

**Retail Sales Analysis SQL Project**

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**Project Structure**

**Database Setup**

* **Database Creation**: The project starts by creating a database named  retail\_sales\_dw.
* **Table Creation**: A table named  sales\_data, products\_data, customer\_data, store\_data, sales\_cleaned\_data is created to store the sales data.

**SQL QUIRES :**

create database retail\_sales\_dw;

use retail\_sales\_dw

--This table will store transactional data from retail sales--

create table sales\_data(

t\_transaction\_id int primary key,

p\_product\_id int,

c\_customer\_id int,

s\_store\_id int,

q\_quantity int,

r\_revenue decimal(10,1),

t\_transaction\_date date

);

--This table stores product details--

create table products\_data(

p\_product\_id int primary key,

p\_product\_name varchar(50) not null,

c\_category varchar(25) not null,

p\_price decimal(10,1)

);

--This table stores customer information--

create table customer\_data(

c\_customer\_id int primary key,

c\_customer\_name varchar(50) not null,

g\_gender varchar(15),

a\_age int,

e\_email varchar(25) not null

);

--This table contain store information--

create table store\_data(

s\_store\_id int primary key,

s\_store\_location varchar(25) not null,

m\_manager\_name varchar(50) not null

);

--Load Data--

--Create final cleaned sales Table--

CREATE TABLE sales\_cleaned\_data (

t\_transaction\_id int primary key,

p\_product\_id int,

c\_customer\_id int,

s\_store\_id int,

q\_quantity int,

r\_revenue decimal(10, 1),

t\_transaction\_date date

);

### Data Exploration & Cleaning

* **Record Count**: Determine the total number of records in the dataset.
* **Customer Count**: Find out how many unique customers are in the dataset.
* **Category Count**: Identify all unique product categories in the dataset.
* **Null Value Check**: Check for any null values in the dataset and delete records with missing data.

select sum(r\_revenue) as total\_revenue

from sales\_cleaned\_data;

select sum(q\_quantity) as total\_quantity\_sold

from sales\_cleaned\_data;

select sum(q\_quantity) as average\_revenue\_per\_transaction

from sales\_cleaned\_data;

--removes duplicate records--

select t\_transaction\_id, COUNT(\*)

FROM sales\_data

GROUP BY t\_transaction\_id

HAVING COUNT(\*) > 1

--Data Integration--

--Join tables to combine information--

select sales\_data.t\_transaction\_id, products\_data.p\_product\_name, customer\_data.c\_customer\_name, store\_data.s\_store\_location, sales\_data.r\_revenue, sales\_data.t\_transaction\_date

from sales\_data

join products\_data ON sales\_data.p\_product\_id = products\_data.p\_product\_id

join customer\_data ON sales\_data.c\_customer\_id = customer\_data.c\_customer\_id

join store\_data ON sales\_data.s\_store\_id = store\_data.s\_store\_id;

### Data Analysis & Findings

The following SQL queries were developed to answer specific business questions:

1. **Write a SQL query to retrieve all columns for sales**

--Total revenue per product--

select products\_data.p\_product\_name, sum(sales\_cleaned\_data.r\_revenue) AS total\_revenue

from sales\_cleaned\_data

join products\_data on sales\_cleaned\_data.p\_product\_id = products\_data.p\_product\_id

group by products\_data.p\_product\_name

order by total\_revenue desc;

--Total revenue per customer--

select customer\_data.c\_customer\_name, sum(sales\_cleaned\_data.r\_revenue) AS total\_revenue

from sales\_cleaned\_data

join customer\_data on sales\_cleaned\_data.c\_customer\_id = customer\_data.c\_customer\_id

group by customer\_data.c\_customer\_name

order by total\_revenue desc;

--Total revenue per store--

select store\_data.s\_store\_location, sum(sales\_cleaned\_data.r\_revenue) AS total\_revenue

from sales\_cleaned\_data

join store\_data on sales\_cleaned\_data.s\_store\_id = store\_data.s\_store\_id

group by store\_data.s\_store\_location

order by total\_revenue desc;

