



# EXPERIMENT - 4

## DATABASE MANAGEMENT SYSTEMS LAB

### Aim

Write SQL commands for implementing ALTER, UPDATE and DELETE.

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4C7

## EXPERIMENT – 4

### Aim:

Write SQL commands for implementing ALTER, UPDATE and DELETE.

### Tools Used:

MariaDB

### Procedure:

Change the City of Client\_No 'C00005' to 'Bangalore'

```
UPDATE CLIENT_MASTER
```

```
→ SET CITY = 'Bangalore'
```

```
→ WHERE CLIENT_NO = 'C00005';
```

```
MariaDB [info]> UPDATE CLIENT_MASTER
  -> SET CITY = 'Bangalore'
  -> WHERE CLIENT_NO = 'C00005';
Query OK, 1 row affected (0.004 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

Altered Data is: -

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE
C00001	Ivan			Mumbai	400054	Maharashtra	15000.00
C00002	Mamta Muzumdar			Madras	780001	Tamil Nadu	0.00
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00

```
6 rows in set (0.000 sec)
```

Change the Bal\_Due of Client\_No 'C00001' to Rs.1000

```
→ UPDATE CLIENT_MASTER  
→ SET BAL_DUE = '1000'  
→ WHERE CLIENT_NO = 'C00001';
```

```
MariaDB [info]> UPDATE CLIENT_MASTER  
  -> SET BAL_DUE = '1000'  
  -> WHERE CLIENT_NO = 'C00001';  
Query OK, 1 row affected (0.004 sec)  
Rows matched: 1  Changed: 1  Warnings: 0
```

Altered Data is: -

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE
C00001	Ivan			Mumbai	400054	Maharashtra	1000.00
C00002	Mamta Muzumdar			Madras	780001	Tamil Nadu	0.00
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00

```
6 rows in set (0.000 sec)
```

Change the Cost\_Price of 'Trousers' to Rs.950

```
→ UPDATE PRODUCT_MASTER  
→ SET COST_PRICE = '950'  
→ WHERE DESCRIPTION = 'Trousers';
```

```
MariaDB [info]> UPDATE PRODUCT_MASTER
-> SET COST_PRICE = '950'
-> WHERE DESCRIPTION = 'Trousers';
Query OK, 1 row affected (0.003 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
MariaDB [info]> SELECT * FROM PRODUCT_MASTER;
```

PRODUCT_NO	DESCRIPTION	PROFIT_PERCENT	UNIT_MEASURE	QTY_ON_HEAD	REORDER_LVL	SELL_PRICE	COST_PRICE
P00001	T-shirts	5.00	Piece	200	50	5350.00	250.00
P00345	Shirts	6.00	Piece	150	50	500.00	350.00
P06734	CottonJeans	5.00	Piece	100	20	600.00	450.00
P07865	Jeans	5.00	Piece	100	20	750.00	500.00
P07868	Trousers	2.00	Piece	150	50	850.00	950.00
P07885	Pullovers	2.50	Piece	80	30	700.00	450.00
P07965	DenimShirts	4.00	Piece	100	40	350.00	250.00
P07975	LycraTops	5.00	Piece	70	30	300.00	175.00
P08865	Skirts	5.00	piece	75	30	450.00	300.00

```
9 rows in set (0.001 sec)
```

Change the City of the Salesman to 'Pune'

```
UPDATE SALESMAN_MASTER
→ SET CITY = 'Pune';
```

```
MariaDB [info]> UPDATE SALESMAN_MASTER
-> SET CITY = 'Pune';
Query OK, 4 rows affected (0.003 sec)
Rows matched: 4  Changed: 4  Warnings: 0
```

Altered Data is: -

```
MariaDB [info]> SELECT * FROM SALESMAN_MASTER;
```

SALESMAN_NO	SALESMAN_NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	SAL_AMT	TGT_TO_GET	YTD_SALES	REMARKS
S00001	Aman	A/14	Worli	Pune	400002	Maharashtra	3000.00	100.00	50.00	Good
S00002	Omkar	65	Nariman	Pune	400002	Maharashtra	3000.00	0.00	100.00	Good
S00003	Raj	P/7	Bandra	Pune	400002	Maharashtra	3000.00	200.00	100.00	Good
S00004	Ashish	A/5	Juhu	Pune	400044	Maharashtra	3500.00	200.00	150.00	Good

