



Information Technology Institute Data Management Track Data Stage Project (Intake 44/2023)

Project Description

Retail industry scenario In this scenario, we use a “real world” retail industry scenario to demonstrate a typical star-schema data warehousing flow using IBM InfoSphere DataStage. Hopefully, you can then extrapolate/customize this process flow to address the unique star-schema data warehousing requirements of your organization.

Our scenario assumes a fictitious national department store which decides to build a star-schema based sales analysis data warehouse with the dimensions of customer, store, product, Over time, dimension attributes are expected to change, and the requirement is to preserve versions of these changes in the star-schema data warehouse in order to deliver accurate results with queries that relate to prior versions of dimension attributes. The data source for the star-schema is an OLTP system

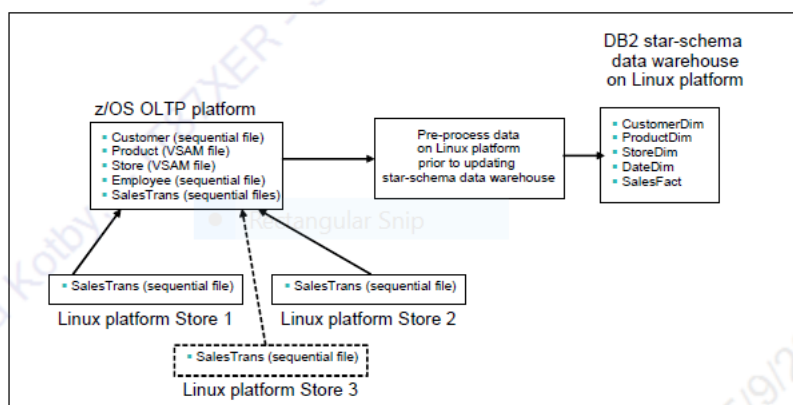


Figure 3-1 Retail industry scenario overview for WANTTHATSTUFF

One time tasks (Day 0) involve the following actions:

- Designing the star-schema
- Populating the dimension tables and fact table
- Setting up for the recurring tasks.

Ex Star Schema:

- Store dimension table column MANAGER_NAME

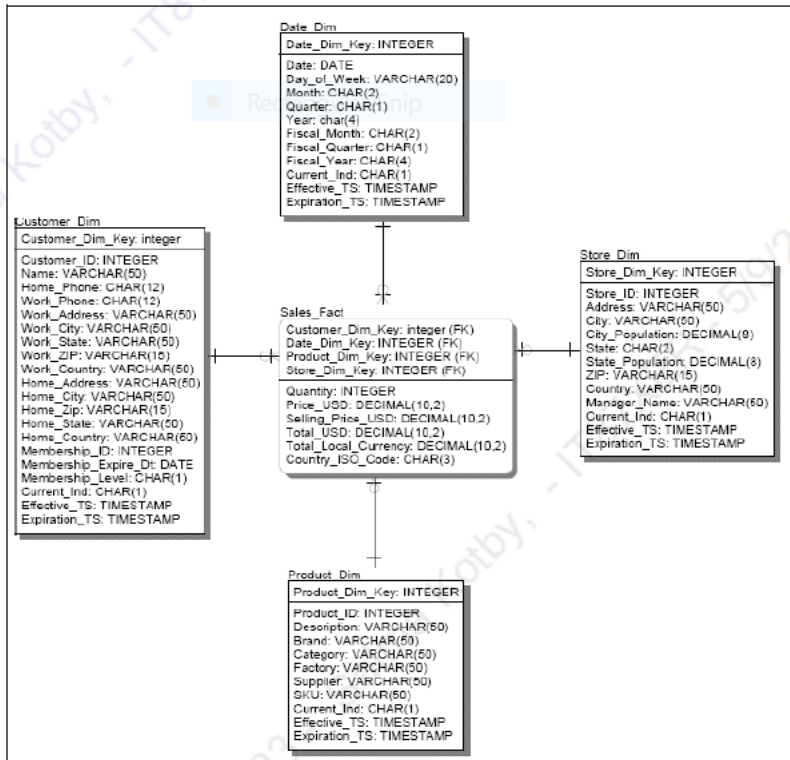


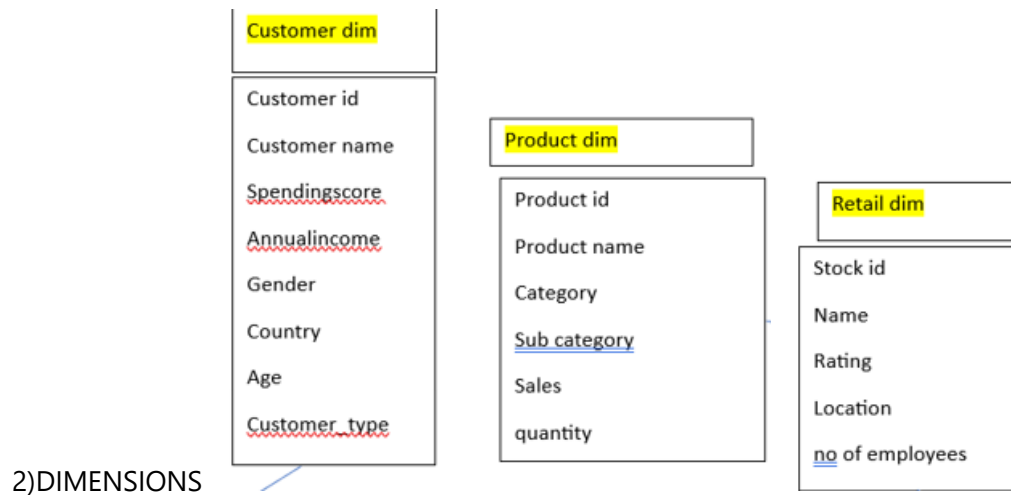
Figure 3-3 Star-schema of WantThatStuff's data warehouse

In our case study: we have three dimensions product, retail, customer , fact table "transactions"

As shown in next picture : I solve q1 and make model

1)FACT

Transaction fact table
Stock id
Invoice id
Description
Quantity
Invoice Date
Price
Customer id
Country
productid



In additional attached files , can you show samples of data

Project Requirements

1. State the modeling process, translate the logical data model to a physical data model
"Done by me "I made this step and load samples into files in attached files
2. Using ETL tool , we need to create ETL solution to load this data into files or data bases based on business need ,you should read source data and make transformation on it to serve business need

Questions:

1)

Need data mart that display each transaction for each customer based on type of customer "citizen" or "foreign" with information of it information of product and information of stock which buy with name file
"RETAIL_DATA_MART" with transformation upper case of all customer name column and display column represent date instead of dim date table.

2) based on question 1 read data mart "RETAIL_DATA_MART"

Then answer the following business need:

- Display count of all transaction for each customer for each store
- Display max profit made by which customer type.
Illustrate: customer type "foreign" make 5 transactions
, customer type "citizen" makes 3 transactions.
So, max profit made by foreign customers.
Named DataMart "ACTIVATION_SALES_DATA_MART"
- Based on which customer make profit , give them Bouns
Equation = $\text{Annual_Income} \times \text{SpendingScore} \times 100$

Best of luck