

TASK #1

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'Tables (10)' folder is expanded, and the 'flights' table is selected. Below it, the 'Columns (13)' folder is expanded, listing columns: flight_id, sch_departure_time, sch_arrival_time, departing_airport_id, arriving_airport_id, departing_gate, arriving_gate, airline_id, act_departure_time, act_arrival_time, created_at, updated_at, and flight_no. The main query editor on the right contains the following SQL code:

```
1 CREATE VIEW v_flights AS
2 SELECT flight_id,
3 sch_departure_time,
4 sch_arrival_time,
5 departing_airport_id,
6 arriving_airport_id,
7 departing_gate,
8 arriving_gate,
9 airline_id,
10 act_departure_time,
11 act_arrival_time,
12 created_at,
13 updated_at,
14 flight_no
15 FROM flights
16 WHERE DATE(sch_departure_time) = '2024-12-03';
```

Below the query editor, the 'Data Output' tab shows the message: 'CREATE VIEW' and 'Query returned successfully in 49 msec.' A green notification bar at the bottom right confirms: '✓ Query returned successfully in 49 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.049' and 'CRLF Ln 7, Col 16'. The Windows taskbar at the very bottom shows the date and time as 16.11.2025, 19:26.

TASK #2

The screenshot displays the pgAdmin 4 web interface. On the left, the 'Object Explorer' pane shows a tree structure of database objects. The 'flights' table is selected under the 'booking' schema. The main pane shows a SQL query being executed in the 'Query' tab. The query is as follows:

```
18  
19 CREATE VIEW v_next_week_bookings AS  
20 SELECT b.booking_id  
21 FROM booking b  
22 JOIN flights f ON b.flight_id = f.flight_id  
23 WHERE DATE(f.sch_departure_time) BETWEEN CURRENT_DATE AND CURRENT_DATE + INTERVAL '7 day'
```

Below the query editor, the 'Messages' tab shows the execution result: 'CREATE VIEW' and 'Query returned successfully in 82 msec.' A green notification box at the bottom right confirms this: '✓ Query returned successfully in 82 msec. ✕'. The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.082' and 'CRLF Ln 21, Col 9'. The Windows taskbar at the very bottom shows the date and time as 19:35 on 16.11.2025.

TASK #3

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Procedures
- > 1.3 Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > Columns (9)
 - booking_id
 - flight_id
 - passenger_id
 - booking_platform
 - created_at
 - updated_at
 - status
 - ticket_price
 - ticket_discount
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers
 - > booking_flight
 - > flights
 - > passengers
 - > security_check
- > Trigger Functions
- > Types
- > Views
- > Subscriptions
- > postgres
- > Login/Group Roles
- > Tablespaces

Airport/postgres@PostgreSQL 17

Query

```
26 CREATE VIEW v_top5_routes AS
27 SELECT f.departing_airport_id,
28        f.arriving_airport_id,
29        COUNT(b.booking_id) AS bookings
30 FROM booking b
31 JOIN flights f ON b.flight_id = f.flight_id
32 GROUP BY f.departing_airport_id, f.arriving_airport_id
33 ORDER BY bookings DESC
34 LIMIT 5;
```

Query History

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 58 msec.

Total rows: Query complete 00:00:00.058

CRLF Ln 33, Col 14

6°C Partly cloudy

Поиск

19:41 16.11.2025

TASK #4

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Languages
- Publications
- Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - updated_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass

Airport/postgres@PostgreSQL 17

Query

```
36  
37  
38 CREATE VIEW v_airline AS  
39 SELECT f.flight_id,  
40        a.airline_name  
41 FROM flights f  
42 JOIN airline a ON f.airline_id = a.airline_id  
43 WHERE a.airline_name = 'KAZ';  
44
```

Query History

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 52 msec.

Total rows: Query complete 00:00:00.052 CRLF Ln 38, Col 15

6°C Partly cloudy

Поиск

19:46 16.11.2025

TASK #5

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Languages
- Publications
- Schemas (1)
 - public
 - Aggregates
 - Collations
 - Domains
 - FTS Configurations
 - FTS Dictionaries
 - FTS Parsers
 - FTS Templates
 - Foreign Tables
 - Functions
 - Materialized Views
 - Operators
 - Procedures
 - Sequences
 - Tables (10)
 - airline
 - Columns (6)
 - airline_id
 - airline_code
 - airline_name
 - airline_country
 - created_at
 - updated_at
 - Constraints
 - Indexes
 - RLS Policies
 - Rules
 - Triggers
 - airport
 - baggage
 - baggage_check
 - boarding_pass

Airport/postgres@PostgreSQL 17

Query Query History

```
45  
46 CREATE OR REPLACE VIEW v_airline AS  
47 SELECT f.flight_id,  
48 a.airline_name  
49 FROM flights f  
50 JOIN airline a ON f.airline_id = a.airline_id  
51 WHERE a.airline_name = 'KAZ'  
52 AND DATE(f.sch_departure_time) BETWEEN CURRENT_DATE AND CURRENT_DATE + INTERVAL '7 days'
```

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 46 msec.

