

# DATA ARCHITECTURE

# DATA WAREHOUSE

MEDALLION ARCHITECTURE MODEL







# **Bronze**

## **Capture and Store Raw** Data

from multiple sources No modifications.

Object Type: Tables **Processing Type:** 

**Batch Processing** 

Full Load (Truncate and Insert)

### **Characteristics:**

- No transformation applied
- No data model structure
- · Acts as the single source of truth for raw data ingestion

#### Includes:

Stored Procedures for ingestion - </>

automate full or incremental loads from CSV files













#### Notes:

This layer represents the foundation of the data warehouse, ensuring that all original data is retained exactly as received for traceability and reproducibility.

# Silver

# Clean, standardize, and prepare data for integration and analytics.

Object Type: Tables **Processing Type:** 

**Batch Processing** 

Full Load (Truncate and Insert)

### **Transformations:**

- Data Cleansing
- Data Standardization
- Data Normalization
- Derived Columns
- Data Enrichment

### Includes:

• SCD2 (Slowly Changing Dimensions

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**Store Procedure** 

Type 2) - keeps historical versions of records for accurate trend analysis.

• DQ Checks (Data Quality Validation) detects nulls, duplicates, invalid values, and ensures data consistency.

#### Notes:

Data at this layer is conformed, validated, and versioned, ready to feed the Gold analytical layer.

### Gold

### **Business-Ready Data**

Provide business-ready, analytical data models for reporting and visualization.

**Object Type:** Views

### **Processing Type:**

No direct loads (data exposed through views or aggregated tables)

#### **Transformations:**

- Data Integrations (joining standardized) entities)
- Aggregations (summing, grouping, averaging, etc.)
- Business Logic (KPIs, derived measures, and calculations)

### Includes:

- Star Schema and Flat Tables designed for fast analytics in Power BI
- RLS (Row-Level Security) controls user access by roles or regions in reports
- Aggregated Tables improve performance for large datasets Notes:

This layer delivers clean, businessfocused data models for dashboards and reports, ensuring high performance and governance within BI tools like Power BI.



