

LAB 6

#1

The screenshot shows the pgAdmin 4 interface. The left pane displays the database structure, with the 'airline' table selected under the 'flights' schema. The central pane shows a SQL query:

```
1 SELECT f.flight_id, f.flight_no, f.scheduled_departure, f.scheduled_arrival,
2       f.departure_airport_id, f.arrival_airport_id, f.status,
3       a.airline_name, a.airline_code
4 FROM airline as a
5 INNER JOIN flights as f
6 ON a.airline_id = f.airline_id
7 WHERE airline_name = 'SMM'
```

The right pane displays the query results in a table with 9 columns: scheduled_departure, scheduled_arrival, departure_airport_id, arrival_airport_id, status, airline_name, and airline_code. The results show 19 rows of data for flights operated by SMM.

	scheduled_departure	scheduled_arrival	departure_airport_id	arrival_airport_id	status	airline_name	airline_code
1	2023-07-21	2023-09-17	13	16	Boarding	SMM	WBKA
2	2023-03-29	2023-08-01	18	12	Boarding	SMM	WBKA
3	2023-07-07	2023-09-11	18	1	Check-in open	SMM	WBKA
4	2024-01-07	2023-04-03	2	2	Delayed	SMM	WBKA
5	2023-08-17	2023-05-30	14	4	Delayed	SMM	WBKA
6	2024-01-04	2024-01-26	2	15	Delayed	SMM	WBKA
7	2023-11-17	2024-03-08	10	6	Boarding	SMM	WBKA
8	2023-12-10	2023-11-04	5	15	Delayed	SMM	WBKA
9	2023-06-12	2023-09-04	9	6	Delayed	SMM	WBKA
10	2023-05-15	2023-12-10	14	8	Boarding	SMM	WBKA
11	2024-03-11	2024-03-06	9	7	Delayed	SMM	WBKA
12	2023-07-11	2023-06-11	15	19	Boarding	SMM	WBKA
13	2023-09-02	2023-09-15	6	5	Delayed	SMM	WBKA

Total rows: 19 Query complete 00:00:00.062

#2

The screenshot shows the pgAdmin 4 interface. The left pane displays the database structure, with the 'airport' table selected under the 'flights' schema. The central pane shows a SQL query:

```
1 SELECT f.*, a.airport_name
2 FROM airport as a
3 INNER JOIN flights as f
4 ON f.departure_airport_id = a.airport_id
```

The right pane displays the query results in a table with 9 columns: arriving_gate, airline_id, status, actual_departure, actual_arrival, created_at, update_at, and airport_name. The results show 13 rows of data for flights.

	arriving_gate	airline_id	status	actual_departure	actual_arrival	created_at	update_at	airport_name
1	649	39	Check-in open	2023-10-30	2023-11-07	2023-03-30	2023-06-23	Elorza Airport
2	90	34	Boarding	2024-02-09	2024-01-23	2023-11-16	2023-12-07	Figari Sud-Corse Airport
3	9	34	Boarding	2024-02-21	2023-05-14	2023-04-12	2024-03-04	Darchula Airport
4	66	33	Check-in open	2023-10-10	2023-04-07	2023-12-16	2023-05-26	Lime Acres Finsch Mine Airport
5	171	14	Check-in open	2023-11-18	2023-07-02	2024-01-18	2023-09-13	Hana Airport
6	72	34	Check-in open	2024-02-19	2023-04-28	2024-03-17	2023-06-25	Darchula Airport
7	15	10	Delayed	2023-12-04	2023-07-12	2023-03-29	2023-10-19	Ocean Falls Seaplane Base
8	1985	12	Delayed	2023-07-10	2023-08-01	2023-05-10	2023-05-10	Figari Sud-Corse Airport
9	621	13	Delayed	2023-06-17	2023-12-03	2024-02-29	2023-04-28	Hana Airport
10	555	29	Check-in open	2023-05-23	2023-04-26	2024-01-12	2023-08-02	Longana Airport
11	3288	46	Delayed	2024-02-06	2023-05-15	2024-03-05	2024-03-05	Delta County Airport
12	2592	27	Boarding	2023-04-28	2023-11-17	2023-11-29	2023-04-25	Elorza Airport
13	5429	1	Delayed	2023-08-19	2023-11-09	2023-06-29	2023-11-09	Figari Sud-Corse Airport

Total rows: 1000 Query complete 00:00:00.126

#3

pgAdmin 4

Object Explorer

- RLS Policies
- Rules
- Triggers
- airport
 - Columns
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
- baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
- flights
 - Columns (14)
 - flight_id
 - flight_no
 - scheduled_departure
 - scheduled_arrival
 - departure_airport_id
 - arrival_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - status
 - actual_departure
 - actual_arrival
 - created_at
 - update_at