```
4 rows in set (0.000 sec)
```

Delete all Salesman from the Salesman\_Master whose salaries are equal to Rs. 3500

→ DELETE FROM SALESMAN\_MASTER  
→ WHERE SAL\_AMT = '3500';

```
MariaDB [info]> DELETE FROM SALESMAN_MASTER  
-> WHERE SAL_AMT = '3500';  
Query OK, 1 row affected (0.003 sec)
```

Altered Data is: -

```
MariaDB [info]> SELECT * FROM SALESMAN_MASTER;
```

SALESMAN_NO	SALESMAN_NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	SAL_AMT	TGT_TO_GET	YTD_SALES	REMARKS
S00001	Aman	A/14	Worli	Pune	400002	Maharashtra	3000.00	100.00	50.00	Good
S00002	Omkar	65	Nariman	Pune	400002	Maharashtra	3000.00	0.00	100.00	Good
S00003	Raj	P/7	Bandra	Pune	400002	Maharashtra	3000.00	200.00	100.00	Good

3 rows in set (0.001 sec)

Delete all Products from Product\_Master where the QtyOnHand = 100

→ DELETE FROM PRODUCT\_MASTER  
→ WHERE QTY\_ON\_HAND = '100';

Altered Data is: -

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE
C00001	Ivan			Mumbai	400054	Maharashtra	1000.00
C00002	Mamta Muzumdar			Madras	780001	Tamil Nadu	0.00
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00

6 rows in set (0.000 sec)

Delete from Client\_Master where the column state holds the value 'Tamil Nadu'

- DELETE FROM CLIENT\_MASTER
- WHERE STATE = 'Tamil Nadu';

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE
C00001	Ivan			Mumbai	400054	Maharashtra	1000.00
C00002	Mamta Muzumdar			Madras	780001	Tamil Nadu	0.00
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00

```
6 rows in set (0.000 sec)
```

```
MariaDB [info]> DELETE FROM CLIENT_MASTER  
-> WHERE STATE = 'Tamil Nadu';  
Query OK, 1 row affected (0.003 sec)
```

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE
C00001	Ivan			Mumbai	400054	Maharashtra	1000.00
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00

```
5 rows in set (0.000 sec)
```

Add a column called 'Telephone' of data type 'Number' and size = '10' to the Client\_Master Table

- ALTER TABLE CLIENT\_MASTER
- ADD TELEPHONE INT(10);

```
MariaDB [info]> ALTER TABLE CLIENT_MASTER  
-> ADD TELEPHONE INT(10);  
Query OK, 0 rows affected (0.007 sec)  
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [info]> SELECT * FROM CLIENT_MASTER;
```

CLIENT_NO	NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	BAL_DUE	TELEPHONE
C00001	Ivan			Mumbai	400054	Maharashtra	1000.00	NULL
C00003	Chhaya Bankar			Mumbai	400057	Maharashtra	5000.00	NULL
C00004	Ashwini Joshi			Bangalore	560001	Karnataka	0.00	NULL
C00005	Hansel Colaco			Bangalore	400060	Maharashtra	2000.00	NULL
C00006	Deepak Sharma			Mangalore	560050	Karnataka	0.00	NULL

```
5 rows in set (0.007 sec)
```



Change the size of Sell\_Price column in Product\_Master to '10.2'

- ALTER TABLE PRODUCT\_MASTER
- MODIFY SELL\_PRICE FLOAT(10,2);

```
MariaDB [info]> ALTER TABLE PRODUCT_MASTER
```

```
-> MODIFY SELL_PRICE float(10,2);
```

```
Query OK, 0 rows affected (0.005 sec)
```

```
Records: 0 Duplicates: 0 Warnings: 0
```

```
MariaDB [info]> SELECT * FROM PROSUCT_MASTER;
```

```
ERROR 1146 (42S02): Table 'info.prosuct_master' doesn't exist
```

```
MariaDB [info]> SELECT * FROM PRODUCT_MASTER;
```

PRODUCT_NO	DESCRIPTION	PROFIT_PERCENT	UNIT_MEASURE	QTY_ON_HAND	REORDER_LVL	SELL_PRICE	COST_PRICE
P00001	T-shirts	5.00	Piece	200	50	5350.00	250.00
P0345	Shirts	6.00	Piece	150	50	500.00	350.00
P07868	Trousers	2.00	Piece	150	50	850.00	950.00
P07885	PullOvers	2.50	Piece	80	30	700.00	450.00
P07975	LycraTops	5.00	Piece	70	30	300.00	175.00
P08865	Skirts	5.00	piece	75	30	450.00	300.00

