# UNIT IV

# SQL

# The DELETE Command

- The Delete command in SQL is a part of the Data Manipulation Language, a sub-language of SQL that allows modification of data in databases.

- This command is used to delete existing records from a table.

- Using this, you can either delete specific records based on a condition or all the records from a table.

- **The Syntax for Using the SQL Delete Command**

  **DELETE FROM table_name**

  **WHERE [condition];**

- The table from which we want to delete rows is specified in the table_name parameter of the DELETE FROM statement.

- There is an **optional WHERE clause** in which we can specify the condition according to which the rows should get deleted.

- Multiple conditions can be specified in the WHERE clause with the help of AND and OR operators.

# The DELETE Command

**NOTE:**

- It is crucial to be entirely sure about using this command, as it deletes the data permanently (you cannot undo this statement!).

- Extra caution needs to be taken with the WHERE clause as, without it, all the rows from the table will get deleted.

**Delete All Data**

- It is possible to delete all rows in a table without deleting the table. This means that the table structure, attributes, and indexes will be intact:

**DELETE FROM *table_name*;**

**or**

**DELETE * FROM *table_name*;**

# The DELETE Command

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- Extra caution needs to be taken with the WHERE clause as, without it, all the rows from the table will get deleted.

**Delete All Data**

- It is possible to delete all rows in a table without deleting the table. This means that the table structure, attributes, and indexes will be intact:

> **DELETE FROM *table_name*;**
>
> **or**
>
> **DELETE \* FROM *table_name*;**

# The DELETE Command - Example

| CustomerID | CustomerName | ContactName | Address | City | PostalCode | Country |
|---|---|---|---|---|---|---|
| 1 | Alfreds Futterkiste | Maria Anders | Obere Str. 57 | Berlin | 12209 | Germany |
| 2 | Ana Trujillo Emparedados y helados | Ana Trujillo | Avda. de la Constitución 2222 | México D.F. | 05021 | Mexico |
| 3 | Antonio Moreno Taquería | Antonio Moreno | Mataderos 2312 | México D.F. | 05023 | Mexico |
| 4 | Around the Horn | Thomas Hardy | 120 Hanover Sq. | London | WA1 1DP | UK |
| 5 | Berglunds snabbköp | Christina Berglund | Berguvsvägen 8 | Luleå | S-958 22 | Sweden |

# The DELETE Command - Example

Consider the following customer table:

| CustomerID | CustomerName | ContactName | Address | City | PostalCode | Country |
|---|---|---|---|---|---|---|
| 1 | Alfreds Futterkiste | Maria Anders | Obere Str. 57 | Berlin | 12209 | Germany |
| 2 | Ana Trujillo Emparedados y helados | Ana Trujillo | Avda. de la Constitución 2222 | México D.F. | 05021 | Mexico |
| 3 | Antonio Moreno Taquería | Antonio Moreno | Mataderos 2312 | México D.F. | 05023 | Mexico |
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# The DELETE Command - Example

☐ Assume we wish to delete the customer "Alfreds Futterkiste" from the "Customers" table.

☐ We use the following SQL statement:

**DELETE FROM Customers**

**WHERE CustomerName='Alfreds Futterkiste' AND ContactName='Maria Anders';**

The "Customers" table will now look like this:

| CustomerID | CustomerName | ContactName | Address | City | PostalCode | Country |
|---|---|---|---|---|---|---|
| 2 | Ana Trujillo Emparedados y helados | Ana Trujillo | Avda. de la Constitución 2222 | México D.F. | 05021 | Mexico |
| 3 | Antonio Moreno Taquería | Antonio Moreno | Mataderos 2312 | México D.F. | 05023 | Mexico |
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# The UPDATE Command

☐ The UPDATE statement in SQL is used to update the data of an existing table in database.

☐ We can update single columns as well as multiple columns using UPDATE statement as per our requirement.

☐ You can use the WHERE clause with the UPDATE query to update the selected rows, otherwise all the rows would be affected.

☐ The basic syntax of the UPDATE query with a WHERE clause is as follows −

**UPDATE table**

    **SET column1 = expression1,**

        **column2 = expression2,**

        **...**

    **[WHERE conditions];**

# The UPDATE Command

- **Parameters or Arguments**

- **column1, column2**

    The columns that you wish to update.

- **expression1, expression2**

    These are the new values to assign to the column1, column2. So column1 would be assigned the value of expression1, column2 would be assigned the value of expression2, and so on.
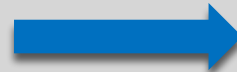
- **WHERE condition**

    **Optional.** The conditions that must be met for the update to execute. If no conditions are provided, then all records in the table will be updated.

