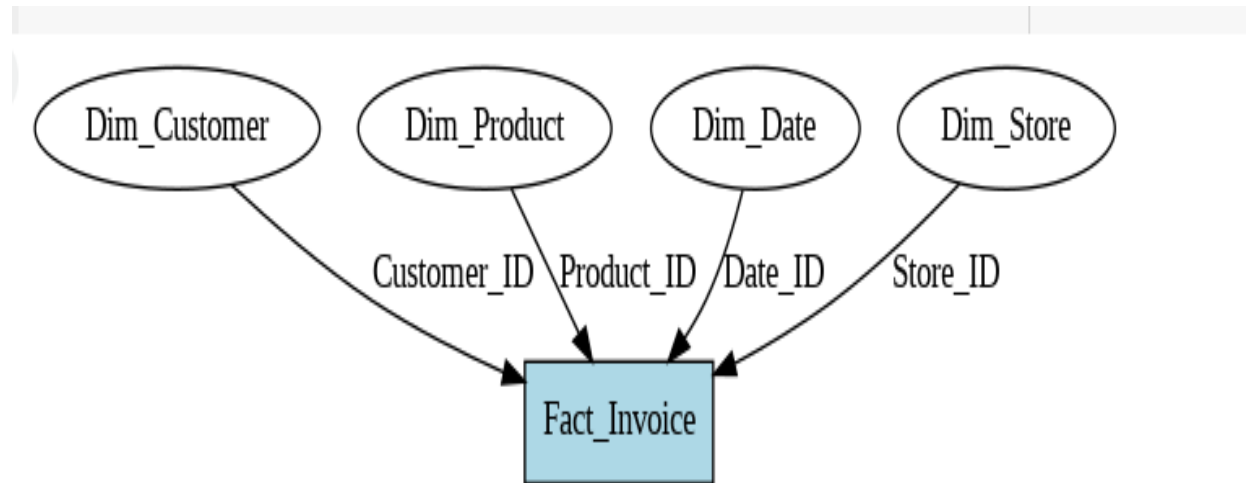


STAR SCHEMA DIAGRAM



Interpretation:

This star schema represents an invoice-based dimensional model for analyzing business transactions.

Below are the interpretations:

1. Fact Table (Fact_Invoice)

- The central blue box represents the fact table, **Fact_Invoice**.
- This table stores transactional data (sales records).
- It contains foreign keys linking to dimension tables.

Key Attributes:

- **Customer_ID** - Links to **Dim_Customer**
- **Product_ID** - Links to **Dim_Product**
- **Date_ID** - Links to **Dim_Date**
- **Store_ID** - Links to **Dim_Store**
- Other metrics like **Quantity**, **Unit_Price**, and **Line_Total** (not shown in the diagram but exist in the table).

2. Dimension Tables (Surrounding_Ovals)

Each dimension table provides descriptive attributes that help analyze the data:

Dim Customer (**Customer_Dimension**):

- Stores details about customers (e.g., Name, Segment, Location).
- Primary Key: Customer_ID.
- Joins with Fact_Invoice on Customer_ID.

Dim Product (**Product_Dimension**):

- Stores details about products (e.g., Name, Category, Price).
- Primary Key: Product_ID.
- Joins with Fact_Invoice on Product_ID.

Dim Date (**Time_Dimension**)

- Stores date-related information (e.g., Year, Month, Quarter, Day of the Week).
- Primary Key: Date_ID.
- Joins with Fact Invoice on Date_ID.

Dim Store (**Store_Dimension**)

- Stores store-related information (e.g., Location, Store Type).
- Primary Key: Store_ID.
- Joins with Fact_Invoice on Store_ID.

3. Relationships

- The arrows indicate one-to-many relationships (each dimension table links to multiple records in the fact table).
- This structure allows flexible querying, such as:
 - Sales by customer
 - Sales by product category
 - Sales trends over time
 - Performance by store location

4. Business Use Cases Supported

- Drill-down Analysis: Explore transactions by customer, product, time, or store.
- Historical Analysis: Track trends over time using the Dim Date table.
- Performance Monitoring: Identify top-performing stores, products, or customers.
- Scalability: New dimensions (e.g., sales representatives) can be added without modifying the fact table.

5. Conclusion:

This star schema is well-structured for efficient business intelligence and reporting.

It supports fast queries because dimensions are denormalized, reducing complex joins.