

1) Alter Table:

- Add a new column linkedin_profile to employees table to store LinkedIn URLs as varchar.

```
2 Alter table employees
3 add column linkedin_profile varchar(60);
4 ✓ Alter table employees
5 Alter column linkedin_profile type TEXT;
6 ✓ Alter table employees
7 Alter column linkedin_profile set not null,
8 add constraint unique_linkedin_profile unique(linkedin_profile);
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 144 msec.

-
- Change the linkedin_profile column data type from VARCHAR to TEXT.

```
3 add column linkedin_profile varchar(60);
4 ✓ Alter table employees
5 Alter column linkedin_profile type TEXT;
6 ✓ Alter table employees
7 Alter column linkedin_profile set not null,
8 add constraint unique_linkedin_profile unique(linkedin_profile);
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 115 msec.

-
- Add unique, not null constraint to linkedin_profile

```
8 ✓ Alter table employees
9 Alter column linkedin_profile set not null,
10 ADD CONSTRAINT unique_linkedin_profile unique(linkedin_profile);
11
```

Drop column linkedin_profile

```
95 ✓ ALTER TABLE employees  
96 DROP COLUMN linkedin_profile;  
97
```

Data Output Messages Notifications

ALTER TABLE

Query returned successfully in 119 msec.

2) Querying (Select)

- Retrieve the first name, last name, and title of all employees

```

39 -- Querying (Select)
40 v Select employeename,title
41 from employees;
42
43 v select * from products
44 select distinct unitprice
45 from products;

```

Data Output Messages Notifications

	employeename character varying (60) 🔒	title character varying (100) 🔒
1	Nancy Davolio	Sales Representative
2	Andrew Fuller	Vice President Sales
3	Janet Leverling	Sales Representative
4	Margaret Peacock	Sales Representative
5	Steven Buchanan	Sales Manager
6	Michael Suyama	Sales Representative
7	Robert King	Sales Representative
8	Laura Callahan	Sales Manager
9	Anne Dodsworth	Sales Representative

Total rows: 9 Query complete 00:00:00.138

-
- Find all unique unit prices of products

```

44 select distinct unitprice
45 from products;
46 ▼ select * from customers
47 order by companyname asc;
48 ▼ select productname,unitprice

```

Data Output Messages Notifications



	unitprice numeric (10,2)
1	62.50
2	55.00
3	19.00
4	45.60
5	14.00
6	17.00
7	7.00
8	9.20
9	34.00

Total rows: 62 Query complete 00:00:00.137

-
- List all customers sorted by company name in ascending order
-
-
-

```
46 select * from customers
47 order by companyname asc;
48 select productname,unitprice
49 as price_in_usd
50 from products;
51 -- Filtering
```

Data Output

Messages

Notifications

Showing rows: 1 to 91

Page No: 1

	customerid [PK] character varying (15)	companyname character varying (100)	contactname character varying (60)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Berlin	Germany
2	ANATR	Ana Trujillo Emparedados y helad...	Ana Trujillo	Owner	Mexico City	Mexico
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mexico City	Mexico
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	London	UK
5	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	London	UK
6	BERGS	Berglunds snabbköp	Christina Berglund	Order Administrator	Luleå	Sweden
7	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Mannheim	Germany
8	BLONP	Blondesddsl père et fils	Frédérique Citeaux	Marketing Manager	Strasbourg	France
9	BOLID	Bólido Comidas preparadas	Martin Sommer	Owner	Madrid	Spain
Total rows: 91		Query complete 00:00:00.297				

- Display product name and unit price, but rename the unit_price column as price_in_usd

```

48  select productname,unitprice
49  as price_in_usd
50  from products;
51  -- Filtering
52  select * from customers
53  where country = 'Germany';

```

Data Output Messages Notifications

	productname character varying (100)	price_in_usd numeric (10,2)
1	Chai	18.00
2	Chang	19.00
3	Aniseed Syrup	10.00
4	Chef Anton's Cajun Seasoning	22.00
5	Chef Anton's Gumbo Mix	21.35
6	Grandma's Boysenberry Spread	25.00
7	Uncle Bob's Organic Dried Pears	30.00
8	Northwoods Cranberry Sauce	40.00
9	Mishi Kobe Niku	97.00
Total rows: 77		Query complete 00:00:00.222

3) Filtering

- Get all customers from Germany.

