

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:

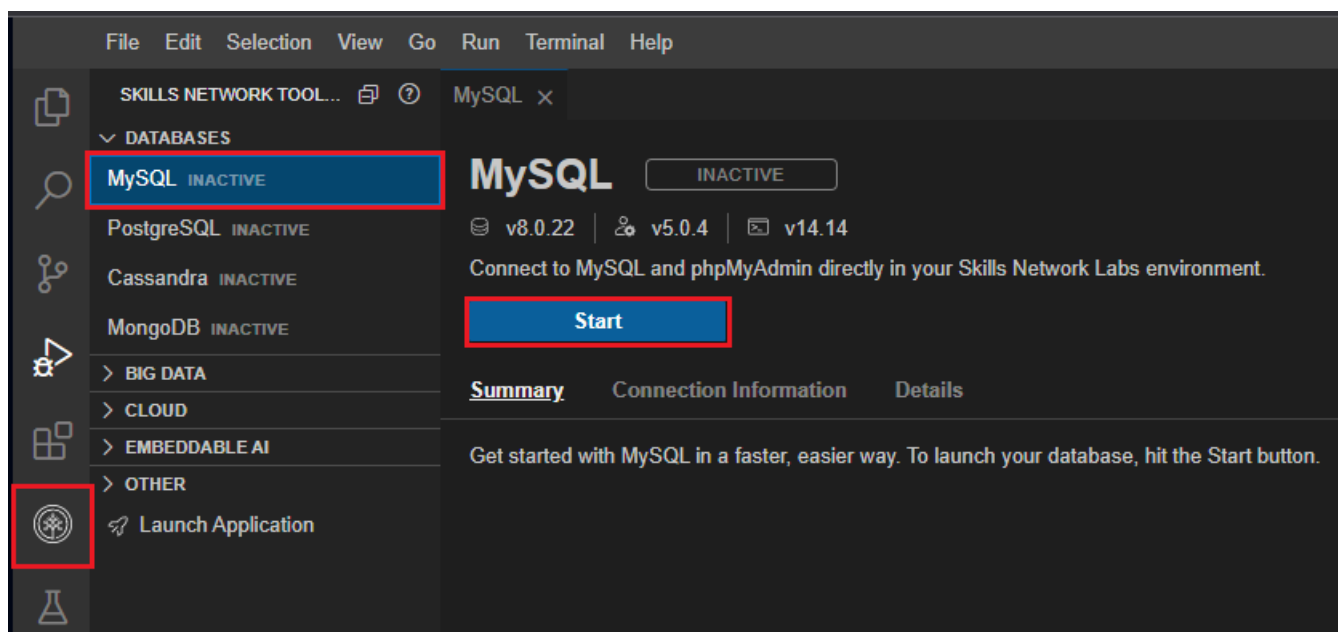
- Create a database.
- Create a new table in a database.
- Add, delete, or modify columns in an existing table.
- Remove all rows from an existing table without deleting the table itself.
- Delete an existing table in a database.

