

# Data Analytics Case Study: SQL Portfolio Project

This case study presents a complete SQL-based analysis of a multi-table sales dataset containing orders, customers, order details, and product information. The goal is to demonstrate data analytics skills across descriptive analytics, customer insights, product insights, time-series trends, and advanced SQL techniques.

## 1. Basic Metrics

- Total revenue calculated using `SUM(SALES)`.
- Counted unique orders from the `orders` table.
- Derived average order value by aggregating revenue per order.

## 2. Customer Insights

- Ranked top revenue-generating customers.
- Summarized revenue by country and territory.
- Identified Large-deals customers contributing more than 50% of their country's revenue using CTEs.

## 3. Product Insights

- Identified top-performing products by revenue.
- Compared high-revenue but low-quantity products.
- Calculated average product price per product line.

## 4. Time-Based Analysis

- Generated monthly revenue trends by `YEAR_ID` and `MONTH_ID`.
- Counted order statuses such as Shipped and Cancelled.
- Computed cumulative revenue using window functions.

## 5. Advanced Ranking

- Ranked customers using `RANK()` and `DENSE_RANK()`.
- Used `ROW_NUMBER()` to find the top product per product line.
- Identified customers who ordered the same product multiple times.

This case study demonstrates end-to-end SQL capability suitable for junior data analyst roles. It showcases proficiency in joins, aggregations, window functions, CTEs, time-series analytics, customer segmentation, and product-level insights. These queries can be directly included in a portfolio or GitHub repository.