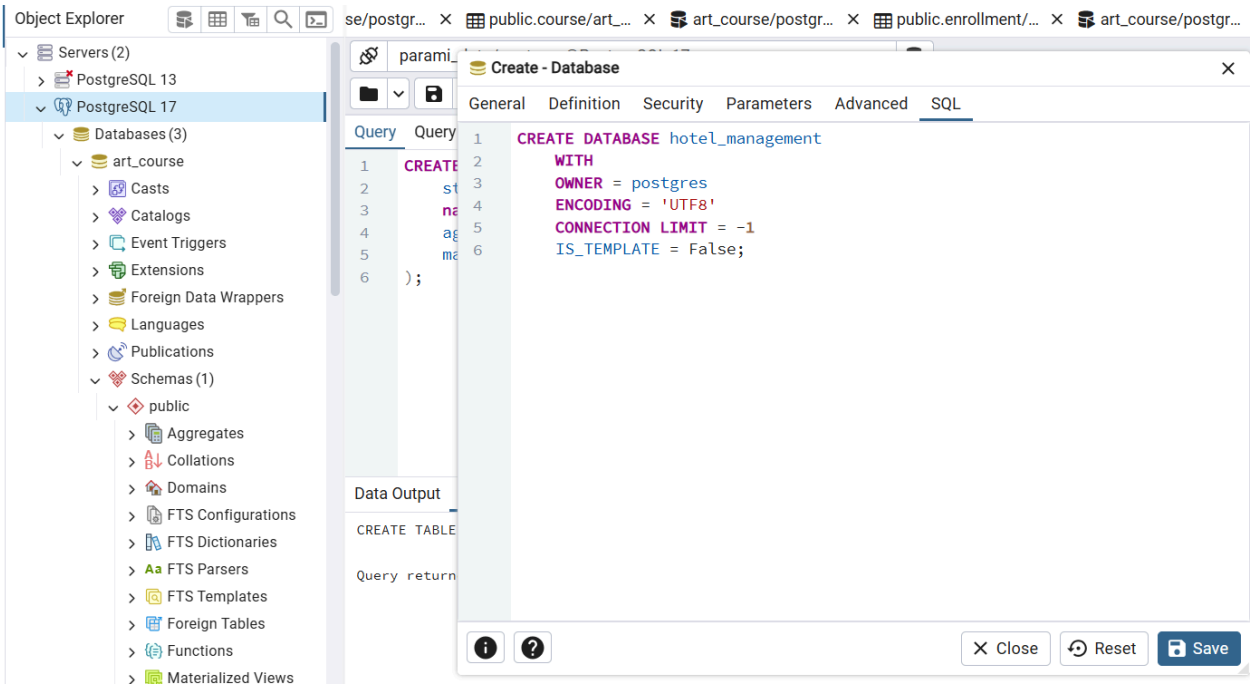
Name: Min Thant Hein
ID: 6805020058

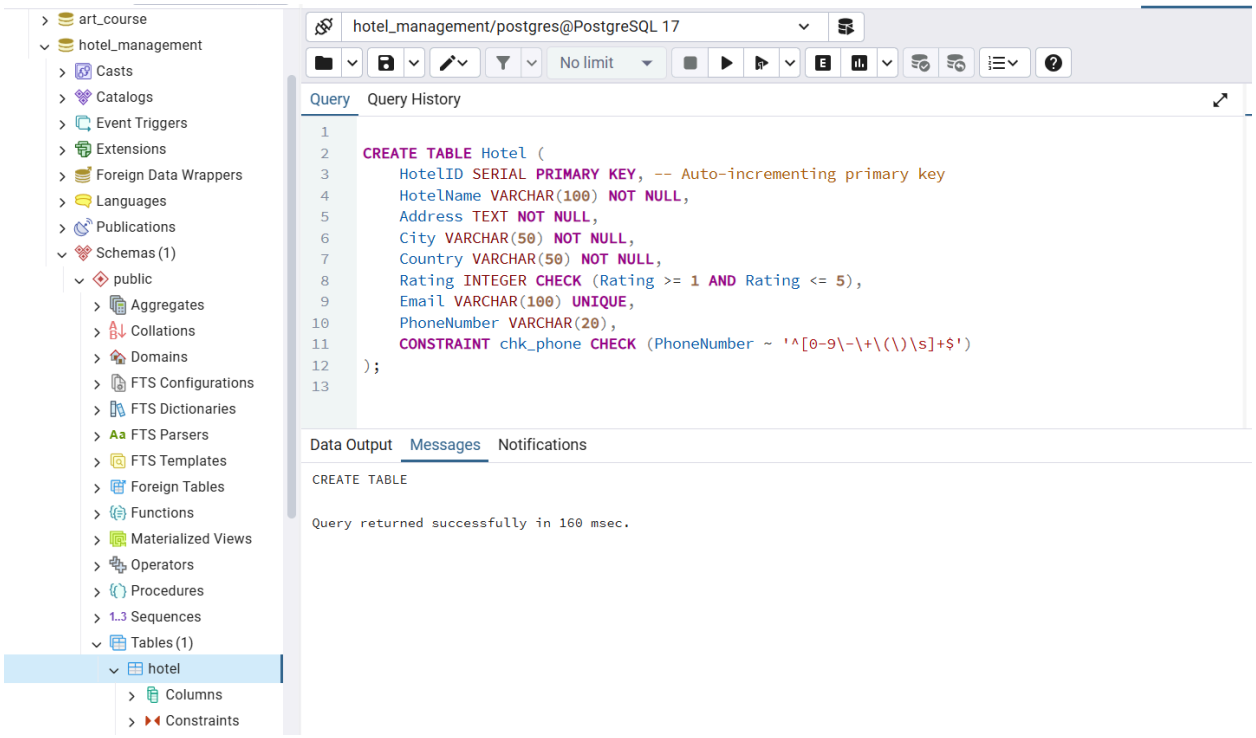
Step 1: Relations Creation

Very first step (Creating a new database):
My database name: ‘hotel_management’



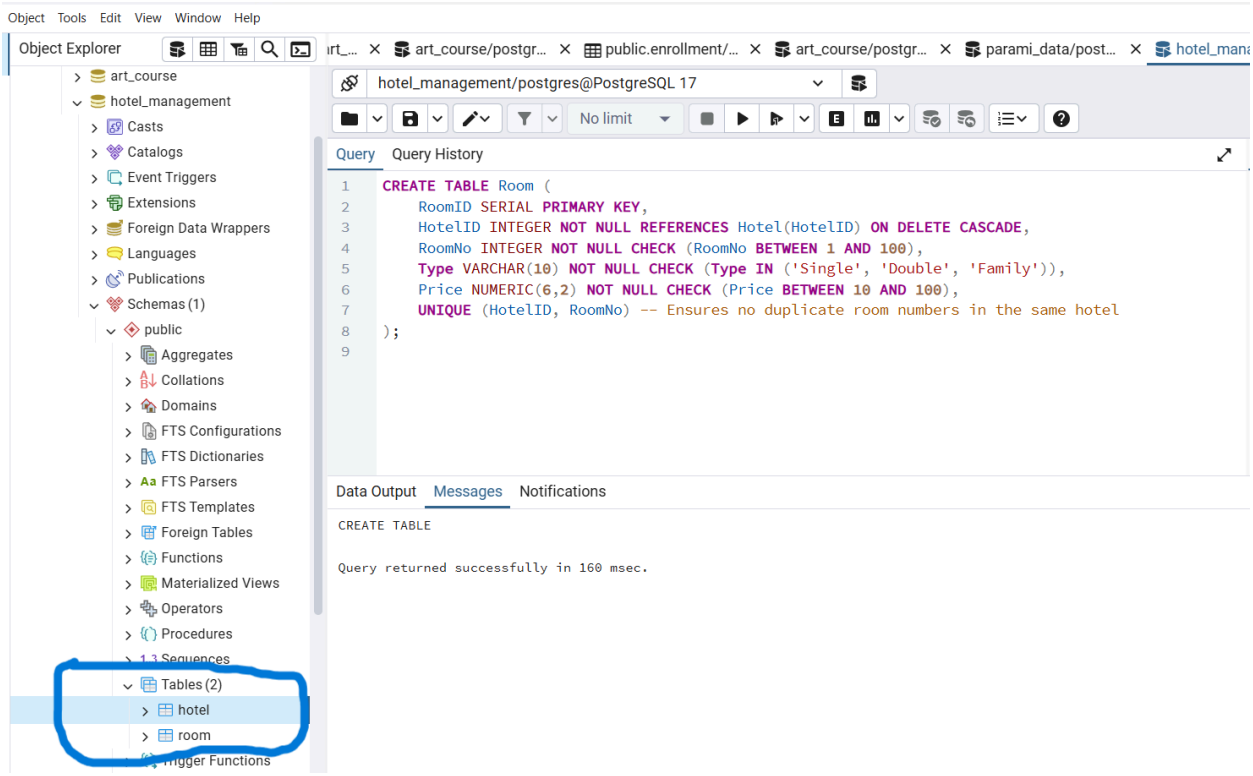
#

Creating a new ‘Hotel’ table:



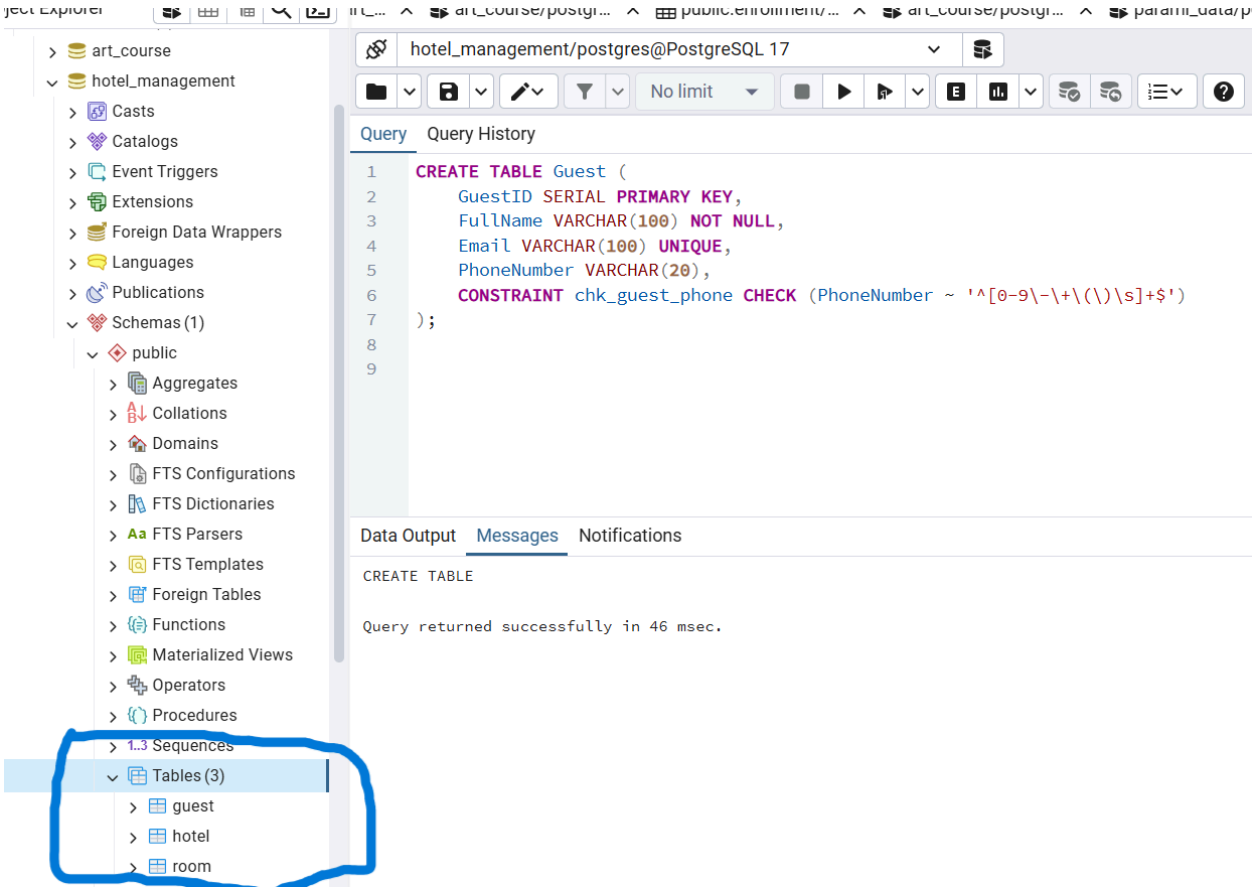
#

Creating a new ‘Room’ table,



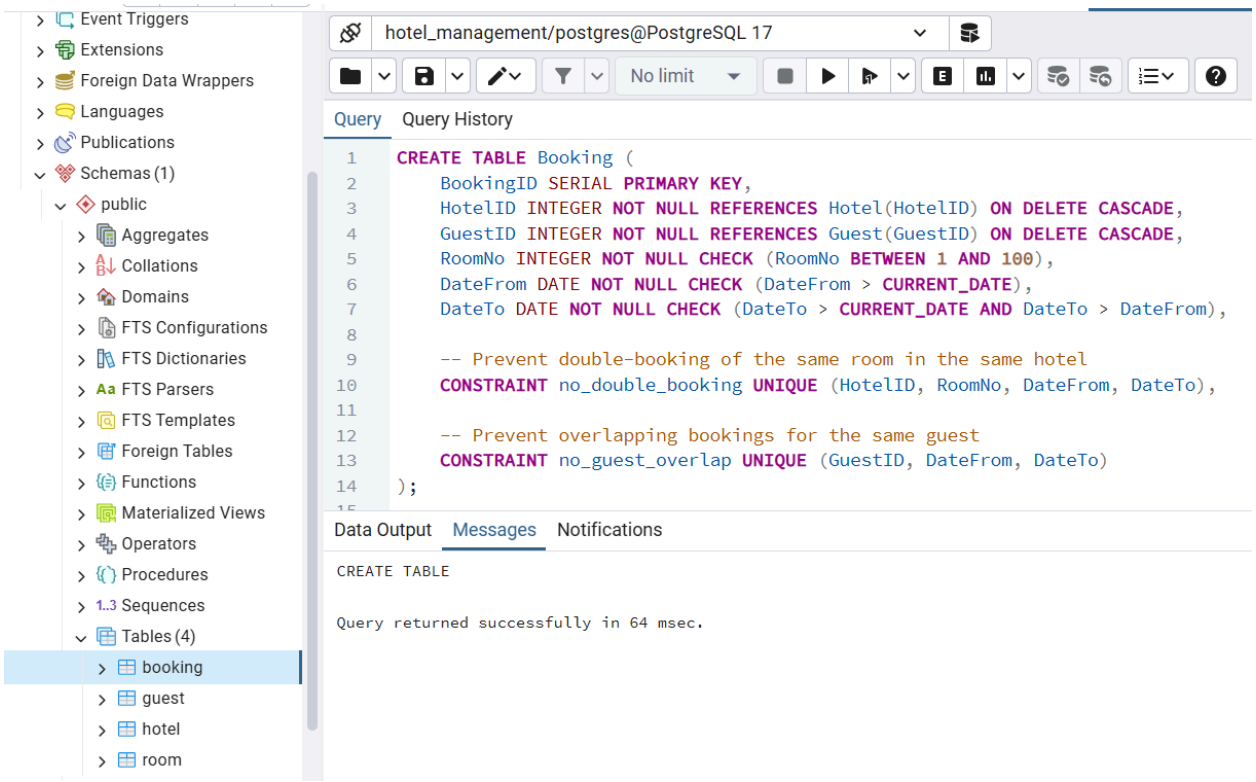
#

Creating a new ‘Guest’ table:



#

Creating a new ‘Booking’ table:



#

##

Step 2: Insert the data using the following SQL (Show the tables in each data)

#Inserting the data into 'Hotel' table:
My Own Note: An error occurred before receiving the following tables. According to the input query lines from the professor, there are only 3 values for 3 columns. However, in the beginning, I created a 'hotel' table with 8 columns. Therefore, an error occurred. Here is the texts indicating error:

""ERROR: null value in column "city" of relation "hotel" violates not-null constraint
Failing row contains (1, Grand Palace, London, null, null, null, null, null).

SQL state: 23502
Detail: Failing row contains (1, Grand Palace, London, null, null, null, null, null).""

Therefore, I had to create and add values for the rest of the columns.

Query, 'Hotel':

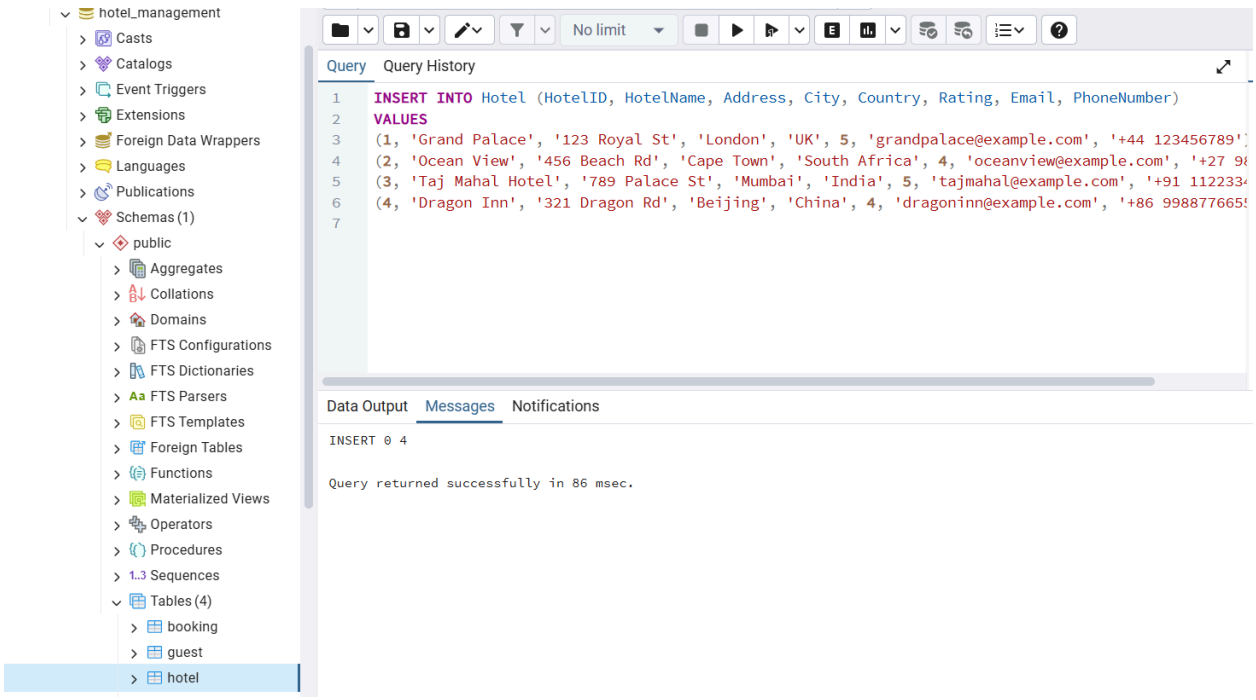
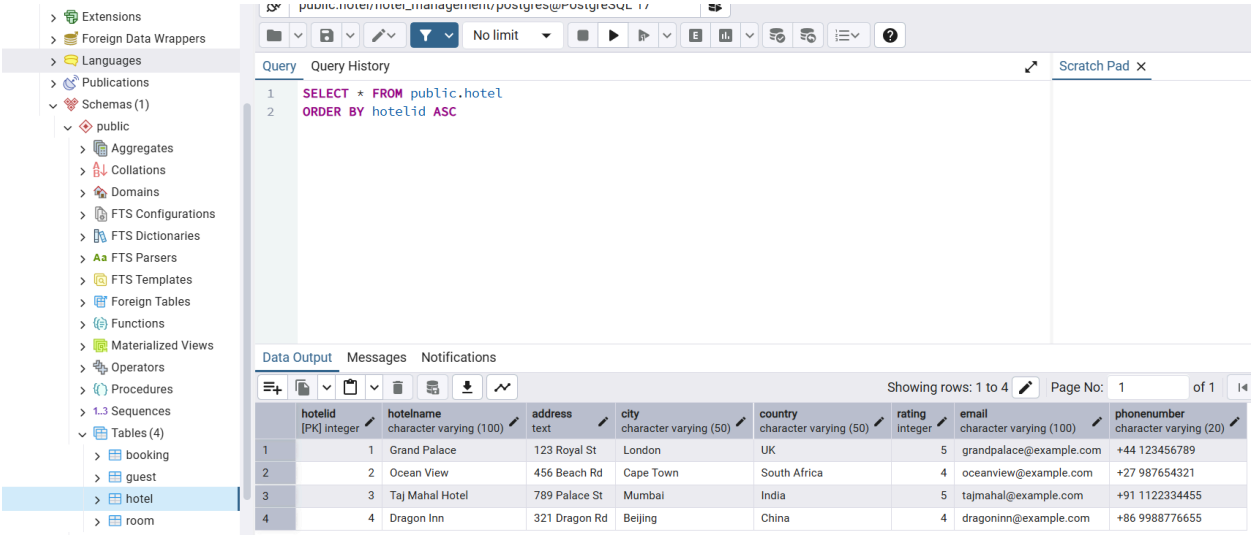


Table view, ‘Hotel’:



#
#Inserting the data into ‘Room’ Table:

Another error was raised. It is because of mismatch between columns and values. For me, I created 5 columns in total. However, the input values given by the professor, is only for 4 columns. That’s why there is a mismatch and having an error. Therefore, I need to include ‘RoomNo’ and had to match the column order.

