1.      Create AFTER UPDATE trigger to track product price changes

·       Create product\_price\_audit table with below columns:

audit\_id SERIAL PRIMARY KEY,

    product\_id INT,

    product\_name VARCHAR(40),

    old\_price DECIMAL(10,2),

    new\_price DECIMAL(10,2),

    change\_date TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

    user\_name VARCHAR(50) DEFAULT CURRENT\_USER

·       Create a trigger function with the below logic:

  INSERT INTO product\_price\_audit (

        product\_id,

        product\_name,

        old\_price,

        new\_price

    )

    VALUES (

        OLD.product\_id,

        OLD.product\_name,

        OLD.unit\_price,

        NEW.unit\_price

    );

·       Create a row level trigger for below event:

           AFTER UPDATE OF unit\_price ON products

·        Test the trigger by updating the product price by 10% to any one product\_id.

CREATE TABLE product\_price\_audit (

audit\_id SERIAL PRIMARY KEY,

product\_id INT,

product\_name VARCHAR(40),

old\_price DECIMAL(10,2),

new\_price DECIMAL(10,2),

change\_date TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

user\_name VARCHAR(50) DEFAULT CURRENT\_USER

);

CREATE OR REPLACE FUNCTION fn\_audit\_product\_price\_change()

RETURNS TRIGGER AS $$

BEGIN

INSERT INTO product\_price\_audit (

product\_id,

product\_name,

old\_price,

new\_price

)

VALUES (

OLD.product\_id,

OLD.product\_name,

OLD.unit\_price,

NEW.unit\_price

);

RETURN NEW;

END;

$$ LANGUAGE plpgsql;

CREATE TRIGGER trg\_product\_price\_audit

AFTER UPDATE OF unit\_price ON products

FOR EACH ROW

WHEN (OLD.unit\_price IS DISTINCT FROM NEW.unit\_price)

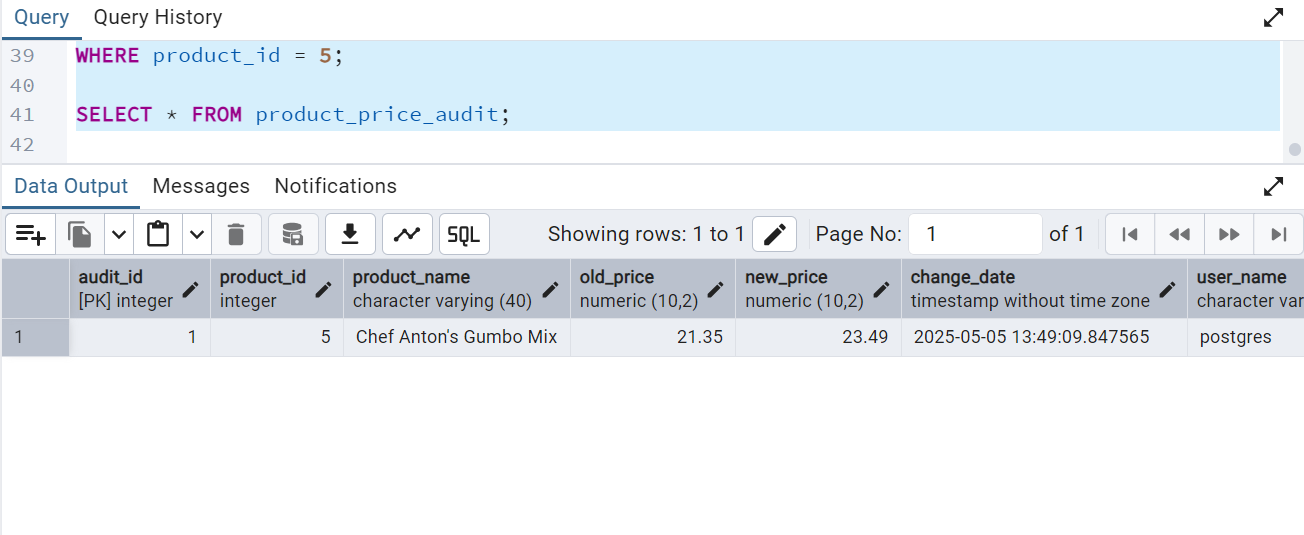
EXECUTE FUNCTION fn\_audit\_product\_price\_change();

