GLOBAL SUPERMARKET DATA ANALYSIS

Low-Level Design (LLD)

Revision Number: 1.0

Last date of revision:09-Aug-2022

Project Title	**GLOBAL SUPERMARKET DATA ANALYSIS**
Technologies	**Excel**
Domain	**E-commerce**
Project Difficulties level	**Advance**

INDEX

Document Version Control

Date Issued	Version	Description	Author
09-Aug-2022	1.0	Complete LLD	Pooja Das

Abstract / Problem Statement

E-commerce (electronic commerce) is the buying and selling of goods and services, or
the transmitting of funds or data, over an electronic network, primarily the internet. These
business transactions occur either as business-to-business (B2B), business-to-
consumer (B2C), consumer-to-consumer or consumer-to-business.

Business Scenario

The Analytics team of an Online E-Commerce Company wants to design a Sales
dashboard to analyze the sales based on various product categories. The company
wants to add user control for product categories, so users can select a category and can see the trend month-wise and product-wise accordingly.

Given Tasks

- Task 1 - In a word document write the process and data added to the current dataset.
- Task 2 – You can add your data at your convenience.
- Task 3 - Do the data preparation part.
- Task 4 – Build the dashboards.
- Task 5 – Deploy Dashboard

1 Introduction

1.1 Why this Low-Level Design Document?

The goal of the LDD or Low-level design document (LLDD) is to give the internal logic design for the Global Supermarket Data Analysis dashboard. LDD describes the class diagrams with the methods and relations between classes and program specs. It describes the modules so that the programmer can directly code the program from the document.

