LOW LEVEL DESIGN

Amazon Sales Data Analysis

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DOCUMENT CONTROL

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VERSION	DATE	AUTHOR	COMMENTS
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1.INTRODUCTION

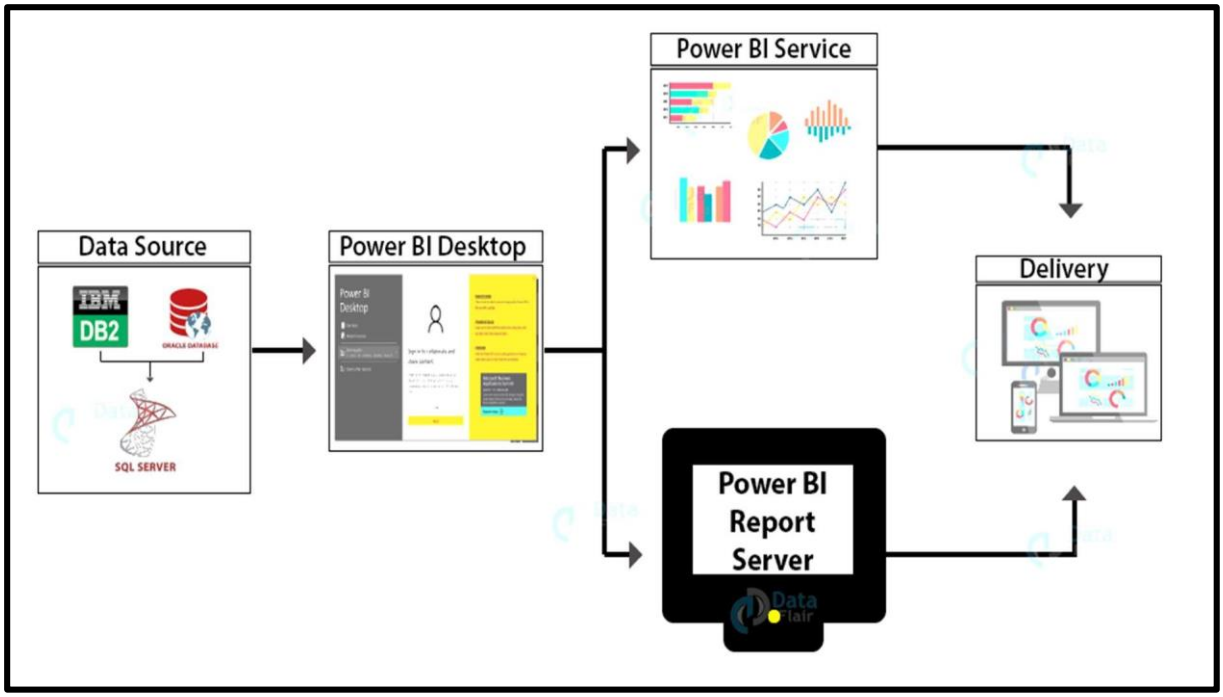
1.1 What is Low Level Design Document?

The goal of LLD or a Low-Level Design document (LLD) is to give the internal logical design of the actual Dashboard for Amazon Sales Data Analysis. LLD describes the class diagrams with the methods and relations between classes and programs specs. It describes the modules so that the programmer can directly code the program from the document.

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 data structures, required software architecture, source code and ultimately, performance algorithms. Overall, the data organization may be defined during requirement analysis and then refined during data design work.

2.ARCHITECTURE



2.1 COMPONENTS OF POWERBI ARCHITECTURE

2.1.1 DATA SOURCES

An important component of Power BI is its vast range of data sources. You can import data from files in your system, cloud-based online data sources or connect directly to live connections. If you import from data on-premise or online services there is a limit of 1 GB. Some commonly used data sources in Power BI are:

- Excel
- Text/CSV
- XML
- JSON
- Oracle Database
- IBM DB2 Database
- MySQL Database
- PostgreSQL Database
- SAP HANA Database
- SAP Business Warehouse server
- Amazon Redshift

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- Google Big Query (Beta)
- Azure SQL Database
- Salesforce Reports
- Google Analytics
- Facebook

2.1.2 POWERBI DESKTOP

Power BI Desktop is a client-side tool known as a companion development and authoring tool.
This desktop-based software is loaded with tools and functionalities to connect to data sources, transform data, data modelling and creating reports.
You can download and install Power BI Desktop in your system for free. Using Power BI Desktop features, one can do data cleansing, create business metrics and data models, define the relationship between data, define hierarchies, create visuals and publish reports.

