

DML – UPDATE Command (Detailed Notes)

1. What is UPDATE?

The **UPDATE** command is used to **modify existing records** in a table.

- It changes data already present
- It does **not add or remove rows**
- It is a **DML command**
- Changes can be controlled using **COMMIT** and **ROLLBACK**

2. Basic UPDATE Syntax

UPDATE table_name

SET column_name = new_value

WHERE condition;

⚠ **WHERE clause is extremely important**

Without it, **all rows in the table will be updated.**

3. Example Table

STUDENTS

id | name | age | city

1 | Riya | 20 | Mumbai

2 | Aman | 19 | Delhi

3 | Neha | 21 | Pune

4. UPDATE Examples

4.1 Update a single column

UPDATE students

SET age = 21

WHERE id = 1;

✓ Updates age of student with ID 1

4.2 Update multiple columns

UPDATE students

SET age = 22, city = 'Bangalore'

WHERE id = 2;

✓ Updates more than one column at once

4.3 Update multiple rows

UPDATE students

SET city = 'Mumbai'

WHERE age > 20;

✓ Updates all students older than 20

4.4 Update without WHERE clause (⚠ Risky)

UPDATE students

SET age = 18;

✗ Updates age of **all students**

5. UPDATE with Transaction Control

Example with ROLLBACK

UPDATE students

SET city = 'Chennai'

WHERE id = 3;

ROLLBACK;

✗ Change is undone

Example with COMMIT

UPDATE students

SET city = 'Hyderabad'

WHERE id = 3;

COMMIT;

- ✓ Change is permanently saved

6. Important Rules of UPDATE

- Always use WHERE clause
- Can update one or multiple columns
- Affects existing rows only
- Can be rolled back before COMMIT
- WHERE condition decides which rows are modified

7. Common Mistakes

- ✗ Forgetting WHERE clause
- ✗ Wrong condition leading to incorrect updates
- ✗ Updating primary key accidentally
- ✗ Not checking data before COMMIT

8. Real-World Use Cases

- Updating customer contact details
- Changing employee salary
- Modifying order status
- Correcting wrong data entries

Practice Questions – UPDATE Command

Practice Set 1: Basic

1. Update the city of student with ID 1 to "Surat".
2. Change age to 23 for student named "Neha".
3. Update salary of employee with emp_id = 101 to 50000.

Practice Set 2: Conceptual

4. What happens if WHERE clause is not used in UPDATE?
5. Can UPDATE be rolled back? When?
6. Can multiple columns be updated in one query?

Practice Set 3: Scenario Based

7. Write an UPDATE query to increase salary by 10% for employees in IT department.

8. Update city to "Remote" for all employees working from home.

Mini Challenge

Table:

EMPLOYEES (emp_id, emp_name, salary, department)

Task:

- Update salary to 60000
- For employee with emp_id = 101