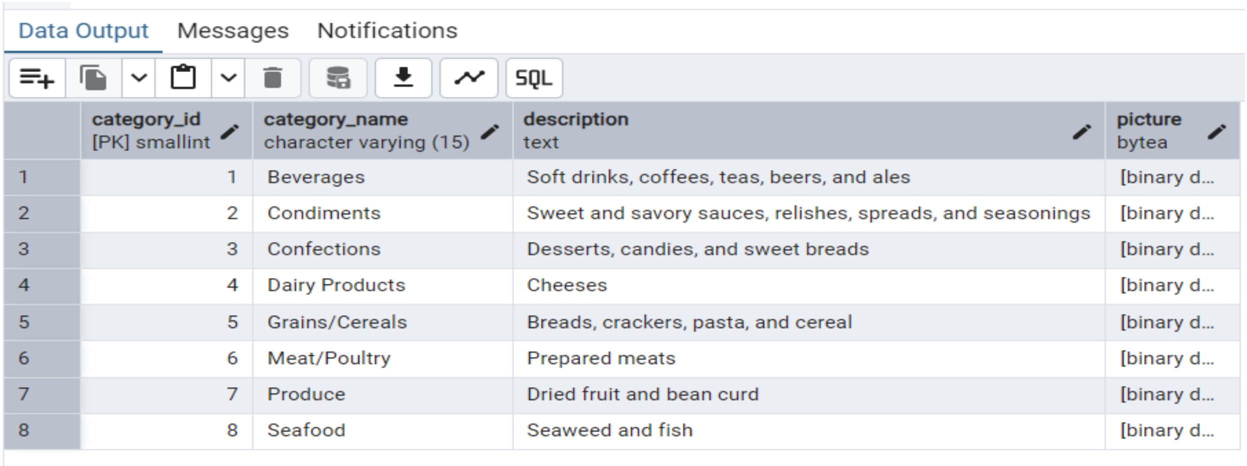
Day 3 Assignment SQL

1. Update the categoryName from “Beverages” to "Drinks" in the categories table.

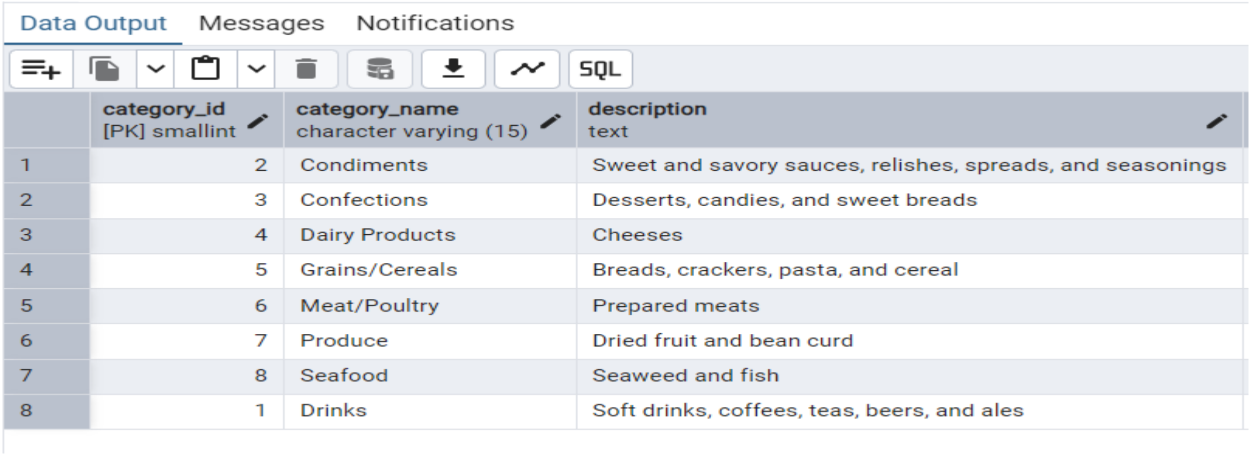
Before Update



	category_id [PK] smallint	category_name character varying (15)	description text	picture bytea
1	1	Beverages	Soft drinks, coffees, teas, beers, and ales	[binary d...
2	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings	[binary d...
3	3	Confections	Desserts, candies, and sweet breads	[binary d...
4	4	Dairy Products	Cheeses	[binary d...
5	5	Grains/Cereals	Breads, crackers, pasta, and cereal	[binary d...
6	6	Meat/Poultry	Prepared meats	[binary d...
7	7	Produce	Dried fruit and bean curd	[binary d...
8	8	Seafood	Seaweed and fish	[binary d...

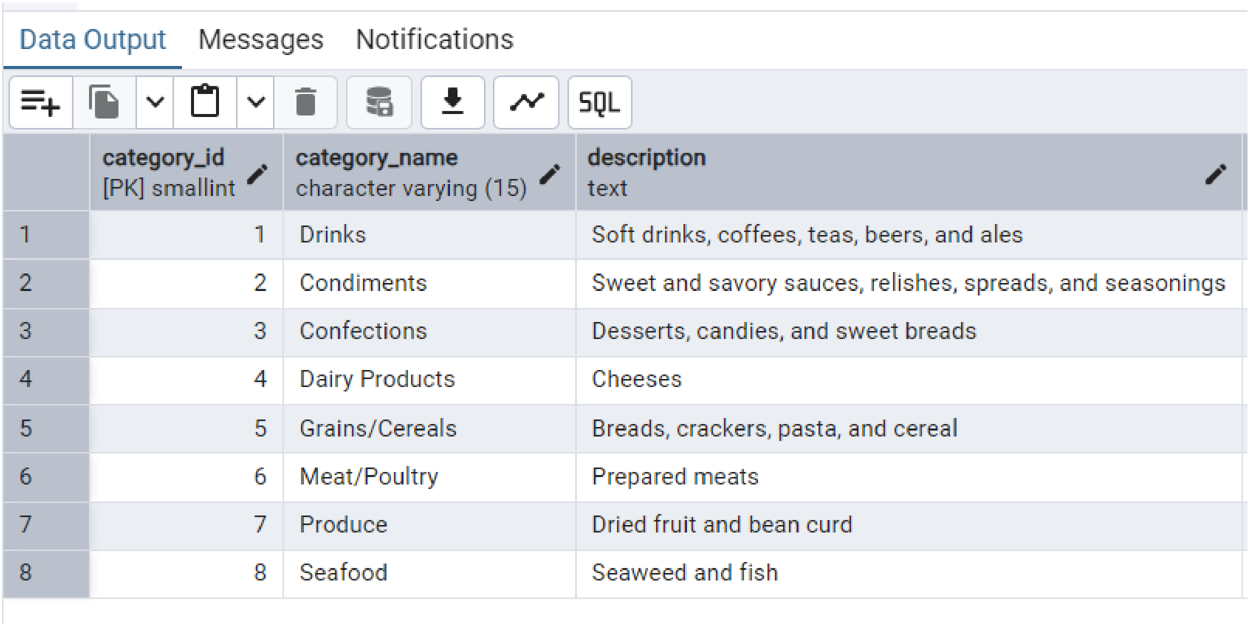
After Update

```
UPDATE Categories
SET category_name = 'Drinks'
WHERE category_name = 'Beverages';
```