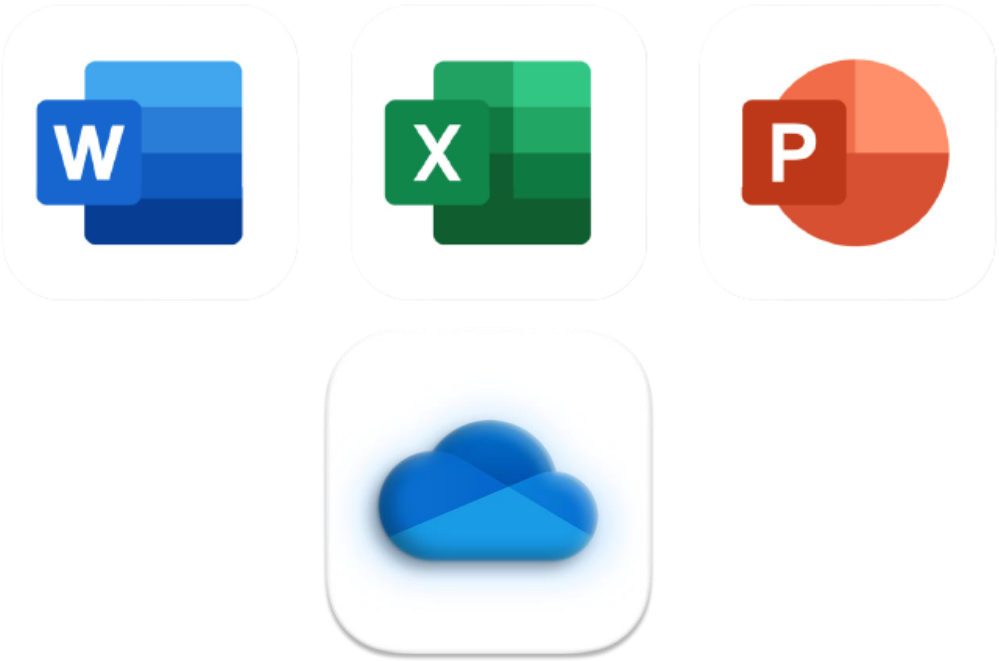
1.2 Scope

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. General Description

2.1 Tools used

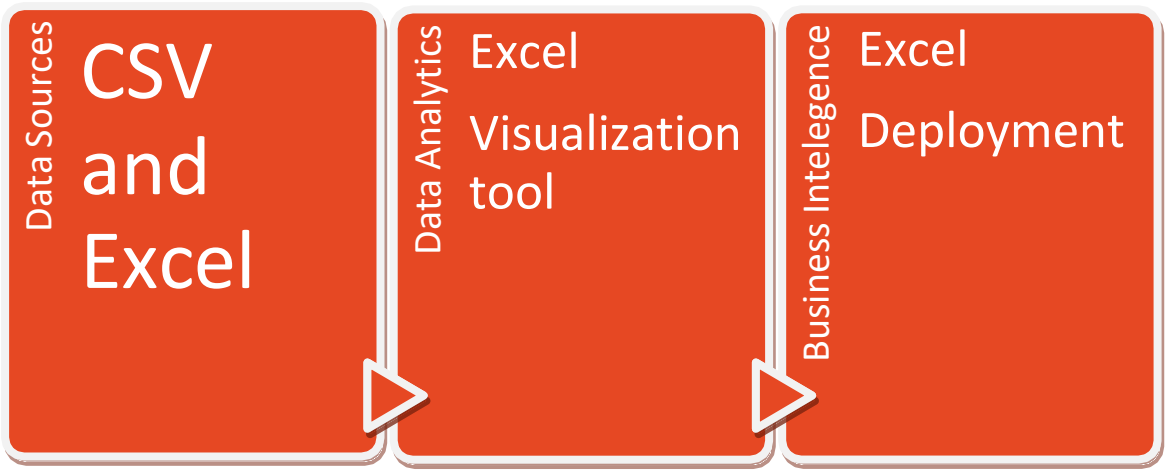
Office 365 Excel, Word, PowerPoint, and OneDrive are used.



3 Design Details

3.1 Functional Architecture

Low- Level Design (LLD)



4. KPIs

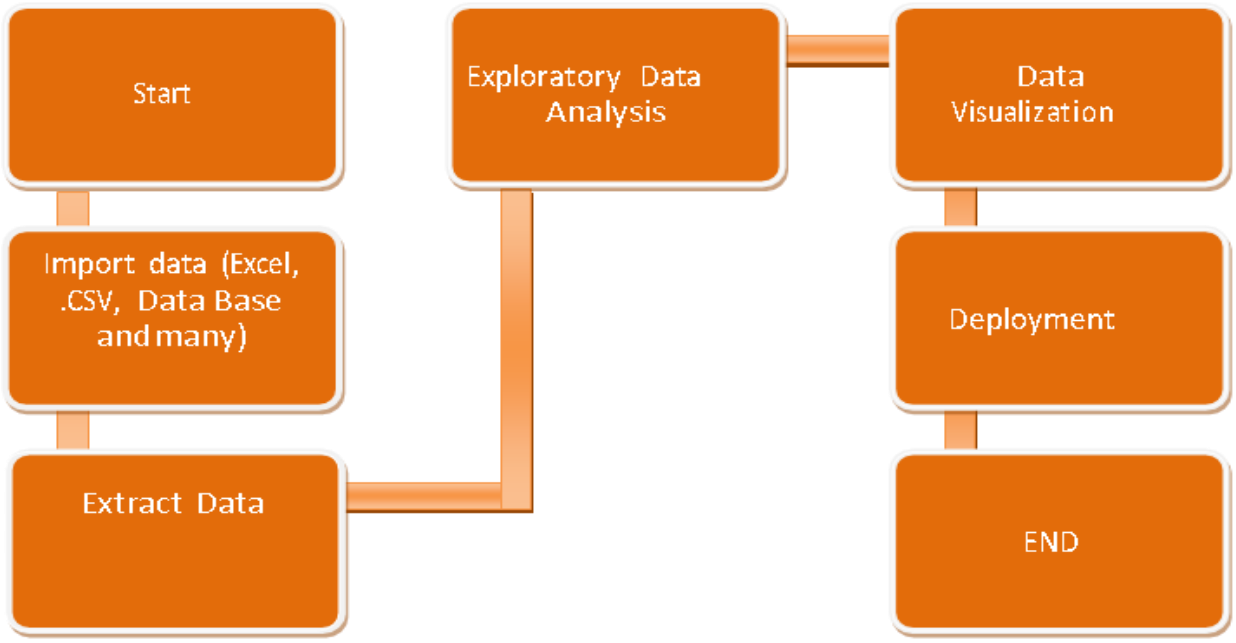
Dashboards will be implemented to display and indicate certain KPIs and relevant indicators for the disease.
As and when, the system starts to capture the historical/periodic data for a user, the dashboards will be included to display charts over time with progress on various indicators or factors.

4.1 KPIs (Key Performance Indicators)

Used various KPI indicators that show different insights in dashboards.