-- Maximum and Minimum revenue per transaction--

select max(r\_revenue) as max\_revenue, min(r\_revenue) as min\_revenue

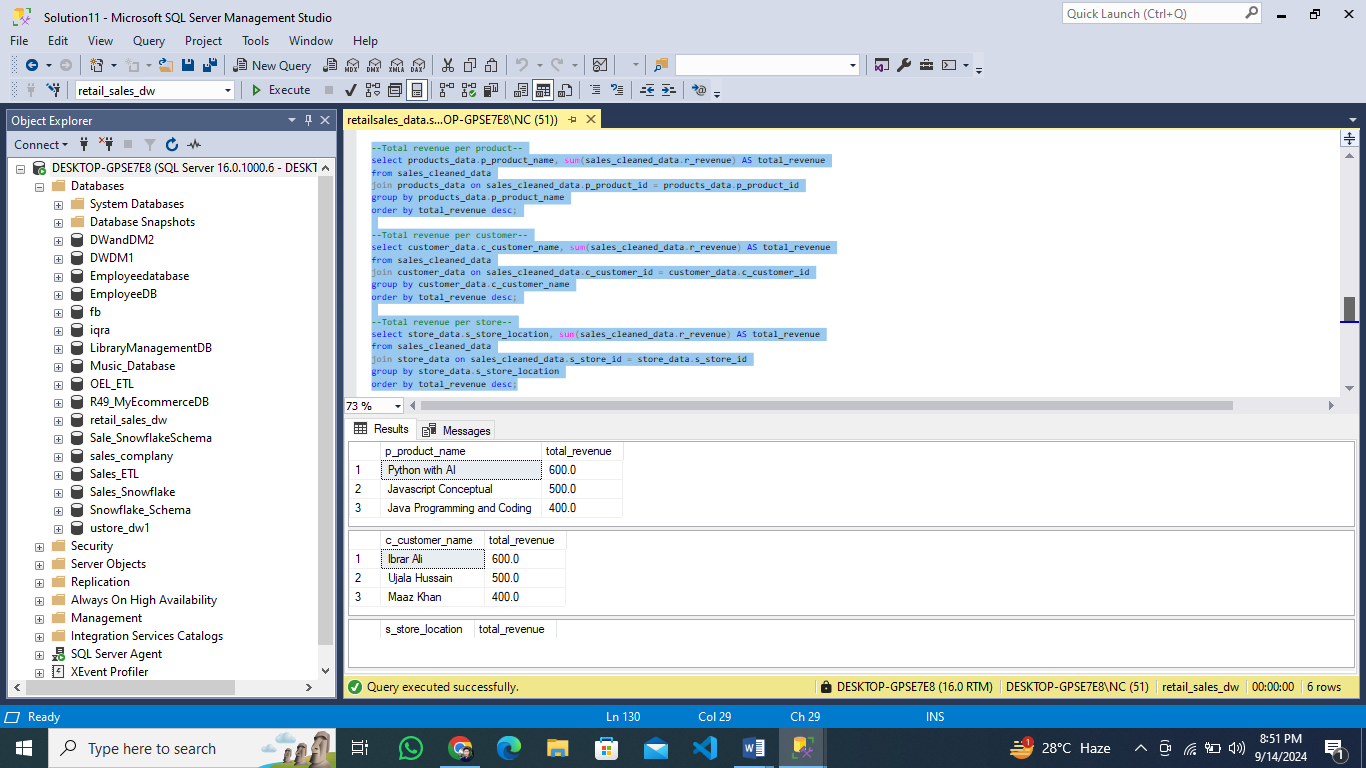
from sales\_cleaned\_data;

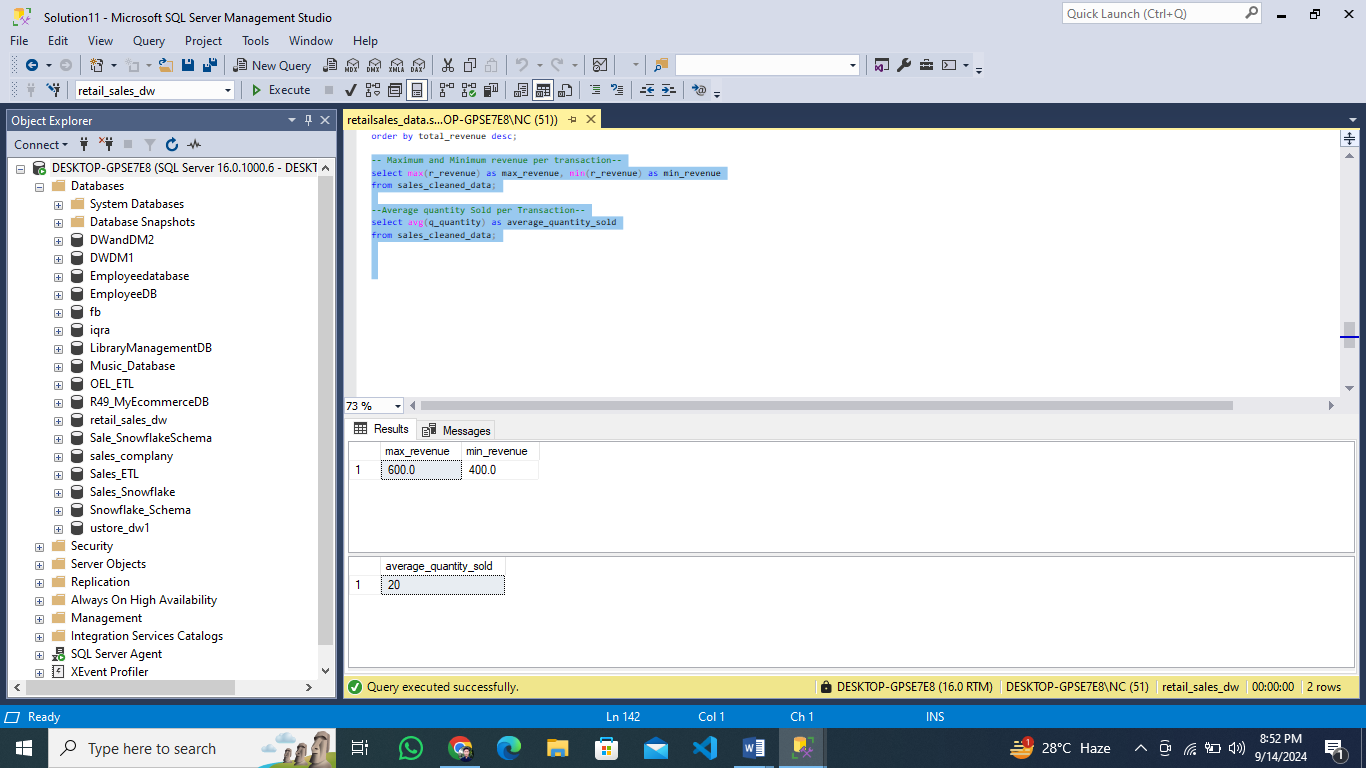
--Average quantity Sold per Transaction--