Query Query history

```

52 select * from customers
53 where country = 'Germany';
54 select * from customers
55 where country = 'France' or country = 'Spain';
56 select * from orders1
57 where extract (year from orderdate) = 1997
58 and (freight > 50 or shippeddate is not null) ;

```

Data Output Messages Notifications

Showing rows: 1 to 11 Page No: 1

	customerid [PK] character varying (15)	companyname character varying (100)	contactname character varying (60)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Berlin	Germany
2	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Mannheim	Germany
3	DRACD	Drachenblut Delikatessen	Sven Ottlieb	Order Administrator	Aachen	Germany
4	FRANK	Frankenversand	Peter Franken	Marketing Manager	München	Germany
5	KOENE	Königlich Essen	Philip Cramer	Sales Associate	Brandenburg	Germany
6	LEHMS	Lehmanns Marktstand	Renate Messner	Sales Representative	Frankfurt a.M.	Germany
7	MORGK	Morgenstern Gesundkost	Alexander Feuer	Marketing Assistant	Leipzig	Germany
8	OTTIK	Ottiles Käseladen	Henriette Pfalzheim	Owner	Köln	Germany
9	QUICK	QUICK-Stop	Horst Kloss	Accounting Manager	Cunewalde	Germany

Total rows: 11 Query complete 00:00:00.138

- Find all customers from France or Spain

```

select * from customers
where country = 'France' or country = 'Spain';
select * from orders1
where extract (year from orderdate) = 1997
and (freight > 50 or shippeddate is not null) ;

```

Data Output Messages Notifications

Showing rows: 1 to 16 Page No: 1

	customerid [PK] character varying (15)	companyname character varying (100)	contactname character varying (60)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
	BLONP	Blondesdels père et fils	Frédérique Cîteaux	Marketing Manager	Strasbourg	France
	BOLID	Bólido Comidas preparadas	Martin Sommer	Owner	Madrid	Spain
	BONAP	Bon app'	Laurence Lebihan	Owner	Marseille	France
	DUMON	Du monde entier	Janine Labrune	Owner	Nantes	France
	FISSA	FISSA Fabrica Inter. Salchichas S.A.	Diego Roel	Accounting Manager	Madrid	Spain
	FOLIG	Folies gourmandes	Martine Rancé	Assistant Sales Agent	Lille	France
	FRANR	France restauration	Carine Schmitt	Marketing Manager	Nantes	France
	GALED	Galería del gastrónomo	Eduardo Saavedra	Marketing Manager	Barcelona	Spain
	GODOS	Godos Cocina Típica	José Pedro Freyre	Sales Manager	Sevilla	Spain

Total rows: 16 Query complete 00:00:00.135

- Retrieve all orders placed in 1997 (based on order_date), and either have freight greater than 50 or the shipped date available (i.e., non-NULL) (Hint: EXTRACT(YEAR FROM order_date))

```

56 select * from orders1
57 where extract (year from orderdate) = 1997
58 and (freight > 50 or shippeddate is not null) ;
59
60 select productid , productname ,unitprice from products
61 where unitprice > 15;

```

Data Output Messages Notifications

Showing rows: 1 to 16 Page No: 1

	orderid [PK] integer	customerid character varying (5)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
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4) Filtering

- Retrieve the product_id, product_name, and unit_price of products where the unit_price is greater than 15.

```
select productid , productname ,unitprice from products
where unitprice > 15;
```

Output Messages Notifications

productid [PK] integer	productname character varying (100)	unitprice numeric (10,2)
1	Chai	18.00
2	Chang	19.00
4	Chef Anton's Cajun Seasoning	22.00
5	Chef Anton's Gumbo Mix	21.35
6	Grandma's Boysenberry Spread	25.00
7	Uncle Bob's Organic Dried Pears	30.00

- 2. List all employees who are located in the USA and have the title "Sales Representative".

```
select * from employees
where country = 'USA' and title = 'Sales Representative';
```

Output Messages Notifications

employeeid [PK] integer	employeename character varying (60)	title character varying (100)	city character varying (100)	country character varying (60)	reportsto character varying (60)
1	Nancy Davolio	Sales Representative	New York	USA	8
3	Janet Leverling	Sales Representative	New York	USA	8
4	Margaret Peacock	Sales Representative	New York	USA	8

