**PROMPT :- detailed theory about UPDATE COMMAND in postgerSQL, syntax and different types. Also, give two example of UPDATE COMMAND for beignner.**

**What is UPDATE in PostgreSQL?**

The UPDATE command is used to modify existing records in a table.  
You can change one or more columns for one or more rows, using a condition to specify which rows to update.

**Syntax**

UPDATE table\_name

SET column1 = value1,

column2 = value2,

WHERE condition;

* SET: Specifies the columns and their new values.
* WHERE: (Optional but important) Filters which rows to update.

**Types of UPDATE in PostgreSQL**

| Type | Description |
| --- | --- |
| Single Row Update | Updates one specific row using a WHERE clause with a unique identifier. |
| Multiple Rows Update | Updates multiple rows that match a condition. |
| Update All Rows | Updates every row in the table (no WHERE clause). Use with caution. |
| Conditional Update | Uses CASE or logical conditions to apply different updates based on data. |
| Update with Subquery | Uses a SELECT subquery to compute values to be updated. |
| Update with JOIN | Updates a table using data from another table through a JOIN. |

**Example 1: Single Row Update in Students Table**

Assume this table:

CREATE TABLE Students (

student\_id SERIAL PRIMARY KEY,

name VARCHAR(50),

age INT,

email VARCHAR(100)

);

Now update a specific student's age:

UPDATE Students

SET age = 21

WHERE student\_id = 1;

**Explanation:**

* Only the student with student\_id = 1 will have their age updated to 21.

**Example 2: Multiple Rows Update in Products Table**

Assume this table:

CREATE TABLE Products (

product\_id SERIAL PRIMARY KEY,

product\_name TEXT,

price REAL,

in\_stock BOOLEAN

);

Now mark all expensive products (price > 1000) as not in stock:

UPDATE Products

SET in\_stock = FALSE

WHERE price > 1000;

**Explanation:**

* All rows where price > 1000 will have in\_stock set to FALSE.

Bonus Example: Update Without WHERE (Update All Rows)

UPDATE Products

SET price = price \* 0.9;

**Explanation:**

* Applies a 10% discount to all products in the table.
* Use this with caution.
* **Best Practices for UPDATE**
* Always use WHERE unless you really want to update every row.
* Consider using a RETURNING clause to see what was updated:
* UPDATE Students
* SET age = 22
* WHERE student\_id = 3
* RETURNING \*;