DBCourse/postgres@PostgreSQL 17

Query

```
1 SELECT a.*
2 FROM airline AS a
3 LEFT JOIN flights AS f
4 ON a.airline_id = f.airline_id
5 AND EXTRACT(YEAR FROM f.scheduled_departure) = EXTRACT(YEAR FROM DATE '2023-11-11')
6 AND EXTRACT(MONTH FROM f.scheduled_departure) = EXTRACT(MONTH FROM DATE '2023-11-11') + 1
7 WHERE f.flight_id IS NULL
```

Data Output

	airline_id [PK] integer	airline_code character varying (50)	airline_name character varying (50)	airline_country character varying (50)	created_at date	update_at date
1	2	YPDA	PDI	Brazil	2024-01-15	2023-11-23
2	22	2AK6	HGZ	Philippines	2024-03-13	2023-10-20
3	23	KSPI	SPI	United States	2023-07-29	2023-12-28
4	25	LFKC	CLY	France	2023-09-04	2023-06-19
5	32	UAKK	KGF	Indonesia	2023-07-07	2023-12-25
6	35	SPSO	PIO	Costa Rica	2023-07-03	2023-12-01
7	36	VNJP	JKR	China	2023-04-15	2024-01-23
8	38	HYL	HYL	Yemen	2023-05-09	2024-02-24
9	49	[null]	PQS	Poland	2023-04-21	2023-09-08

Total rows: 9 Query complete 00:00:00.111 CRLF Ln 6, Col 77

#4

pgAdmin 4

Object Explorer

- actual_arrival
- created_at
- update_at
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- passengers
 - Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - update_at
- security_check
- Trigger Functions
- Types
- Views
- Subscriptions
- postgres

DBCourse/postgres@PostgreSQL 17

Query

```
1 SELECT *
2 FROM booking_flight AS bf
3 INNER JOIN booking AS bo
4 ON bf.booking_id = bo.booking_id
5 INNER JOIN passengers AS p
6 ON bo.passenger_id = p.passenger_id
7 WHERE bf.flight_id = 26
```

Data Output

	booking_flight_id integer	booking_id integer	flight_id integer	created_at date	update_at date	booking_id integer	passenger_id integer	booking_platform character varying (50)	created_at date	update_at date	st
1	678	131	26	2023-09-09	2023-08-07	131	179	Hessel Inc	2023-06-02	2023-10-24	F
2	324	300	26	2023-09-18	2023-07-18	300	150	Stokes, Stokes and Mayer	2023-12-28	2023-11-12	F

Total rows: 2 Query complete 00:00:00.091 CRLF Ln 7, Col 24

#5

pgAdmin 4

Object Explorer

- actual_arrival
- created_at
- update_at
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers
- passengers
 - Columns (10)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - security_check
 - Trigger Functions
 - Types
 - Views
 - Subscriptions
 - postgres

DBCourse/postgres@PostgreSQL 17

Query

```

1 SELECT bf.flight_id,
2       AVG(b.price) AS average_price,
3       SUM(b.price) AS total_price,
4       MAX(b.price) AS max_price,
5       MIN(b.price) AS min_price
6 FROM booking b
7 JOIN booking_flight bf ON b.booking_id = bf.booking_id
8 GROUP BY bf.flight_id;
9

```

Data Output

	flight_id	average_price	total_price	max_price	min_price
1	846	7070.45	7070.45	7070.45	7070.45
2	790	7988.95	15977.90	9851.86	6126.04
3	828	5974.54	5974.54	5974.54	5974.54
4	938	4635.86	4635.86	4635.86	4635.86
5	184	2856.20	5712.40	3529.26	2183.14
6	753	3153.71	3153.71	3153.71	3153.71
7	273	8929.20	8929.20	8929.20	8929.20
8	951	3034.54	6069.08	5888.12	180.96
9	70	683.27	683.27	683.27	683.27
10	190	8217.56	8217.56	8217.56	8217.56
11	867	6575.39	6575.39	6575.39	6575.39
12	350	5936.76	29683.84	9792.28	2520.04

Total rows: 614 Query complete 00:00:00.108

#6

pgAdmin 4

Object Explorer

- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - Columns (7)
 - booking_id
 - passenger_id
 - booking_platform
 - created_at
 - update_at
 - status

DBCourse/postgres@PostgreSQL 17

Query

```

1 SELECT f.*, a.airline_name, ap.airport_name AS arrival_airport_name
2 FROM flights f
3 JOIN airline a ON f.airline_id = a.airline_id
4 JOIN airport ap ON f.arrival_airport_id = ap.airport_id
5 WHERE ap.country = 'Russia';
6

```

Data Output

	flight_id	flight_no	scheduled_departure	scheduled_arrival	departure_airport_id	arrival_airport_id	departing_gate	arriving_gate
1	6	CA-SK	2023-07-07	2023-09-11	18	1	1576	72
2	20	US-MS	2024-02-06	2024-01-22	10	1	346	56
3	64	BR-PR	2023-07-24	2023-06-07	14	1	786	1095
4	79	US-AR	2023-12-29	2023-09-16	10	1	249	57
5	112	US-AK	2023-11-09	2023-10-04	8	1	27	119
6	148	US-FL	2023-05-08	2024-02-28	20	1	13	354
7	189	TD-OD	2023-12-14	2023-08-10	5	1	1788	1208
8	191	KZ-SEV	2023-08-06	2023-12-06	14	1	453	[null]
9	202	FH-L	2023-09-23	2023-04-10	14	1	644	59
10	211	CN-32	2023-10-14	2023-06-27	13	1	[null]	3275
11	225	US-OK	2023-05-13	2023-08-08	7	1	1295	15

Total rows: 56 Query complete 00:00:00.045

Successfully run. Total query runtime: 45 msec. 56 rows affected.

