**S – Situation:**

One of the most impactful projects I worked on was a **Data Warehouse and Analytics** solution using **SQL Server**. The objective was to **consolidate sales and customer data** from two different source systems — **ERP and CRM** — into a single platform for business analysis and reporting.

**T – Task:**

My task was to **design and implement an ETL pipeline** based on the **Medallion Architecture** (Bronze, Silver, and Gold layers):

* **Bronze Layer**: I created raw tables and loaded data from both sources to understand the structure and quality.
* **Silver Layer**: I cleaned and transformed the data (e.g., standardizing formats, handling nulls) and stored it in structured, query-optimized tables.
* **Gold Layer**: I created SQL views like gold.dim\_customers and gold.fact\_sales, joining cleaned data to prepare for visualization and business insights.

**A – Action:**

One major challenge was **data inconsistency** between ERP and CRM systems — including **duplicate or missing customer IDs** and **varying date formats**. To address this:

* I created **staging tables** for initial data load.
* I wrote **T-SQL stored procedures** using CASE, ISNULL, and string/date functions to clean and transform the data.
* I designed a **star schema** for the Gold layer with fact and dimension tables to support performant analytics.
* I applied business logic for **KPI calculations** such as profit margin and repeat customer metrics.

**R – Result:**

The result was a **high-performance, clean data model** that provided actionable insights into customer behavior, product performance, and sales trends.  
This project significantly boosted my skills in data warehousing and end-to-end analytics implementation.  
The complete project, along with **documentation and architecture diagrams**, is available in my **GitHub portfolio**.