Data Warehouse Homework

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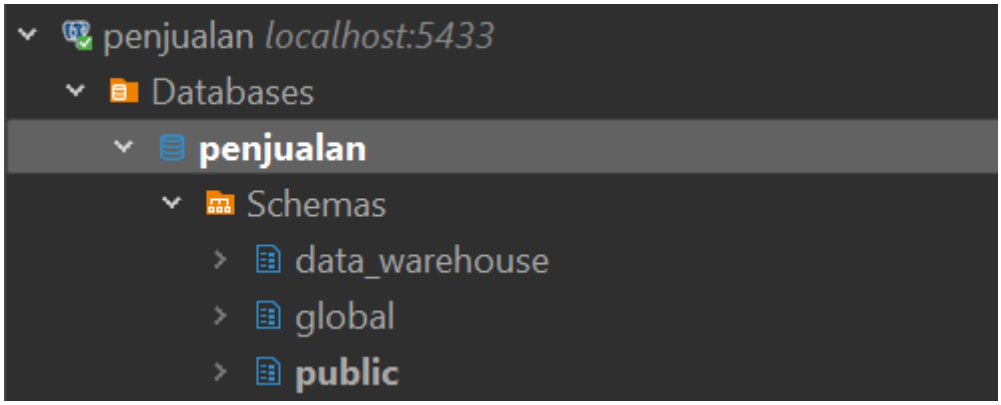
Group 4 – Garap Rendang



Tools: Dbeaver

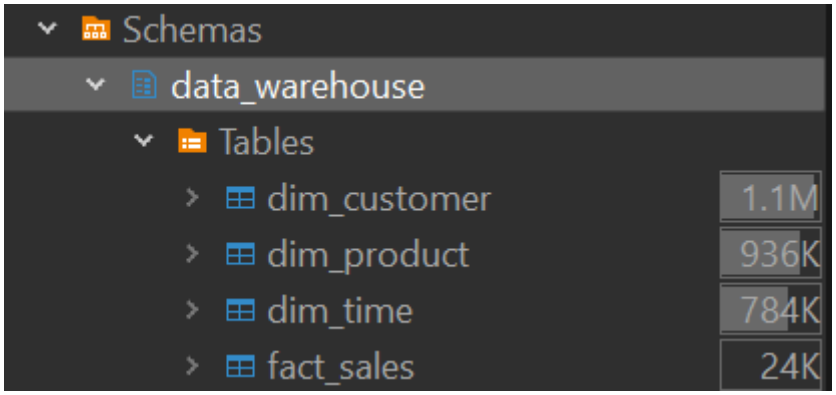
Terlihat pada gambar diatas bahwasannya terdapat 2 schema (global dan data_warehouse). Schema global adalah schema dari lampiran soal, berisi tabel yang dicontohkan pada soal dengan data yang digenerate dengan query baik secara random ataupun generate series. Schema data_warehouse adalah schema yang dibuat oleh pribadi untuk menjawab soal-soal pada lampiran.

Berikut merupakan query untuk membuat dimension table dan fact table serta mengopy data dari table schema globale ke schema data_warehouse:

```
-- create data_warehouse schema
create schema data_warehouse;


-- create dimension table
create table data_warehouse.dim_customer (
	customer_id SERIAL primary key,
	customer_name VARCHAR(100),
	email VARCHAR(100),
	phone_number VARCHAR(20)
);


create table data_warehouse.dim_product (
```

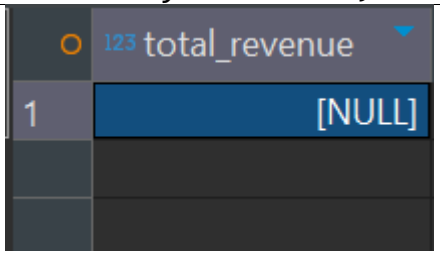
```
       product_id SERIAL primary key,
       product_name VARCHAR(100),
       category VARCHAR(50),
       price numeric(10, 2)
);

create table data_warehouse.dim_time (
      date_id SERIAL primary key,
      day_of_week VARCHAR(100),
      month VARCHAR(10),
      quarter VARCHAR(10),
      year INT
);

-- create fact table
create table data_warehouse.fact_sales (
      sale_id SERIAL primary key,
      customer_id                    INT                    references
data_warehouse.dim_customer(customer_id),
      product_id                    INT                    references
data_warehouse.dim_product(product_id),
      date_id INT references data_warehouse.dim_time(date_id),
      quantity INT,
      revenue NUMERIC(12, 2)
);

-- populate the dimension tables
insert into data_warehouse.dim_customer (customer_name, email,
phone_number)
select customer_name, email, phone_number from global.customer;
```

```
insert into data_warehouse.dim_product (product_name, category, price)

select product_name, category, price from global.product;


insert into data_warehouse.dim_time (day_of_week, month, quarter, year)

select day_of_week, month, quarter, year from global.time;


-- populate the fact table

insert into data_warehouse.fact_sales (customer_id, product_id, date_id, quantity, revenue)

select customer_id, product_id, date_id, quantity, revenue from global.sales;
```



1. Berapa banyak penjualan total revenue di Quarter 1 2024?

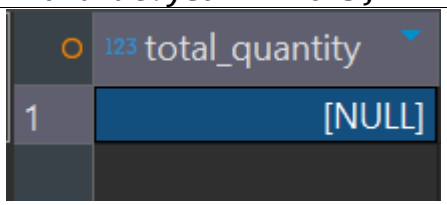
```
select * from data_warehouse.dim_time;

select sum(fs.revenue) as total_revenue
from data_warehouse.fact_sales fs
join data_warehouse.dim_time dt on fs.date_id = dt.date_id
where dt.quarter = '1' and dt.year = 2024;
```



Tidak ada data revenue pada quarter 1 tahun 2024.

2. Berapa banyak penjualan secara quantity di Quarter 4 2023?

```sql
select * from data_warehouse.dim_time;

select sum(fs.quantity) as total_quantity
from data_warehouse.fact_sales fs
join data_warehouse.dim_time dt on fs.date_id = dt.date_id
where dt.quarter = '4' and dt.year = 2023;
```

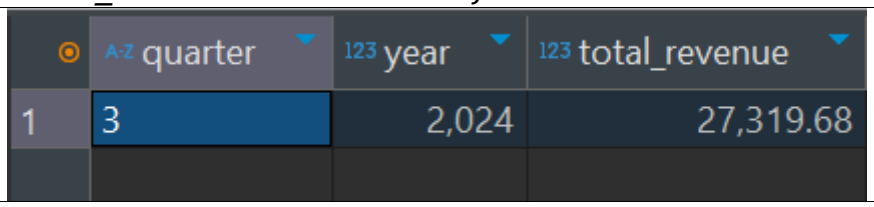


	total_quantity
1	[NULL]

Tidak ada data penjualan (secara kuantitas) pada quarter 4 tahun 2023.

3. Dari semua data penjualan yang ada, carilah di Quarter berapa dan tahun berapa penjualan paling banyak secara revenue?

```sql
select dt.quarter, dt.year, sum(fs.revenue) as total_revenue
from data_warehouse.fact_sales fs
join data_warehouse.dim_time dt on fs.date_id = dt.date_id
group by dt.quarter, dt.year
order by total_revenue desc limit 1;
```



	quarter	year	total_revenue
1	3	2,024	27,319.68

GitHub Repo