

1)

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Tables (10)
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 - boarding_pass
 - booking
 - booking_flight
 - flights
 - Columns (14)
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 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - status
 - actual_departure
 - actual_arrival
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 - passengers

postgres/postgres@PostgreSQL 17* x

postgres/postgres@PostgreSQL 17

Query Query History

```
1 CREATE OR REPLACE PROCEDURE insert_flight(  
2     p_flight_number VARCHAR,  
3     p_departure_city VARCHAR,  
4     p_arrival_city VARCHAR,  
5     p_departure_time TIMESTAMP,  
6     p_arrival_time TIMESTAMP  
7 )  
8 LANGUAGE plpgsql  
9 AS $$  
10 BEGIN  
11     INSERT INTO flights (flight_id, flight_no, scheduled_departure, scheduled_arrival, departure  
12     VALUES (p_flight_id, p_flight_number, p_sched_dep, p_departure_arrival, p_dep_airport_id, p_  
13 END;  
14 $$;
```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 106 msec.

Total rows: Query complete 00:00:00.106

✓ Query returned s

2)

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postgres/postgres@PostgreSQL 17* x

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Query Query History

```
1 CREATE OR REPLACE PROCEDURE update_flight_times(  
2     p_flight_id INT,  
3     p_act_depar_time TIMESTAMP DEFAULT NULL,  
4     p_act_arr_time TIMESTAMP DEFAULT NULL  
5 )  
6 LANGUAGE plpgsql  
7 AS $$  
8 BEGIN  
9     UPDATE flight  
10    SET  
11        act_depar_time = COALESCE(p_act_depar_time, act_depar_time),  
12        act_arr_time = COALESCE(p_act_arr_time, act_arr_time),  
13        update_at = NOW()  
14    WHERE flight_id = p_flight_id;  
15 END;  
16 $$;
```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 48 msec.

Total rows: Query complete 00:00:00.048

✓ Query returned s

3)

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postgres/postgres@PostgreSQL 17* x

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Query Query History

```
1 CREATE OR REPLACE FUNCTION flights1_from_airport(  
2   p_departing_airport_id INT  
3 )  
4 RETURNS TABLE (  
5   flight_id INT,  
6   sch_departure_time TIMESTAMPTZ,  
7   sch_arrival_time TIMESTAMPTZ,  
8   departing_airport_id INT,  
9   arriving_airport_id INT,  
10  departing_gate TEXT,  
11  arriving_gate VARCHAR(50),  
12  airline_id INT,  
13  act_departure_time TIMESTAMPTZ,  
14  act_arrival_time TIMESTAMPTZ,  
15  created_at TIMESTAMPTZ,  
16  updated_at TIMESTAMPTZ  
17 )  
18 LANGUAGE plpgsql  
19 AS $$  
20 BEGIN  
21   RETURN QUERY  
22     SELECT *  
23     FROM flights  
24     WHERE departing_airport_id = p_departing_airport_id;  
25   END;  
26   $$;  
27
```

Data Output Messages Notifications

CREATE FUNCTION

Query returned successfully in 47 msec.

Total rows: Query complete 00:00:00.047

✓ Query returned

4)

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postgres/postgres@PostgreSQL 17* x

postgres/postgres@PostgreSQL 17

Query Query History

```
1 CREATE OR REPLACE FUNCTION avg_delay_for_airport(  
2   p_airport_id INT  
3 )  
4 RETURNS INTERVAL  
5 LANGUAGE plpgsql  
6 AS $$  
7 DECLARE  
8   v_avg_delay INTERVAL;  
9 BEGIN  
10  SELECT AVG(act_arrival_time - sch_arrival_time)  
11  INTO v_avg_delay  
12  FROM flights  
13  WHERE arriving_airport_id = p_airport_id  
14  AND act_arrival_time IS NOT NULL  
15  AND sch_arrival_time IS NOT NULL;  
16  
17  RETURN v_avg_delay;  
18 END;  
19 $$;  
20  
21
```

Data Output Messages Notifications

CREATE FUNCTION

Query returned successfully in 60 msec.