Task 1: Create a database

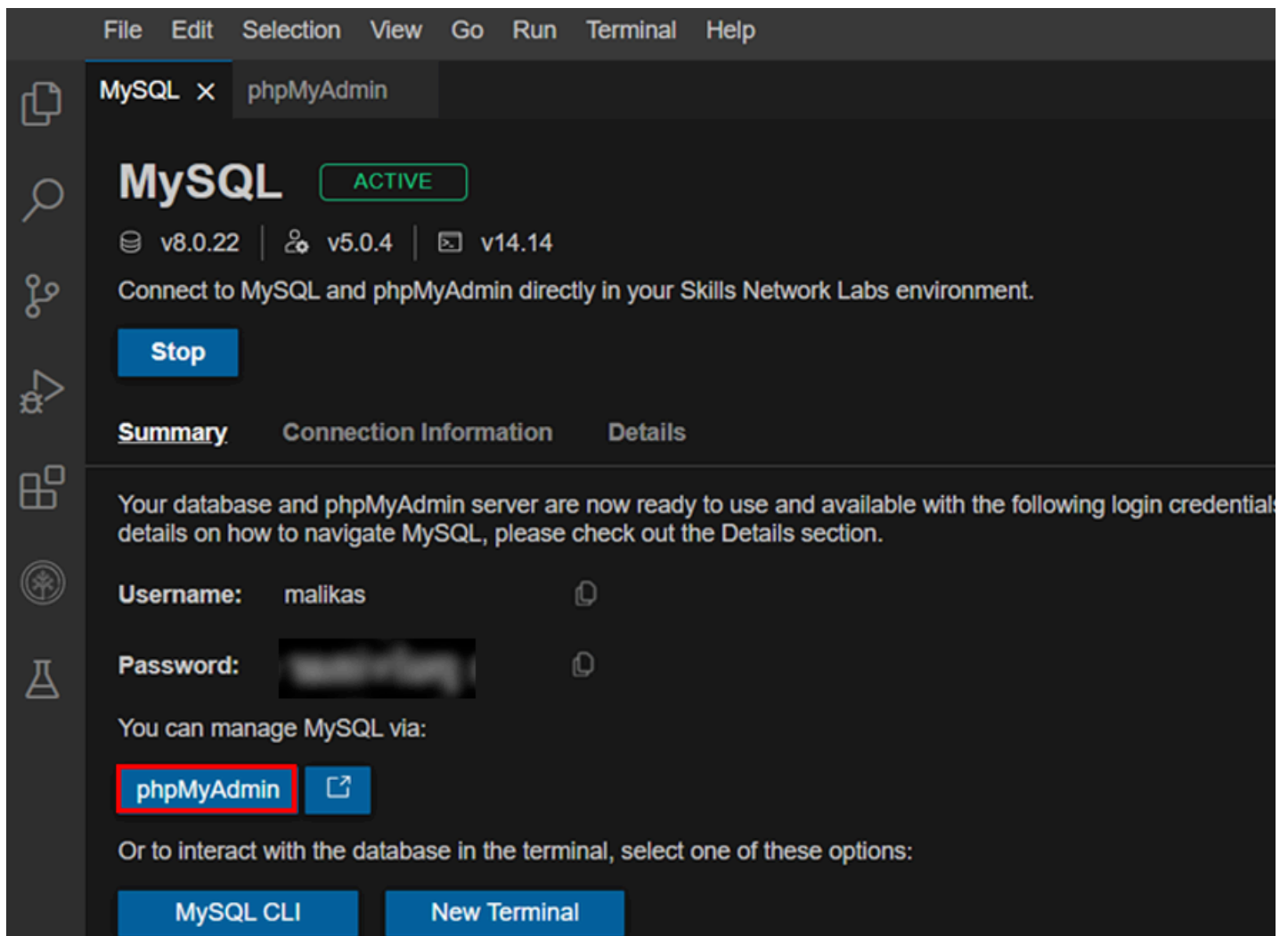
Follow the steps below to create a new database in the phpMyAdmin GUI of MySQL.

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.



3. You will see the phpMyAdmin GUI tool.



sandipsahajo-8080.theiadocker-27.proxy

phpMyAdmin



Recent

Favorites



New



information_schema



mysql



performance_schema



sakila



sys



Server: mysql:3306



Databases



SQL

General settings



Server connection collation



[More settings](#)

Appearance settings



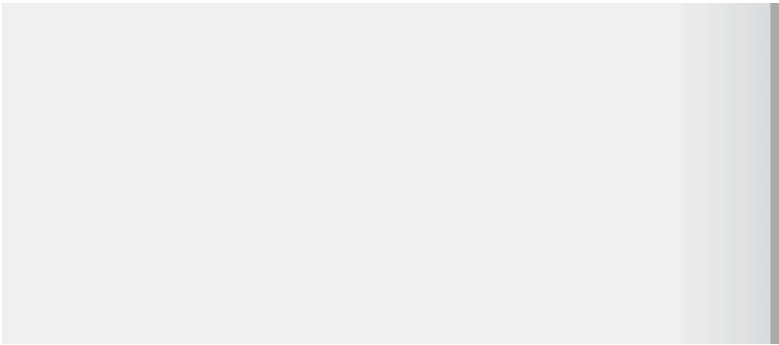
Language

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

Create

	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: Drop

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**.

```
1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13

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. );
```

Copied!

The screenshot shows the MySQL command line interface with the following menu: Structure, SQL, Search, Query, Export, Import, Operations, Privileges, Routines, Events, Triggers, Designer. The title bar reads "Run SQL query/queries on database Mysql_learners:". The query text area contains the following SQL code:

```
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 );
```

Below the query text area are buttons for "Clear", "Format", and "Get auto-saved query". There is a checkbox for "Bind parameters" which is unchecked. At the bottom, there is a "Delimiter" field set to ";", a "Go" button, and several checkboxes: "Show this query here again" (unchecked), "Retain query box" (unchecked), "Rollback when finished" (unchecked), and "Enable foreign key checks" (checked).

