALEDATE |
|----|----------|-----------|--------|------------|
| 1 | Cat | 450.09 | 100.47 | 2018-05-29 |
| 2 | Dog | 666.66 | 150.76 | 2018-06-01 |
| 3 | Parrot | 50.00 | 8.90 | 2018-06-04 |
| 4 | Hamster | 60.60 | 12.00 | 2018-06-11 |
| 5 | Goldfish | 48.48 | 3.50 | 2018-06-14 |

Showing rows 0 - 2 (3 total, Query took 0.0003 seconds.)

SELECT * FROM PET

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

Options

| ID | ANIMAL | QUANTITY |
|----|---------|----------|
| 1 | Cat | 3 |
| 2 | Dog | 4 |
| 3 | Hamster | 2 |

Task 3: ALTER statement

In this exercise, you will use the ALTER statement to add, delete, or modify columns in the existing tables.

1. Adding a column

Add a new column named **QUANTITY** to the **PETSale** table and display the altered table. For this, copy the code below and paste it into the text area of the **SQL** page. Click **Go**.

```
ALTER TABLE PETSale
ADD COLUMN QUANTITY INTEGER;

SELECT * FROM PETSale;
```

MySQL returned an empty result set (i.e. zero rows) (Query took 0.0481 seconds.)

ALTER TABLE PETSale ADD COLUMN QUANTITY INTEGER

[\[Edit inline\]](#) [\[Edit\]](#) [\[Create PHP code\]](#)

Current selection does not contain a unique column. Grid edit, checkbox, Edit, Copy and Delete features are not available.

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

SELECT * FROM PETSale

☐ Profiling [\[Edit inline\]](#) [\[Edit\]](#) [\[Explain SQL\]](#) [\[Create PHP code\]](#) [\[Refresh\]](#)

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

Options

| ID | PET | SALEPRICE | PROFIT | SALEDATE | QUANTITY |
|----|----------|-----------|--------|------------|----------|
| 1 | Cat | 450.09 | 100.47 | 2018-05-29 | NULL |
| 2 | Dog | 666.66 | 150.76 | 2018-06-01 | NULL |
| 3 | Parrot | 50.00 | 8.90 | 2018-06-04 | NULL |
| 4 | Hamster | 60.60 | 12.00 | 2018-06-11 | NULL |
| 5 | Goldfish | 48.48 | 3.50 | 2018-06-14 | NULL |

Now update the newly added **QUANTITY** column of the **PETSale** table with some values and show all the table records. Copy the code below and paste it into text area of the **SQL** page. Click **Go**.

```
UPDATE PETSale SET QUANTITY = 9 WHERE ID = 1;
UPDATE PETSale SET QUANTITY = 3 WHERE ID = 2;
UPDATE PETSale SET QUANTITY = 2 WHERE ID = 3;
UPDATE PETSale SET QUANTITY = 6 WHERE ID = 4;
UPDATE PETSale SET QUANTITY = 24 WHERE ID = 5;
SELECT * FROM PETSale;
```

UPDATE PETSale SET QUANTITY = 9 WHERE ID = 1;
UPDATE PETSale SET QUANTITY = 3 WHERE ID = 2;
UPDATE PETSale SET QUANTITY = 2 WHERE ID = 3;
UPDATE PETSale SET QUANTITY = 6 WHERE ID = 4;
UPDATE PETSale SET QUANTITY = 24 WHERE ID = 5;
SELECT * FROM PETSale;

| ID | PET | SALEPRICE | PROFIT | SALEDATE | QUANTITY |
|----|----------|-----------|--------|------------|----------|
| 1 | Cat | 450.09 | 100.47 | 2018-05-29 | 9 |
| 2 | Dog | 666.66 | 150.76 | 2018-06-01 | 3 |
| 3 | Parrot | 50.00 | 8.90 | 2018-06-04 | 2 |
| 4 | Hamster | 60.60 | 12.00 | 2018-06-11 | 6 |
| 5 | Goldfish | 48.48 | 3.50 | 2018-06-14 | 24 |