#7

pgAdmin 4

Object Explorer

- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - Columns (7)
 - booking_id
 - passenger_id
 - booking_platform
 - created_at
 - update_at
 - status

DBCourse/postgres@PostgreSQL 17*

Query

```

1 SELECT p.first_name, p.last_name, ap.airport_name AS arrival_destination
2 FROM passengers p
3 JOIN booking b ON p.passenger_id = b.passenger_id
4 JOIN booking_flight bf ON b.booking_id = bf.booking_id
5 JOIN flights f ON bf.flight_id = f.flight_id
6 JOIN airport ap ON f.arrival_airport_id = ap.airport_id
7 WHERE EXTRACT(YEAR FROM AGE(CURRENT_DATE, p.date_of_birth)) < 18;
8

```

Data Output

	first_name	last_name	arrival_destination
1	Vivyan	Mallabone	Alert Bay Airport
2	Lester	Blades	Armidaire Airport
3	Lester	Blades	Figari Sud-Corse Airport
4	Cleve	Edgeler	Industrial Airpark
5	Bradley	Grolle	Armidaire Airport
6	Cleve	Edgeler	Fort Worth Alliance Airport
7	Gwenie	Chinnery	Elorza Airport
8	Cleve	Edgeler	Garbaharey Airport
9	Vivyan	Mallabone	Hana Airport
10	Bradley	Grolle	Lime Acres Finsch Mine Airport
11	Vivyan	Mallabone	Elorza Airport
12	Ronnica	Laybourn	Hana Airport

Total rows: 37 Query complete 00:00:00.067

Showing rows: 1 to 37 Page No: 1 of 1

Successfully run. Total query runtime: 67 msec. 37 rows affected.

#8

pgAdmin 4

Object Explorer

- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - Columns (7)
 - booking_id
 - passenger_id
 - booking_platform
 - created_at
 - update_at
 - status

DBCourse/postgres@PostgreSQL 17*

Query

```

1 SELECT p.first_name || ' ' || p.last_name AS full_name, p.passport_number, f.actual_
2 FROM passengers p
3 JOIN booking b ON p.passenger_id = b.passenger_id
4 JOIN booking_flight bf ON b.booking_id = bf.booking_id
5 JOIN flights f ON bf.flight_id = f.flight_id;
6

```

Data Output

	full_name	passport_number	actual_arrival
1	Muhammad Fass	109932770-9	2023-07-18
2	Trevor Broun	788025864-7	2024-02-11
3	Auria Breffitt	570537341-4	2023-07-11
4	Archie Toffel	677556708-1	2023-06-17
5	Sanders Biddles	514546405-3	2023-09-05
6	Sanders Biddles	514546405-3	2024-03-01
7	Remington Piggot	470074456-1	2023-05-31
8	Glynis Marle	209933120-0	2024-02-02
9	Cesaro McGennis	364900190-X	2023-04-03
10	Con Borrel	837859465-3	2024-02-15
11	Lorianna Robbie	435354132-3	2024-01-19
12	Brad Apperley	842288763-0	2024-02-10

Total rows: 1000 Query complete 00:00:00.071

Showing rows: 1 to 1000 Page No: 1 of 1

Successfully run. Total query runtime: 71 msec. 1000 rows affected.

#9

pgAdmin 4

File Object Tools Edit View Window Help

DBCourse/postgres@PostgreSQL 17* x DBCourse/postgre... x DBCourse/postgre... x

Object Explorer

- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - update_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - Columns (7)
 - booking_id
 - passenger_id
 - booking_platform
 - created_at
 - update_at
 - status

Query Query History

```
1 SELECT ap.country, COUNT(f.flight_id) AS num_flights
2 FROM flights f
3 JOIN airline a ON f.airline_id = a.airline_id
4 JOIN airport ap ON f.departure_airport_id = ap.airport_id
5 WHERE a.airline_country = ap.country
6 GROUP BY ap.country;
7
```

Data Output Messages Notifications

Showing rows: 1 to 8 Page No: 1 of 1

	country character varying (50)	num_flights bigint
1	Indonesia	6
2	Slovenia	2
3	Greece	1
4	Russia	5
5	China	50
6	Brazil	5
7	Poland	2
8	Philippines	3

Total rows: 8 Query complete 00:00:00.069

✓ Successfully run. Total query runtime: 69 msec. 8 rows affected. ✕

CRLF Ln 7, Col 1