	category_id [PK] smallint	category_name character varying (15)	description text
1	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
2	3	Confections	Desserts, candies, and sweet breads
3	4	Dairy Products	Cheeses
4	5	Grains/Cereals	Breads, crackers, pasta, and cereal
5	6	Meat/Poultry	Prepared meats
6	7	Produce	Dried fruit and bean curd
7	8	Seafood	Seaweed and fish
8	1	Drinks	Soft drinks, coffees, teas, beers, and ales

Select * from categories order by 1;

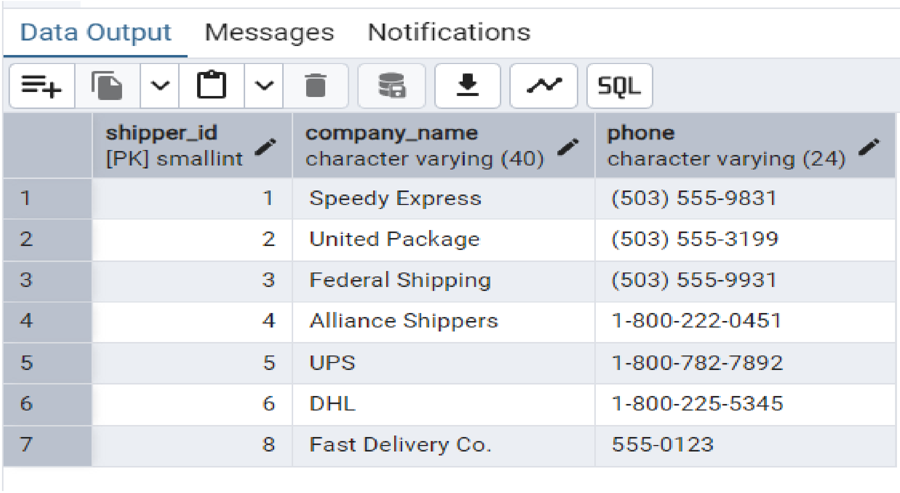


	category_id [PK] smallint	category_name character varying (15)	description text
1	1	Drinks	Soft drinks, coffees, teas, beers, and ales
2	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings
3	3	Confections	Desserts, candies, and sweet breads
4	4	Dairy Products	Cheeses
5	5	Grains/Cereals	Breads, crackers, pasta, and cereal
6	6	Meat/Poultry	Prepared meats
7	7	Produce	Dried fruit and bean curd
8	8	Seafood	Seaweed and fish

2. Insert into shipper new record (give any values) Delete that new record from shippers table.

INSERT INTO shippers (shipper_iD, company_name, phone)
VALUES (8, 'Fast Delivery Co.', '555-0123');

Select * from shippers;

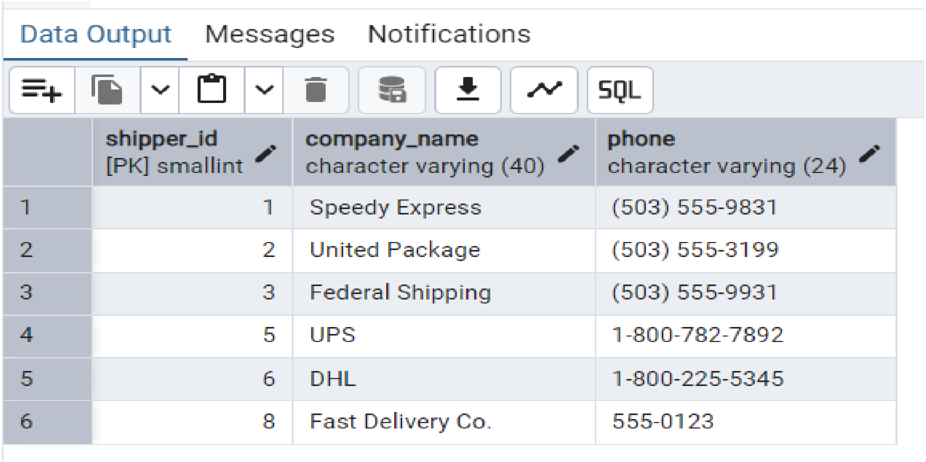


	shipper_id [PK] smallint	company_name character varying (40)	phone character varying (24)
1	1	Speedy Express	(503) 555-9831
2	2	United Package	(503) 555-3199
3	3	Federal Shipping	(503) 555-9931
4	4	Alliance Shippers	1-800-222-0451
5	5	UPS	1-800-782-7892
6	6	DHL	1-800-225-5345
7	8	Fast Delivery Co.	555-0123

Delete New Record

DELETE FROM Shippers
WHERE shipper_id = 4;

Select * from shippers;



	shipper_id [PK] smallint	company_name character varying (40)	phone character varying (24)
1	1	Speedy Express	(503) 555-9831
2	2	United Package	(503) 555-3199
3	3	Federal Shipping	(503) 555-9931
4	5	UPS	1-800-782-7892
5	6	DHL	1-800-225-5345
6	8	Fast Delivery Co.	555-0123

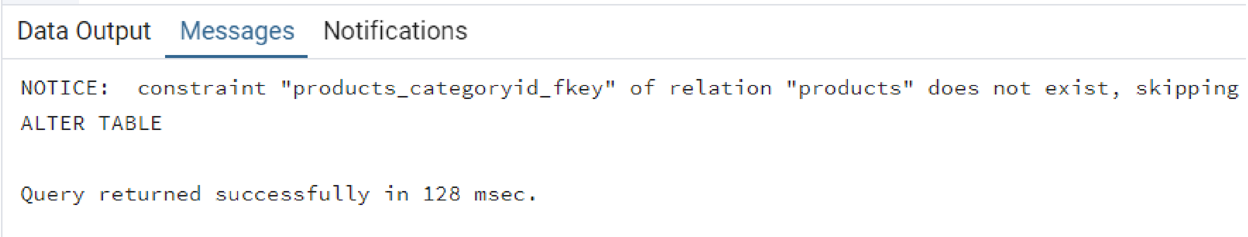
3. Update categoryID=1 to categoryID=1001. Make sure related products update their categoryID too. Display the both category and products table to show the cascade.