Total rows: Query complete 00:00:00.046

6°C Partly cloudy

19:50 16.11.2025

TASK #6

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1..3 Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - > Columns (13)
 - flight_id
 - sch_departure_time
 - sch_arrival_time
 - departing_airport_id
 - arriving_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - act_departure_time
 - act_arrival_time
 - created_at
 - updated_at
 - flight_no
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers

Airport/postgres@PostgreSQL 17

Query

```
53  
54  
55 CREATE OR REPLACE VIEW v_delayed_flights AS  
56 SELECT flight_id,  
57        departing_airport_id,  
58        arriving_airport_id,  
59        departing_gate,  
60        arriving_gate,  
61        airline_id,  
62        act_departure_time,  
63        act_arrival_time,  
64        created_at,  
65        updated_at,  
66        flight_no,  
67        act_departure_time - sch_departure_time AS delay  
68 FROM flights  
69 WHERE act_departure_time - sch_departure_time > INTERVAL '24 hours';
```

Query History

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 40 msec.

Total rows: Query complete 00:00:00.040

6°C Partly cloudy

Поиск

ENG 19:57 16.11.2025

Query returned successfully in 40 msec

CRLF Ln 59, Col 13

TASK #7

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > 1.3 Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
 - Columns (13)
 - flight_id
 - sch_departure_time
 - sch_arrival_time
 - departing_airport_id
 - arriving_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - act_departure_time
 - act_arrival_time
 - created_at
 - updated_at
 - flight_no
 - > Constraints
 - > Indexes
 - > RLS Policies
 - > Rules
 - > Triggers

Airport/postgres@PostgreSQL 17

Query Query History

```
70  
71 CREATE VIEW v_passenger AS  
72 SELECT  
73 p.first_name || ' ' || last_name AS full_name,  
74 p.country_of_citizenship,  
75 b.booking_platform  
76 FROM Passengers p  
77 JOIN booking b ON b.passenger_id = p.passenger_id;
```

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 50 msec.

Total rows: Query complete 00:00:00.050 CRLF Ln 77, Col 51

6°C Partly cloudy

Поиск

20:00 16.11.2025

TASK #8

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- > Foreign Tables
- > Functions
- > Materialized Views
- > Operators
- > Procedures
- > Sequences
- > Tables (10)
 - > airline
 - > airport
 - > baggage
 - > baggage_check
 - > boarding_pass
 - > booking
 - > booking_flight
 - > flights
- > Columns (13)
 - flight_id
 - sch_departure_time
 - sch_arrival_time
 - departing_airport_id
 - arriving_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - act_departure_time
 - act_arrival_time
 - created_at
 - updated_at
 - flight_no
- > Constraints
- > Indexes
- > RLS Policies
- > Rules
- > Triggers

Airport/postgres@PostgreSQL 17

Query

```
78  
79  
80 CREATE VIEW v_top_10_visited_country AS  
81 SELECT  
82 a.country,  
83 COUNT(b.booking_id) AS number_of_visits  
84 FROM flights f  
85 JOIN booking b ON b.flight_id = f.flight_id  
86 JOIN airport a ON f.arriving_airport_id = a.airport_id  
87 GROUP BY a.country  
88 ORDER BY number_of_visits DESC  
89
```

Query History

Scratch Pad

Data Output Messages Notifications

CREATE VIEW

Query returned successfully in 45 msec.

Total rows: Query complete 00:00:00.045

✓ Query returned successfully in 45 msec. ✕

CRLF Ln 85, Col 41

5°C Mostly cloudy

Поиск

20:05 16.11.2025

TASK #9

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
- Columns (13)
 - flight_id
 - sch_departure_time
 - sch_arrival_time
 - departing_airport_id
 - arriving_airport_id
 - departing_gate
 - arriving_gate
 - airline_id
 - act_departure_time
 - act_arrival_time
 - created_at
 - updated_at
 - flight_no
- Constraints
- Indexes
- RLS Policies
- Rules
- Triggers

Airport/postgres@PostgreSQL 17

Query Query History Scratch Pad

```
90  
91  
92  
93  
94 SELECT * FROM v_passenger;
```