A green status bar at the bottom indicates: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0562 seconds.)". Below this, the executed SQL code is shown in a light blue box.

The screenshot shows the phpMyAdmin interface. On the left, the "Database: Mysql_learners" is selected, and the "Structure" tab is active. The table list on the left includes "New", "information_schema", "mysql", "Mysql_learners" (highlighted with a red box), "performance_schema", and "sys". Under "Mysql_learners", there are "New", "PET", and "PETSale" tables. On the right, the "SQL" tab is active, showing the same SQL code as the previous screenshot. The status bar at the bottom indicates: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0196 seconds.)". Below this, the executed SQL code is shown in a light blue box.

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.

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10
11. 11
12. 12
13. 13
14. 14

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

```

6.         (5, 'Goldfish', 48.48, 3.5, '2018-06-14');
7.
8. INSERT INTO PET VALUES
9.         (1, 'Cat', 3),
10.        (2, 'Dog', 4),
11.        (3, 'Hamster', 2);
12.
13. SELECT * FROM PETALE;
14. SELECT * FROM PET;

```

Copied!

```

1 INSERT INTO PETALE VALUES
2   (1, 'Cat', 450.09, 100.47, '2018-05-29'),
3   (2, 'Dog', 666.66, 150.76, '2018-06-01'),
4   (3, 'Parrot', 50.00, 8.9, '2018-06-04'),
5   (4, 'Hamster', 60.60, 12, '2018-06-11'),
6   (5, 'Goldfish', 48.48, 3.5, '2018-06-14');
7
8 INSERT INTO PET VALUES
9   (1, 'Cat', 3),
10  (2, 'Dog', 4),
11  (3, 'Hamster', 2);
12
13 SELECT * FROM PETALE;
14 SELECT * FROM PET;

```

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

SELECT * FROM PETALE

☐ 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 **PETALE** 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..**

```

1. 1
2. 2
3. 3
4. 4

1. ALTER TABLE PETALE
2. ADD COLUMN QUANTITY INTEGER;
3.
4. SELECT * FROM PETALE;

```

Copied!

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

ALTER TABLE PETALE 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 PETALE

☐ Profiling [Edit inline] [Edit] [Explain SQL] [Create PHP code] [Refresh]

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

Options

D	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 **PETALE** 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.**

1. 1
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7

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

Copied!

```
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**.

1. 1
2. 2
3. 3
4. 4

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

Copied!

Browse
Structure
SQL
Search
Insert

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
1	Cat	450.09
2	Dog	666.66
3	Parrot	50.00
4	Hamster	60.60
5	Goldfish	48.48

☐ Show all

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**.

1. 1
2. 2
3. 3

1. ALTER TABLE PETSale
2. MODIFY PET VARCHAR(20);
3. SELECT * FROM PETSale;

Copied!

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.

The screenshot shows a database management interface with a top toolbar containing buttons for Browse, Structure, SQL, Search, Insert, Export, Import, and Privileges. Below the toolbar is a header for the SQL editor: "Run SQL query/queries on table Mysql_learners.PETSale:". The SQL editor contains the following code:

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

Below the SQL editor is a section for the table structure, with tabs for "Table structure" and "Relation view". The "Table structure" tab is active, displaying a table with the following columns:

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

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.

1. 1
 2. 2
 3. 3
- ```
1. ALTER TABLE `PETSale` CHANGE `PET` `ANIMAL` varchar(20);
2.
3. SELECT * FROM PETSale;
```

Copied!



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:

- 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:

## 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.

1. 1
  2. 2
  3. 3
1. TRUNCATE TABLE PET ;
  - 2.
  3. SELECT \* FROM PET;

Copied!

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Run SQL query/queries on table Mysql\_learners.PETSALE: ?

1

TRUNCATE TABLE PET ;

2

SELECT \* FROM PET;

## 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.

- 1.
- 2.
- 3.

1. DROP TABLE PET;
- 2.
3. SELECT \* FROM PET;

Copied!

Browse

Structure

SQL

Search

Insert

Export

Import

Privileges

Run SQL query/queries on table Mysql\_learners.PETSALE: ?

1

DROP TABLE PET;

2

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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