

EASY

1. Top 10 most expensive tracks.

The screenshot shows the pgAdmin 4 interface with two panes. The left pane displays the database schema, including tables like album, artist, customer, employee, genre, invoice, invoice_line, media_type, playlist, playlist_tracl, track, and various system tables. The right pane shows the results of a SQL query:

```
SELECT
    track_name,
    artist,
    album,
    unit_price
FROM
    track
ORDER BY
    unit_price DESC
LIMIT 10;
```

track_name	artist	album	unit_price
Torn	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Unfinished Business	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Exodus, Pt. 1	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Collaborators	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
A Measure of Salvation	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Hero	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Battlestar Galactica: The Story So ...	Battlestar Galactica	Battlestar Galactica: The Story So ...	1.99
Occupation / Precipice	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
Exodus, Pt. 2	Battlestar Galactica	Battlestar Galactica, Season 3	1.99
The Passage	Battlestar Galactica	Battlestar Galactica, Season 3	1.99

2. Tracks per genre

The screenshot shows the pgAdmin 4 interface with two panes. The left pane displays the database schema, including tables like album, artist, customer, employee, genre, invoice, invoice_line, media_type, playlist, playlist_tracl, track, and various system tables. The right pane shows the results of a SQL query:

```
SELECT
    genre,
    track_count
FROM
    track
GROUP BY
    genre
ORDER BY
    track_count DESC
LIMIT 25;
```

genre	track_count
Jazz	150
TV Shows	93
Blues	81
Classical	74
Drama	64
R&B/Soul	61
Reggae	58
Pop	48
Soundtrack	43
Alternative	40
Hip Hop/Rap	35
Electronica/Dance	30
Heavy Metal	28
World	28
Sci Fi & Fantasy	26
Easy Listening	24
Comedy	17
Bossa Nova	15
Science Fiction	13
Rock And Roll	12
Opera	1

3. Customers from Brazil

The screenshot shows the pgAdmin 4 interface with the following details:

- File Menu:** File, Object, Tools, Edit, View, Window, Help.
- Object Explorer:** Shows a tree view of database objects including Functions, Materialized Views, Operators, Procedures, Sequences, Tables (11), Triggers, Types, and Views.
- SQL Editor:** The current tab is "easytohard.sql". The query is:

```
6     t.unit_price
7   FROM track t
8   JOIN album al ON t.album_id = al.album_id
9   JOIN artist ar ON al.artist_id = ar.artist_id
10  ORDER BY t.unit_price DESC
11  LIMIT 10;
12 /*2 Total number of tracks per genre (most to least)*/
13 SELECT
```
- Data Output:** A table showing 5 rows of customer data:

	full_name	city	email
1	Roberto Almeida	Rio de Janeiro	roberto.almeida@riotor.gov...
2	Luis Gonçalves	São José dos Campos	luisg@embraer.com.br
3	Eduardo Martini	São Paulo	eduardo@woodstock.com.br
4	Fernanda Ramos	Brasília	fernadaramos4@uol.com.br
5	Alexandre Rocca	São Paulo	aleroc@uol.com.br
- Message Bar:** Total rows: 5 | Query complete 00:00:00.212 | CR

4. Employee with the most customers

The screenshot shows the pgAdmin 4 interface with the following details:

- File Menu:** File, Object, Tools, Edit, View, Window, Help.
- Object Explorer:** Shows a tree view of database objects including Functions, Materialized Views, Operators, Procedures, Sequences, Tables (11), Triggers, Types, and Views.
- SQL Editor:** The current tab is "easytohard.sql". The query is:

```
26 WHERE country = 'Brazil'
27 ORDER BY last_name, first_name;
28 /*4 */
29
30   e.employee_id,
31   e.first_name || ' ' || e.last_name AS employee_name,
32   COUNT(c.customer_id) AS total_customers
33
34 FROM employees e
35 JOIN customers c
36   ON e.employee_id = c.employee_id;
```
- Data Output:** A table showing 1 row of employee data:

	employee_id	employee_name	total_customers
1	3	Jane Peacock	21

Moderate

5. Employee with the Highest Total Sales Revenue

pgAdmin 4

File Object Tools Edit View Window Help

musicdb/postgres@PostgreSQL 18

Dependencies X Dependents X Processes X easytohard.sql X easy.sql X musicdb/postgres@