Delete the categoryID= "3" from categories. Verify that the corresponding records are deleted automatically from products.

(HINT: Alter the foreign key on products(categoryID) to add ON UPDATE CASCADE, ON DELETE CASCADE)

Drop the existing foreign key constraint

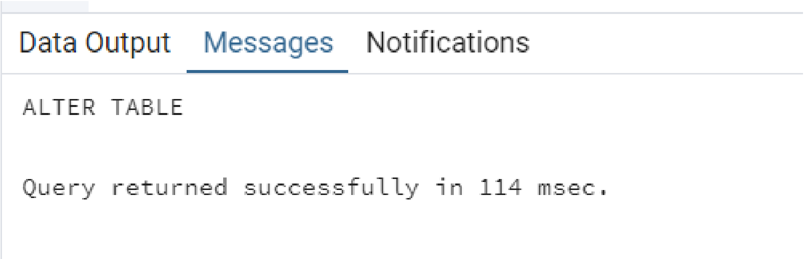
ALTER TABLE Products
DROP CONSTRAINT IF EXISTS products_categoryid_fkey;



```
NOTICE:  constraint "products_categoryid_fkey" of relation "products" does not exist, skipping
ALTER TABLE

Query returned successfully in 128 msec.
```

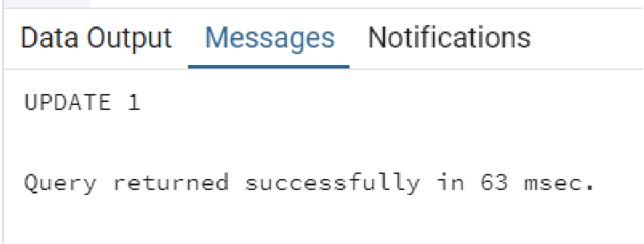
Add a new foreign key constraint with an update cascade or an delete cascade

```
ALTER TABLE Products
ADD CONSTRAINT products_categoryid_fkey
FOREIGN KEY (category_iD)
REFERENCES categories(category_iD)
ON UPDATE CASCADE
ON DELETE CASCADE;
```



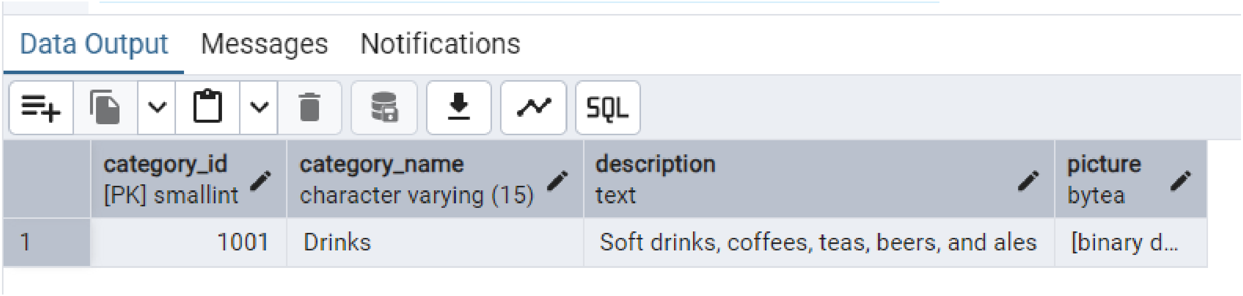
```
ALTER TABLE

Query returned successfully in 114 msec.
```

```
UPDATE categories
SET category_id = 1001
WHERE category_id = 1;
```



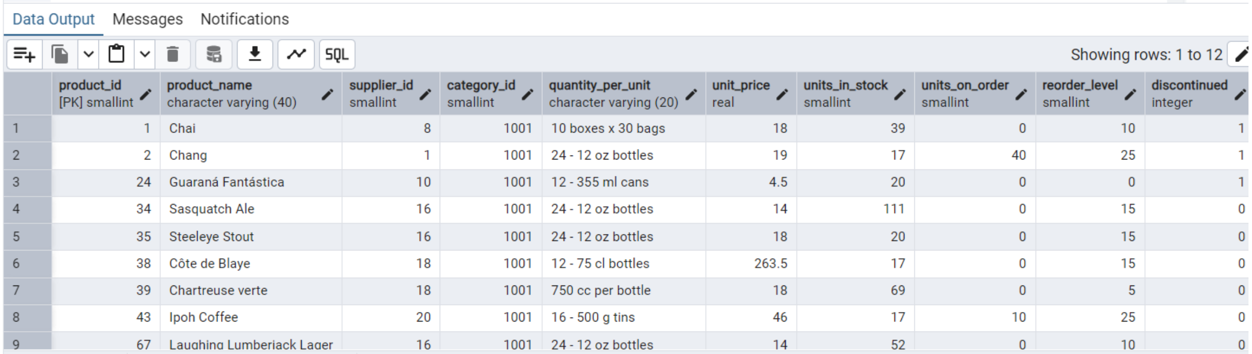
```
UPDATE 1

Query returned successfully in 63 msec.
```

```
Select * from categories where category_id = 1001;
```



	category_id [PK] smallint	category_name character varying (15)	description text	picture bytea
1	1001	Drinks	Soft drinks, coffees, teas, beers, and ales	[binary d...

