

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	TRUNCATE
DML command	DDL command
Uses WHERE clause	No WHERE clause
Can be rolled back	Cannot be rolled back
Deletes selected rows	Deletes all rows
Slower	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'