Object E: Foreign Tables Functions Materialized Views Operators Procedures Sequences Tables (11) album artist customer employee genre invoice invoice_line media_type playlist playlist_track track Trigger Functions Types Views Subscriptions postgres Login/Group Roles

Query Query History

```
1 /*5 Employee with the Highest Total Sales Revenue */
2 SELECT
3     e.employee_id,
4     e.first_name || ' ' || e.last_name AS employee_name,
5     SUM(i.total) AS total_revenue
```

Data Output Messages Notifications

	employee_id	employee_name	total_revenue
1	3	Jane Peacock	1731.5100000000039

Showing rows: 1 to 1 Page No: 1

6. Top 5 Customers by Total Spending

pgAdmin 4

File Object Tools Edit View Window Help

musicdb/postgres@PostgreSQL 18

Dependencies X Dependents X Processes X easytohard.sql X easy.sql X musicdb/postgres@

Object E: Foreign Tables Functions Materialized Views Operators Procedures Sequences Tables (11) album artist customer employee genre invoice invoice_line media_type playlist playlist_track track Trigger Functions Types Views Subscriptions postgres Login/Group Roles Tablespace

Query Query History

```
1 SELECT c.customer_id, c.customer_name, i.total_spent
2 FROM public.customer c
3 JOIN public.invoice i
4 ON e.employee_id::int = c.support_rep_id
5 JOIN public.invoice i
6 ON c.customer_id = i.customer_id
7 ORDER BY i.total_spent DESC
8 LIMIT 5;
```

Data Output Messages Notifications

	customer_id	customer_name	total_spent
1	5	R Madhav	144.54000000000002
2	6	Helena Holy	128.7
3	46	Hugh O'Reilly	114.8399999999997
4	58	Manoj Pareek	111.8699999999999
5	1	Luis Gonçalves	108.8999999999998

Showing rows: 1 to 5 Page No: 1

7. Most Popular Genre by Number of Purchases

pgAdmin 4

File Object Tools Edit View Window Help

musicdb/postgres@PostgreSQL 18

No limit

Query History

```
16    c.customer_id,
17    c.first_name || ' ' || c.last_name AS customer_name,
18    SUM(i.total) AS total_spent
19
20 FROM public.customer c
21 JOIN public.invoice i
22     ON c.customer_id = i.customer_id
23 GROUP BY c.customer_id, customer_name
24 ORDER BY total_spent DESC
```

Data Output Messages Notifications

Showing rows: 11

	genre_name	total_purchases
1	Rock	2635

HARD

8. Top Employee per Country by Total Sales

Admin 4

Object Tools Edit View Window Help

Object E: board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X

musicdb/postgres@PostgreSQL 18

Data Output Messages Notifications

Showing rows: 1 to 25 Page No: 1 of 1

	country	employee_id	employee_name	total_revenue
1	Argentina	4	Margaret Park	39.6
2	Australia	4	Margaret Park	81.18
3	Austria	5	Steve Johnson	69.3
4	Belgium	4	Margaret Park	60.38999999999999
5	Brazil	3	Jane Peacock	191.06999999999994
6	Canada	3	Jane Peacock	373.23
7	Chile	5	Steve Johnson	97.02000000000001
8	Czech Republic	4	Margaret Park	144.54000000000002
9	Denmark	4	Margaret Park	37.61999999999999
10	Finland	3	Jane Peacock	79.2
11	France	3	Jane Peacock	173.25000000000003
12	Germany	5	Steve Johnson	167.31
13	Germany	3	Jane Peacock	167.31
14	Hungary	3	Jane Peacock	78.21