Data Output Messages Notifications

Showing rows: 1 to 300 Page No: 1 of 1

	full_name text	country_of_citizenship character varying (50)	booking_platform character varying (50)
1	Aidos Nurgaliyev	Country_1	MobileApp
2	Dana Sadykova	Country_2	Agent
3	Aruzhan Iskakov	Country_3	Web
4	Miras Tulegenova	Country_4	MobileApp
5	Alina Abayuly	Country_5	Agent
6	Serik Saparova	Country_6	Web
7	Algerim Omarova	Country_7	MobileApp
8	Rustem Yesenov	Country_8	Agent
9	Madina Zhakanova	Country_9	Web
10	Asan Sembayev	Country_0	MobileApp
11	Aidos Nurgaliyev	Country_1	Agent
12	Dana Sadykova	Country_2	Web
13	Aruzhan Iskakov	Country_3	MobileApp
14	Miras Tulegenova	Country_4	Agent
15	Alina Abayuly	Country_5	Web
16	Serik Saparova	Country_6	MobileApp
17	Algerim Omarova	Country_7	Agent
18	Rustem Yesenov	Country_8	Web
19	Madina Zhakanova	Country_9	MobileApp

Total rows: 300 Query complete 00:00:00.220 CRLF Ln 94, Col 27

pgAdmin 4

File Object Tools Edit View Window Help

Object Explorer

- Domains
- FTS Configurations
- FTS Dictionaries
- FTS Parsers
- FTS Templates
- Foreign Tables
- Functions
- Materialized Views
- Operators
- Procedures
- Sequences
- Tables (10)
 - airline
 - airport
 - baggage
 - baggage_check
 - boarding_pass
 - booking
 - booking_flight
 - flights
 - passengers
- Columns (11)
 - passenger_id
 - first_name
 - last_name
 - date_of_birth
 - gender
 - country_of_citizenship
 - country_of_residence
 - passport_number
 - created_at
 - updated_at
 - email
- Constraints

Airport/postgres@PostgreSQL 17

Query Query History Scratch Pad

```
90 LIMIT 10;  
91  
92  
93 SELECT * FROM v_passenger;
```

Data Output Messages Notifications

Showing rows: 1 to 300 Page No: 1 of 1

	full_name text	country_of_citizenship character varying (50)	passport_number character varying (20)	booking_platform character varying (50)
1	Aidos Nurgaliyev	Country_1	P1	MobileApp
2	Dana Sadykova	Country_2	P2	Agent
3	Aruzhan Iskakov	Country_3	P3	Web
4	Miras Tulegenova	Country_4	P4	MobileApp
5	Alina Abayuly	Country_5	P5	Agent
6	Serik Saparova	Country_6	P6	Web
7	Algerim Omarova	Country_7	P7	MobileApp
8	Rustem Yesenov	Country_8	P8	Agent
9	Madina Zhakanova	Country_9	P9	Web
10	Asan Sembayev	Country_0	P10	MobileApp
11	Aidos Nurgaliyev	Country_1	P11	Agent
12	Dana Sadykova	Country_2	P12	Web
13	Aruzhan Iskakov	Country_3	P13	MobileApp
14	Miras Tulegenova	Country_4	P14	Agent
15	Alina Abayuly	Country_5	P15	Web
16	Serik Saparova	Country_6	P16	MobileApp
17	Algerim Omarova	Country_7	P17	Agent
18	Rustem Yesenov	Country_8	P18	Web
19	Madina Zhakanova	Country_9	P19	MobileApp
20	Asan Sembayev	Country_0	P20	Agent

Total rows: 300 Query complete 00:00:00.147 CRLF Ln 92, Col 1

TASK #10

The screenshot displays the pgAdmin 4 web interface. On the left, the Object Explorer shows the database structure for 'Airport' on 'PostgreSQL 17'. The 'Tables (10)' folder is selected. The main pane shows a SQL query being executed in the 'Airport/postgres@PostgreSQL 17' connection. The query is as follows:

```
91  
92  
93 SELECT * FROM v_passenger;  
94  
95  
96 DROP VIEW IF EXISTS v_flights;  
97 DROP VIEW IF EXISTS v_next_week_bookings;  
98 DROP VIEW IF EXISTS v_top5_routes;  
99 DROP VIEW IF EXISTS v_airline;  
100 DROP VIEW IF EXISTS v_delayed_flights;  
101 DROP VIEW IF EXISTS v_passenger;  
102 DROP VIEW IF EXISTS v_top_10_visited_country;
```

The 'Messages' tab at the bottom of the query editor shows the result: 'DROP VIEW' and 'Query returned successfully in 49 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.049', 'CRLF', and 'Ln 102, Col 30'. The Windows taskbar at the very bottom shows the system clock as 20:40 on 16.11.2025.