2. Deleting a column

Delete the **PROFIT** column from the **PETSale** table and show the altered table. Copy the code below and paste it into the text area of the **SQL** page. Click **Go**.

```
ALTER TABLE PETSale
DROP COLUMN PROFIT;
SELECT * FROM PETSale;
```

Run SQL query/queries on table Mysql_learners.PETSale:

```
1 ALTER TABLE PETSale
2 DROP COLUMN PROFIT;
3
4 SELECT * FROM PETSale;
```

+ Options

| ID | PET | 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 |

☐ Show all | Number of rows: 25 | Filter rows:

3. Modify a column

Change the data type to VARCHAR(20) type of the column PET of the table PETSale and show the altered table. Copy the code below and paste it into the text area of the SQL page. Click Go.

```
ALTER TABLE PETSale
MODIFY PET VARCHAR(20);
SELECT * FROM PETSale;
```

You can click on the table name PETSale in the tree structure on the left and then click on the Structure tab in the interface. You can then see the table structure shows the modified column data type, as shown in the image below.

Run SQL query/queries on table Mysql_learners.PETSale:

```
1
2 ALTER TABLE PETSale CHANGE `PET` `PET` VARCHAR(20);
3
4 SELECT * FROM PETSale;
```

+ Options

| ID | PET |
|----|---------|
| 1 | Cat |
| 2 | Dog |
| 3 | Parrot |
| 4 | Hamste |
| 5 | Goldfis |

☐ Sho

Table structure

| # | Name | Type | Collation | Attributes | Null | Default | Comments | Extra | Action |
|----------------------------|-----------|--------------|--------------------|------------|------|---------|----------|-------|--------------------|
| <input type="checkbox"/> 1 | ID | int | | | No | None | | | Change Drop More |
| <input type="checkbox"/> 2 | PET | varchar(20) | utf8mb4_0900_ai_ci | | Yes | NULL | | | Change Drop More |
| <input type="checkbox"/> 3 | SALEPRICE | decimal(6,2) | | | Yes | NULL | | | Change Drop More |
| <input type="checkbox"/> 4 | SALEDATE | date | | | Yes | NULL | | | Change Drop More |
| <input type="checkbox"/> 5 | QUANTITY | int | | | Yes | NULL | | | Change Drop More |

4. Rename a Column

Rename the column PET to ANIMAL of the PETSale table and show the altered table. Copy the code below and paste it into the text area of the SQL page. Click Go.

```
ALTER TABLE `PETSale` CHANGE `PET` `ANIMAL` varchar(20);
SELECT * FROM PETSale;
```

Run SQL query/queries on table `Mysql_learners.PETSALE`:

```
1 ALTER TABLE `PETSALE` CHANGE `PET` `ANIMAL` varchar(20);
```

Showing rows 0 - 4 (5 total, Query took 0.0006 seconds.)

```
select * from `PETSALE`
```

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

- Options

| 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 |

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

Task 4: TRUNCATE statement

In this exercise, you will use the TRUNCATE statement to remove all rows from an existing table without deleting it.

Let's remove all rows from the PET table and show the empty table. Copy the code below and paste it into the text area of the SQL page. Click Go.

```
TRUNCATE TABLE PET ;
SELECT * FROM PET;
```

Run SQL query/queries on table `Mysql_learners.PETSALE`:

```
1 TRUNCATE TABLE PET ;
2 SELECT * FROM PET;
```

