Assignment 9

/*1. Create AFTER UPDATE trigger to track product price changes.*/

--> Step 1: Create product_price_audit table with below columns

```
CREATE TABLE IF NOT EXISTS 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
 );
```

--> Step 2: Create a trigger function with the below logic

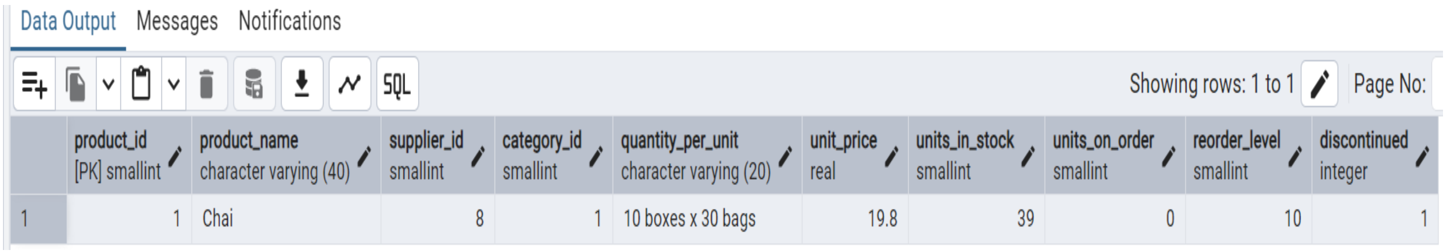
```
CREATE OR REPLACE FUNCTION product_price_audit_function()
Returns trigger AS $product_price_audit_trigger$
BEGIN
 INSERT INTO product_price_audit (product_id,
      product_name,
      old_price,
      new_price
)
VALUES (OLD.product_id,
      OLD.product_name,
      OLD.unit_price,
      NEW.unit_price
);
RETURN NEW;
END;
$product_price_audit_trigger$ LANGUAGE plpgsql;
```

--> Step 3: Create a row level trigger for the event below.

```
CREATE TRIGGER product_price_audit_trigger

AFTER UPDATE OF unit_price ON products

FOR EACH ROW

EXECUTE FUNCTION product_price_audit_function();
```

--> Step 4: Test the trigger by updating the product price by 10% to any one product_id.

```
-- check the current value

select * from products WHERE product_id = 1 ;
```

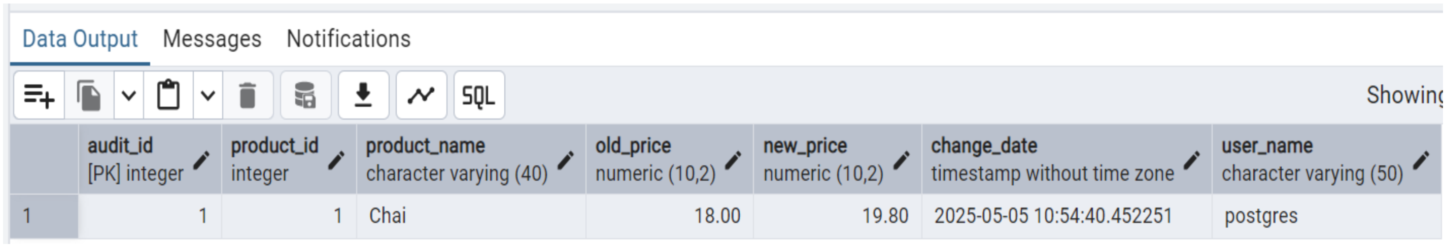


Data Output Messages Notifications

Showing rows: 1 to 1 Page No:

	product_id [PK] smallint	product_name character varying (40)	supplier_id smallint	category_id smallint	quantity_per_unit character varying (20)	unit_price real	units_in_stock smallint	units_on_order smallint	reorder_level smallint	discontinued integer
1	1	Chai	8	1	10 boxes x 30 bags	19.8	39	0	10	1

```
-- check the audit table

select * from product_price_audit;
```

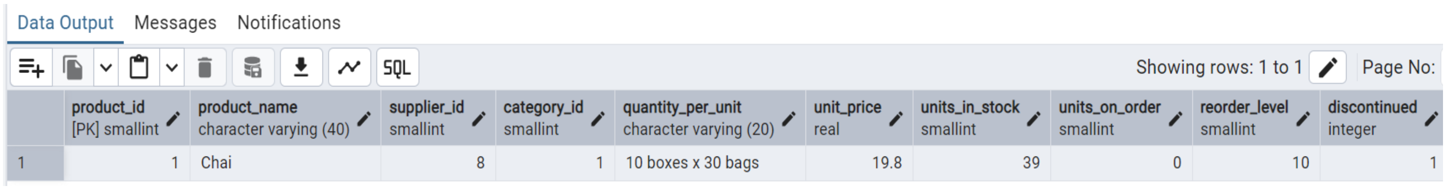


Data Output Messages Notifications

Showing

	audit_id [PK] integer	product_id integer	product_name character varying (40)	old_price numeric (10,2)	new_price numeric (10,2)	change_date timestamp without time zone	user_name character varying (50)
1	1	1	Chai	18.00	19.80	2025-05-05 10:54:40.452251	postgres

```
--Update the products table unit_price for product id =1

UPDATE products

SET unit_price = unit_price * 1.10

WHERE product_id = 1 ;


-- Now check the products table for update

select * from products WHERE product_id = 1 ;
```

