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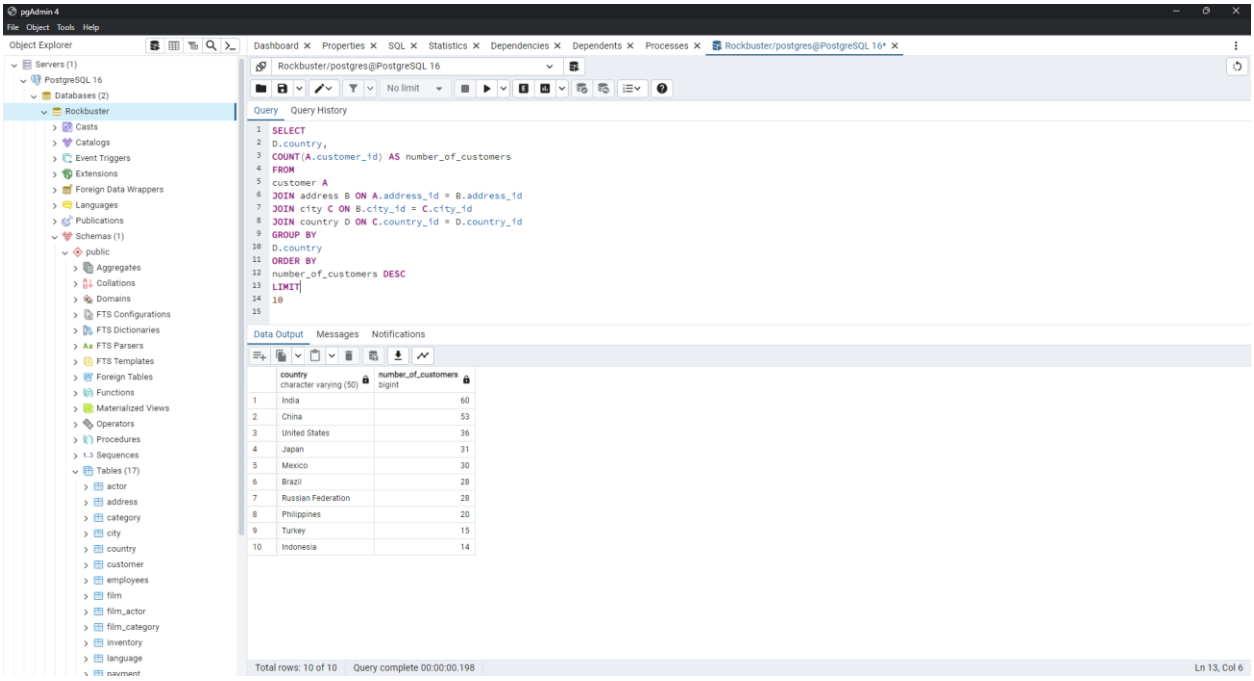
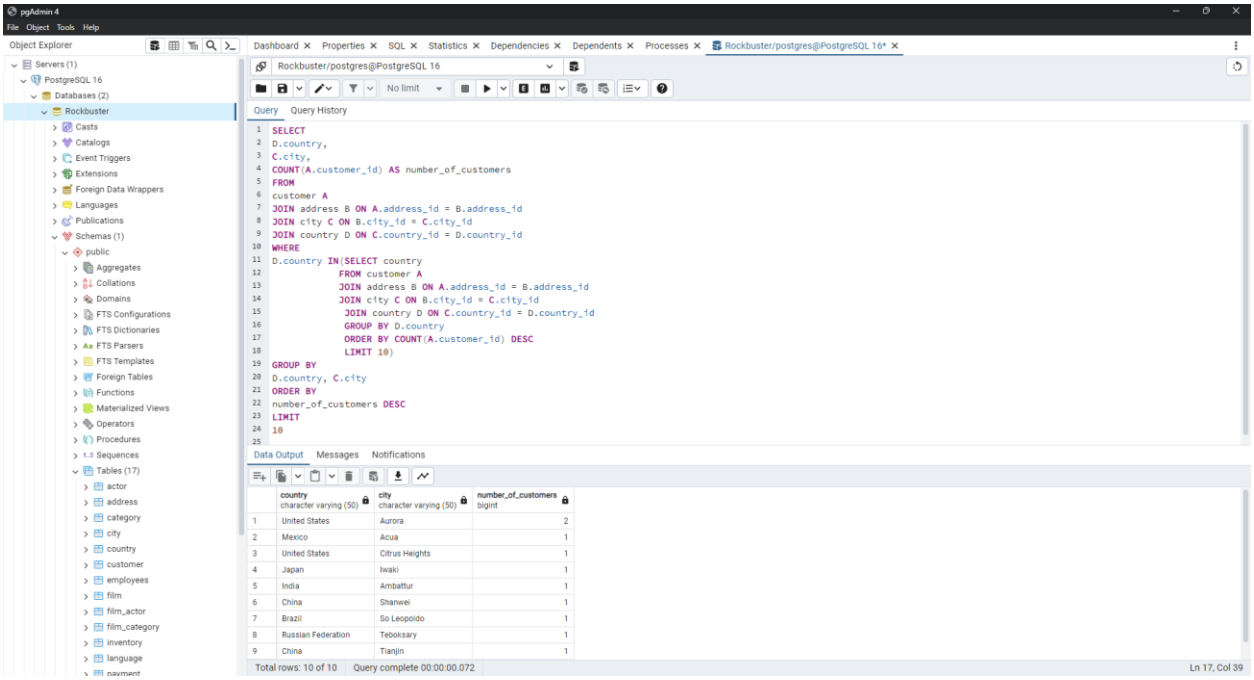
Data Immersion 3.7