pgAdmin 4

File Object Tools Edit View Window Help

Object E: board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X

musicdb/postgres@PostgreSQL 18*

Data Output Messages Notifications

Showing rows: 1 to 25 Page No: 1 of 1

	country	employee_id	employee_name	total_revenue
11	France	3	Jane Peacock	173.25000000000003
12	Germany	5	Steve Johnson	167.31
13	Germany	3	Jane Peacock	167.31
14	Hungary	3	Jane Peacock	78.21
15	India	3	Jane Peacock	183.14999999999998
16	Ireland	3	Jane Peacock	114.83999999999997
17	Italy	5	Steve Johnson	50.49
18	Netherlands	5	Steve Johnson	65.34
19	Norway	4	Margaret Park	72.27000000000001
20	Poland	4	Margaret Park	76.22999999999999
21	Portugal	4	Margaret Park	185.13000000000002
22	Spain	5	Steve Johnson	98.01
23	Sweden	5	Steve Johnson	75.24
24	United Kingdom	3	Jane Peacock	166.32
25	USA	4	Margaret Park	497.9699999999999

Total rows: 25 Query complete 00:00:00.129 CRLF Ln

9. Top 3 Tracks by Revenue in Each Genre

pgAdmin 4

File Object Tools Edit View Window Help

board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Data Output Messages Notifications

Showing rows: 1 to 51 Page No: 1 of 1

Tables (11)

	genre_name	track_name	total_revenue
1	Alternative	War Pigs	30.68999999999998
2	Alternative	Slowness	9.9
3	Alternative	Safe and Sound	5.94
4	Alternative & Punk	Last Chance	9.9
5	Alternative & Punk	Get What You Need	8.91
6	Alternative & Punk	Train In Vain	8.91
7	Blues	Sunshine Of Your Love	4.95
8	Blues	White Room	4.95
9	Blues	Knockin On Heavens Door	3.96
10	Classical	Das Lied Von Der Erde, Von Der Jugend	7.920000000000001
11	Classical	Turandot, Act III, Nessun dorma!	7.920000000000001
12	Classical	24 Caprices, Op. 1, No. 24, for Solo Violin, in A Mi...	7.920000000000001
13	Drama	Confirmed Dead	0.99
14	Easy Listening	Bad, Bad Leroy Brown	4.95
15	Easy Listening	Love And Marriage	4.95
16	Easy Listening	I've Got You Under My Skin	3.96

Total rows: 51 Query complete 00:00:00.202 CRLF Ln 39, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Data Output Messages Notifications

Showing rows: 1 to 51 Page No: 1 of 1

Tables (11)

	genre_name	track_name	total_revenue
17	Electronica/Dance	Half The Man	4.95
18	Electronica/Dance	Journey To Arnhemland	3.96
19	Electronica/Dance	Scam	3.96
20	Heavy Metal	Gates Of Tomorrow	1.98
21	Heavy Metal	New Frontier	0.99
22	Heavy Metal	Wrathchild	0.99
23	Hip Hop/Rap	House Of Pain Anthem	2.969999999999998
24	Hip Hop/Rap	One For The Road	2.969999999999998
25	Hip Hop/Rap	Danny Boy, Danny Boy	1.98
26	Jazz	My Ship	4.95
27	Jazz	The Meaning Of The Blues/Lament (Alternate Ta...	4.95
28	Jazz	Blues For Pablo	4.95
29	Latin	Chuva No Brejo	3.96
30	Latin	Cérebro Eletrônico	3.96
31	Latin	De Noite Na Cama	3.96
32	Metal	Rardin/Vidren	11.98

Total rows: 51 Query complete 00:00:00.202 CRLF Ln 39, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

