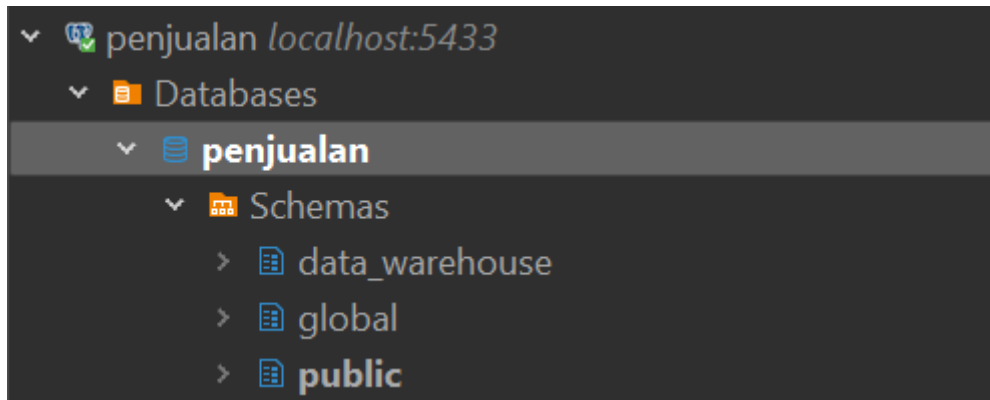


Data Warehouse Homework

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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 mengcopy 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),  
    price DECIMAL(10,2),  
    category VARCHAR(50)
```

```

        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;
```

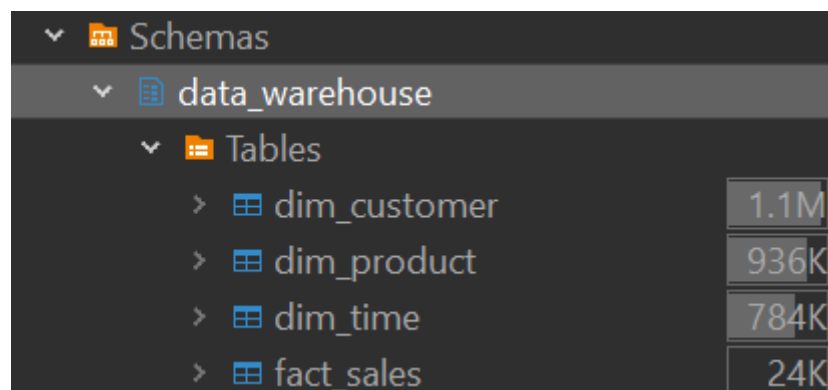
```
insert into data_warehouse.dim_time (day_of_week, month, quarter, year)
```

```
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;
```

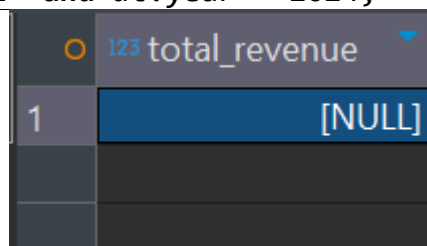


Schemas	
data_warehouse	
Tables	
dim_customer	1.1M
dim_product	936K
dim_time	784K
fact_sales	24K

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;
```



	total_revenue
1	[NULL]

Tidak ada data revenue pada quarter 1 tahun 2024.

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

```
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;
```

	123 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?

```
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;
```

	A-Z quarter	123 year	123 total_revenue
1	3	2,024	27,319.68