# The UPDATE Command- Example

Example - Update single column

| customer_id | last_name | first_name | favorite_website |
|---|---|---|---|
| 4000 | Jackson | Joe | techonthenet.com |
| 5000 | Smith | Jane | digminecraft.com |
| 6000 | Ferguson | Samantha | bigactivities.com |
| 7000 | Reynolds | Allen | checkyourmath.com |
| 8000 | Anderson | Paige | NULL |
| 9000 | Johnson | Derek | techonthenet.com |

```
UPDATE customers
SET first_name = 'Judy'
WHERE customer_id = 8000;
```
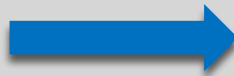
| customer_id | last_name | first_name | favorite_website |
|---|---|---|---|
| 4000 | Jackson | Joe | techonthenet.com |
| 5000 | Smith | Jane | digminecraft.com |
| 6000 | Ferguson | Samantha | bigactivities.com |
| 7000 | Reynolds | Allen | checkyourmath.com |
| 8000 | Anderson | Judy | NULL |
| 9000 | Johnson | Derek | techonthenet.com |

# The UPDATE Command- Example

**Update multiple columns**

| supplier_id | supplier_name | city | state |
|---|---|---|---|
| 100 | Microsoft | Redmond | Washington |
| 200 | Google | Mountain View | California |
| 300 | Oracle | Redwood City | California |
| 400 | Kimberly-Clark | Irving | Texas |
| 500 | Tyson Foods | Springdale | Arkansas |
| 600 | SC Johnson | Racine | Wisconsin |
| 700 | Dole Food Company | Westlake Village | California |
| 800 | Flowers Foods | Thomasville | Georgia |
| 900 | Electronic Arts | Redwood City | California |

```
UPDATE suppliers
SET supplier_id = 150,
    supplier_name = 'Apple',
    city = 'Cupertino'
WHERE supplier_name = 'Google';
```
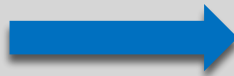
| supplier_id | supplier_name | city | state |
|---|---|---|---|
| 100 | Microsoft | Redmond | Washington |
| 150 | Apple | Cupertino | California |
| 300 | Oracle | Redwood City | California |
| 400 | Kimberly-Clark | Irving | Texas |
| 500 | Tyson Foods | Springdale | Arkansas |
| 600 | SC Johnson | Racine | Wisconsin |
| 700 | Dole Food Company | Westlake Village | California |
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| 700 | Dole Food Company | Westlake Village | California |
| 800 | Flowers Foods | Thomasville | Georgia |
| 900 | Electronic Arts | Redwood City | California |

```
UPDATE suppliers
SET supplier_id = 150,
    supplier_name = 'Apple',
    city = 'Cupertino'
WHERE supplier_name = 'Google';
```

| supplier_id | supplier_name | city | state |
|---|---|---|---|
| 100 | Microsoft | Redmond | Washington |
| 150 | Apple | Cupertino | California |
| 300 | Oracle | Redwood City | California |
| 400 | Kimberly-Clark | Irving | Texas |
| 500 | Tyson Foods | Springdale | Arkansas |
| 600 | SC Johnson | Racine | Wisconsin |
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# The UPDATE Command- Example

Omitting WHERE clause: If we omit the WHERE clause from the update query then all of the rows will get updated.

UPDATE Student SET NAME = 'PRATIK';

| ROLL_NO | NAME | ADDRESS | PHONE | Age |
|---------|--------|---------|------------|-----|
| 1 | PRATIK | SIKKIM | XXXXXXXXXX | 18 |
| 2 | RAMESH | GURGAON | XXXXXXXXXX | 18 |
| 3 | PRATIK | ROHTAK | XXXXXXXXXX | 20 |
| 4 | SURESH | Delhi | XXXXXXXXXX | 18 |
| 3 | PRATIK | ROHTAK | XXXXXXXXXX | 20 |
| 2 | RAMESH | GURGAON | XXXXXXXXXX | 18 |

| ROLL_NO | NAME | ADDRESS | PHONE | Age |
|---------|--------|---------|------------|-----|
| 1 | PRATIK | Delhi | XXXXXXXXXX | 18 |
| 2 | PRATIK | GURGAON | XXXXXXXXXX | 18 |
| 3 | PRATIK | ROHTAK | XXXXXXXXXX | 20 |
| 4 | PRATIK | Delhi | XXXXXXXXXX | 18 |
| 3 | PRATIK | ROHTAK | XXXXXXXXXX | 20 |
| 2 | PRATIK | GURGAON | XXXXXXXXXX | 18 |