Object E: board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Tables (11)

genre_name	track_name	total_revenue
Metal	Radio Video	11.66
Metal	Dead And Broken	10.89
Metal	Old School Hollywood	10.89
Pop	Take the Box	5.94
Pop	You Sent Me Flying / Cherry	4.95
Pop	October Song	4.95
R&B/Soul	You Know I'm No Good (feat. Ghostface Killah)	7.920000000000001
R&B/Soul	Tears Dry On Their Own	5.94
R&B/Soul	I Got You (I Feel Good)	5.94
Reggae	Wear You To The Ball	2.969999999999998
Reggae	Superstition	2.969999999999998
Reggae	Nothing But Love	2.969999999999998
Rock	Highway Chile	13.860000000000001
Rock	Are You Experienced?	13.860000000000001
Rock	Third Stone From The Sun	12.870000000000001
Soundtrack	Qui Nem Jiló	0.99
Soundtrack	Ito Okashi	0.99

Total rows: 51 Query complete 00:00:00.202 CRLF Ln 39, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

Object E: board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Tables (11)

genre_name	track_name	total_revenue
Pop	You Sent Me Flying / Cherry	4.95
Pop	October Song	4.95
R&B/Soul	You Know I'm No Good (feat. Ghostface Killah)	7.920000000000001
R&B/Soul	Tears Dry On Their Own	5.94
R&B/Soul	I Got You (I Feel Good)	5.94
Reggae	Wear You To The Ball	2.969999999999998
Reggae	Superstition	2.969999999999998
Reggae	Nothing But Love	2.969999999999998
Rock	Highway Chile	13.860000000000001
Rock	Are You Experienced?	13.860000000000001
Rock	Third Stone From The Sun	12.870000000000001
Soundtrack	Qui Nem Jiló	0.99
Soundtrack	Ito Okashi	0.99
Soundtrack	Baião Da Penha	0.99
TV Shows	Collaborators	0.99
TV Shows	Exodus (Part 1)	0.99

Total rows: 51 Query complete 00:00:00.202 CRLF Ln 39, Col 1

10. Customers Who Purchased Every Track of a Specific Genre

output is empty.

```
39 /*Customers Who Purchased Every Track of a Specific Genre*/
40 WITH rock_tracks AS (
41     SELECT track_id
42     FROM public.track t
43     JOIN public.genre g ON t.genre_id = g.genre_id
44     WHERE g.name = 'Rock'
45 ),
```

Data Output Messages Notifications



11. Monthly Sales Trend for Each Employee

The screenshot shows the pgAdmin 4 interface with the 'Tables' section selected. The 'employee' table is displayed with the following data:

	employee_id	employee_name	month	monthly_sales
1	3	Jane Peacock	2020-01-01 00:00:00	3.96
2	3	Jane Peacock	2020-02-01 00:00:00	39.6
3	3	Jane Peacock	2020-03-01 00:00:00	30.689999999999998
4	3	Jane Peacock	2020-04-01 00:00:00	29.7
5	3	Jane Peacock	2020-05-01 00:00:00	24.75
6	3	Jane Peacock	2020-06-01 00:00:00	35.64
7	3	Jane Peacock	2020-07-01 00:00:00	45.54
8	3	Jane Peacock	2020-08-01 00:00:00	35.64
9	3	Jane Peacock	2020-09-01 00:00:00	28.709999999999997
10	3	Jane Peacock	2020-10-01 00:00:00	23.759999999999998
11	3	Jane Peacock	2020-11-01 00:00:00	18.810000000000002
12	3	Jane Peacock	2020-12-01 00:00:00	85.14
13	4	Margaret Park	2020-01-01 00:00:00	12.870000000000001
14	4	Margaret Park	2020-02-01 00:00:00	21.78
15	4	Margaret Park	2020-03-01 00:00:00	19.8
16	4	Margaret Park	2020-04-01 00:00:00	21.779999999999998

pgAdmin 4

File Object Tools Edit View Window Help

Default Workspace

board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Data Output Messages Notifications

employee_id [PK] character varying (50) employee_name month timestamp without time zone monthly_sales double precision

