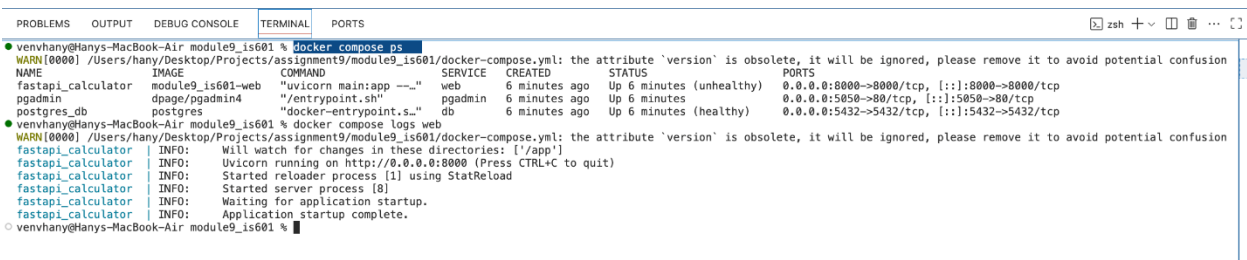
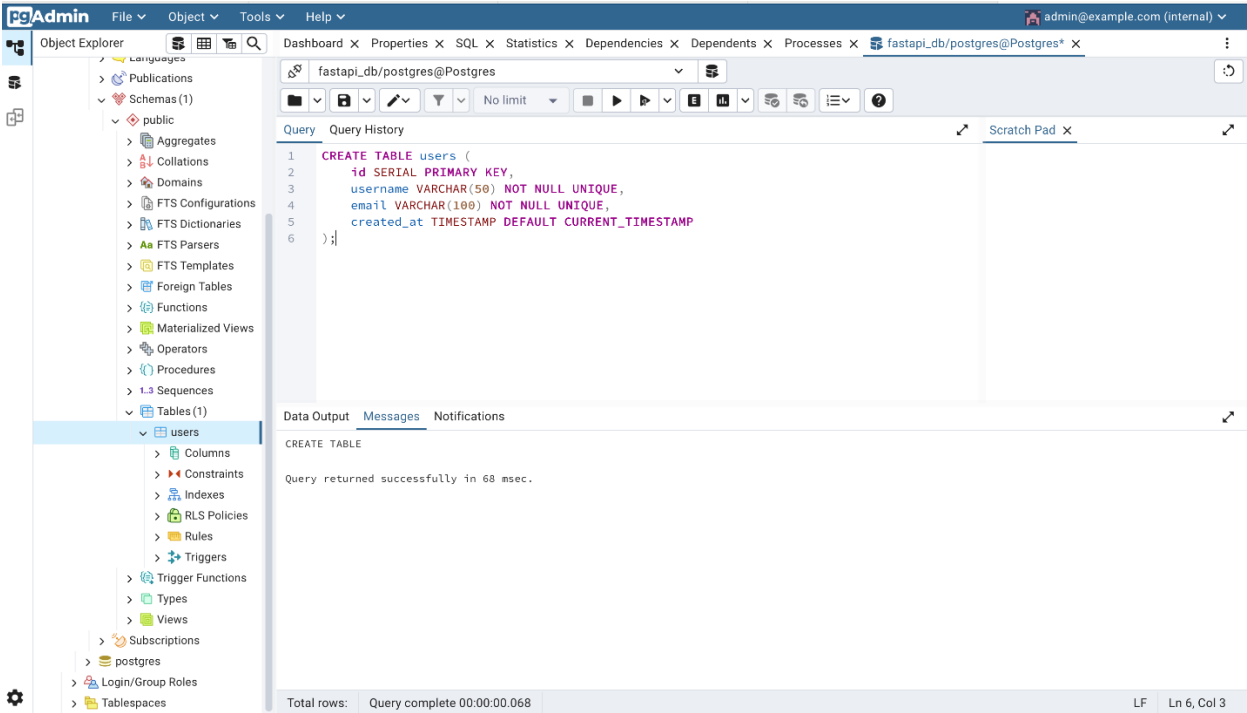


Module 9: Working with Raw SQL in pgAdmin

Screenshot 1: docker compose ps output (Successful run of Docker Compose services)



Screenshot 2: CREATE TABLE users



Screenshot 3: CREATE TABLE calculations

The screenshot shows the PgAdmin interface with the 'Object Explorer' on the left. The 'public' schema is selected, and the 'calculations' table is highlighted under 'Tables (2)'. The main pane displays the SQL query for creating the table:

```
1  TO SERIAL PRIMARY KEY;  
2  
3  username VARCHAR(50) NOT NULL UNIQUE,  
4  email VARCHAR(100) NOT NULL UNIQUE,  
5  created_at TIMESTAMP DEFAULT CURRENT_TIMESTAMP  
6  );  
7  
8  CREATE TABLE calculations (  
9  id SERIAL PRIMARY KEY,  
10 operation VARCHAR(20) NOT NULL,  
11 operand_a FLOAT NOT NULL,  
12 operand_b FLOAT NOT NULL,  
13 result FLOAT NOT NULL,  
14 timestamp TIMESTAMP DEFAULT CURRENT_TIMESTAMP,  
15 user_id INTEGER NOT NULL,  
16 FOREIGN KEY (user_id) REFERENCES users(id) ON DELETE CASCADE  
17 );
```

The 'Data Output' tab shows the message: 'CREATE TABLE' and 'Query returned successfully in 56 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.056'.