Here is the error:

```
" ERROR:  invalid input syntax for type integer: "Single"
LINE 1: INSERT INTO Room VALUES (1, 1, 'Single', 50);
                                 ^

SQL state: 22P02
Character: 32 "
```

Query, ‘Room’:

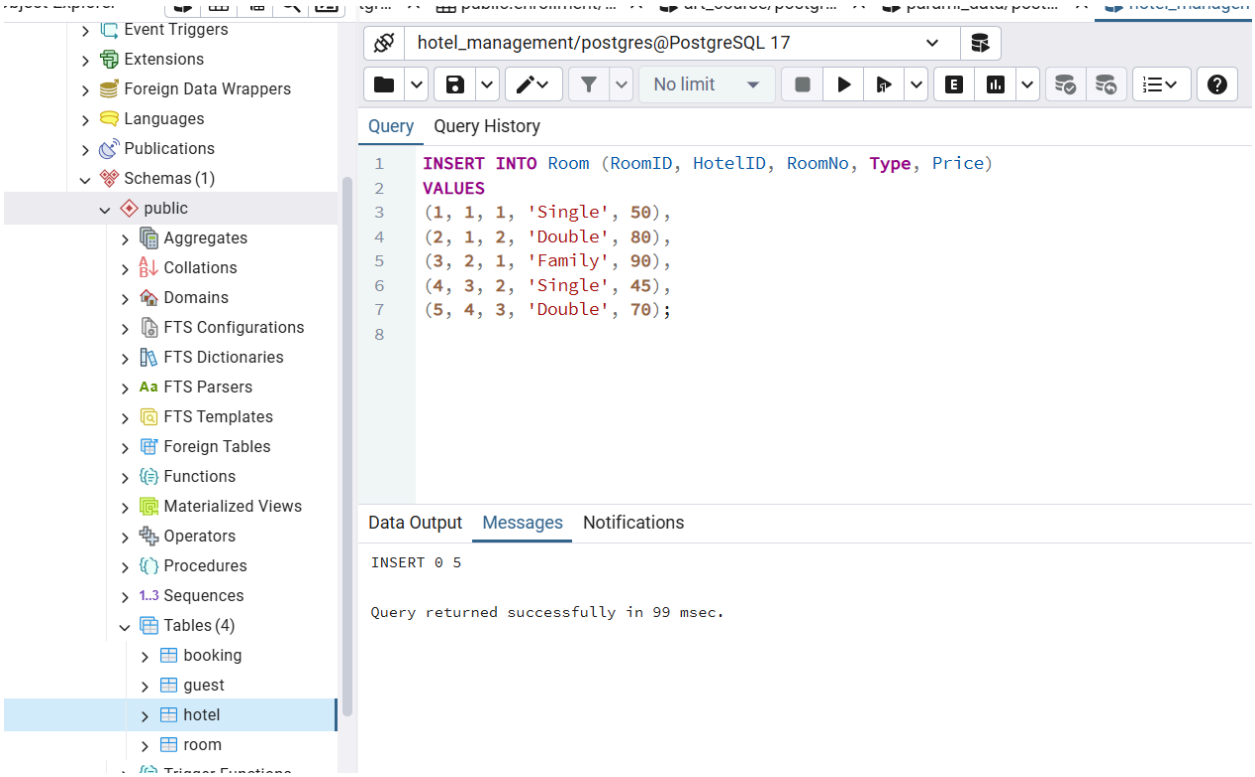
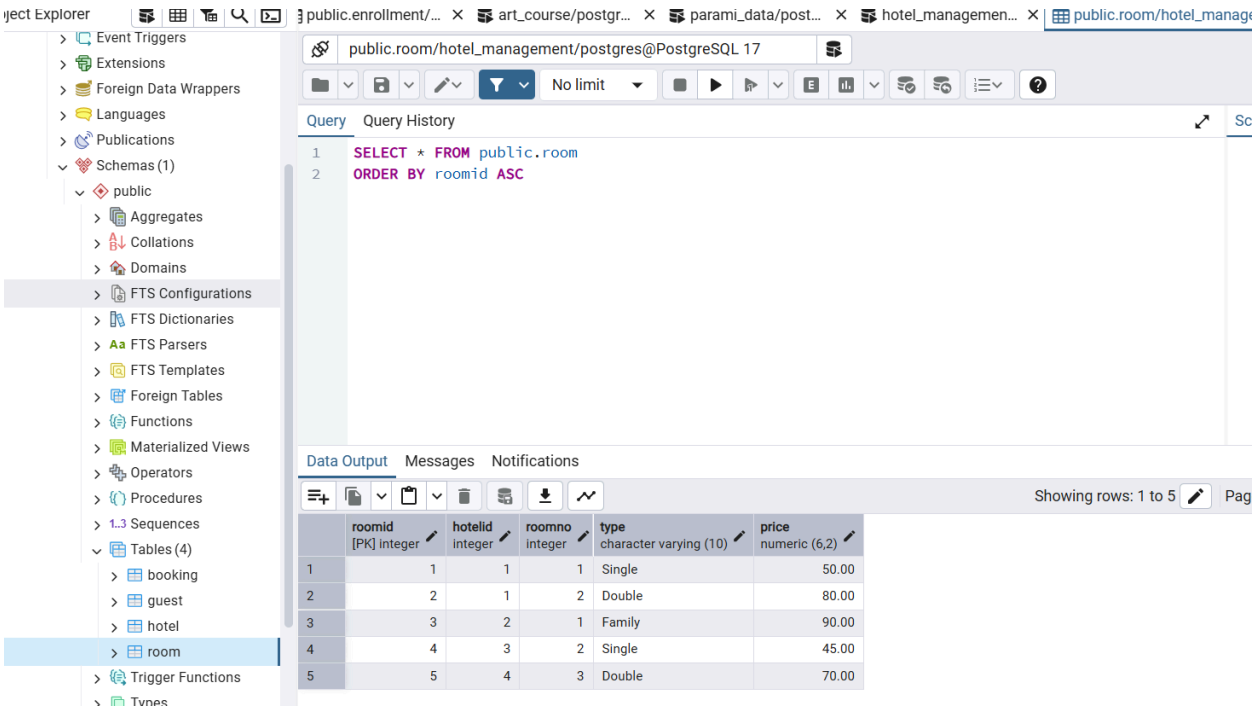

Event Triggers
Extensions
Foreign Data Wrappers
Languages
Publications
Schemas (1)
public
Aggregates
Collations
Domains
FTS Configurations
FTS Dictionaries
FTS Parsers
FTS Templates
Foreign Tables
Functions
Materialized Views
Operators
Procedures
Sequences
Tables (4)
booking
guest
hotel
room
hotel_management/postgres@PostgreSQL 17
No limit
Query
Query History
INSERT INTO Room (RoomID, HotelID, RoomNo, Type, Price)
VALUES
(1, 1, 1, 'Single', 50),
(2, 1, 2, 'Double', 80),
(3, 2, 1, 'Family', 90),
(4, 3, 2, 'Single', 45),
(5, 4, 3, 'Double', 70);
Data Output
Messages
Notifications
INSERT 0 5
Query returned successfully in 99 msec.

Table view, ‘Room’:



#

#Inserting the data into ‘Guest’ Table:

Query, ‘Guest’:

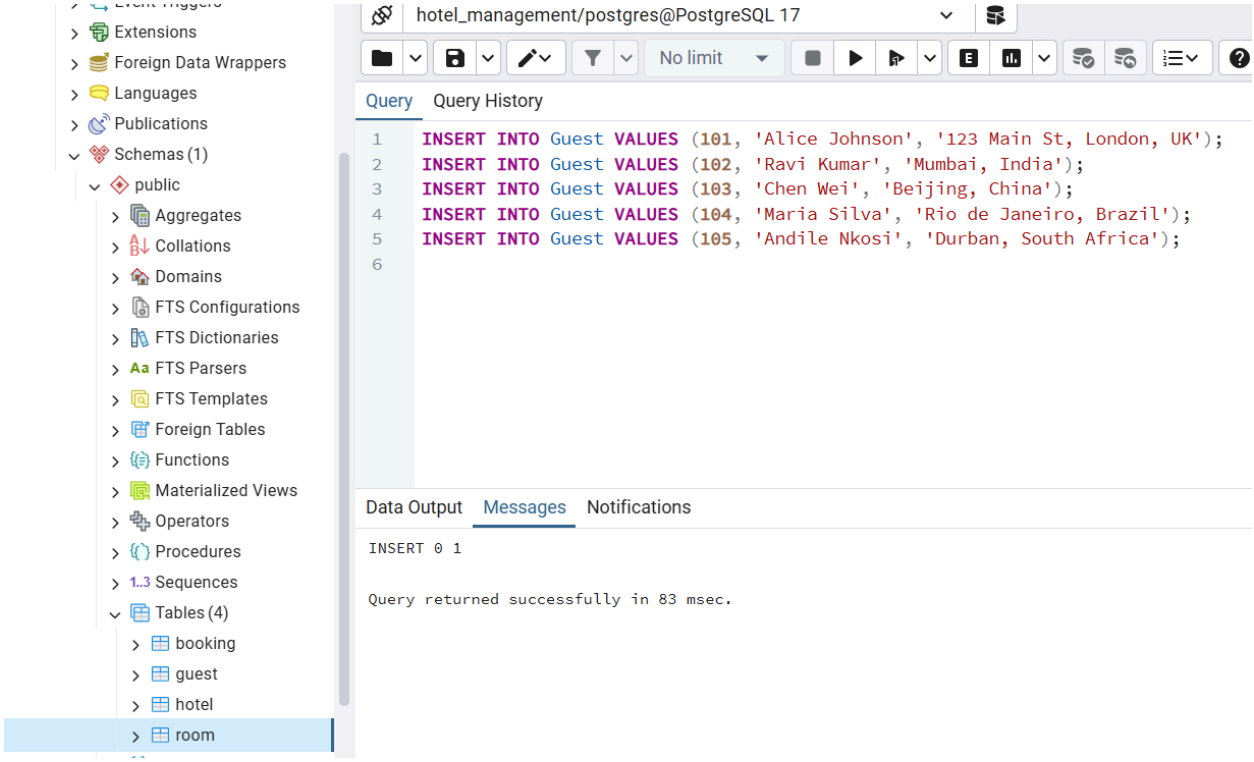
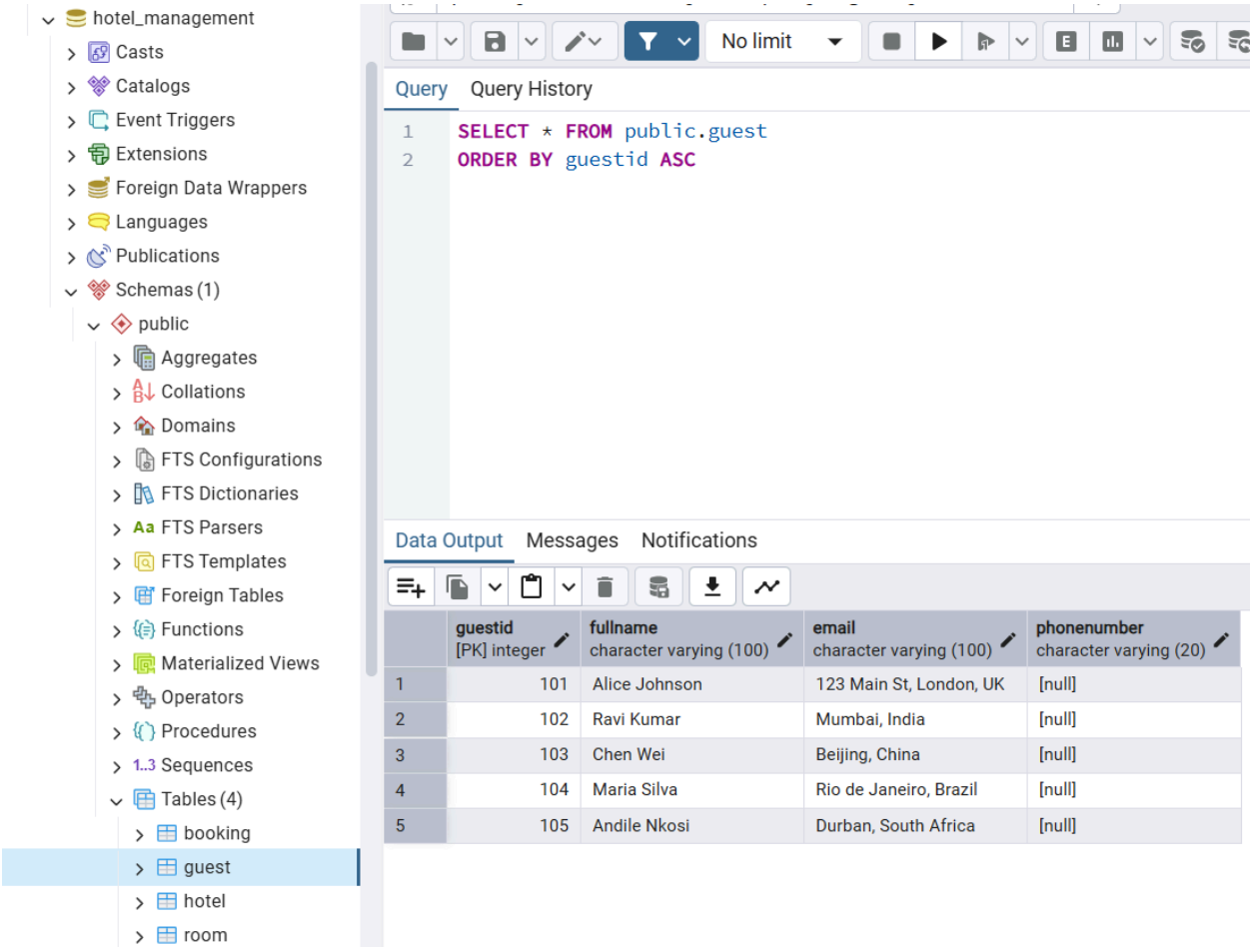


Table view, ‘Guest’:



#

#Inserting the data into 'Booking' Table:

Another error occurred again. That is not having Hotel_ID in my query which created 'Booking' TABLE. Therefore, I did have to delete the whole 'Room' table and I created another new 'Room' Table which include Hotel_ID/ Hotel_No. Column.

Query, ‘Booking’:

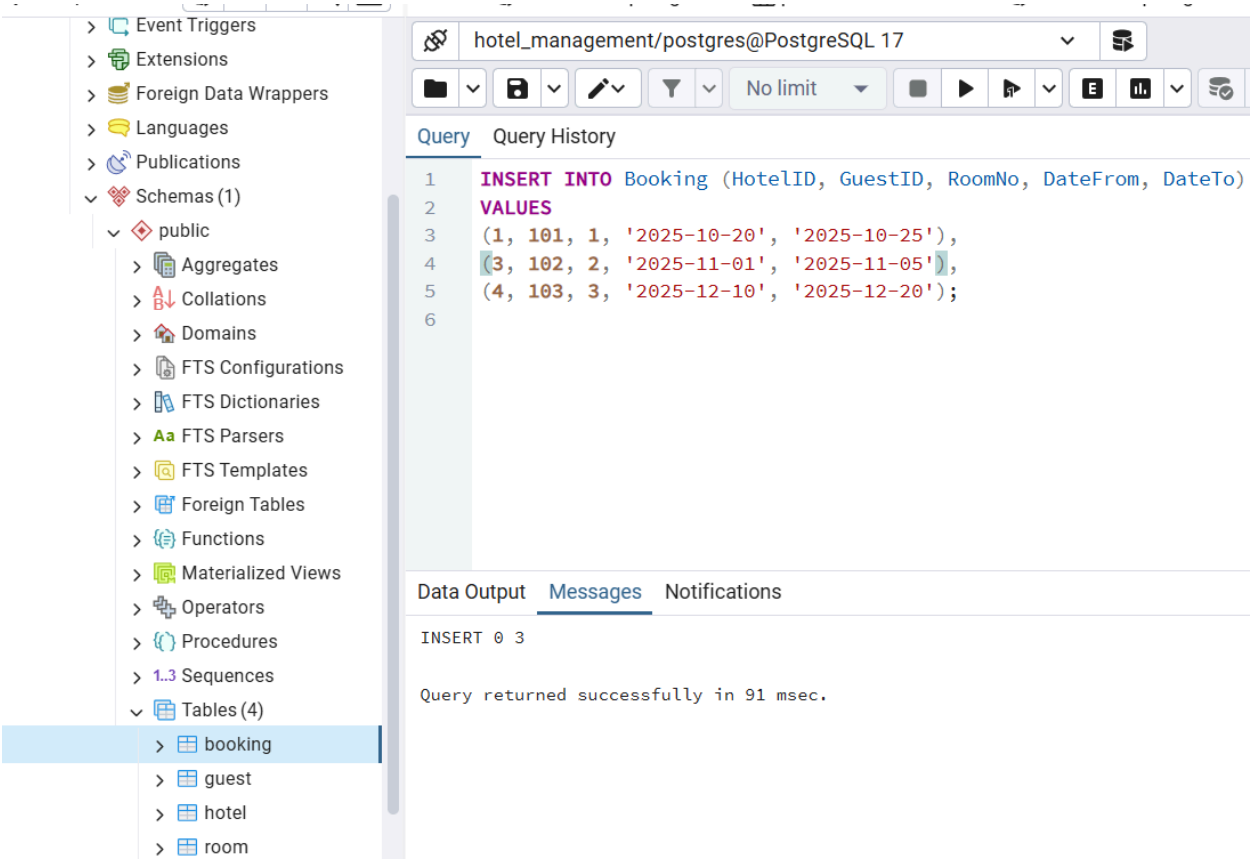
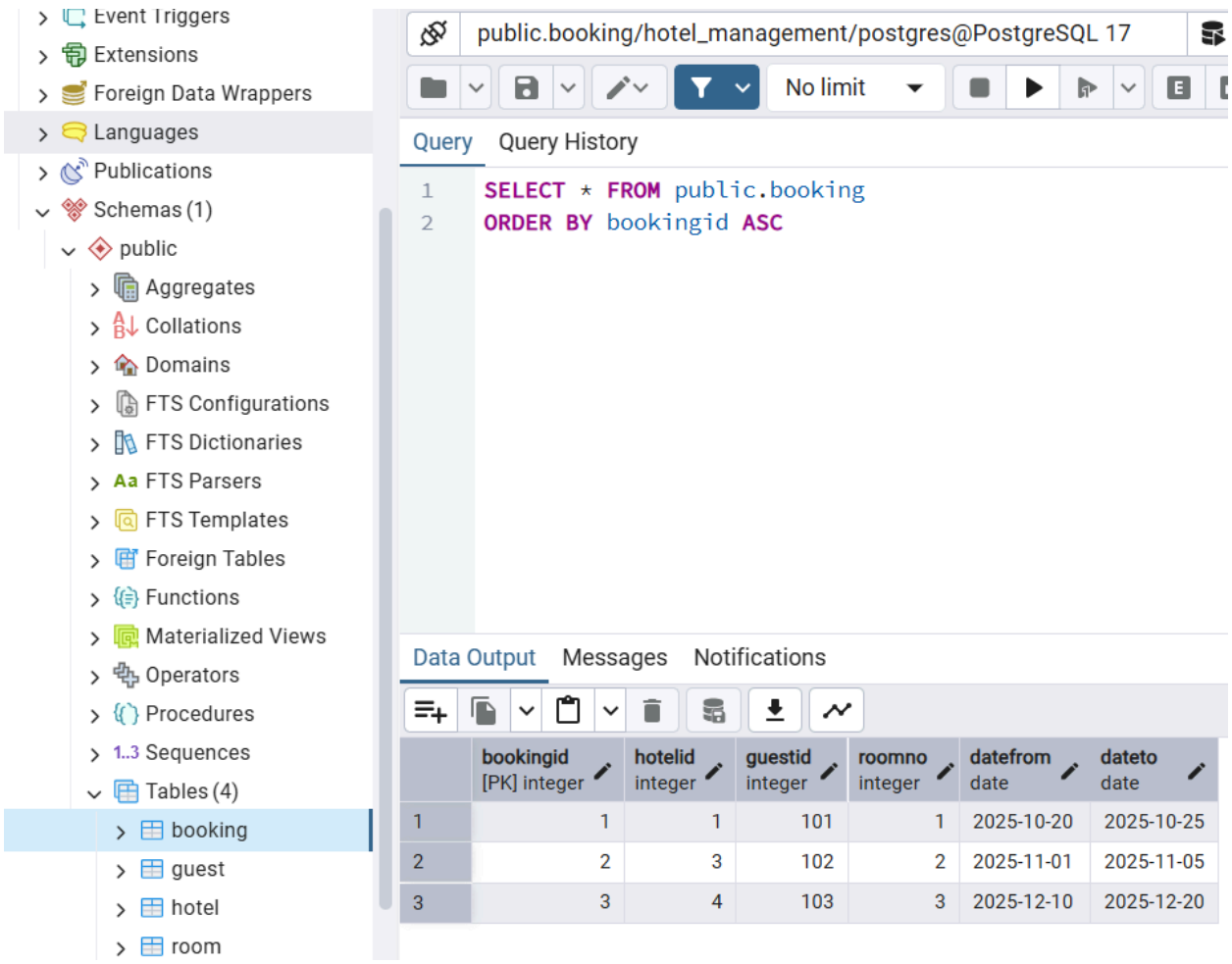