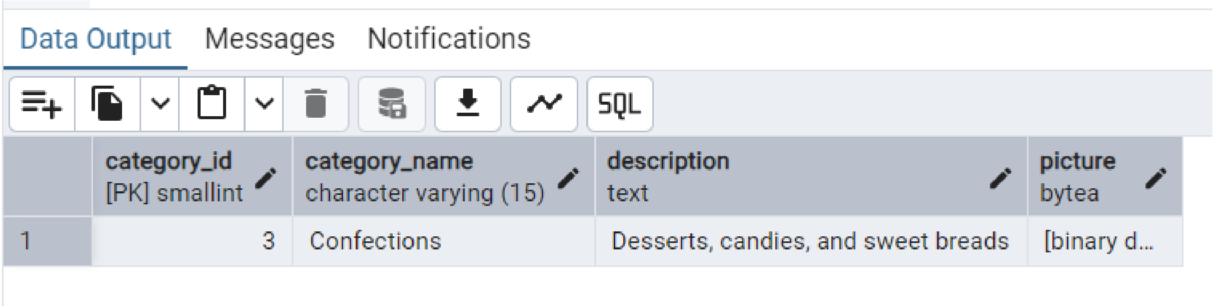
Select * from products where category_id = 1001;



	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	1001	10 boxes x 30 bags	18	39	0	10	1
2	2	Chang	1	1001	24 - 12 oz bottles	19	17	40	25	1
3	24	Guaraná Fantástica	10	1001	12 - 355 ml cans	4.5	20	0	0	1
4	34	Sasquatch Ale	16	1001	24 - 12 oz bottles	14	111	0	15	0
5	35	Steeleye Stout	16	1001	24 - 12 oz bottles	18	20	0	15	0
6	38	Côte de Blaye	18	1001	12 - 75 cl bottles	263.5	17	0	15	0
7	39	Chartreuse verte	18	1001	750 cc per bottle	18	69	0	5	0
8	43	Ipoh Coffee	20	1001	16 - 500 g tins	46	17	10	25	0
9	67	Laughing Lumberjack Lager	16	1001	24 - 12 oz bottles	14	52	0	10	0

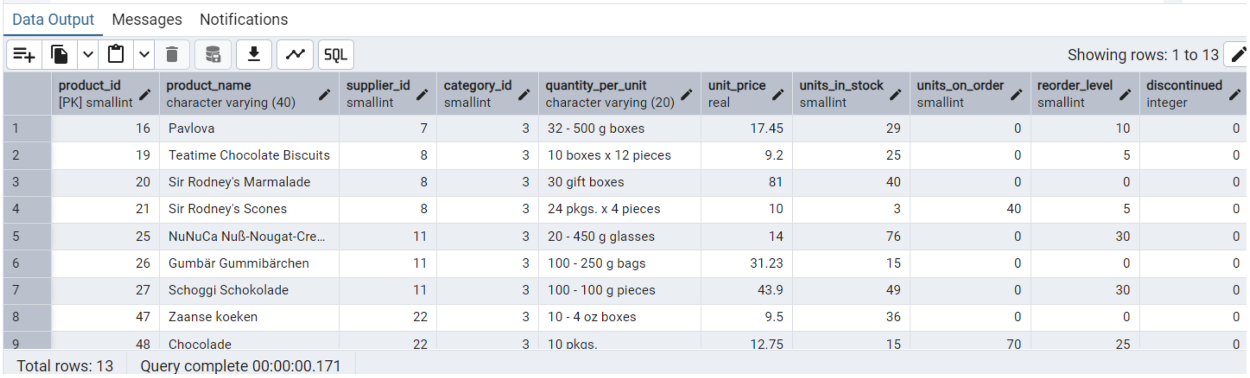
Delete Cascade

Select * from categories where category_id = 3;



	category_id [PK] smallint	category_name character varying (15)	description text	picture bytea
1	3	Confections	Desserts, candies, and sweet breads	[binary d...

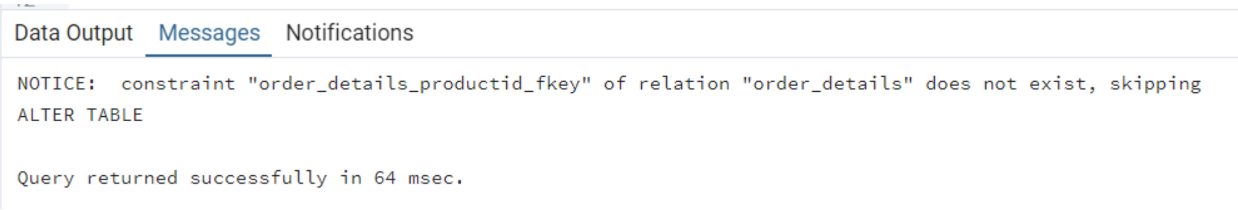
Select * from products where category_id = 3;



	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	16	Pavlova	7	3	32 - 500 g boxes	17.45	29	0	10	0
2	19	Teatime Chocolate Biscuits	8	3	10 boxes x 12 pieces	9.2	25	0	5	0
3	20	Sir Rodney's Marmalade	8	3	30 gift boxes	81	40	0	0	0
4	21	Sir Rodney's Scones	8	3	24 pkgs. x 4 pieces	10	3	40	5	0
5	25	NuNuCa Nuß-Nougat-Cre...	11	3	20 - 450 g glasses	14	76	0	30	0
6	26	Gumbär Gummibärchen	11	3	100 - 250 g bags	31.23	15	0	0	0
7	27	Schoggi Schokolade	11	3	100 - 100 g pieces	43.9	49	0	30	0
8	47	Zaanse koeken	22	3	10 - 4 oz boxes	9.5	36	0	0	0
9	48	Chocolade	22	3	10 pkgs.	12.75	15	70	25	0

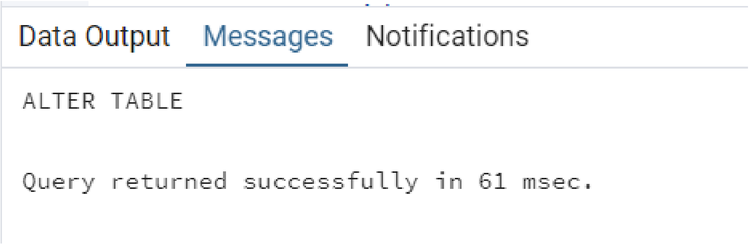
Total rows: 13 Query complete 00:00:00.171

ALTER TABLE order_details
DROP CONSTRAINT IF EXISTS fk_order_details_products;



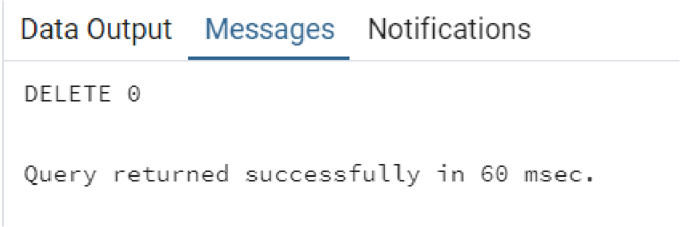
```
NOTICE:  constraint "order_details_productid_fkey" of relation "order_details" does not exist, skipping
ALTER TABLE

Query returned successfully in 64 msec.
```

```
ALTER TABLE order_details
ADD CONSTRAINT fk_order_details_products
FOREIGN KEY (product_id)
REFERENCES products(product_id)
ON DELETE CASCADE;
```