- 3. Retrieve all products that are not discontinued and priced greater than 30.

```
select * from products
where discontinued = false and unitprice > 30;
```

Output Messages Notifications

productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
8	Northwoods Cranberry Sauce	12 - 12 oz jars	40.00	false	2
10	Ikura	12 - 200 ml jars	31.00	false	8
12	Queso Manchego La Pastora	10 - 500 g pkgs.	38.00	false	4
18	Carnarvon Tigers	16 kg pkg.	62.50	false	8
20	Sir Rodney's Marmalade	30 gift boxes	81.00	false	3
26	Gumbär Gummibärchen	100 - 250 g bags	31.23	false	3
27	Schoggi Schokolade	100 - 100 g pieces	43.90	false	3
32	Mascarpone Fabioli	24 - 200 g pkgs.	32.00	false	4
38	Côte de Blave	12 - 75 cl bottles	263.50	false	1

LIMIT/FETCH

- 1. Retrieve the first 10 orders from the orders table.

```
65 select * from orders1
66 order by orderdate
67 limit 10;
68
69 SELECT *
70 FROM orders1
71 ORDER BY orderid
```

Data Output Messages Notifications

Total rows: 10 Query complete 00:00:00.174

- 2. Retrieve orders starting from the 11th order, fetching 10 rows (i.e., fetch rows 11-20).

```

69 SELECT *
70 FROM orders1
71 ORDER BY orderid
72 OFFSET 10
73 LIMIT 10;
74

```

	orderid [PK] integer	customerid character varying (5)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
1	10258	ERNSH	1	2013-07-17	2013-08-14	2013-07-23	1	140.51
2	10259	CENTC	4	2013-07-18	2013-08-15	2013-07-25	3	3.25
3	10260	OTTIK	4	2013-07-19	2013-08-16	2013-07-29	1	55.09
4	10261	QUEDE	4	2013-07-19	2013-08-16	2013-07-30	2	3.05
5	10262	RATTC	8	2013-07-22	2013-08-19	2013-07-25	3	48.29
6	10263	ERNSH	9	2013-07-23	2013-08-20	2013-07-31	3	146.06
7	10264	FOLKO	6	2013-07-24	2013-08-21	2013-08-23	3	3.67
8	10265	BLONP	2	2013-07-25	2013-08-22	2013-08-12	1	55.28
9	10266	WARTH	3	2013-07-26	2013-09-06	2013-07-31	3	25.73

Total rows: 10 Query complete 00:00:00.134

6) Filtering (IN, BETWEEN)

- List all customers who are either Sales Representative, Owner

```

75 SELECT *
76 FROM customers
77 WHERE contacttitle IN ('Sales Representative', 'Owner');
78

```

	customerid [PK] character varying (15)	companyname character varying (100)	contactname character varying (60)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Berlin	Germany
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Mexico City	Mexico
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mexico City	Mexico
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	London	UK
5	BLAUS	Blauer See Delikatessen	Hanna Moos	Sales Representative	Mannheim	Germany
6	BOLID	Bólido Comidas preparadas	Martín Sommer	Owner	Madrid	Spain
7	BONAP	Bon app'	Laurence Lebihan	Owner	Marseille	France
8	BSBEV	B's Beverages	Victoria Ashworth	Sales Representative	London	UK
9	CHOPS	Chop-suey Chinese	Yang Wang	Owner	Bern	Switzerland

Total rows: 34 Query complete 00:00:00.165

- Retrieve orders placed between January 1, 2013, and December 31, 2013.

```

78
79 SELECT *
80 FROM orders1
81 Where orderdate Between '2013-01-01' AND '2013-12-31';
82