Joining Tables of Data



To find the top 10 countries where Rockbuster has the most customers, we need the join the customer, address, city and country tables to link each customer to their country. We use COUNT(A.customer_id) to total the number of customers in their respective countries, then grouping the results by country and limiting the output to top 10.

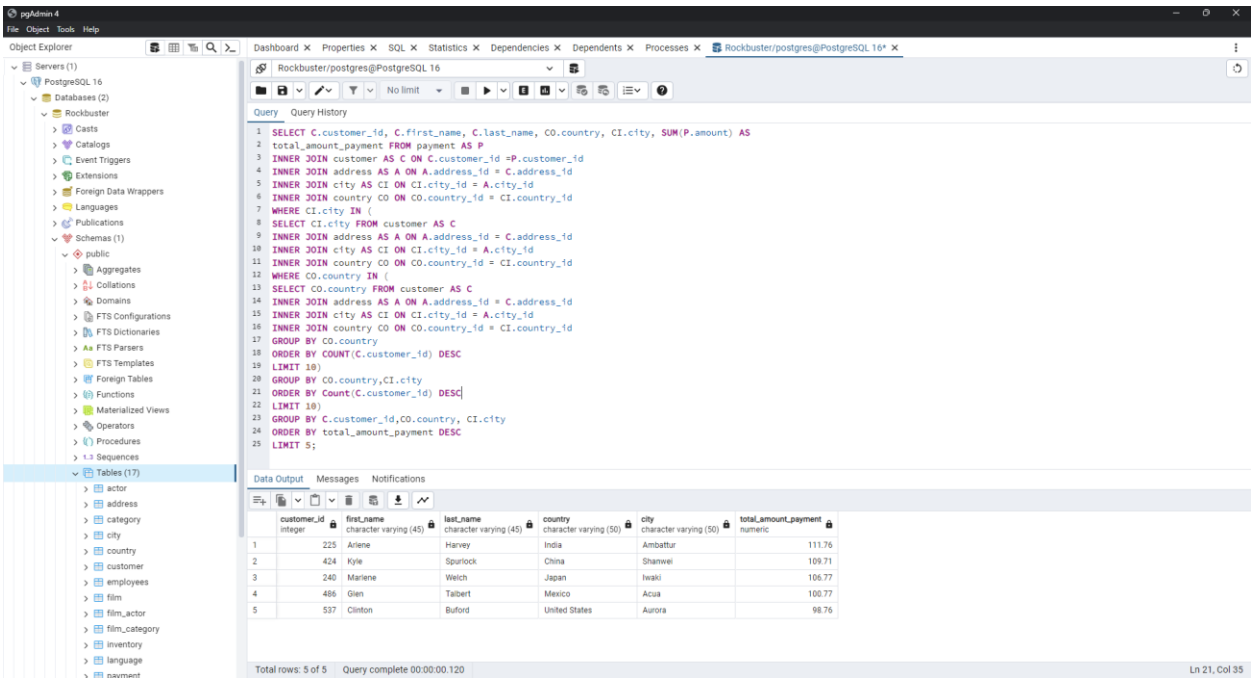


```
SELECT
D.country,
C.city,
COUNT(A.customer_id) AS number_of_customers
FROM
customer A
JOIN address B ON A.address_id = B.address_id
JOIN city C ON B.city_id = C.city_id
JOIN country D ON C.country_id = D.country_id
WHERE
D.country IN(SELECT country
             FROM customer A
             JOIN address B ON A.address_id = B.address_id
             JOIN city C ON B.city_id = C.city_id
              JOIN country D ON C.country_id = D.country_id
              GROUP BY D.country
              ORDER BY COUNT(A.customer_id) DESC
              LIMIT 10)
GROUP BY
D.country, C.city
ORDER BY
number_of_customers DESC
LIMIT
10
```