UPDATE products

SET unit\_price = unit\_price \* 1.1

WHERE product\_id = 5;

SELECT \* FROM product\_price\_audit;



2.      Create stored procedure  using IN and INOUT parameters to assign tasks to employees

·       Parameters:

IN p\_employee\_id INT,

IN p\_task\_name VARCHAR(50),

 INOUT p\_task\_count INT DEFAULT 0

·       Inside Logic: Create table employee\_tasks:

 CREATE TABLE IF NOT EXISTS employee\_tasks (

        task\_id SERIAL PRIMARY KEY,

        employee\_id INT,

        task\_name VARCHAR(50),

        assigned\_date DATE DEFAULT CURRENT\_DATE

    );

·       Insert employee\_id, task\_name  into employee\_tasks

·       Count total tasks for employee and put the total count into p\_task\_count .

·       Raise NOTICE message:  
 RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',

        p\_task\_name, p\_employee\_id, p\_task\_count;

After creating stored procedure test by calling  it:

 CALL assign\_task(1, 'Review Reports');

You should see the entry in employee\_tasks table.

CREATE TABLE IF NOT EXISTS employee\_tasks (

task\_id SERIAL PRIMARY KEY,

employee\_id INT,

task\_name VARCHAR(50),

assigned\_date DATE DEFAULT CURRENT\_DATE

);

CREATE OR REPLACE PROCEDURE assign\_task(

IN p\_employee\_id INT,

IN p\_task\_name VARCHAR(50),

INOUT p\_task\_count INT DEFAULT 0

)

LANGUAGE plpgsql

AS $$

BEGIN

-- Insert the new task

INSERT INTO employee\_tasks (employee\_id, task\_name)

VALUES (p\_employee\_id, p\_task\_name);

-- Count total tasks assigned to the employee

SELECT COUNT(\*) INTO p\_task\_count

FROM employee\_tasks

WHERE employee\_id = p\_employee\_id;

-- Raise a message

RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',

p\_task\_name, p\_employee\_id, p\_task\_count;

END;

$$;

-- Optional: set a DO block to capture the INOUT output

DO $$

DECLARE

task\_total INT := 0;

BEGIN

CALL assign\_task(1, 'Review Reports', task\_total);

RAISE NOTICE 'Returned Task Count: %', task\_total;

END;

$$;

CREATE TABLE IF NOT EXISTS employee\_tasks (

task\_id SERIAL PRIMARY KEY,

employee\_id INT,

task\_name VARCHAR(50),

assigned\_date DATE DEFAULT CURRENT\_DATE

);

CREATE OR REPLACE PROCEDURE assign\_task(

IN p\_employee\_id INT,

IN p\_task\_name VARCHAR(50),

INOUT p\_task\_count INT DEFAULT 0

)

LANGUAGE plpgsql

AS $$

BEGIN

-- Insert the new task

INSERT INTO employee\_tasks (employee\_id, task\_name)

VALUES (p\_employee\_id, p\_task\_name);

-- Count total tasks assigned to the employee

SELECT COUNT(\*) INTO p\_task\_count

FROM employee\_tasks

WHERE employee\_id = p\_employee\_id;

-- Raise a message

RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',

p\_task\_name, p\_employee\_id, p\_task\_count;

END;

$$;

CALL assign\_task(1, 'Review Reports');

-- Optional: set a DO block to capture the INOUT output

DO $$

DECLARE

task\_total INT := 0;

BEGIN

CALL assign\_task(1, 'Review Reports', task\_total);

RAISE NOTICE 'Returned Task Count: %', task\_total;

END;

$$;

SELECT \* FROM employee\_tasks WHERE employee\_id = 1;

