Low Level Design

Amazon Sales Data Analysis

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Contents

1. Introduction

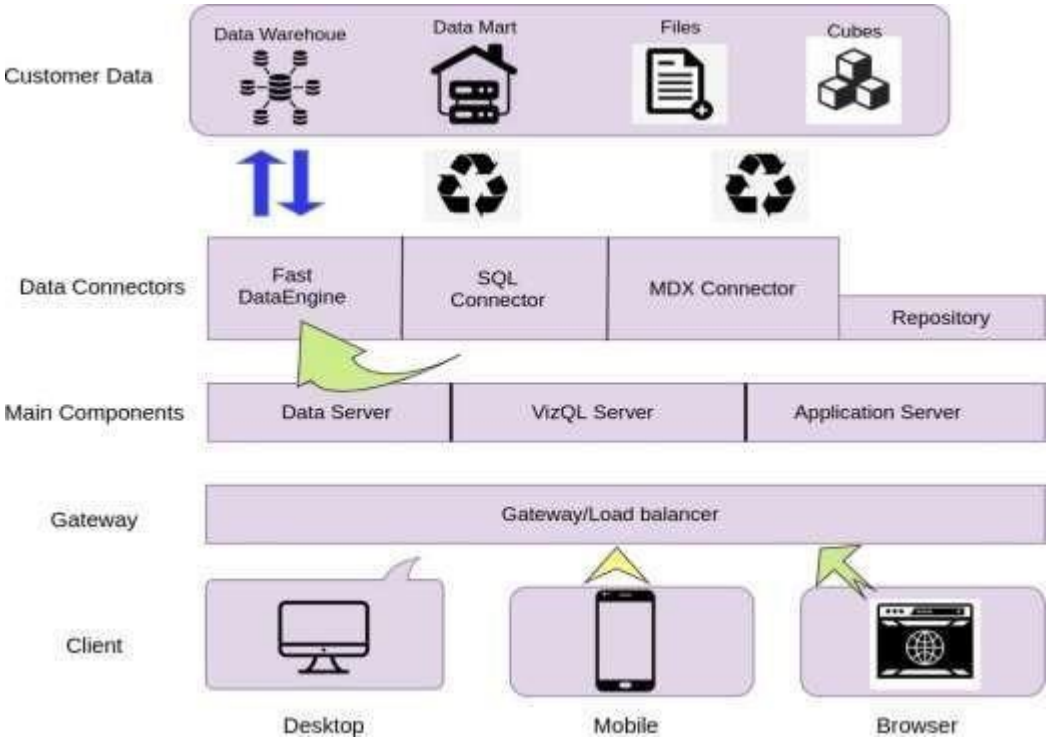
1.1 What is Low-Level design document?

The goal of the LDD or Low-level design document (LLDD) is to give the internal logic design of the report for the Amazon Sales Data Analysis. LDD describes the procedures and relationships between the variables and programs data visualizations.

1.2 Scope

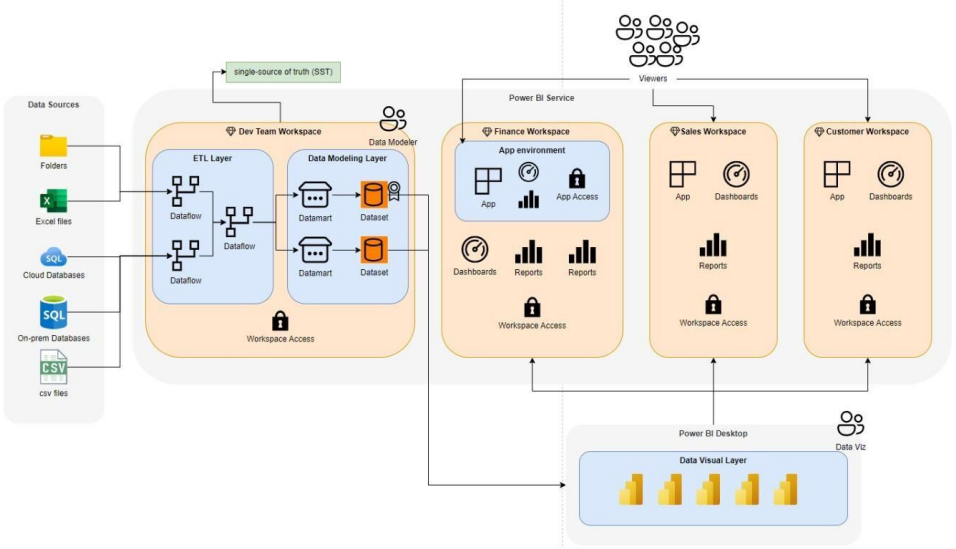
Low-level design (LLD) is a component-level design process that follows a step-by-step refinement process. The process can be used for designing reports, dashboards and required charts to showcase relationship between different data points.

2. Architecture



Power BI Architecture:

MS Power BI architecture consists of four major steps that explain the whole process from data sourcing to the creation of reports and dashboards. Various technologies and processes work together to get the required results with extreme precision. Let's see those steps further.



