

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'Tables (4)' folder is expanded, and the 'employees' table is selected, with the 'Columns' sub-item highlighted. The main workspace is divided into three panes. The top pane, titled 'Query', contains a SQL query:

```
-- SELECT statement
-- select all (*) columns from table
SELECT * FROM employees;
SELECT * FROM shops;
SELECT * FROM locations;
SELECT * FROM suppliers;
-- select some (3) columns of table
SELECT
    employee_id,
    first_name,
    last_name
FROM employees;
```

 The middle pane, titled 'Data Output', shows the results of the query in a table format. The table has four columns: 'employee_id' (integer, PK), 'first_name' (character varying (50)), 'last_name' (character varying (50)), and an unnamed column. The results are as follows:

	employee_id	first_name	last_name
1	501559	Carson	Mosconi
2	144108	Khalil	Corr
3	782284	Vilhelmina	Rayman
4	225709	Eleen	Tarpey
5	614903	Hamel	Grocock
6	590293	Frazier	Balls
7	243999	Jeremy	Whitlam
8	599230	Webb	Hevey
9	758331	Katharine	Sexcey

The bottom pane shows the status 'Total rows: 1000 of 1000' and 'Query complete 00:00:00.108'. The bottom status bar indicates 'Ln 1, Col 2'. The Windows taskbar at the very bottom shows the time as 20:05 on 21-04-2024.

pgAdmin 4

File Object Tools Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Coffee Shop Analysis/postgres@PostgreSQL 16* x

Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 -- Select only the employees who make more than 50k
2 SELECT *
3 FROM employees
4 WHERE salary > 50000;
5
6 -- Select only the employees who work in Common Grounds coffeshop
7 SELECT *
8 FROM employees
9 WHERE coffeshop_id = 1;
10
11 -- Select all the employees who work in Common Grounds and make more than 50k
12 SELECT *
13 FROM employees
14 WHERE salary > 50000 AND coffeshop_id = 1;
15
```

Data Output Messages Notifications

	employee_id [PK] integer	first_name character varying (50)	last_name character varying (50)	email character varying (50)	hire_date date	gender character varying (1)	salary integer	coffeshop_id integer
1	501559	Carson	Mosconi	cmosconi0@census.gov	2015-08-29	M	32973	1
2	144108	Khalil	Corr	kcorr1@github.io	2014-04-23	M	52802	1
3	782284	Vilhelmina	Rayman	vrayman2@jigsy.com	2015-08-17	F	57855	2
4	614903	Hamel	Grocock	hgrocock4@nasa.gov	2016-03-27	M	66566	3
5	590293	Frazier	Balls	fballs5@nydailynews.com	2021-12-22	M	15235	3
6	243999	Jeremy	Whitlam	jwhitlam6@nydailynews.com	2014-01-21	M	41159	4
7	599230	Webb	Hevey	whevey7@wikia.com	2010-04-27	M	48477	4
8	561012	Barton	Lillow	blillow9@cam.ac.uk	2015-08-17	M	15083	5
9	746871	Joshua	Winscum	jwincumb@sciencedirect.com	2022-12-29	M	28232	2

Total rows: 695 of 695 Query complete 00:00:00.258 Ln 35, Col 18

Type here to search

20:07 21-04-2024 ENG

pgAdmin 4

File Object Tools Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Coffee Shop Analysis/postgres@PostgreSQL 16* x

Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 -- Select all rows from the suppliers table where the supplier is Beans and Barley
2 SELECT *
3 FROM suppliers
4 WHERE supplier_name = 'Beans and Barley';
5
6 -- Select all rows from the suppliers table where the supplier is NOT Beans and Barley
7 SELECT *
8 FROM suppliers
9 WHERE NOT supplier_name = 'Beans and Barley';
10
11 SELECT *
12 FROM suppliers
13 WHERE supplier_name <> 'Beans and Barley';
14
15 -- Select all Robusta and Arabica coffee types
```

Data Output Messages Notifications

	employee_id [PK] integer	first_name character varying (50)	last_name character varying (50)	salary integer
1	225709	Eleen	Tarpey	48048
2	243999	Jeremy	Whitlam	41159
3	599230	Webb	Hevey	48477
4	755091	Clem	Kitchingman	46818
5	925779	Pavel	Butchard	35003
6	353657	Brigham	Boucher	38899
7	877425	Horten	Byre	40458
8	593979	Rockie	Meriot	45651
9	790257	Rab	Dafter	49327

Total rows: 272 of 272 Query complete 00:00:00.175

Ln 58, Col 22

Type here to search

20:09 21-04-2024 ENG

pgAdmin 4

File Object Tools Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Coffee Shop Analysis/postgres@PostgreSQL 16* x

Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 -- Order by salary ascending
2 SELECT
3     employee_id,
4     first_name,
5     last_name,
6     salary
7 FROM employees
8 ORDER BY salary;
9
10 -- Order by salary descending
11 SELECT
12     employee_id,
13     first_name,
14     last_name,
15     salary
```

Data Output Messages Notifications

	email character varying (50)	email_address character varying (50)	hire_date date	date_joined date	salary integer	pay integer
1	cmosconi0@census.gov	cmosconi0@census.gov	2015-08-29	2015-08-29	32973	32973
2	kcorr1@github.io	kcorr1@github.io	2014-04-23	2014-04-23	52802	52802
3	vrayman2@jigsy.com	vrayman2@jigsy.com	2015-08-17	2015-08-17	57855	57855
4	etarpey3@devhub.com	etarpey3@devhub.com	2016-09-14	2016-09-14	48048	48048
5	hgrocock4@nasa.gov	hgrocock4@nasa.gov	2016-03-27	2016-03-27	66566	66566
6	fballs5@nydailynews.com	fballs5@nydailynews.com	2021-12-22	2021-12-22	15235	15235
7	jwhitlam6@nydailynews.com	jwhitlam6@nydailynews.com	2014-01-21	2014-01-21	41159	41159
8	whevey7@wikia.com	whevey7@wikia.com	2010-04-27	2010-04-27	48477	48477
9	ksexcey8@harvard.edu	ksexcey8@harvard.edu	2014-07-03	2014-07-03	23772	23772

Total rows: 1000 of 1000 Query complete 00:00:00.160

Ln 45, Col 16

20:11 21-04-2024

pgAdmin 4

File Object Tools Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

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Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 -- Concatenate first and last names to create full names
2 SELECT
3     first_name,
4     last_name,
5     first_name || ' ' || last_name AS full_name
6 FROM employees;
7
8 -- Concatenate columns to create a sentence
9 SELECT
10    first_name || ' ' || last_name || ' makes ' || salary
11 FROM employees;
12
13 -- Boolean expressions
14 -- if the person makes less than 50k, then true, otherwise false
15 SELECT
```

Data Output Messages Notifications

	min_sal integer	max_sal integer	diff_sal integer	average_sal numeric	total_sal bigint	num_of_emp bigint
1	9878	67724	57846	38181	38181199	1000

Total rows: 1 of 1 Query complete 00:00:00.134 Ln 126, Col 16

20:14 21-04-2024 ENG

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects, with 'Columns' under the 'employees' table selected. The main pane is titled 'Coffee Shop Analysis/postgres@PostgreSQL 16*'. It contains a SQL query editor with the following text:

```

1  -- Inserting values just for JOIN exercises
2  INSERT INTO locations VALUES (4, 'Paris', 'France');
3  INSERT INTO shops VALUES (6, 'Happy Brew', NULL);
4
5  -- Checking the values we inserted
6  SELECT * FROM shops;
7  SELECT * FROM locations;
8
9  -- "INNER JOIN" same as just "Join"
10 SELECT
11     s.coffeeshop_name,
12     l.city,
13     l.country
14 FROM (
15     shops s

```

Below the query editor, the 'Data Output' tab is active, showing a table with 5 rows and 3 columns: 'coffeeshop_name', 'city', and 'country'. The data is as follows:

	coffeeshop_name	city	country
1	Common Grounds	Los Angeles	United States
2	Early Rise	New York	United States
3	Ancient Bean	London	United Kingdom
4	Urban Grind	Los Angeles	United States
5	Trembling Cup	New York	United States

At the bottom of the interface, a status bar indicates 'Total rows: 5 of 5' and 'Query complete 00:00:00.101'. The bottom of the image shows a Windows taskbar with various application icons and a search bar.

pgAdmin 4

File Object Tools Help

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- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Coffee Shop Analysis/postgres@PostgreSQL 16* x

Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 SELECT
2   s.coffeeshop_name,
3   l.city,
4   l.country
5 FROM
6   shops s
7 JOIN locations l
8 ON s.city_id = l.city_id;
9
10 -- LEFT JOIN
11 SELECT
12   s.coffeeshop_name,
13   l.city,
14   l.country
15 FROM
```

Data Output Messages Notifications

	coffeeshop_name character varying (50)	city character varying (50)	country character varying (50)
1	Common Grounds	Los Angeles	United States
2	Early Rise	New York	United States
3	Ancient Bean	London	United Kingdom
4	Urban Grind	Los Angeles	United States
5	Trembling Cup	New York	United States
6	[null]	Paris	France

Total rows: 6 of 6 Query complete 00:00:00.054

Ln 28, Col 27

20:19 21-04-2024

pgAdmin 4

File Object Tools Help

Object Explorer

- > Aggregates
- > Collations
- > Domains
- > FTS Configurations
- > FTS Dictionaries
- > FTS Parsers
- > FTS Templates
- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (4)
 - > employees
 - > Columns
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
- > locations
- > shops
- > suppliers
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > PortfolioCovidData
 - > Casts
 - > Catalogs

Dashboard x Properties x SQL x Statistics x Dependencies x Dependents x Coffee Shop Analysis/postgres@PostgreSQL 16* x

Coffee Shop Analysis/postgres@PostgreSQL 16

No limit

Query Query History

```
1 -- Return all cities and countries
2 SELECT city FROM locations
3 UNION
4 SELECT country FROM locations;
5
6 -- UNION removes duplicates
7 SELECT country FROM locations
8 UNION
9 SELECT country FROM locations;
10
11 -- UNION ALL keeps duplicates
12 SELECT country FROM locations
13 UNION ALL
14 SELECT country FROM locations;
15
```

Data Output Messages Notifications

	coffeeshop_name
1	Happy Brew
2	United States
3	Common Grounds
4	New York
5	United Kingdom
6	Trembling Cup
7	France
8	Los Angeles
9	London

Total rows: 13 of 13 Query complete 00:00:00.214

Ln 14, Col 31

20:20 21-04-2024