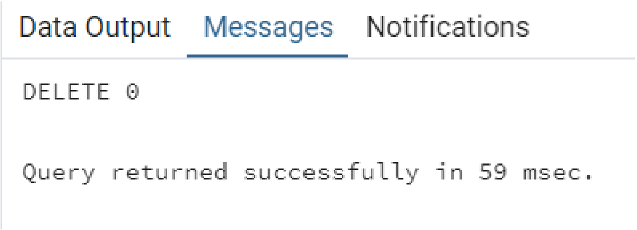
```
ALTER TABLE

Query returned successfully in 61 msec.
```

```
DELETE FROM products
WHERE category_id = 3;
```



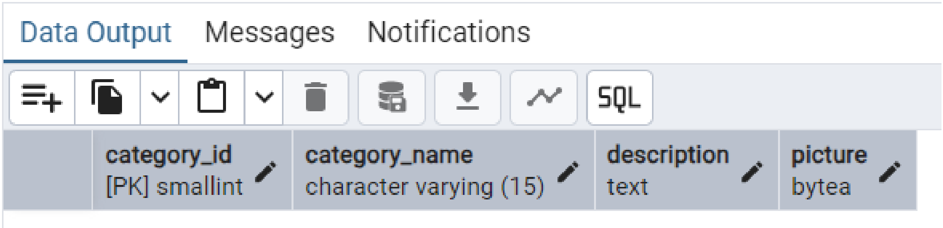
```
DELETE 0

Query returned successfully in 60 msec.
```

```
DELETE FROM categories
WHERE category_id = 3;
```



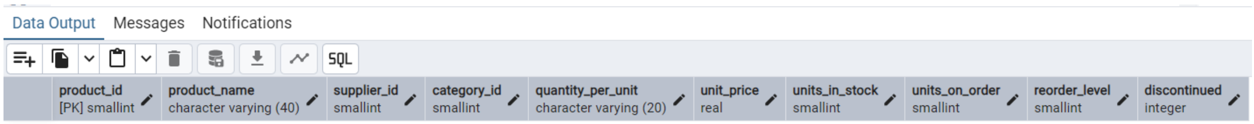
```
DELETE 0

Query returned successfully in 59 msec.
```

```
Select * from categories where category_id = 3;
```



	category_id [PK] smallint	category_name character varying (15)	description text	picture bytea

```
Select * from products where category_id = 3;
```

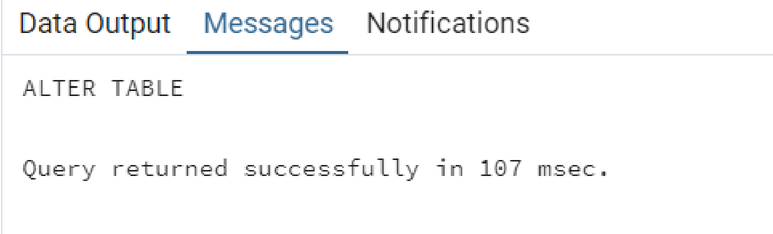


	product_id [PK] smallint	product_name character varying (40)	supplier_id smallint	category_id smallint	quantity_per_unit character varying (20)	unit_price real	units_in_stock smallint	units_on_order smallint	reorder_level smallint	discontinued integer

4.Delete the customer = “VINET” from customers. Corresponding customers in orders table should be set to null (HINT: Alter the foreign key on orders(customerID) to use ON DELETE SET NULL)

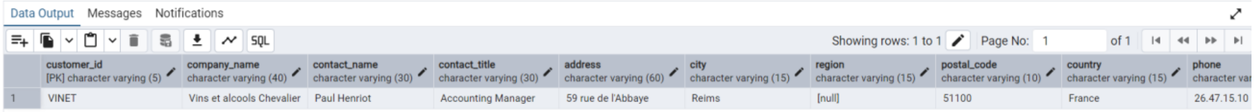
Drop the existing foreign key constraint

```
ALTER TABLE Orders
DROP CONSTRAINT IF EXISTS fk_orders_customers;
```



```
ALTER TABLE

Query returned successfully in 107 msec.
```

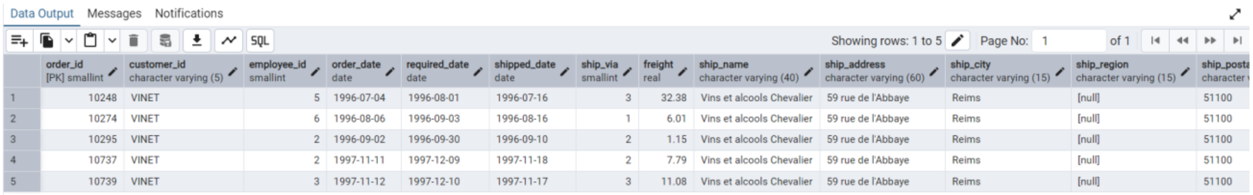
Select * from customers where customerid = ‘VINET’;



Showing rows: 1 to 1

	customer_id [PK] character varying (5)	company_name character varying (40)	contact_name character varying (30)	contact_title character varying (30)	address character varying (60)	city character varying (15)	region character varying (15)	postal_code character varying (10)	country character varying (15)	phone character var
1	VINET	Vins et alcools Chevalier	Paul Henriot	Accounting Manager	59 rue de l'Abbaye	Reims	[null]	51100	France	26.47.15.10

Select * from orders where customerid = ‘VINET’;