3. Architecture Description

3.1. Data Description

The Dataset contains Amazon Sales Data consists of columns like Sales Amount, Sales Quantity, Margin Amount, Sales Cost, Items, Item Orders, Sales Representatives, Item Class and Date of Order.

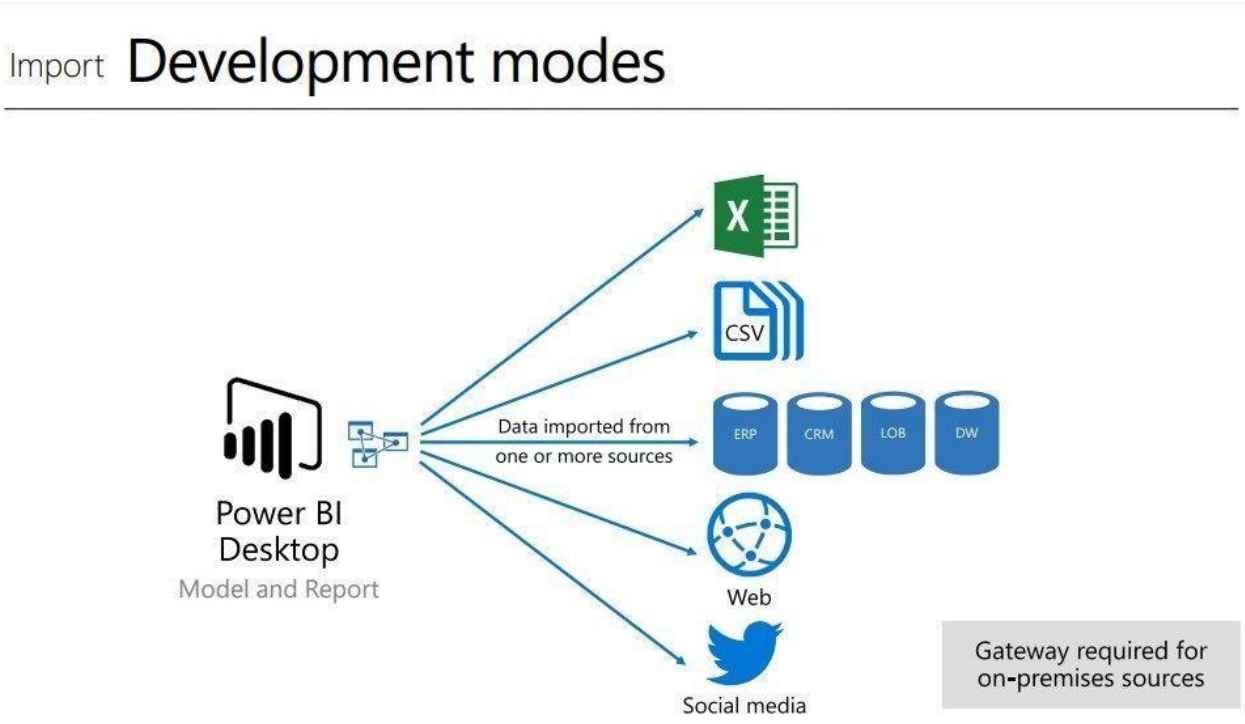
1. Discount Amount: Discount on every ordered item
2. Date: Ordered Date
3. Item: Name of the item ordered
4. List Price: The price at which the item is listed.
5. Sales Amount: Total amount of sales for particular item.
6. Sales Cost Amount: Amount spent for conversion of Sale
7. Sales Margin Amount: Margin amount on each item sold
8. Sales Quantity: Total number of items sold
9. Sales Representative: Representative under whom sale is completed.

3.2. Data Cleaning

Prior to producing visualisations, data cleaning is an important step. The dataset is tainted by errors, such as missing numbers or the wrong data types. To fill in any missing values and prepare the dataset for the creation of visualisations, data cleaning may be done in Python using the Pandas module.