	country character varying (50)	city character varying (50)	number_of_customers bigint
1	United States	Aurora	2
2	Mexico	Acua	1
3	United States	Citrus Heights	1
4	Japan	Iwaki	1
5	India	Ambattur	1
6	China	Shanwei	1
7	Brazil	So Leopoldo	1
8	Russian Federation	Teboksary	1
9	China	Tianjin	1

We first created a join to connect customer, address, city and country tables. Then had to determined the top 10 countries with the highest customer count, which was used to filter the main query, focusing only on cities within these top countries. The main query aggregated customer data by city, using GROUP BY for city and country, and COUNT customers. Then it was sorted to find the cities with the most customers but limited to top 10.

3. **REVISED**



```
SELECT C.customer_id, C.first_name, C.last_name, CO.country, CI.city, SUM(P.amount) AS
total_amount_payment FROM payment AS P
INNER JOIN customer AS C ON C.customer_id =P.customer_id
INNER JOIN address AS A ON A.address_id = C.address_id
INNER JOIN city AS CI ON CI.city_id = A.city_id
INNER JOIN country CO ON CO.country_id = CI.country_id
WHERE CI.city IN (
SELECT CI.city FROM customer AS C
INNER JOIN address AS A ON A.address_id = C.address_id
INNER JOIN city AS CI ON CI.city_id = A.city_id
INNER JOIN country CO ON CO.country_id = CI.country_id
WHERE CO.country IN (
SELECT CO.country FROM customer AS C
INNER JOIN address AS A ON A.address_id = C.address_id
INNER JOIN city AS CI ON CI.city_id = A.city_id
INNER JOIN country CO ON CO.country_id = CI.country_id
GROUP BY CO.country
ORDER BY COUNT(C.customer_id) DESC
LIMIT 10)
GROUP BY CO.country,CI.city
ORDER BY Count(C.customer_id) DESC
LIMIT 10)
GROUP BY C.customer_id,CO.country, CI.city
ORDER BY total_amount_payment DESC
LIMIT 5;
```

	customer_id integer	first_name character varying (45)	last_name character varying (45)	country character varying (50)	city character varying (50)	total_amount_payment numeric
1	225	Arlene	Harvey	India	Ambattur	111.76
2	424	Kyle	Spurlock	China	Shanwei	109.71
3	240	Marlene	Welch	Japan	Iwaki	106.77
4	486	Glen	Talbert	Mexico	Acua	100.77
5	537	Clinton	Buford	United States	Aurora	98.76