MySQL returned 0 rows (0.0006 seconds)

| ID | ANIMAL | QUANTITY |
|----|--------|----------|
|----|--------|----------|

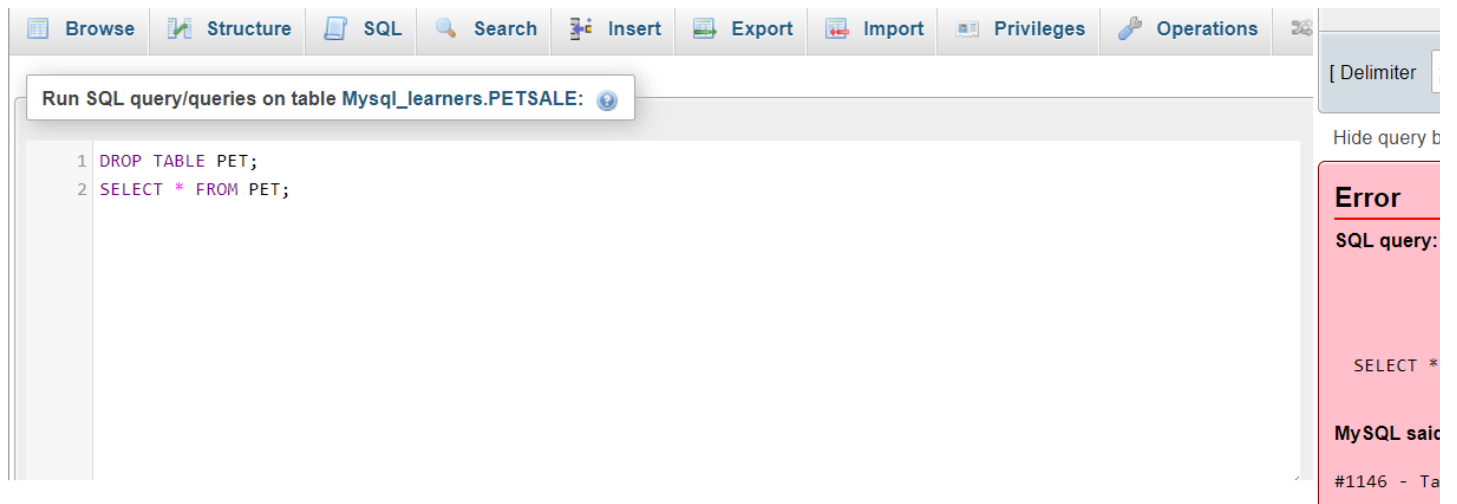
Query results of 0 rows

Create view

Task 5: DROP statement

Finally, you will use the DROP statement to delete an existing table. Let's delete the PET table and verify if the table still exists or not (the SELECT statement should give an error if a table doesn't exist). Copy the code below and paste it into the text area of the SQL page. Click Go.

```
DROP TABLE PET;
SELECT * FROM PET;
```



Practice problems

Try the following problems for an enhanced practice of the concepts learned in this lab.

1. Create a new table in the database named `toys` with attributes as `ID` (integer), `Variety` (variable length string), and `Quantity` (integer). Make sure the `ID` is not Null.
► [Click here for the solution](#)
2. Add the below-mentioned entries to the table using the `INSERT` statement.

| ID | Variety | Quantity |
|----|--------------|----------|
| 1 | Chew toy | 20 |
| 2 | Balls | 50 |
| 3 | Bowls | 30 |
| 4 | Foldable bed | 40 |

- [Click here for the solution](#)
3. `ALTER` the length of 'Variety' in the table to 30 characters.
► [Click here for the solution](#)
 4. `TRUNCATE` the table 'Toys'
► [Click here for the solution](#)
 5. `DROP` the table 'Toys'
► [Click here for the solution](#)

Conclusion

Congratulations on successfully completing this lab.

By now, you have learned how to:

- Create a database in phpMyAdmin GUI on MySQL.
- Use the `CREATE` statement to create new tables in the database.
- Use the `INSERT` statement to add records to the tables.
- Use the `ALTER` statement to add, delete, rename, or modify the columns of an existing table.
- Use the `TRUNCATE` statement to delete the contents of an existing table (but not the table).
- Use the `DROP` statement to delete an entire table.

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