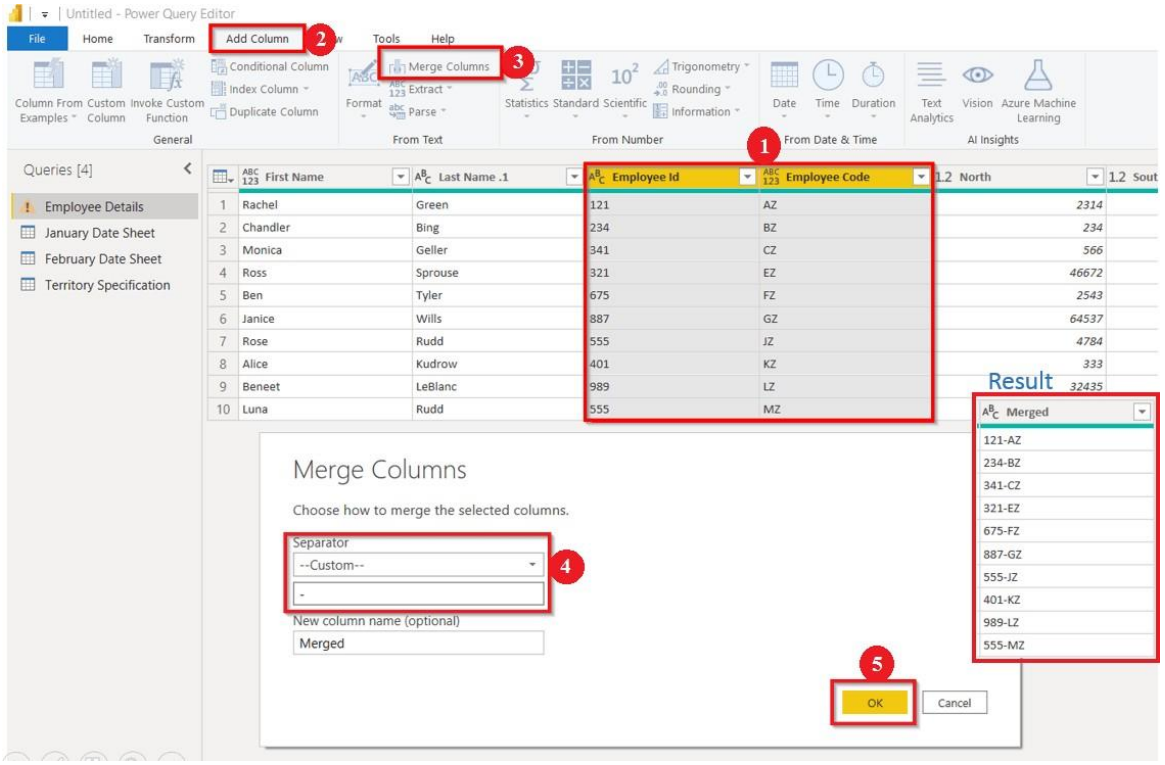
3.3. Data Importing

We may connect to our dataset in Power BI using a variety of methods, including SQL Server, MySQL, Excel, or CSV files. Our clean data is in a CSV file. With the import data option in Power BI, we will import it and begin using it.



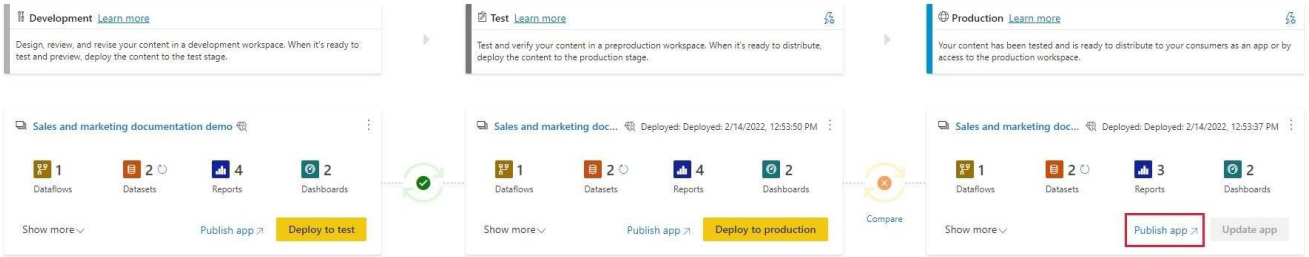
3.4. Data Transformation in Power BI

After importing the data into Power BI, we "transform data," or use the Power Query editor to apply specific operations to the data. Making sure that the data types are proper and establishing custom or conditional columns are two basic tasks carried out by Power Query.



3.5 Deployment

Power BI apps are the recommended way of distributing content to free Power BI consumers. You can update the content of your Power BI apps using a deployment pipeline, giving you more control and flexibility when it comes to your app's lifecycle. Create an app for each deployment pipeline stage, so that you can test each update from an end user's point of view. Use the publish or view button in the workspace card to publish or view the app in a specific pipeline stage.



4. Unit Test Cases

TEST CASE DESCRIPTION	EXPECTED RESULTS
Year slicer	When clicked on the slicer, the shows results for that particular year
Month Slicer	When clicked on the slicer, a dropdown occurs which lists the name of months. This helps us see data by each month.
Monthly Trend for Sales	This chart showcases trend for monthly sales. Top performing months and low performing months can be easily segmented.
Yearly Trend for Sales	This chart displays which year has been best one so far in regards to the sales.
Relation between Sales Amount and Discount Amount	The visual shows a line chart displaying relation between Sales Amount and Discount
Top 10 ordered items.	This is a table that displays top 10 items that were ordered frequently. It also shows list price and sales price to understand the reasoning behind higher orders.
Top Sales Representatives	This chart shows top performing sales representatives with the sales amount.
Relationship between Sales Cost and Total Sales	A scatterplot that helps us understand relationship between sales cost and total sales.
Relationship between Sales Quantity and List Price	This visual has a scatterplot that helps us understand relationship between sales quantity and list price.
Relationship between Sales Price and List Price	A scatterplot chart helps us understand relationship between sales price and list price.
Top Margin Items	This chart displays higher margin items.