	employee_id	employee_name	month	monthly_sales
17	4	Margaret Park	2020-05-01 00:00:00	35.64
18	4	Margaret Park	2020-06-01 00:00:00	39.599999999999994
19	4	Margaret Park	2020-07-01 00:00:00	18.81
20	4	Margaret Park	2020-08-01 00:00:00	10.89
21	4	Margaret Park	2020-09-01 00:00:00	34.65
22	4	Margaret Park	2020-10-01 00:00:00	85.14
23	4	Margaret Park	2020-11-01 00:00:00	33.660000000000004
24	4	Margaret Park	2020-12-01 00:00:00	30.689999999999998
25	5	Steve Johnson	2020-01-01 00:00:00	26.729999999999997
26	5	Steve Johnson	2020-02-01 00:00:00	35.64
27	5	Steve Johnson	2020-03-01 00:00:00	27.72
28	5	Steve Johnson	2020-04-01 00:00:00	68.31
29	5	Steve Johnson	2020-05-01 00:00:00	21.78
30	5	Steve Johnson	2020-06-01 00:00:00	45.54
31	5	Steve Johnson	2020-07-01 00:00:00	11.879999999999999
32	5	Steve Johnson	2020-08-01 00:00:00	25.74

Total rows: 36 Query complete 00:00:00.235 CRLF Ln 73, Col 1

pgAdmin 4

File Object Tools Edit View Window Help

Object E board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X musicdb/postgres@PostgreSQL 18*

Data Output Messages Notifications

employee_id [PK] character varying (50) employee_name month timestamp without time zone monthly_sales double precision

	employee_id	employee_name	month	monthly_sales
21	4	Margaret Park	2020-09-01 00:00:00	34.65
22	4	Margaret Park	2020-10-01 00:00:00	85.14
23	4	Margaret Park	2020-11-01 00:00:00	33.660000000000004
24	4	Margaret Park	2020-12-01 00:00:00	30.689999999999998
25	5	Steve Johnson	2020-01-01 00:00:00	26.729999999999997
26	5	Steve Johnson	2020-02-01 00:00:00	35.64
27	5	Steve Johnson	2020-03-01 00:00:00	27.72
28	5	Steve Johnson	2020-04-01 00:00:00	68.31
29	5	Steve Johnson	2020-05-01 00:00:00	21.78
30	5	Steve Johnson	2020-06-01 00:00:00	45.54
31	5	Steve Johnson	2020-07-01 00:00:00	11.879999999999999
32	5	Steve Johnson	2020-08-01 00:00:00	25.74
33	5	Steve Johnson	2020-09-01 00:00:00	31.68
34	5	Steve Johnson	2020-10-01 00:00:00	35.64
35	5	Steve Johnson	2020-11-01 00:00:00	30.69
36	5	Steve Johnson	2020-12-01 00:00:00	9.899999999999999

Total rows: 36 Query complete 00:00:00.235 CRLF Ln 73, Col 1

12. Track with the Highest Single Invoice Sale

pgAdmin 4

File Object Tools Edit View Window Help

board X Properties X SQL X Statistics X Dependencies X Dependents X Processes X

musicdb/postgres@PostgreSQL 18

Object E: Foreign Tables Functions Materialized Views Operators Procedures Sequences Tables (11) album artist customer employee genre invoice invoice_line media_type playlist playlist_track track Trigger Functions Types Views Subscriptions postgres

Query Query History

```
66      ON e.employee_id = c.support_rep_id
67
68  JOIN public.invoice i
69  ON c.customer_id = i.customer_id
70  WHERE i.invoice_date >= '2020-01-01' AND i.invoice_date < '2021-01-01'
71  GROUP BY e.employee_id, employee_name, month
72  ORDER BY e.employee_id, month;
73
74 /*12 Track with the Highest Single Invoice Sale*/
75
76 SELECT
77   t.track_id,
78   t.name AS track_name,
79   il.invoice_id,
80   il.unit_price * il.quantity AS line_total
```

Data Output Messages Notifications

Showing rows: 1 to 1

track_id	track_name	invoice_id	line_total
1	Right Next Door to Hell	1	0.99