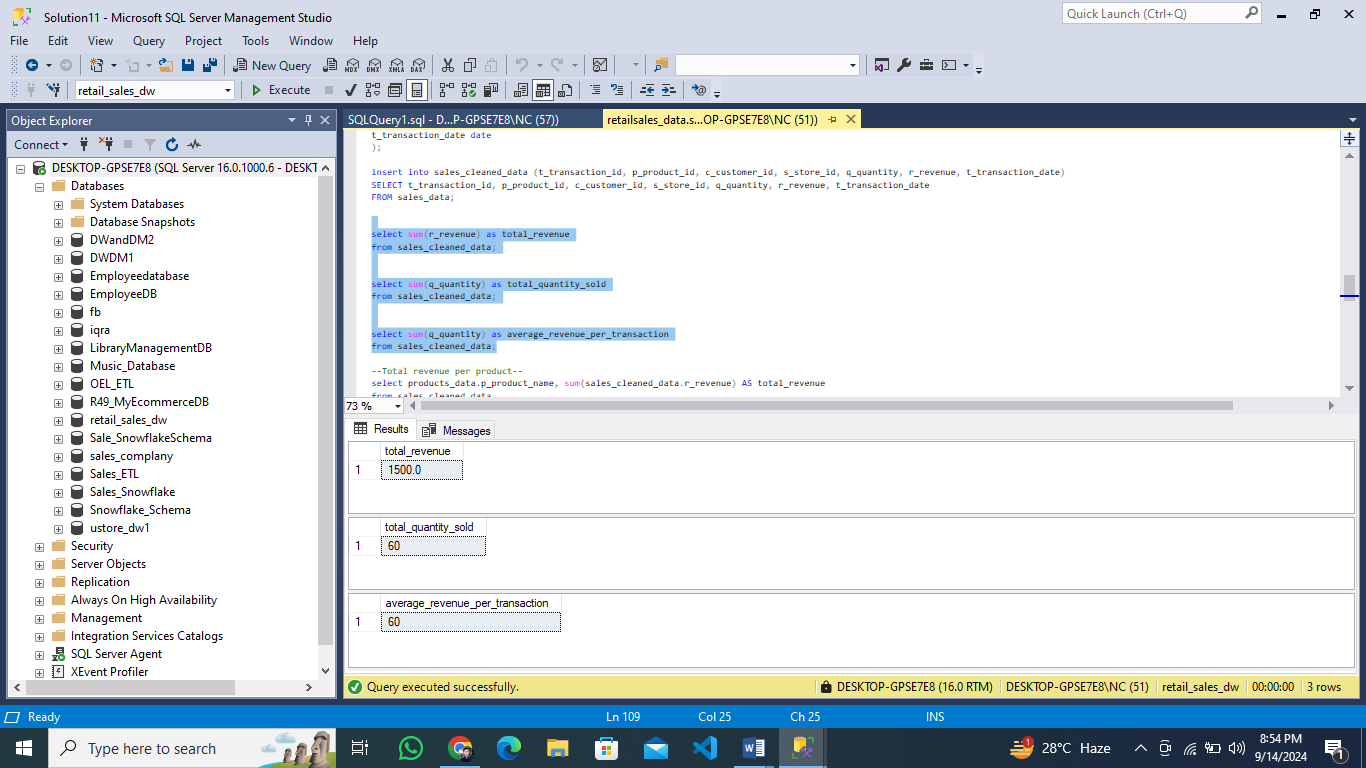
select avg(q\_quantity) as average\_quantity\_sold

from sales\_cleaned\_data;

Some important Output Command







Dashboard Report on Power Bi

Connect dataset retail sales data company to implement the data analytical technique and also visualize the company data.

* **Sales Summary**: A detailed report summarizing total sales, customer demographics, and category performance.
* **Trend Analysis**: Insights into sales trends across different months and shifts.
* **Customer Insights**: Reports on top customers and unique customer counts per category.

