

## Data Warehouse Design for Scalable BI Enablement

Project Type: Data Architecture & Modeling | Tools: SQL, Power BI, Excel (Conceptual)

### Overview

This project outlines the layered architecture of a modern data warehouse designed to support scalable, reliable, and business-ready analytics. Built with the medallion architecture pattern, the model separates data into Bronze, Silver, and Gold layers — allowing traceability, data quality, and consumption-readiness at every stage.

### Layered Architecture

- Bronze Layer: Raw ingestion of unprocessed source data for traceability and debugging.
- Silver Layer: Cleaned, standardized, and enriched data prepared for analytical use.
- Gold Layer: Business-ready data models, views, and aggregations used in dashboards and reporting.

### Key Features

- Clear separation of concerns for ETL, modeling, and reporting.
- Support for fact/dimension modeling, aggregated views, and business logic encapsulation.
- Aligned with Microsoft's best practices for data lakehouse and Power BI integration.

### Use Case

Ideal for enterprise BI environments where multiple teams (data engineers, analysts, and business users) require different levels of access and refinement. This layered architecture ensures data quality and governance at each step of the pipeline.

Diagram used: Bronze, Silver, Gold Layer Architecture