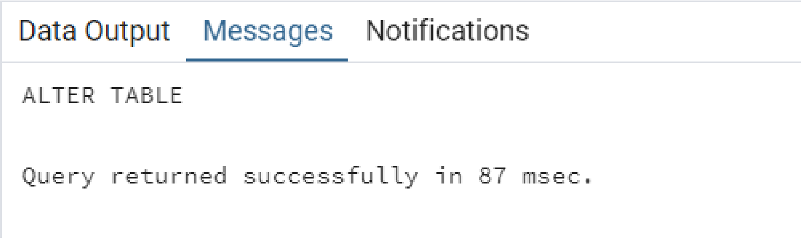
Showing rows: 1 to 5

	order_id [PK] smallint	customer_id character varying (5)	employee_id smallint	order_date date	required_date date	shipped_date date	ship_via smallint	freight real	ship_name character varying (40)	ship_address character varying (60)	ship_city character varying (15)	ship_region character varying (15)	ship_posta character
1	10248	VINET	5	1996-07-04	1996-08-01	1996-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
2	10274	VINET	6	1996-08-06	1996-09-03	1996-08-16	1	6.01	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
3	10295	VINET	2	1996-09-02	1996-09-30	1996-09-10	2	1.15	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
4	10737	VINET	2	1997-11-11	1997-12-09	1997-11-18	2	7.79	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
5	10739	VINET	3	1997-11-12	1997-12-10	1997-11-17	3	11.08	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100

Add the foreign key constraint with ON delet set null

```
ALTER TABLE Orders
ADD CONSTRAINT fk_orders_customers
FOREIGN KEY (CustomerID)
REFERENCES Customers(CustomerID)
```

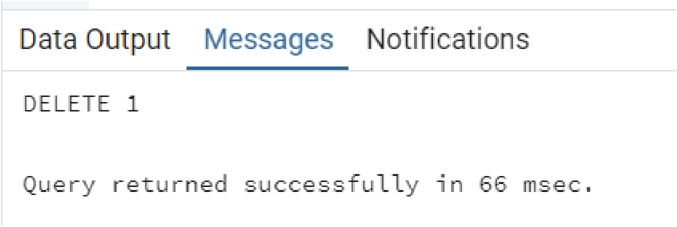
ON DELETE SET NULL;



```
ALTER TABLE

Query returned successfully in 87 msec.
```

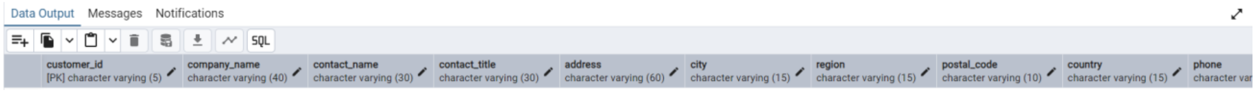
Delete the customer from the customer table

DELETE FROM Customers
WHERE CustomerID = 'VINET';



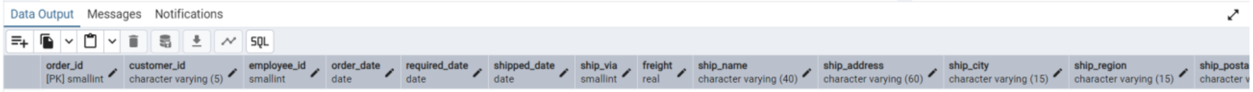
```
DELETE 1

Query returned successfully in 66 msec.
```

Select * from customers where customer_id = ‘VINET’;



customer_id [PK] character varying (5)	company_name character varying (40)	contact_name character varying (30)	contact_title character varying (30)	address character varying (60)	city character varying (15)	region character varying (15)	postal_code character varying (10)	country character varying (15)	phone character var

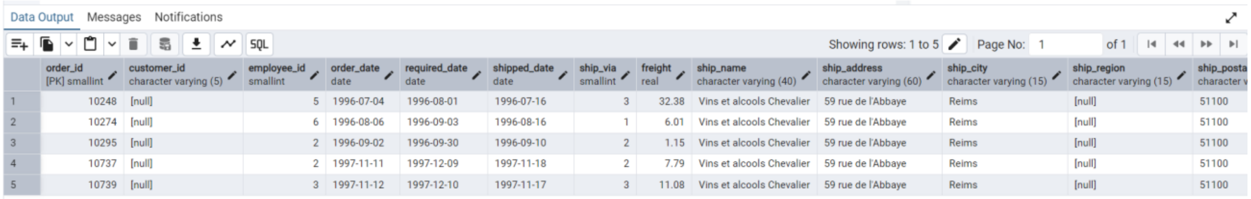
Select * from orders where customer_id = ‘VINET’;



order_id [PK] smallint	customer_id character varying (5)	employee_id smallint	order_date date	required_date date	shipped_date date	ship_via smallint	freight real	ship_name character varying (40)	ship_address character varying (60)	ship_city character varying (15)	ship_region character varying (15)	ship_posta character v

Verify the changes

SELECT * FROM Orders
WHERE CustomerID IS NULL;



	order_id [PK] smallint	customer_id character varying (5)	employee_id smallint	order_date date	required_date date	shipped_date date	ship_via smallint	freight real	ship_name character varying (40)	ship_address character varying (60)	ship_city character varying (15)	ship_region character varying (15)	ship_posta character v
1	10248	[null]	5	1996-07-04	1996-08-01	1996-07-16	3	32.38	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
2	10274	[null]	6	1996-08-06	1996-09-03	1996-08-16	1	6.01	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
3	10295	[null]	2	1996-09-02	1996-09-30	1996-09-10	2	1.15	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
4	10737	[null]	2	1997-11-11	1997-12-09	1997-11-18	2	7.79	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100
5	10739	[null]	3	1997-11-12	1997-12-10	1997-11-17	3	11.08	Vins et alcools Chevalier	59 rue de l'Abbaye	Reims	[null]	51100

5) Insert the following data to Products using UPSERT:

product_id = 100, product_name = Wheat bread, quantityperunit=1,unitprice = 13, discontinued = 0, categoryID=3

product_id = 101, product_name = White bread, quantityperunit=5 boxes,unitprice = 13, discontinued = 0, categoryID=3

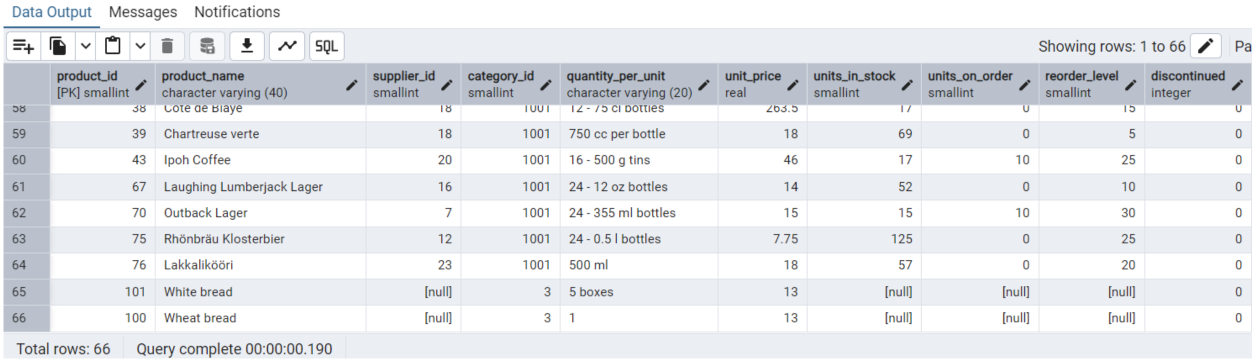
product_id = 100, product_name = Wheat bread, quantityperunit=10 boxes,unitprice = 13, discontinued = 0, categoryID=3