Table view, ‘Booking’:


Event Triggers
Extensions
Foreign Data Wrappers
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 (4)
booking
guest
hotel
room
public.booking/hotel_management/postgres@PostgreSQL 17
No limit
Query
Query History
1 SELECT * FROM public.booking
2 ORDER BY bookingid ASC
Data Output
Messages
Notifications
bookingid [PK] integer
hotelid integer
guestid integer
roomno integer
datefrom date
dateto date
1 1 1 101 1 2025-10-20 2025-10-25
2 2 3 102 2 2025-11-01 2025-11-05
3 3 4 103 3 2025-12-10 2025-12-20

#

##

Step 3: Create Views

Query, ‘Cheapest hotel view’:

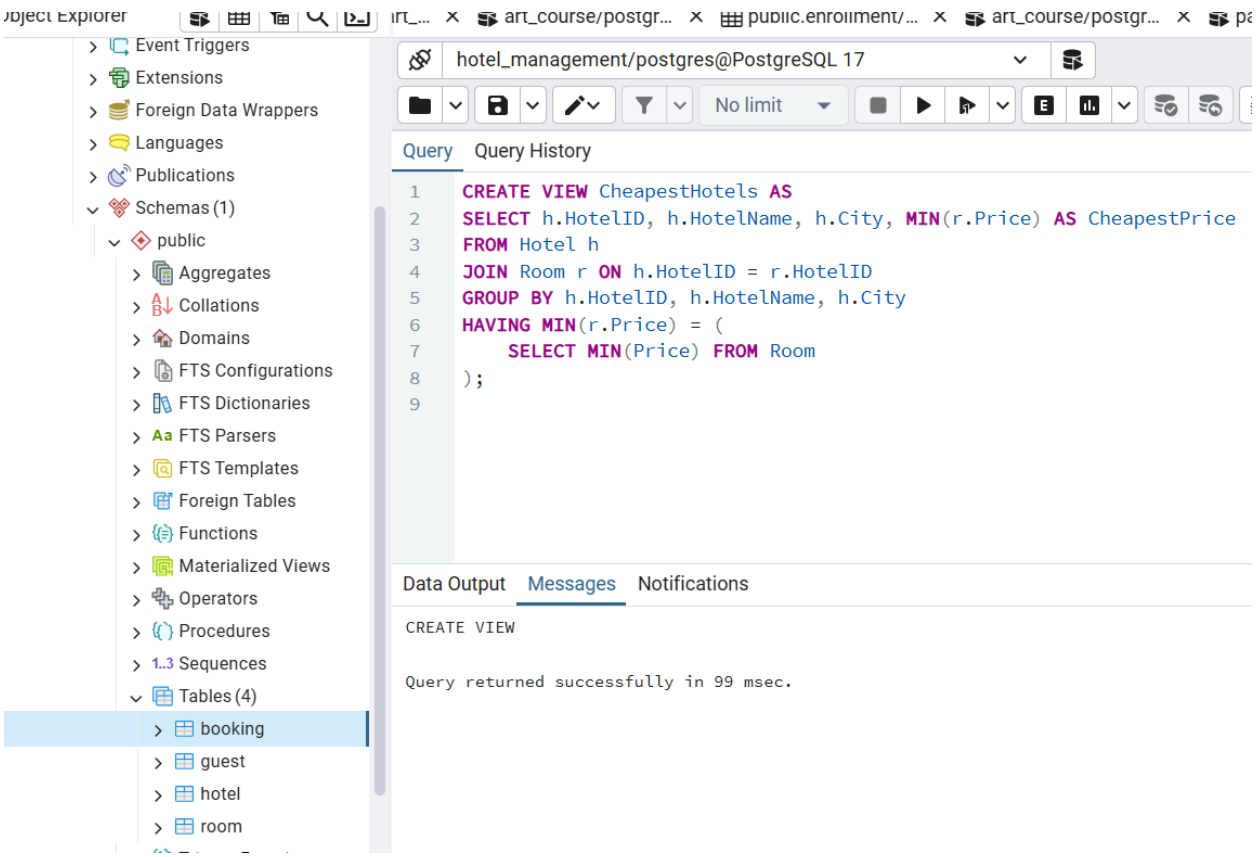
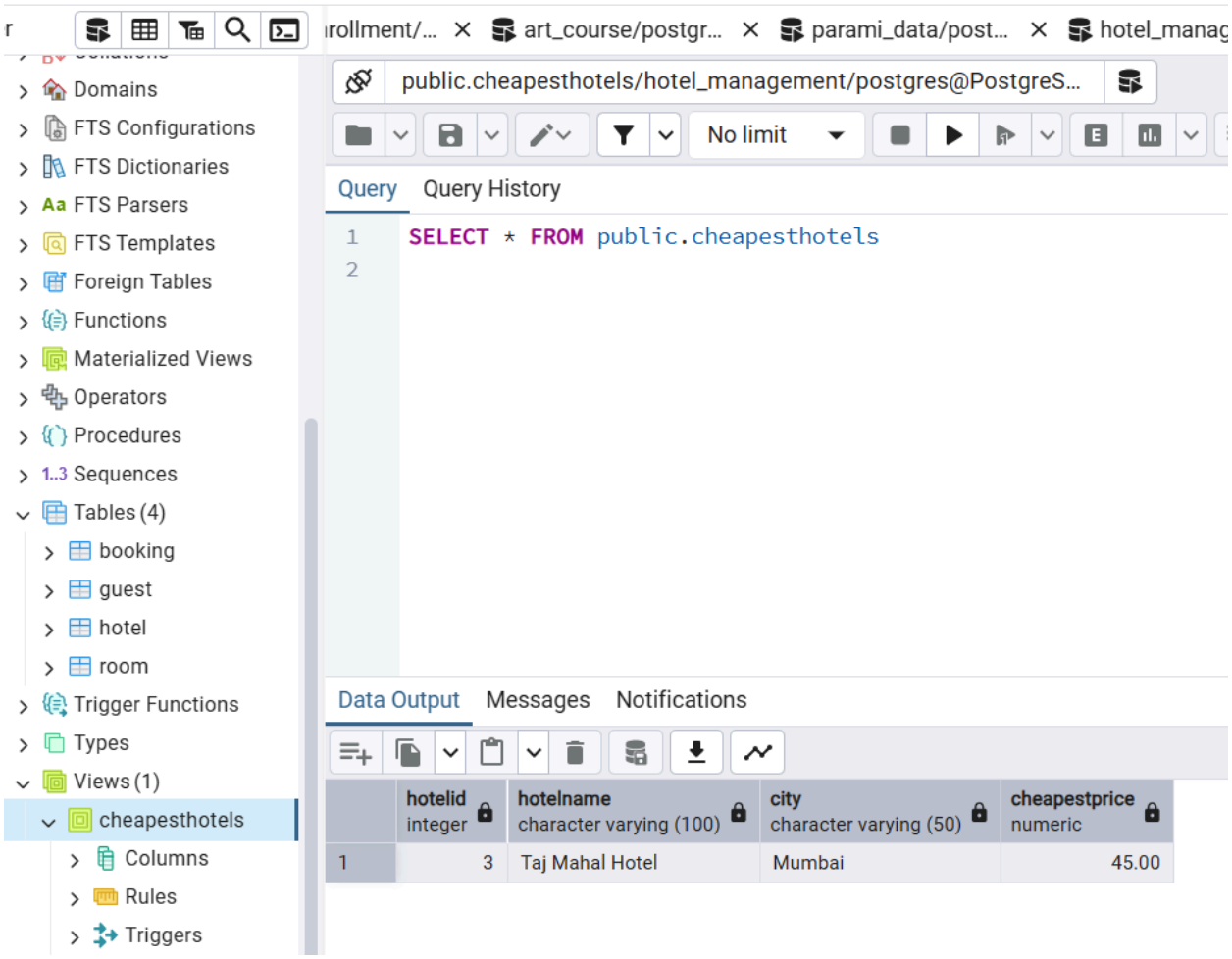


Table view, ‘Cheapest hotel view’:



##

Query, 'Guests from BRICS countries view':