Total rows: Query complete 00:00:00.060

✓ Query returned

5)

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 - passengers
 - Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
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postgres/postgres@PostgreSQL 17

Query Query History

```
1 CREATE OR REPLACE PROCEDURE list_passengers_for_flight(  
2   p_flight_id INT  
3 )  
4 LANGUAGE plpgsql  
5 AS $$  
6 BEGIN  
7   SELECT p.*  
8   FROM passengers p  
9   JOIN booking b  
10    ON b.passenger_id = p.passenger_id  
11   JOIN booking_flight bf  
12    ON bf.booking_id = b.booking_id  
13   WHERE bf.flight_id = p_flight_id;  
14 END;  
15 $$;
```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 48 msec.

Total rows: Query complete 00:00:00.048

Query returned successfully

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Query Query History

```
1 CREATE OR REPLACE PROCEDURE top_passenger_by_flights()  
2 LANGUAGE plpgsql  
3 AS $$  
4 BEGIN  
5   SELECT  
6     p.passenger_id,  
7     p.first_name,  
8     p.last_name,  
9     COUNT(bf.flight_id) AS flights_taken  
10  FROM passengers p  
11  JOIN booking b  
12   ON b.passenger_id = p.passenger_id  
13  JOIN booking_flight bf  
14   ON bf.booking_id = b.booking_id  
15  GROUP BY p.passenger_id, p.first_name, p.last_name  
16  ORDER BY flights_taken DESC  
17  LIMIT 1;  
18 END;  
19 $$;
```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 39 msec.

Total rows: Query complete 00:00:00.039

Query returned successfully

7)

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postgres/postgres@PostgreSQL 17

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Query Query History

```
1 CREATE OR REPLACE PROCEDURE flights_delayed_more_than_24h()
2 LANGUAGE plpgsql
3 AS $$
4 BEGIN
5     SELECT *
6     FROM flights
7     WHERE act_departure_time IS NOT NULL
8           AND sch_departure_time IS NOT NULL
9           AND act_departure_time - sch_departure_time > INTERVAL '24 hours';
10 END;
11 $$;
12
```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 39 msec.

Total rows: Query complete 00:00:00.039

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postgres/postgres@PostgreSQL 17

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Query Query History

```
1 CREATE OR REPLACE FUNCTION count_flights_for_each_airline()
2 RETURNS TABLE (
3     airline_id INT,
4     flights_count BIGINT
5 )
6 LANGUAGE plpgsql
7 AS $$
8 BEGIN
9     RETURN QUERY
10     SELECT airline_id,
11            COUNT(*) AS flights_count
12     FROM flights
13     GROUP BY airline_id;
14 END;
15 $$;
16
17 SELECT * FROM count_flights_for_each_airline();
18
```

Data Output Messages Notifications

Total rows: Query complete 00:00:00.043

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postgres/postgres@PostgreSQL 17*

postgres/postgres@PostgreSQL 17

Query Query History

```

1 CREATE OR REPLACE PROCEDURE avg_ticket_price_for_flight(
2   p_flight_id INT
3 )
4 LANGUAGE plpgsql
5 AS $$
6 BEGIN
7   SELECT bf.flight_id,
8         AVG(b.ticket_price) AS avg_ticket_price
9   FROM booking_flight bf
10  JOIN booking b
11    ON b.booking_id = bf.booking_id
12  WHERE bf.flight_id = p_flight_id
13  GROUP BY bf.flight_id;
14 END;
15 $$;
16

```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 41 msec.

Total rows: Query complete 00:00:00.041

Query returned successfully

10)

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 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate
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postgres/postgres@PostgreSQL 17*

postgres/postgres@PostgreSQL 17

Query Query History

```

1 CREATE OR REPLACE PROCEDURE most_expensive_flight()
2 LANGUAGE plpgsql
3 AS $$
4 BEGIN
5   SELECT f.flight_id,
6         f.departing_airport_id,
7         f.arriving_airport_id,
8         MAX(b.ticket_price) AS max_ticket_price
9   FROM flights f
10  JOIN booking_flight bf
11    ON bf.flight_id = f.flight_id
12  JOIN booking b
13    ON b.booking_id = bf.booking_id
14  GROUP BY f.flight_id, f.departing_airport_id, f.arriving_airport_id
15  ORDER BY max_ticket_price DESC
16  LIMIT 1;
17 END;
18 $$;
19

```

Data Output Messages Notifications

CREATE PROCEDURE

Query returned successfully in 44 msec.

Total rows: Query complete 00:00:00.044