

# DML – DELETE Command (Detailed Notes)

## 1. What is DELETE?

The **DELETE** command is used to **remove existing records (rows)** from a table.

- It deletes **data**, not the table structure
- It is a **DML command**
- Deleted data **can be rolled back** before COMMIT
- WHERE clause controls **which rows are removed**

## 2. Basic DELETE Syntax

```
DELETE FROM table_name
```

```
WHERE condition;
```

⚠ If **WHERE clause is omitted**, all rows will be deleted.

## 3. Example Table

STUDENTS

-----

id	name	age	city
----	------	-----	------

-----

1	Riya	21	Surat
---	------	----	-------

2	Aman	19	Delhi
---	------	----	-------

3	Neha	22	Pune
---	------	----	------

-----

## 4. DELETE Examples

### 4.1 Delete a specific record

```
DELETE FROM students
```

```
WHERE id = 2;
```

✓ Deletes the record of student with ID 2

### 4.2 Delete multiple records

```
DELETE FROM students
```

```
WHERE age > 21;
```

- ✓ Deletes all students older than 21

### 4.3 Delete all records ( ⚠ Dangerous)

DELETE FROM students;

- ✗ Removes **all rows**, table remains empty

## 5. DELETE with Transaction Control

### 5.1 Using ROLLBACK

DELETE FROM students

WHERE id = 1;

ROLLBACK;

- ✓ Deleted data is restored

### 5.2 Using COMMIT

DELETE FROM students

WHERE id = 1;

COMMIT;

- ✗ Deletion becomes permanent

## 6. DELETE vs TRUNCATE (Important)

### DELETE

DML command

Uses WHERE clause

Can be rolled back

Deletes selected rows

Slower

### TRUNCATE

DDL command

No WHERE clause

Cannot be rolled back

Deletes all rows

Faster

## 7. Important Rules of DELETE

- WHERE clause decides which rows are deleted
- Can delete one or many records

- Table structure remains unchanged
- Works with COMMIT and ROLLBACK
- Safer than TRUNCATE

## 8. Common Mistakes

- ✗ Forgetting WHERE clause
- ✗ Deleting required data without backup
- ✗ Committing too early
- ✗ Confusing DELETE with DROP/TRUNCATE

## 9. Real-World Use Cases

- Removing inactive users
- Deleting cancelled orders
- Clearing invalid records
- Removing old logs

## Practice Questions – DELETE Command

### Practice Set 1: Basic

1. Delete the student whose name is "Aman".
2. Remove students whose age is less than 18.
3. Delete all students from the table.

### Practice Set 2: Conceptual

4. Difference between DELETE and TRUNCATE?
5. Can DELETE be rolled back? Explain.
6. What happens if WHERE clause is not used?

### Practice Set 3: Scenario Based

7. Delete all employees from HR department.
8. Remove customers who have not logged in for 2 years.

## Mini Challenge 🧠

Table:

ORDERS (order\_id, customer\_name, order\_status)

Task:

- Delete all orders where order\_status = 'Cancelled'