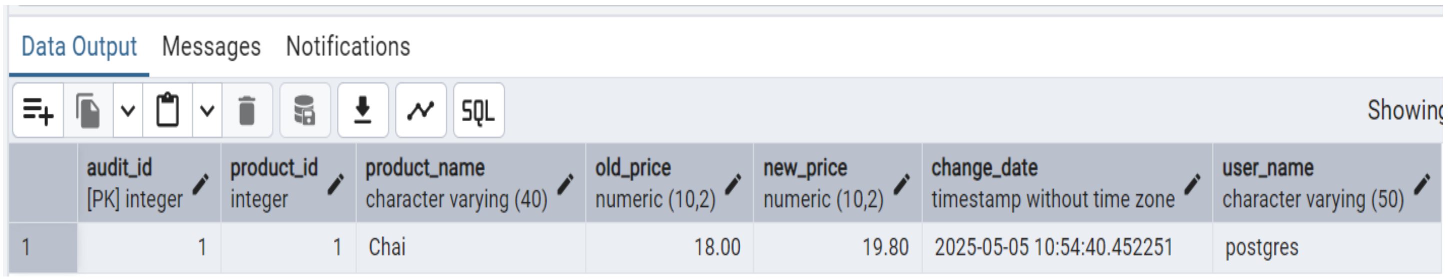


Data Output Messages Notifications

Showing rows: 1 to 1 Page No:

	product_id [PK] smallint	product_name character varying (40)	supplier_id smallint	category_id smallint	quantity_per_unit character varying (20)	unit_price real	units_in_stock smallint	units_on_order smallint	reorder_level smallint	discontinued integer
1	1	Chai	8	1	10 boxes x 30 bags	19.8	39	0	10	1

-- Now check the audit table also for updatesselect * from product_price_audit;



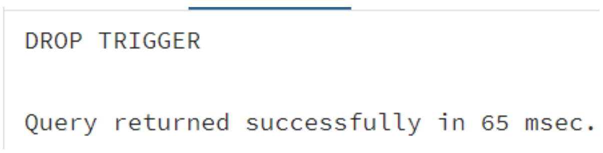
Data Output Messages Notifications

Showing

	audit_id [PK] integer	product_id integer	product_name character varying (40)	old_price numeric (10,2)	new_price numeric (10,2)	change_date timestamp without time zone	user_name character varying (50)
1	1	1	Chai	18.00	19.80	2025-05-05 10:54:40.452251	postgres

--Delete the trigger

DROP TRIGGER product_price_audit_trigger ON products;



```
DROP TRIGGER

Query returned successfully in 65 msec.
```

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

--select * from employees;

--> Step 1: 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
  );
```

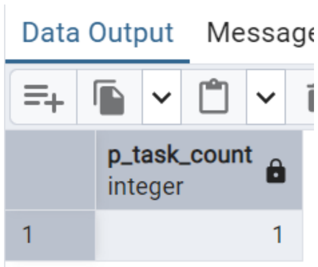
--> Step 2: Create a Stored Procedure

```
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
-- Step 1: Insert a new task for the employee
```

```
    INSERT INTO employee_tasks (employee_id, task_name)
    VALUES (p_employee_id, p_task_name);
    -- Step 2: Count total tasks for the employee and assign to INOUT parameter
    SELECT COUNT(*) INTO p_task_count
    FROM employee_tasks
    WHERE employee_id = p_employee_id;
    -- Step 3: Raise NOTICE message
    RAISE NOTICE 'Task "%" assigned to employee %. Total tasks: %',
        p_task_name, p_employee_id, p_task_count;
END;
$$;
```

--> Step 3: Call the Stored Procedure

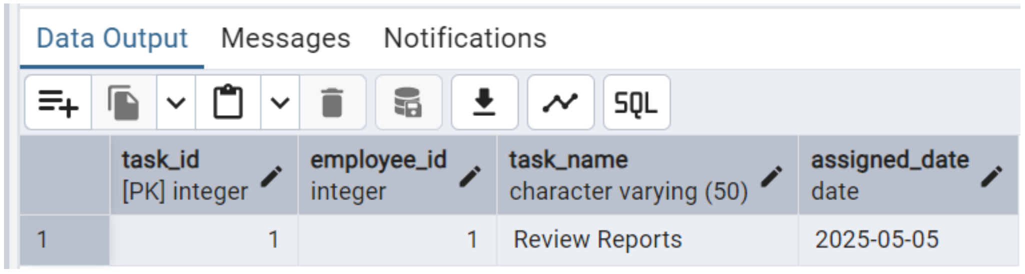
```
CALL assign_task(1, 'Review Reports');
```



	p_task_count integer
1	1

--> You should see the entry in employee_tasks table.

```
SELECT * FROM employee_tasks;
```



	task_id [PK] integer	employee_id integer	task_name character varying (50)	assigned_date date
1	1	1	Review Reports	2025-05-05