```

	orderid [PK] integer	customerid character varying (5)	employeeid integer	orderdate date	requireddate date	shippeddate date	shipperid integer	freight numeric (10,2)
1	10248	VINET	5	2013-07-04	2013-08-01	2013-07-16	3	32.38
2	10249	TOMSP	6	2013-07-05	2013-08-16	2013-07-10	1	11.61
3	10250	HANAR	4	2013-07-08	2013-08-05	2013-07-12	2	65.83
4	10251	VICTE	3	2013-07-08	2013-08-05	2013-07-15	1	41.34
5	10252	SUPRD	4	2013-07-09	2013-08-06	2013-07-11	2	51.30
6	10253	HANAR	3	2013-07-10	2013-07-24	2013-07-16	2	58.17
7	10254	CHOPS	5	2013-07-11	2013-08-08	2013-07-23	2	22.98
8	10255	RICSU	9	2013-07-12	2013-08-09	2013-07-15	3	148.33
9	10256	WELLI	3	2013-07-15	2013-08-12	2013-07-17	2	13.97

Total rows: 152 Query complete 00:00:00.165

7) Filtering

- List all products whose category_id is not 1, 2, or 3.

```

83 SELECT *
84 FROM products
85 WHERE categoryid NOT IN (1, 2, 3);
86

```

	productid [PK] integer	productname character varying (100)	quantityperunit character varying (100)	unitprice numeric (10,2)	discontinued boolean	categoryid integer
1	7	Uncle Bob's Organic Dried Pears	12 - 1 lb pkgs.	30.00	false	7
2	9	Mishi Kobe Niku	18 - 500 g pkgs.	97.00	true	6
3	10	Ikura	12 - 200 ml jars	31.00	false	8
4	11	Queso Cabrales	1 kg pkg.	21.00	false	4
5	12	Queso Manchego La Pastora	10 - 500 g pkgs.	38.00	false	4
6	13	Konbu	2 kg box	6.00	false	8
7	14	Tofu	40 - 100 g pkgs.	23.25	false	7
8	17	Alice Mutton	20 - 1 kg tins	39.00	true	6
9	18	Carnarvon Tigers	16 kg pkg.	62.50	false	8

Total rows: 40 Query complete 00:00:00.204

- Find customers whose company name starts with "A".

```

87 SELECT *
88 FROM customers
89 WHERE companyname LIKE 'A%';

```

	customerid [PK] character varying (15)	companyname character varying (100)	contactname character varying (60)	contacttitle character varying (100)	city character varying (100)	country character varying (100)
1	ALFKI	Alfreds Futterkiste	Maria Anders	Sales Representative	Berlin	Germany
2	ANATR	Ana Trujillo Emparedados y helados	Ana Trujillo	Owner	Mexico City	Mexico
3	ANTON	Antonio Moreno Taquería	Antonio Moreno	Owner	Mexico City	Mexico
4	AROUT	Around the Horn	Thomas Hardy	Sales Representative	London	UK

Total rows: 4 Query complete 00:00:00.175

8) INSERT into orders table:

Task: Add a new order to the orders table with the following details:

Order ID: 11078

Customer ID: ALFKI

Employee ID: 5

Order Date: 2025-04-23

Required Date: 2025-04-30

Shipped Date: 2025-04-25

shipperID:2

Freight: 45.50

```

103 INSERT into orders1 (OrderID, CustomerID, EmployeeID, OrderDate, RequiredDate, ShippedDate, shipperID, Freight)
104 Values (11078, 'ALFKI', 5, '2025-04-23', '2025-04-30', '2025-04-25', 2, 45.50);
105

```

INSERT 0 1

Query returned successfully in 148 msec.

9) Increase(Update) the unit price of all products in category_id =2 by 10%.
(HINT: unit_price =unit_price * 1.10)

```
105  
106 ▼ UPDATE products  
107 SET unitprice = unitprice * 1.10  
108 WHERE categoryid = 2;
```

Data Output Messages Notifications

UPDATE 12

Query returned successfully in 84 msec.

10) Sample Northwind database:

Download

- I. Download northwind.sql from below link into your local. Sign in to Git first
https://github.com/pthom/northwind_psql
- II. Manually Create the database using pgAdmin:
 - a. Right-click on "Databases" → Create → Database
 - b. Give name as 'northwind' (all small letters)
 - c. Click 'Save'

Import database:

- I. Open pgAdmin and connect to your server
- II. Select the database 'northwind'
- III. Right Click-> Query tool.
- IV. Click the folder icon to open your northwind.sql file
- V. Press F5 or click the Execute button.
- VI. You will see total 14 tables loaded
- VII. Databases → your database → Schemas → public → Tables

Completed