(this should update the quantityperunit for product_id = 100)

```
SELECT * FROM categories WHERE category_id = 3;
```

```
INSERT INTO categories (category_id, category_name)
VALUES (3, 'Bread Products');
```

```
INSERT INTO products (product_id, product_name, quantity_per_unit, unit_price, discontinued,
category_id)
VALUES (100, 'Wheat bread', '1', 13, 0, 3)
ON CONFLICT (product_id) DO UPDATE
SET quantity_per_unit = EXCLUDED.quantity_per_unit;
```



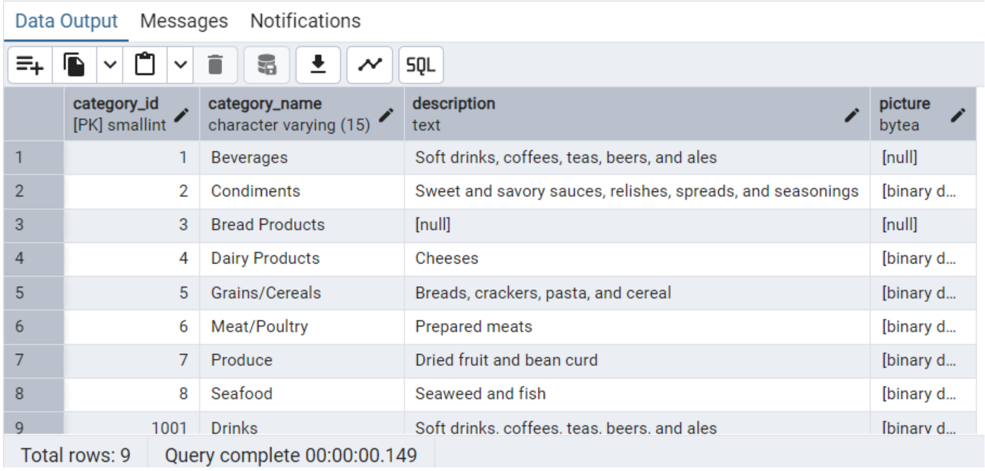
	product_id [PK] smallint	product_name character varying (40)	supplier_id smallint	category_id smallint	quantity_per_unit character varying (20)	unit_price real	units_in_stock smallint	units_on_order smallint	reorder_level smallint	discontinued integer
58	38	Cote de Blaye	18	1001	12 - 75 cl bottles	263.5	17	0	15	0
59	39	Chartreuse verte	18	1001	750 cc per bottle	18	69	0	5	0
60	43	Ipoh Coffee	20	1001	16 - 500 g tins	46	17	10	25	0
61	67	Laughing Lumberjack Lager	16	1001	24 - 12 oz bottles	14	52	0	10	0
62	70	Outback Lager	7	1001	24 - 355 ml bottles	15	15	10	30	0
63	75	Rhönbräu Klosterbier	12	1001	24 - 0.5 l bottles	7.75	125	0	25	0
64	76	Lakkalikööri	23	1001	500 ml	18	57	0	20	0
65	101	White bread	[null]	3	5 boxes	13	[null]	[null]	[null]	0
66	100	Wheat bread	[null]	3	1	13	[null]	[null]	[null]	0

Total rows: 66 Query complete 00:00:00.190

6) Write a MERGE query

first insert the deleted row again

insert into categories values(1, 'Beverages','Soft drinks, coffees, teas, beers, and ales'); select * from categories order by 1;



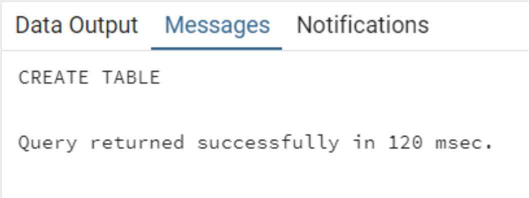
	category_id [PK] smallint	category_name character varying (15)	description text	picture bytea
1	1	Beverages	Soft drinks, coffees, teas, beers, and ales	[null]
2	2	Condiments	Sweet and savory sauces, relishes, spreads, and seasonings	[binary d...
3	3	Bread Products	[null]	[null]
4	4	Dairy Products	Cheeses	[binary d...
5	5	Grains/Cereals	Breads, crackers, pasta, and cereal	[binary d...
6	6	Meat/Poultry	Prepared meats	[binary d...
7	7	Produce	Dried fruit and bean curd	[binary d...
8	8	Seafood	Seaweed and fish	[binary d...
9	1001	Drinks	Soft drinks, coffees, teas, beers, and ales	[binary d...

Total rows: 9 Query complete 00:00:00.149

Create temp table with name:

updated_products' and insert the given values

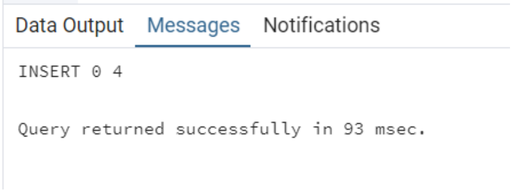
CREATE TABLE updated_products (productID INTEGER PRIMARY KEY, productName VARCHAR(100) NOT NULL, quantityPerUnit VARCHAR(100), UnitPrice DECIMAL(10,2), discontinued BOOLEAN NOT NULL, categoryID INTEGER, FOREIGN KEY (categoryID) REFERENCES categories(categoryID));



```
CREATE TABLE

Query returned successfully in 120 msec.
```