- Total Sales
- Total Profit
- Profit %
- Total Sold Quantity
- Monthly Sales & Profit
- Daily Sales & Profit,
- Sales of Market
- Profit of Market
- Sub-Category Sales
- Sub-Category Profit
- Top 5 Sales Product
- Bottom 5 Sales Product
- Order Priority Sales
- Top 5 Profit Product
- Bottom 5 Profit Product
- Order Priority Profit
- Top 10 Sales Country
- Top 10 Profit Country
- Country Sales
- Country Profit
- Vendor Sales & Profit
- Top 5 Vendor Profit
- Top 5 Selling Vendor

5.Architecture



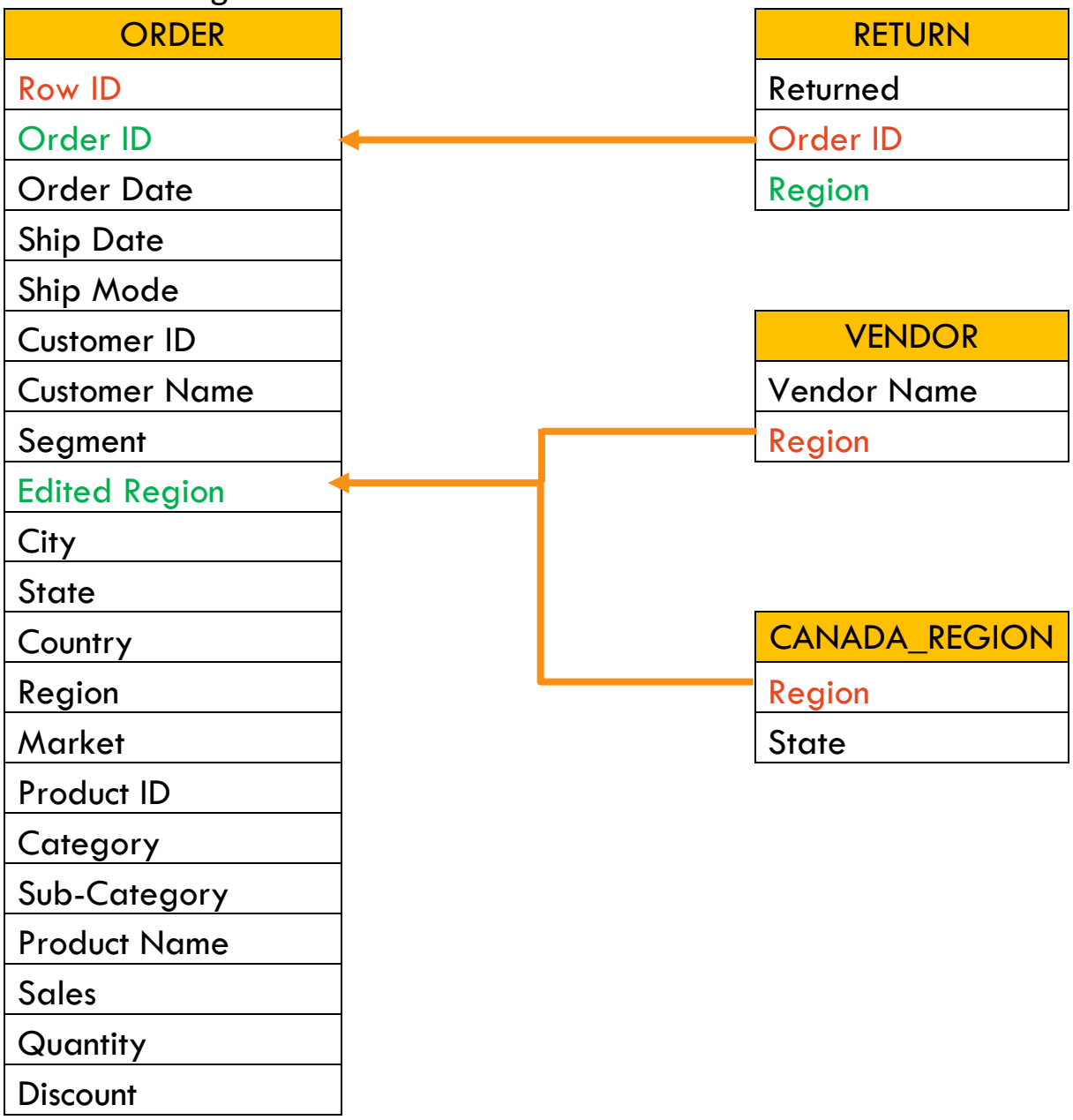
6. Database Diagram

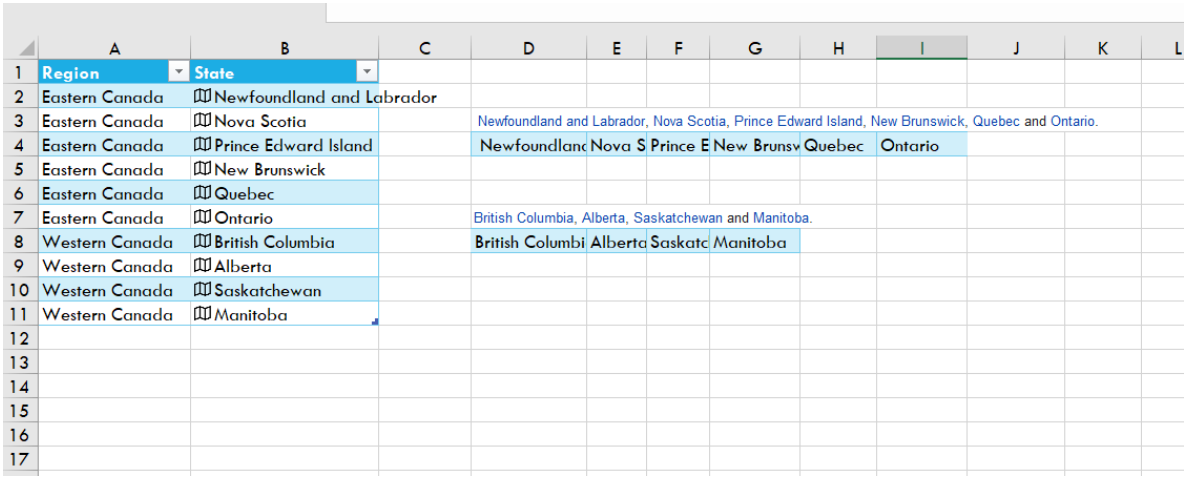