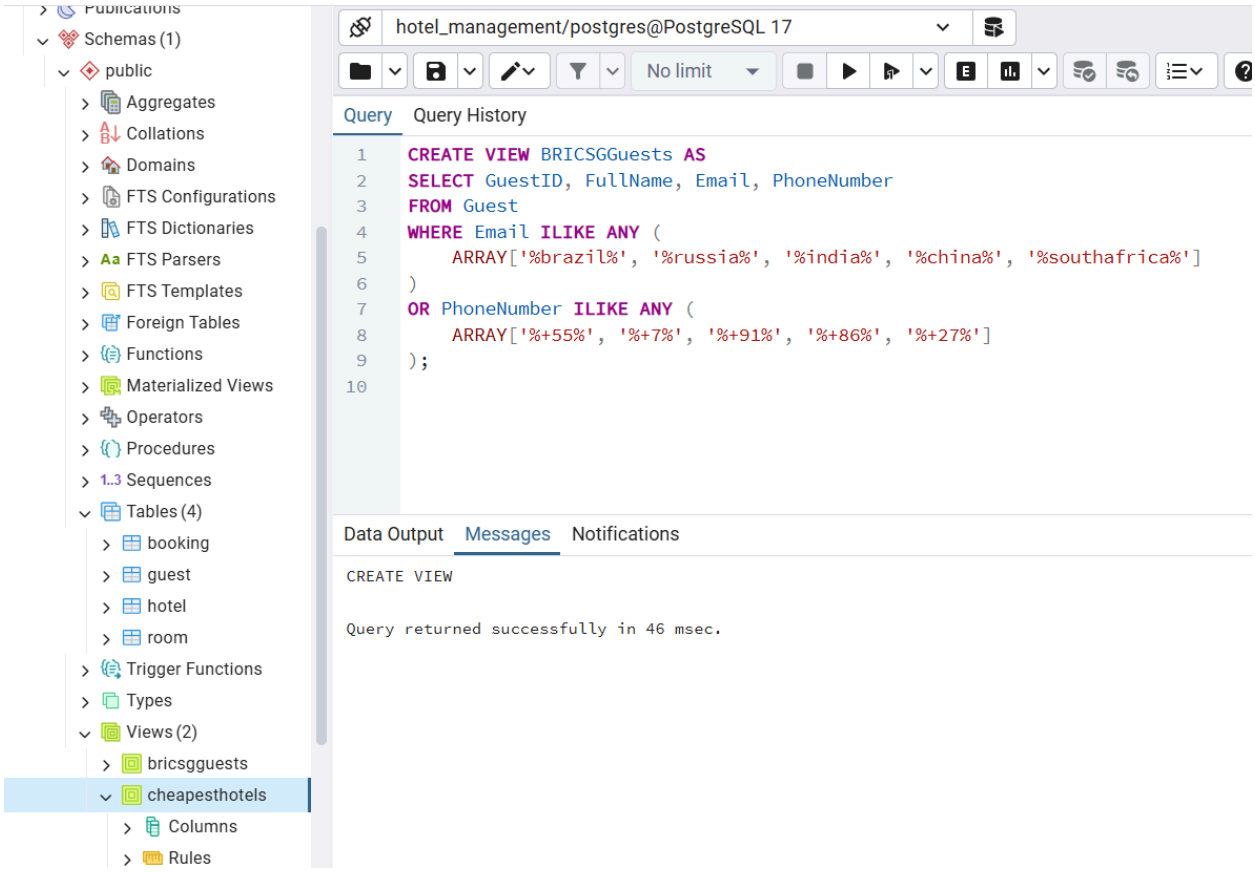
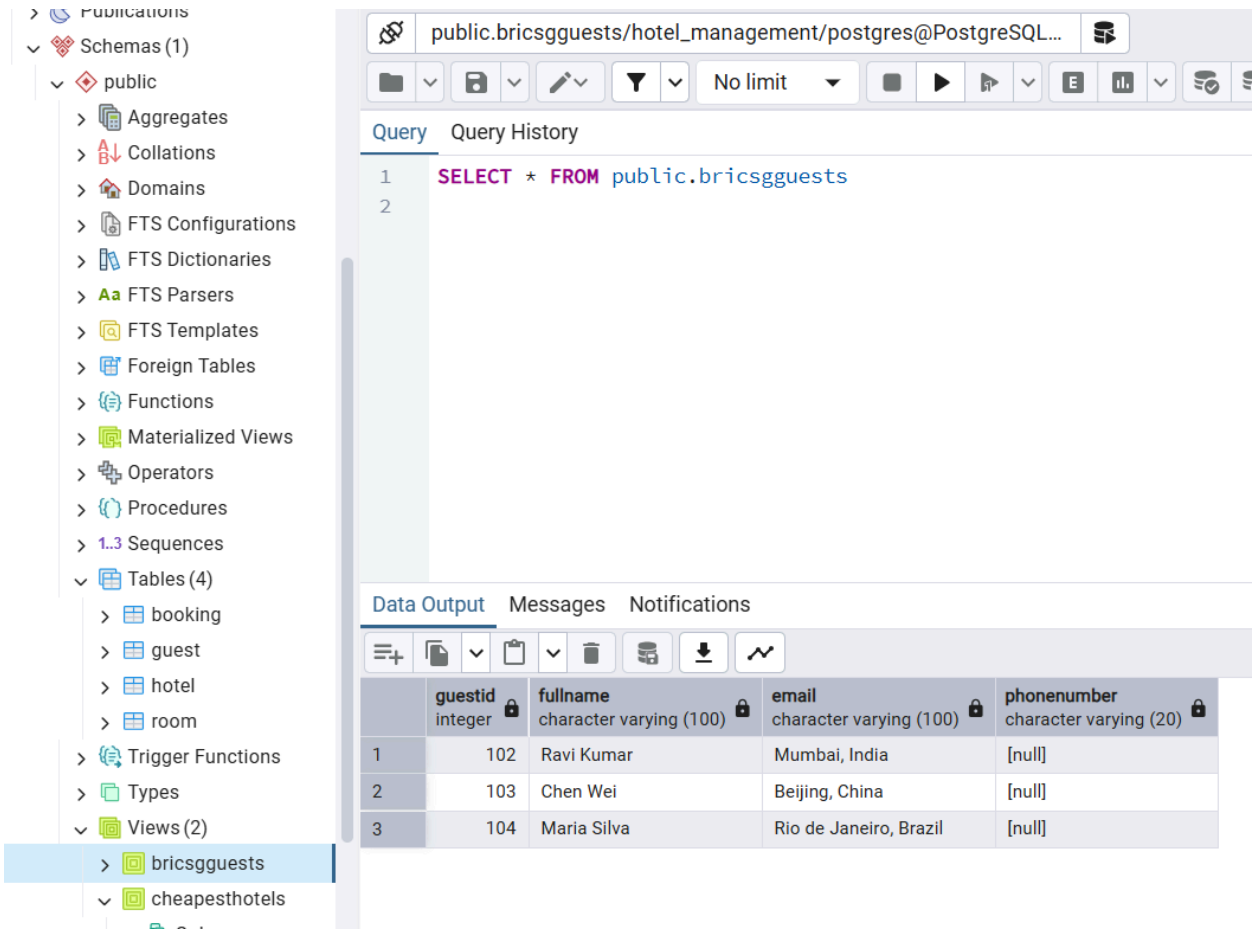


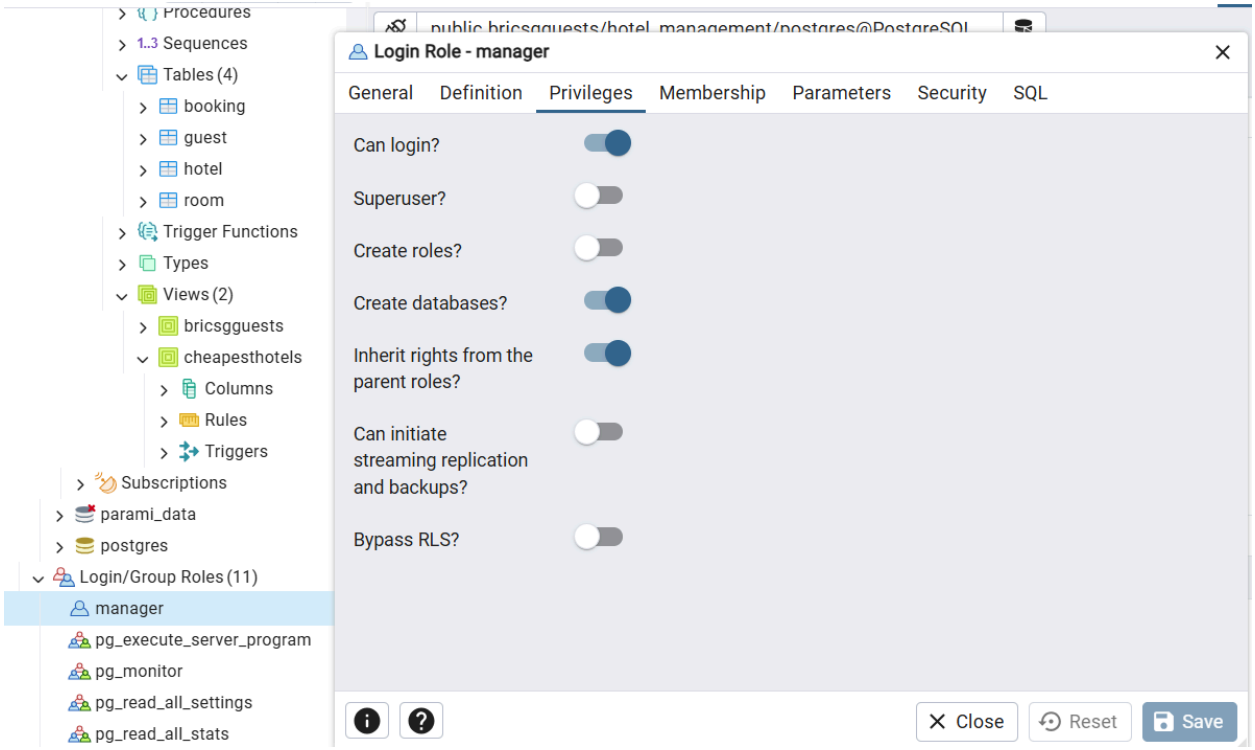
Table view, 'Guests from BRICS countries view':


Publications
Schemas (1)
public
Aggregates
Collations
Domains
FTS Configurations
FTS Dictionaries
FTS Parsers
FTS Templates
Foreign Tables
Functions
Materialized Views
Operators
Procedures
Sequences
Tables (4)
booking
guest
hotel
room
Trigger Functions
Types
Views (2)
bricsgguests
cheapesthotels
public.bricsgguests/hotel_management/postgres@PostgreSQL...
No limit
Query
Query History
1 SELECT * FROM public.bricsgguests
2
Data Output
Messages
Notifications
guestid integer
fullname character varying (100)
email character varying (100)
phonenumber character varying (20)
1 102 Ravi Kumar Mumbai, India [null]
2 103 Chen Wei Beijing, China [null]
3 104 Maria Silva Rio de Janeiro, Brazil [null]

##

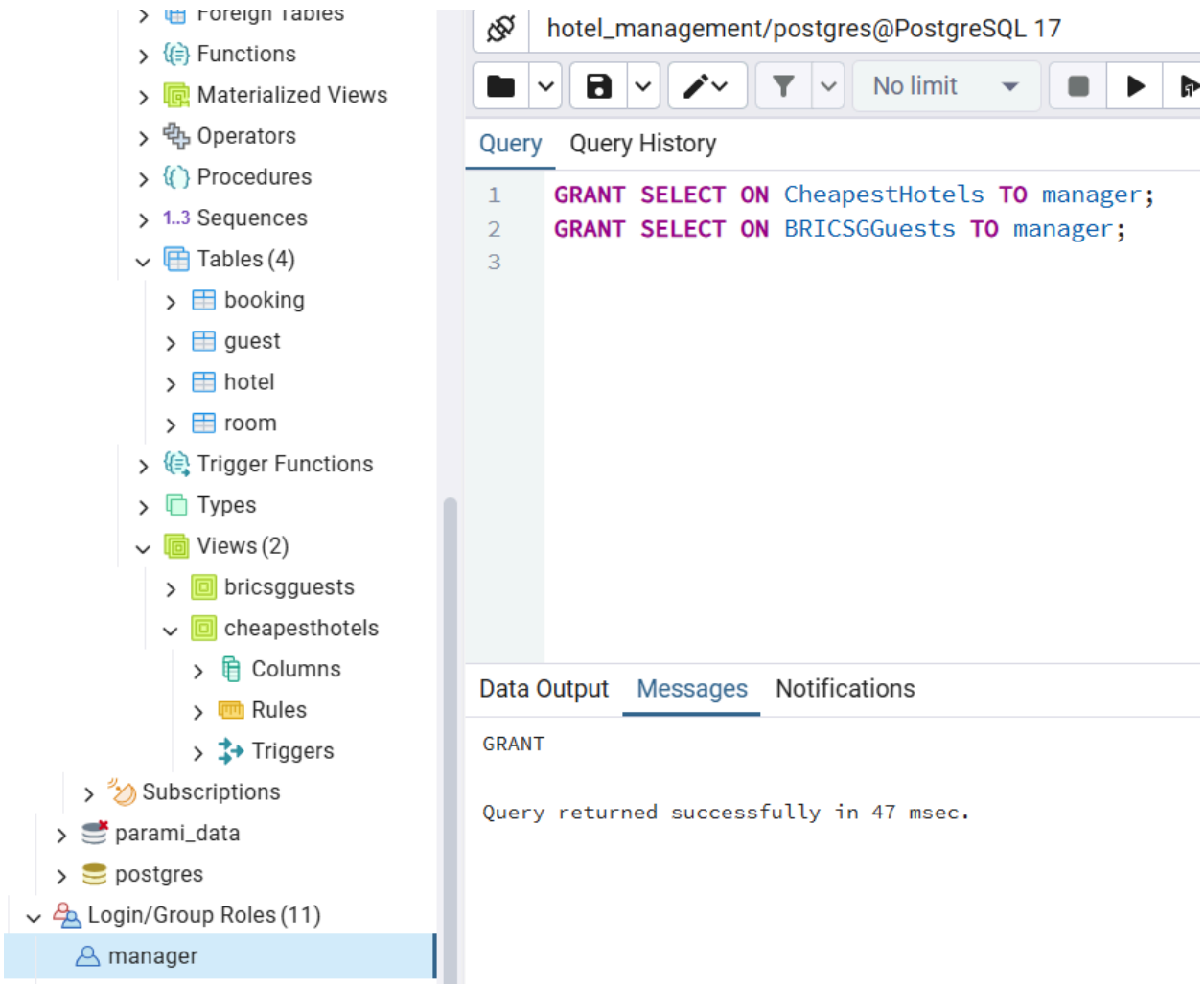
Step 4: Create Two User Groups in Pgadmin