Screenshot 4: INSERT & SELECT users

The screenshot shows the PgAdmin interface with the 'Object Explorer' on the left. The 'public' schema is selected, and the 'users' table is highlighted under 'Tables (2)'. The main pane displays the SQL query for inserting data into the table:

```
1  INSERT INTO users (username, email)  
2  VALUES  
3  ('alice', 'alice@example.com'),  
4  ('bob', 'bob@example.com');  
5
```

The 'Data Output' tab shows the message: 'INSERT 0 2' and 'Query returned successfully in 39 msec.' The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.039'.

Screenshot 5: INSERT & SELECT calculations

The screenshot shows the PgAdmin interface with the 'fastapi_db/postgres@Postgres' connection selected. The 'Object Explorer' on the left shows the 'public' schema with a table named 'calculations'. The 'Query' tab is active, displaying the following SQL code:

```
1 INSERT INTO users (username, email)
2 VALUES
3 ('alice', 'alice@example.com'),
4 ('bob', 'bob@example.com');
5
6 INSERT INTO calculations (operation, operand_a, operand_b, result, user_id)
7 VALUES
8 ('add', 2, 3, 5, 1),
9 ('divide', 10, 2, 5, 1),
10 ('multiply', 4, 5, 20, 2);
```

The 'Messages' tab is selected, showing the execution results:

```
INSERT 0 3
Query returned successfully in 54 msec.
```

The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.054' and 'LF Ln 10, Col 29'.

Screenshot 6: SELECT queries and Order By

The screenshot shows the PgAdmin interface with the 'fastapi_db/postgres@Postgres' connection selected. The 'Object Explorer' on the left shows the 'public' schema with a table named 'calculations'. The 'Query' tab is active, displaying the following SQL code:

```
1 SELECT * FROM calculations ORDER BY id;
2
```

The 'Messages' tab is selected, showing the execution results:

```
Successfully run. Total query runtime: 55 msec.
2 rows affected.
```

The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.054' and 'LF Ln 10, Col 29'.

Screenshot 7: UPDATE calculations result

The screenshot shows the PgAdmin interface with the 'calculations' table selected in the Object Explorer. The Query editor contains the following SQL statement:

```
1 UPDATE calculations
2 SET result = 6
3 WHERE id = 19;
4
```

The Messages tab shows the execution result:

```
UPDATE 1
Query returned successfully in 41 msec.
```

The status bar at the bottom indicates 'Total rows: Query complete 00:00:00.041'.

Screenshot 8: DELETE calculations result

The screenshot shows the PgAdmin interface with the 'calculations' table selected in the Object Explorer. The Query editor contains the following SQL statement:

```
1 DELETE FROM calculations
2 WHERE id = 20;
3
```

The Messages tab shows the execution result:

```
DELETE 1
Query returned successfully in 46 msec.
```

All records in User & Calculations tables

User Table

The screenshot shows the PgAdmin interface with the 'public.users' table selected in the Object Explorer. The Query Editor displays the following SQL query:

```
1 SELECT * FROM public.users
2 ORDER BY id ASC
```

The Data Output pane shows the results of the query, displaying 3 rows of data. The table has the following columns: id (integer, PK), username (character varying (50)), email (character varying (100)), and created_at (timestamp without time zone).

id	username	email	created_at
1	hy326	hy326@njit.edu	2025-07-16 05:12:52.396078
2	alice	alice@example.com	2025-07-16 05:27:30.232106
3	bob	bob@example.com	2025-07-16 05:27:30.232106

Total rows: 3 Query complete 00:00:00.065

Calculations Table

The screenshot shows the PgAdmin interface with the 'public.calculations' table selected in the Object Explorer. The Query Editor displays the following SQL query:

```
1 SELECT * FROM public.calculations
2 ORDER BY id ASC
```

The Data Output pane shows the results of the query, displaying 3 rows of data. The table has the following columns: id (integer, PK), operation (character varying (20)), operand_a (double precision), operand_b (double precision), result (double precision), timestamp (timestamp without time zone), and user_id (integer).

id	operation	operand_a	operand_b	result	timestamp	user_id
1	add	2	3	5	2025-07-16 05:30:25.686546	1
2	divide	10	2	5	2025-07-16 05:30:25.686546	1
3	multiply	4	5	20	2025-07-16 05:30:25.686546	2

Total rows: 3 Query complete 00:00:00.210