2.1.3 POWERBI SERVICE

Power BI Service is a web-based platform from where you can share reports made on Power BI Desktop, collaborate with other users, and create dashboards.
It is available in three versions:

- Free version
- Pro version
- Premium version

Power BI Service is also known as, “Power BI.com”, “Power BI Workspace”, “Power BI Site” and “Power BI Web Portal”. This component also offers advanced features like natural language Q&A and alerts.

2.1.4 POWERBI REPORT SERVER

The Power BI Report Server is similar to the Power BI Service. The only difference between these two is that Power BI Report Server is an on-premise platform. It is used by organizations who do not want to publish their reports on the cloud and are concerned about the security of their data.

Power BI Report Server enables you to create dashboards and share your reports with other users following proper security protocols. To use this service, you need to have a Power BI Premium license.

3.ARCHITECTURE DESCRIPTION

3.1 DATA DESCRIPTION

The dataset contains different prices of the sales data of Amazon for the year 2017,2018,2019

1. Custkey – It is a Unique Id used to define a customer.
2. Datekey – It is the date on which transaction took place.
3. Discount amount – It is the difference between Sales amount based on list price and Sales amount.
4. Invoice Date – It is the date on Which the Ordered delivered and invoice created.
5. Invoice Number – It is a Unique number generated by the system after making of invoice
6. Item Class – It is the class of the Item.
7. Item Number – It is a Unique number used to define an item.
8. Item – It is the name of the item for which transaction took place.
9. Line Number – It is the number of line from which it is ordered.
10. List Price – It is the price quoted by the manufacturer.
11. Order Number – It is the Unique Number for the particular order.
12. Promised delivery date – It is the date provided on which delivery is expected.
13. Sales Amount – It is the Product of Sales Price and Quantity.
14. Sales amount based on List Price – It is the product of List price and Quantity.
15. Sales Cost amount – It is the amount caused for making sales of the item.
16. Sales Margin amount - It is the difference between Sales amount and Sales cost amount.
17. Sales Price – It is the price at which Item is Sold.
18. Sales Quantity – It is the quantity of the ordered item.
19. Sales Rep. – It is the unique number or Id of the sales representative.
20. U/M – It Is the Unit of measurement for particular item.

3.2 DATA TRANSFORMATION

In the Transformation Process, we will convert our original datasets with other necessary attributes format as dataset is in Excel 97 format which cause misbehave sometimes in Powerbi we will convert file into .Xlsx format

3.3 DATA LOADING.

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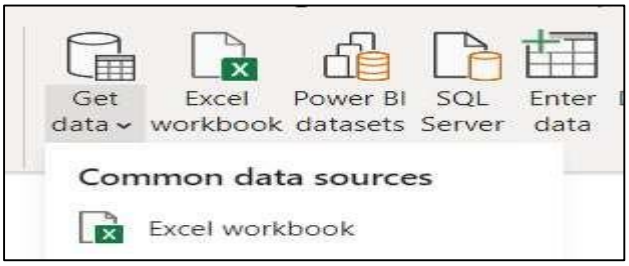
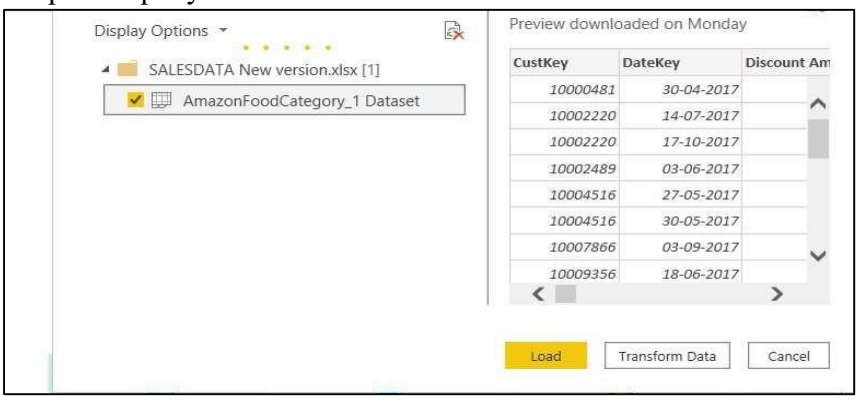
Step 1 :- Open Powerbi Desktop Application

Step 2 :- Click on Get Data and select “Excel Workbook”



Step 3:- Select “SALESDATA New version” and Click on Open.

Step 4:-Select “AmazonFoodCategory_Dataset” and Click on Transform Data to do transformation in power query editor.



3.4 DEPLOYMENT:

After completing Dashboard Follow the Steps to deploy the report.