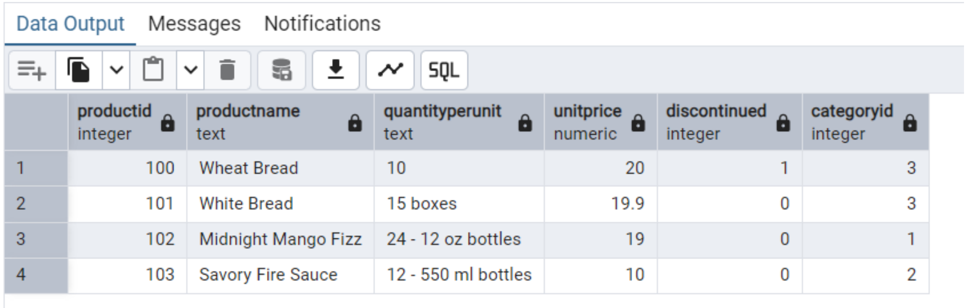
Insert Into updated_products(productid, productname, quantityperunit,
unitprice, discontinued, categoryid)
Values
(100,'Wheat Bread', 10, 20,'1' , 3),

```
(101,'White Bread', '15 boxes' , 19.9,'0' , 3),
(102,'Midnight Mango Fizz', '24 - 12 oz bottles', 19,'0' , 1),
(103,'Savory Fire Sauce', '12 - 550 ml bottles', 10,'0' , 2);
```



```
INSERT 0 4

Query returned successfully in 93 msec.
```

```
Select * from updated_products;
```



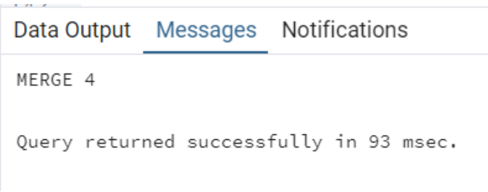
	productid	productname	quantityperunit	unitprice	discontinued	categoryid
	integer	text	text	numeric	integer	integer
1	100	Wheat Bread	10	20	1	3
2	101	White Bread	15 boxes	19.9	0	3
3	102	Midnight Mango Fizz	24 - 12 oz bottles	19	0	1
4	103	Savory Fire Sauce	12 - 550 ml bottles	10	0	2

1) Update the price and discontinued status from below table ‘updated_products’ only if there are matching products and updated_products .discontinued =0

2)If there are matching products and updated_products .discontinued =1 then delete

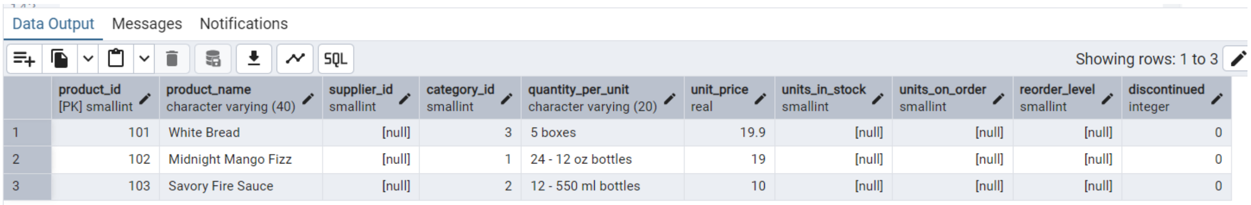
3) Insert any new products from updated_products that don’t exist in products only if updated_products .discontinued =0.

```
Merge Into products p
Using (
Values
(100,'Wheat Bread', '10', 20,1 , 3),
(101,'White Bread', '15 boxes' , 19.9,0 , 3),
(102,'Midnight Mango Fizz', '24 - 12 oz bottles', 19,0 , 1),
(103,'Savory Fire Sauce', '12 - 550 ml bottles', 10,0 , 2)
) As incoming(productid, productname, quantityperunit, unitprice, discontinued,
categoryid)
On p.product_id = incoming.productid
When Matched And incoming.discontinued = 0 Then
Update Set
product_name= incoming.productname,
unit_price = incoming.unitprice
When Matched And incoming.discontinued = 1 Then
Delete
When Not Matched And incoming.discontinued = 0 Then
Insert(product_id, product_name, quantity_per_unit, unit_price, discontinued,
category_id)
Values(incoming.productid, incoming.productname, incoming.quantityperunit,
incoming.unitprice, incoming.discontinued, incoming.categoryid);
```



```
MERGE 4

Query returned successfully in 93 msec.
```

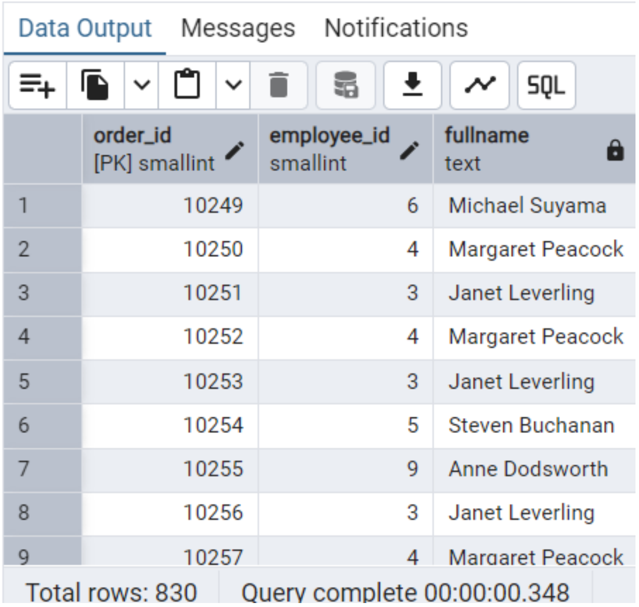
```
Select * from products where product_id in(100,101,102,103);
```



	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	101	White Bread	[null]	3	5 boxes	19.9	[null]	[null]	[null]	0
2	102	Midnight Mango Fizz	[null]	1	24 - 12 oz bottles	19	[null]	[null]	[null]	0
3	103	Savory Fire Sauce	[null]	2	12 - 550 ml bottles	10	[null]	[null]	[null]	0

7) List all orders with employee full names. (Inner join)

```
select o.order_id, o.employee_id, concat(e.first_name, ' ', e.last_name) as Fullname from orders
o inner join employees e on o.employee_id = e.employee_id;
```



	order_id [PK] smallint	employee_id smallint	fullname text
1	10249	6	Michael Suyama
2	10250	4	Margaret Peacock
3	10251	3	Janet Leverling
4	10252	4	Margaret Peacock
5	10253	3	Janet Leverling
6	10254	5	Steven Buchanan
7	10255	9	Anne Dodsworth
8	10256	3	Janet Leverling
9	10257	4	Margaret Peacock

Total rows: 830 Query complete 00:00:00.348