```
6 rows in set (0.007 sec)
```

Destroy the table Client\_Master along with its data

- DROP TABLE CLIENT\_MASTER;

```
MariaDB [info]> DROP TABLE CLIENT_MASTER
```

```
-> ;
```

```
Query OK, 0 rows affected (0.013 sec)
```

```
MariaDB [info]> DESCRIBE CLIENT_MASTER;
```

```
ERROR 1146 (42S02): Table 'info.client_master' doesn't exist
```

Change the name of the Salesman\_Master table to SMAN\_MAST

→ RENAME TABLE SALESMAN\_MASTER TO SMAN\_MAST;

```
MariaDB [info]> RENAME TABLE SALESMAN_MASTER TO SMAN_MAST;
```

```
Query OK, 0 rows affected (0.010 sec)
```

```
MariaDB [info]> SELECT * FROM SMAN_MAST;
```

SALESMAN_NO	SALESMAN_NAME	ADDRESS1	ADDRESS2	CITY	PINCODE	STATE	SAL_AMT	TGT_TO_GET	YTD_SALES	REMARKS
S00001	Aman	A/14	Worli	Pune	400002	Maharashtra	3000.00	100.00	50.00	Good
S00002	Omkar	65	Nariman	Pune	400002	Maharashtra	3000.00	0.00	100.00	Good
S00003	Raj	P/7	Bandra	Pune	400002	Maharashtra	3000.00	200.00	100.00	Good

```
3 rows in set (0.001 sec)
```



## Office DB

1. CREATE DATABASE Office;
2. Use Office;
3. CREATE TABLE Employee(id int NOT NULL,Name varchar(255),Role varchar(255),PRIMARY KEY (id));
4. INSERT INTO Employee(id,Name,Role)VALUES ('1','Elliot alderson','Consulting Hacker');
5. INSERT INTO Employee(id,Name,Role)VALUES ('2','saksham pathak','Systems Arch');
6. Select \* FROM Employee;

```
C:\WINDOWS\System32>mysql -u root -p
Enter password: ****
Welcome to the MariaDB monitor.  Commands end with ; or \g.
Your MariaDB connection id is 26
Server version: 10.5.9-MariaDB mariadb.org binary distribution

Copyright (c) 2000, 2018, Oracle, MariaDB Corporation Ab and others.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

MariaDB [(none)]> CREATE DATABASE Office;
Query OK, 1 row affected (0.002 sec)

MariaDB [(none)]> use Office;
Database changed
MariaDB [Office]> CREATE TABLE Employee(id int NOT NULL,Name varchar(255),Role varchar(255),PRIMARY KEY (id));
Query OK, 0 rows affected (0.019 sec)

MariaDB [Office]> INSERT INTO Employee(id,Name,Role)VALUES ('1','Elliot alderson','Consulting Hacker');
Query OK, 1 row affected (0.004 sec)

MariaDB [Office]> INSERT INTO Employee(id,Name,Role)VALUES ('1','saksham pathak','Systems Arch');
ERROR 1062 (23000): Duplicate entry '1' for key 'PRIMARY'
MariaDB [Office]> INSERT INTO Employee(id,Name,Role)VALUES ('2','saksham pathak','Systems Arch');
Query OK, 1 row affected (0.003 sec)

MariaDB [Office]> select * FROM Employee;
+----+-----+-----+
| id | Name      | Role      |
+----+-----+-----+
| 1  | Elliot alderson | Consulting Hacker |
| 2  | saksham pathak  | Systems Arch    |
+----+-----+-----+
2 rows in set (0.001 sec)
```

7. ALTER TABLE Employee ADD COLUMN Salary int NOT NULL;
8. Select \* FROM Employee;

```

MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+
| id | Name           | Role           |
+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker |
| 2 | saksham pathak  | Systems Arch   |
+-----+-----+-----+
2 rows in set (0.001 sec)

MariaDB [Office]> ALTER TABLE Employee ADD COLUMN Salary int NOT NULL;
Query OK, 0 rows affected (0.007 sec)
Records: 0 Duplicates: 0 Warnings: 0

MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+-----+
| id | Name           | Role           | Salary |
+-----+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker | 0 |
| 2 | saksham pathak  | Systems Arch   | 0 |
+-----+-----+-----+-----+
2 rows in set (0.002 sec)

MariaDB [Office]>

```

9. UPDATE Employee SET salary = '15000' WHERE id = '1';
10. UPDATE Employee SET salary = '10000' WHERE id = '2';
11. Select \* FROM Employee;

```

MariaDB [Office]> UPDATE Employee SET salary = '15000' WHERE id = '1';
Query OK, 1 row affected (0.007 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [Office]> UPDATE Employee SET salary = '10000' WHERE id = '2';
Query OK, 1 row affected (0.002 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+-----+
| id | Name           | Role           | Salary |
+-----+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker | 15000 |
| 2 | saksham pathak  | Systems Arch   | 10000 |
+-----+-----+-----+-----+
2 rows in set (0.000 sec)

```

12. DELETE FROM Employee WHERE Name = 'saksham pathak';
13. Select \* FROM Employee;
- 14.

```
MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+-----+
| id | Name           | Role           | Salary |
+-----+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker | 0      |
| 2 | saksham pathak  | Systems Arch   | 0      |
+-----+-----+-----+-----+
2 rows in set (0.002 sec)

MariaDB [Office]> UPDATE Employee SET salary = '15000' WHERE id = '1';
Query OK, 1 row affected (0.007 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [Office]> UPDATE Employee SET salary = '10000' WHERE id = '2';
Query OK, 1 row affected (0.002 sec)
Rows matched: 1 Changed: 1 Warnings: 0

MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+-----+
| id | Name           | Role           | Salary |
+-----+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker | 15000  |
| 2 | saksham pathak  | Systems Arch   | 10000  |
+-----+-----+-----+-----+
2 rows in set (0.000 sec)

MariaDB [Office]> DELETE FROM Employee WHERE Name = 'saksham pathak';
ERROR 1146 (42502): Table 'office.employee' doesn't exist
MariaDB [Office]> DELETE FROM Employee WHERE Name = 'saksham pathak';
Query OK, 1 row affected (0.003 sec)

MariaDB [Office]> select * FROM Employee;
+-----+-----+-----+-----+
| id | Name           | Role           | Salary |
+-----+-----+-----+-----+
| 1 | Elliot alderson | Consulting Hacker | 15000  |
+-----+-----+-----+-----+
1 row in set (0.000 sec)

MariaDB [Office]>
```

## VIVA QUESTIONS:

Que1. What are different DML commands?

Ans.

DML is short name of Data Manipulation Language which deals with data manipulation and includes most common SQL statements such SELECT, INSERT, UPDATE, DELETE, etc., and it is used to store, modify, retrieve, delete and update data in a database.

- SELECT- retrieve data from a database
- INSERT- insert data into a table
- UPDATE- updates existing data within a table
- DELETE- Delete all records from a database table
- MERGE - UPSERT operation (insert or update)
- CALL - call a PL/SQL or Java subprogram
- EXPLAIN PLAN - interpretation of the data access path
- LOCK TABLE - concurrency Control

Que2. What is the purpose of ALTER command .What is the Syntax?

Ans.

The ALTER TABLE statement is used to add, delete, or modify columns in an existing table. The ALTER TABLE statement is also used to add and drop various constraints on an existing table.

ALTER TABLE table\_name

ADD column\_name datatype;

Que3. What is the purpose of DELETE command?

Ans.

The DELETE Statement in SQL is used to delete existing records from a table. We can

delete a single record or multiple records depending on the condition we specify in the WHERE clause.

Basic Syntax:

```
DELETE FROM table_name WHERE some_condition;
```

Que4. What is difference between ALTER and UPDATE commands?

Ans.

The point that distinguishes both ALTER and UPDATE Command is that ALTER command is Data Definition Language (DDL). On the other hands, the UPDATE Command is a Data Manipulation Language (DML).

- ALTER Command add, delete, modify, rename the attributes of the relation whereas, the UPDATE Command modifies the values of the records in the relations.
- ALTER Command by default set values of all the tuples or record as NULL. On the other hands, the UPDATE Command set the value specified in the command to the tuples of the relation.
- ALTER command is attribute or column specific whereas, the UPDATE command is attribute value specific.