**Data Warehouse and Analytics Project**

This Project contains datawarehousing and analytics solution, from building datawarehouse to generating actionable insights.

**📝Project Overview**

This project involves.

1. Data Architecture: Designing a Modern Data Warehouse Using Medallion Architecture Bronze, Silver, and Gold layers.

2. ETL Pipelines: Extracting, transforming, and loading data from source systems into the warehouse.

3. Data Modeling: Developing fact and dimension tables optimized for analytical queries.

4. Analytics & Reporting: Creating SQL-based reports and dashboards for actionable insights.

**A diagram of a data flow

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1. **Bronze Layer**: Stores raw data as-is from the source systems. Data is ingested from CSV Files into SQL Server Database.

2. **Silver Layer**: This layer includes data cleansing, standardization, and normalization processes to prepare data for analysis.

3. **Gold Layer**: Houses business-ready data modeled into a star scheme required for reporting and analytics.

**Bronze Layer**

* After understanding data sets we create tables in bronze layer according to unique naming conventions(in here start with source system after that table name crm\_product)
* After generating all tables, insert bulk data into them.

**Silver Layer**

* Check how tables are relatedA diagram of a company

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* Then data cleaning and validation and insert into silver layer

**Gold Layer**

* Need select one of data model in here we select star schema
* Identify data flow

A diagram of a diagram

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* After that create views using silver layer

**🛠️ Important Links & Tools:**

* [Datasets](https://github.com/bestkavindu/sql-data-warehouse/tree/main/datasets) : download the project dataset (csv files).
* [SQL Server Express](https://www.microsoft.com/en-us/sql-server/sql-server-downloads): Lightweight server for hosting your SQL database.
* [SQL Server Management Studio (SSMS):](https://learn.microsoft.com/en-us/ssms/install/install?view=sql-server-ver16) GUI for managing and interacting with databases.
* [DrawIO](https://www.drawio.com/): Design data architecture, models, flows, and diagrams.