Step 1: Click on “Publish”

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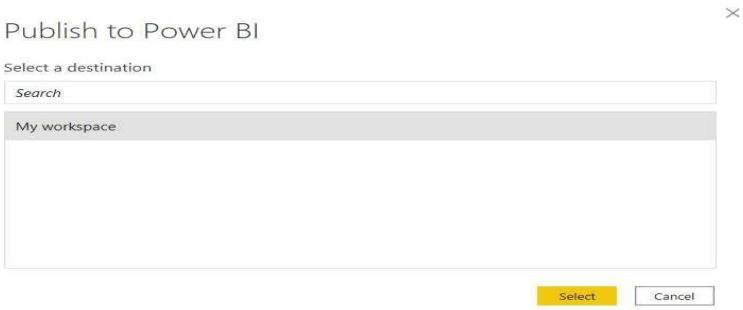
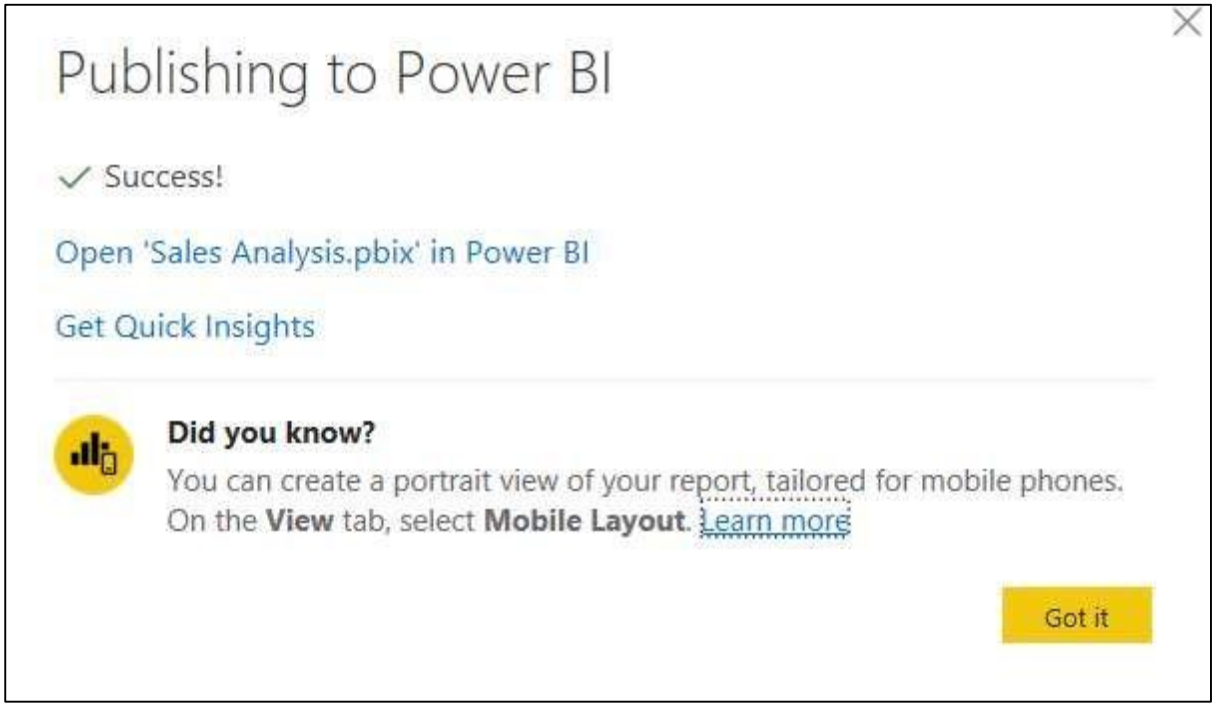
Step 2 : Click on Workspace name and click on “Select”



Step3 : confirm the “Success” message on Powerbi desktop



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Here on the below screenshot we can see the dashboard is Published on Powerbi Service

4.UNIT TEST CASES:

Test Case Description	Expected Result
Verify whether user is able to successfully navigate to the pages by clicking on Buttons created on home tab.	After clicking on created button, the Designated page should open
Verify Year, Month, Quarter Slicers.	When clicked on the slicer, a dropdown should occur which has various parameters of the Date.
Verify whether user is able to successfully apply slicers of Year, Month, Quarter.	The dashboard data should change according to slicer applied.
Verify whether user is able to see data of Top 5 items, Top 5 customers, Top 5 sales representative, Top 5 lines.	After Hovering on particular field user should see the required data.
Verify whether user is able to return to home screen by clicking on home button	User should be able to return to home tab after clicking on home tab.
Verify whether user is able to select item from slicer on Amazon sales data relationship tab	User should be able to select item from the slicer.
Verify whether user gets information item wise after selecting item.	The dashboard data should change according to slicer selected.

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