#Creating ‘manager’:



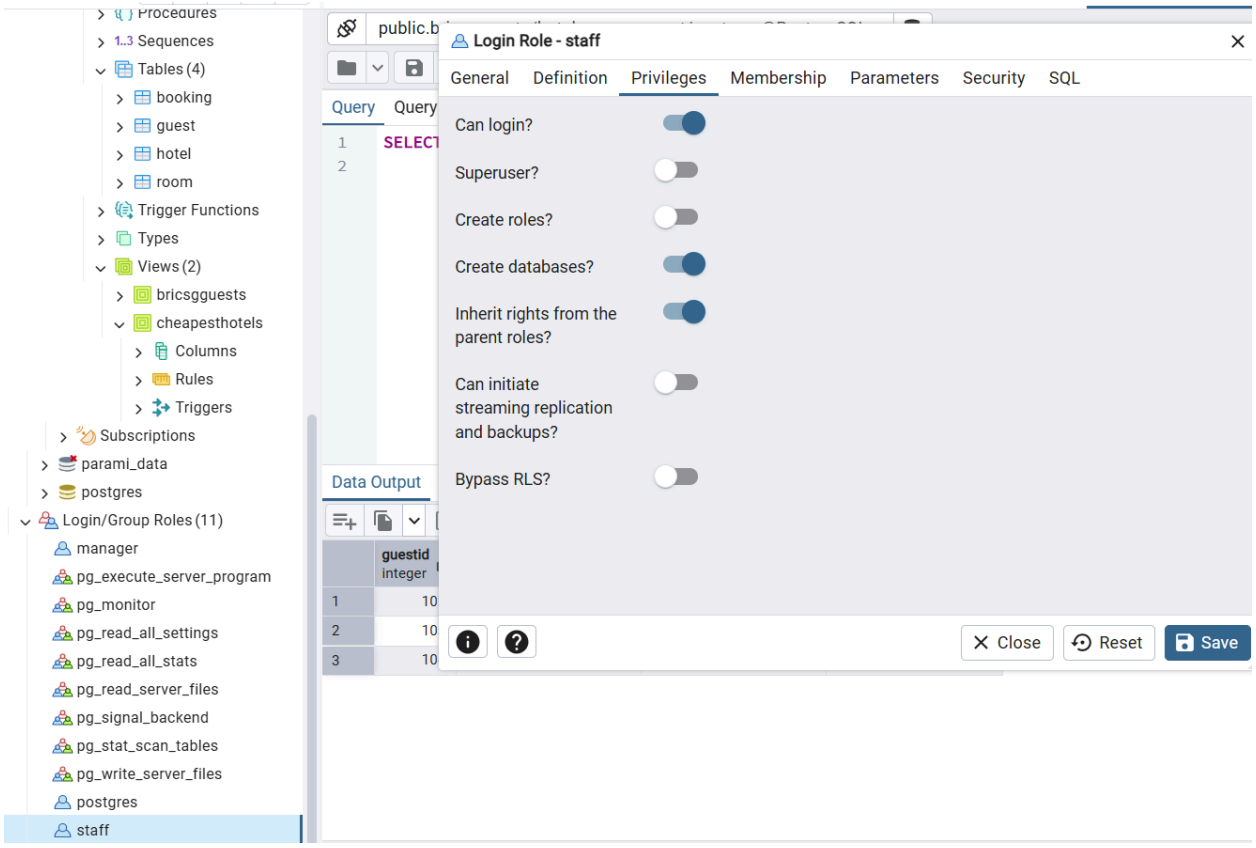
#

#Giving ‘manager’ view access to both ‘bricsgguest’ and ‘cheapesthotel’



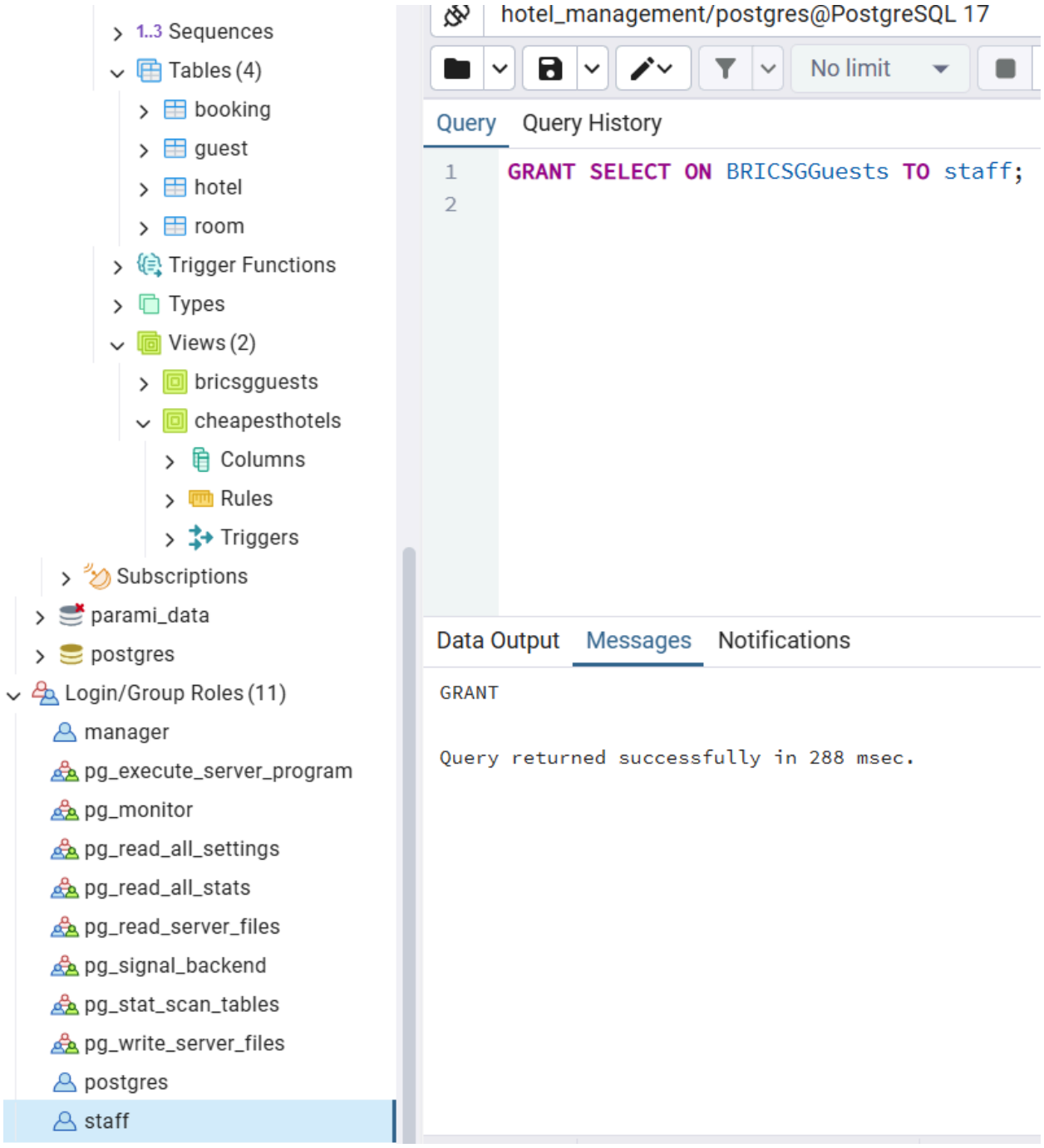
#

#Creating ‘staff’:



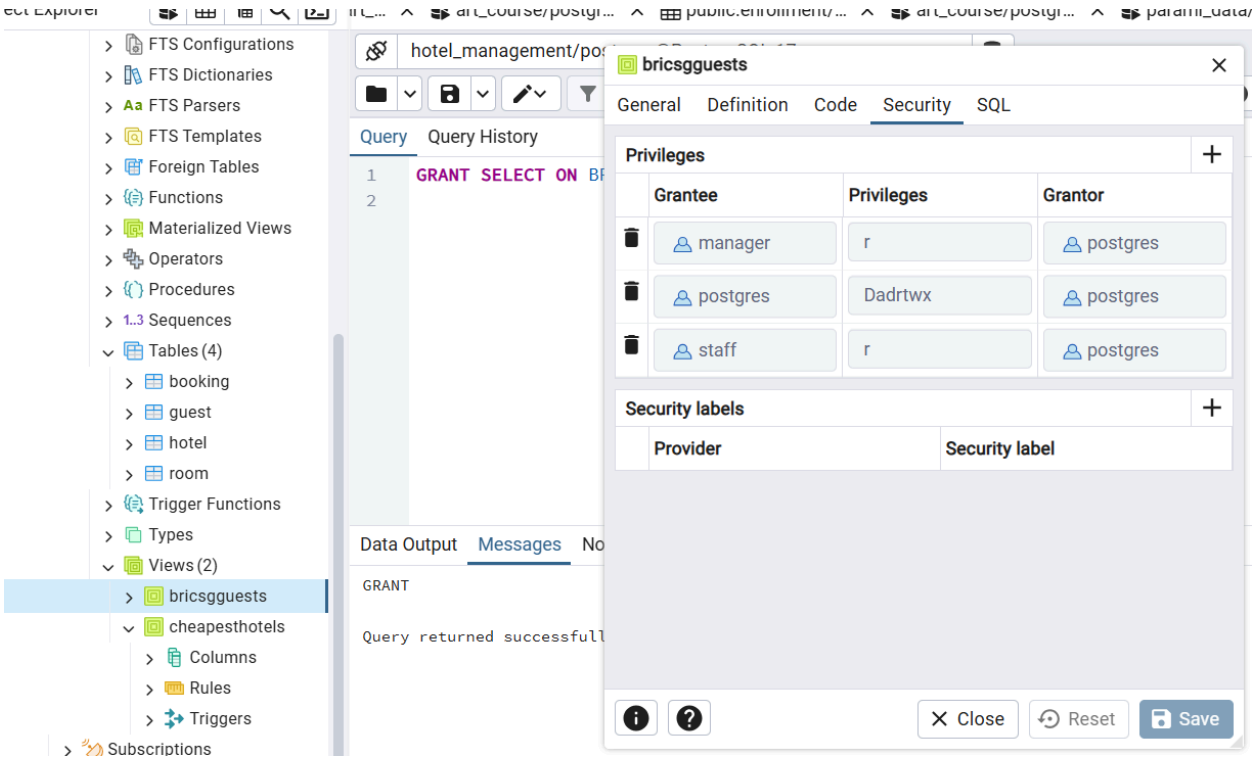
#

#Giving ‘staff’ view access only to ‘Bricsgguest’:

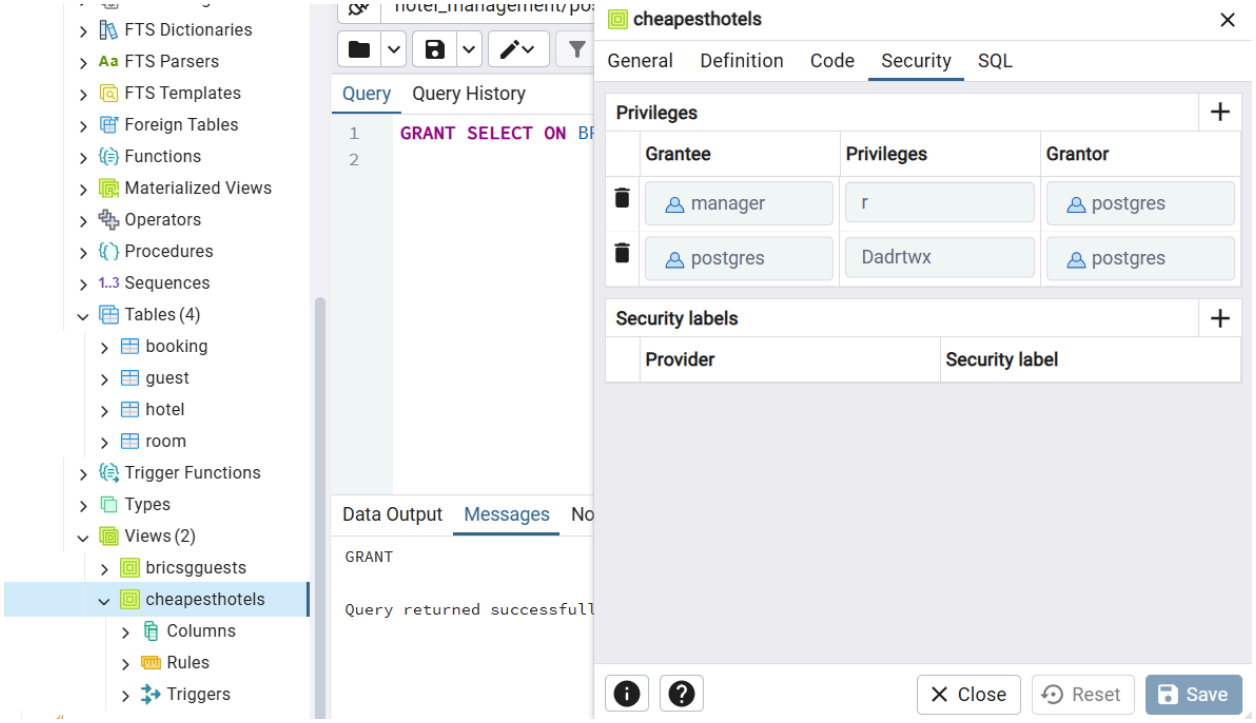

1..3 Sequences
Tables (4)
booking
guest
hotel
room
Trigger Functions
Types
Views (2)
bricsgguests
cheapesthotels
Columns
Rules
Triggers
Subscriptions
parami_data
postgres
Login/Group Roles (11)
manager
pg_execute_server_program
pg_monitor
pg_read_all_settings
pg_read_all_stats
pg_read_server_files
pg_signal_backend
pg_stat_scan_tables
pg_write_server_files
postgres
staff
hotel_management/postgres@PostgreSQL 17
No limit
Query
Query History
1 GRANT SELECT ON BRICSGGuests TO staff;
2
Data Output
Messages
Notifications
GRANT
Query returned successfully in 288 msec.

#View permission screenshots, for both, 'bricsgguest' and 'cheapesthotel' views:

#Both 'manager' and 'staff' having access to 'bricsgguest' view:



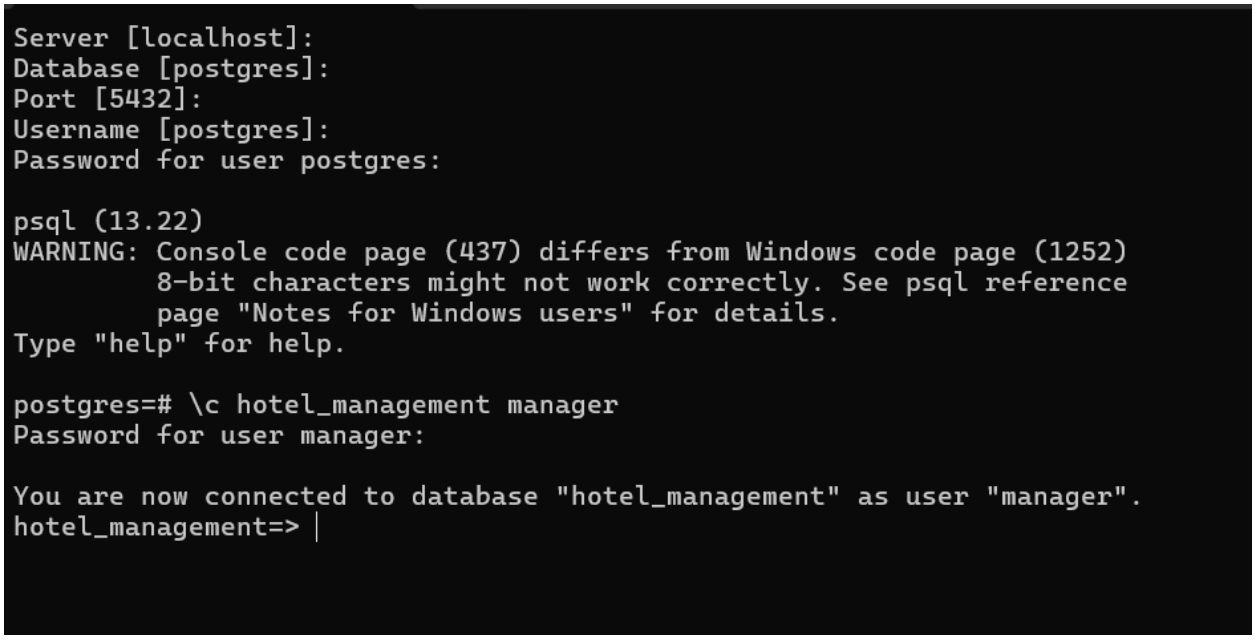
 # Only ‘manager’ having access to ‘cheapesthotel’ view:



##

Step 5: Test in PSql

#Opening Psql and connecting as ‘manager’



#Seeing CheapestHotels View as ‘manager’ and seeing BRICSGGuests View as ‘manager’

```
Username [postgres]:
Password for user postgres:

psql (13.22)
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \c hotel_management manager
Password for user manager:

You are now connected to database "hotel_management" as user "manager".
hotel_management=> SELECT * FROM CheapestHotels;
 hotelid |    hotelname    |  city  | cheapestprice
---------+-----------------+--------+---------------
       3 | Taj Mahal Hotel | Mumbai |         45.00
(1 row)


hotel_management=> SELECT * FROM BRICSGGuests;
 guestid |  fullname   |         email          | phonenumber
---------+-------------+------------------------+-------------
     102 | Ravi Kumar  | Mumbai, India          |
     103 | Chen Wei    | Beijing, China         |
     104 | Maria Silva | Rio de Janeiro, Brazil |
(3 rows)


hotel_management=>
```

#Switching to ‘staff’

```
WARNING: Console code page (437) differs from Windows code page (1252)
         8-bit characters might not work correctly. See psql reference
         page "Notes for Windows users" for details.
Type "help" for help.

postgres=# \c hotel_management manager
Password for user manager:

You are now connected to database "hotel_management" as user "manager".
hotel_management=> SELECT * FROM CheapestHotels;
 hotelid |    hotelname    |  city  | cheapestprice
---------+-----------------+--------+---------------
       3 | Taj Mahal Hotel | Mumbai |         45.00
(1 row)


hotel_management=> SELECT * FROM BRICSGGuests;
 guestid |  fullname   |         email          | phonenumber
---------+-------------+------------------------+-------------
     102 | Ravi Kumar  | Mumbai, India          |
     103 | Chen Wei    | Beijing, China         |
     104 | Maria Silva | Rio de Janeiro, Brazil |
(3 rows)


hotel_management=> \c hotel_management staff
Password for user staff:

You are now connected to database "hotel_management" as user "staff".
hotel_management=>
```

#Seeing CheapestHotels View as ‘staff’ and seeing BRICSGGuests View as ‘staff’

```
hotel_management=> \c hotel_management staff
Password for user staff:

You are now connected to database "hotel_management" as user "staff".
hotel_management=> SELECT * FROM CheapestHotels;
ERROR:  permission denied for view cheapesthotels
hotel_management=> SELECT * FROM BRICSGGuests;
 guestid |  fullname   |         email          | phonenumber
---------+-------------+------------------------+-------------
     102 | Ravi Kumar  | Mumbai, India          |
     103 | Chen Wei    | Beijing, China         |
     104 | Maria Silva | Rio de Janeiro, Brazil |
(3 rows)


hotel_management=>
```

##