The order contains 51291 rows and 24 columns

The return contains 1080 rows and 3 columns

The vendor contains 25 rows and 2 columns

Canada Region contains 11 rows and 2columns





Region	State
Eastern Canada	Newfoundland and Labrador
Eastern Canada	Nova Scotia
Eastern Canada	Prince Edward Island
Eastern Canada	New Brunswick
Eastern Canada	Quebec
Eastern Canada	Ontario
Western Canada	British Columbia
Western Canada	Alberta
Western Canada	Saskatchewan
Western Canada	Manitoba

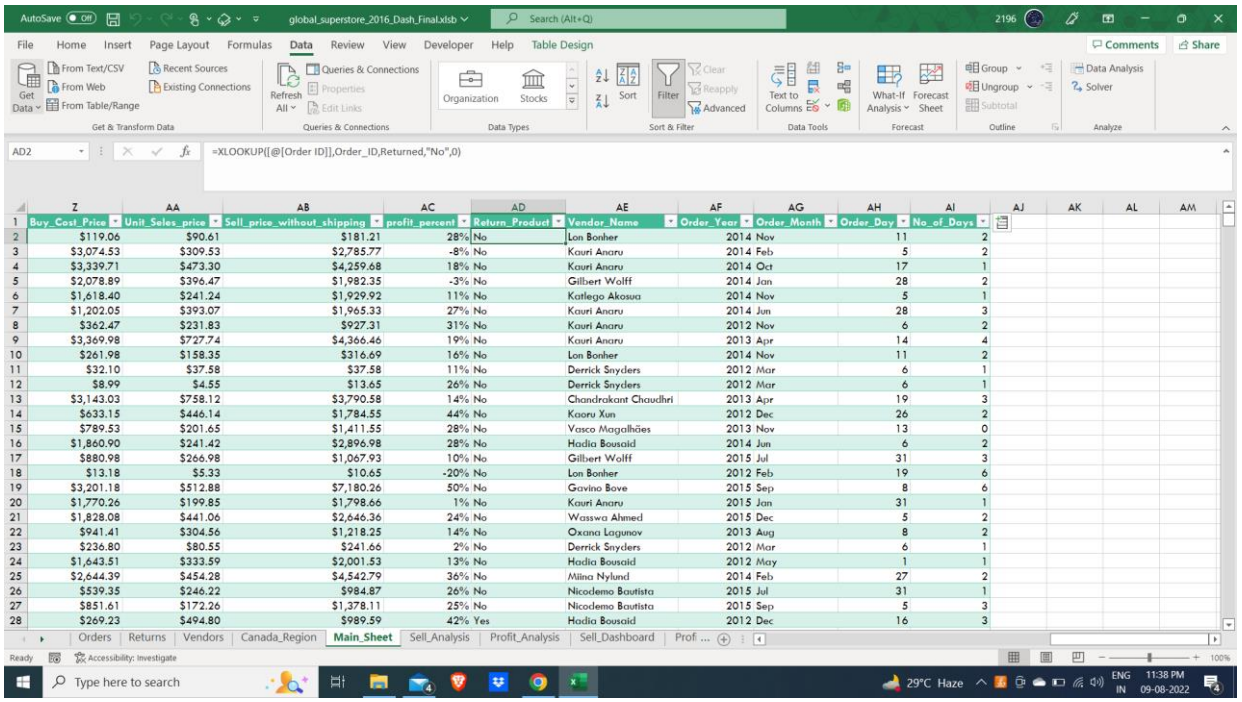
Newfoundland and Labrador, Nova Scotia, Prince Edward Island, New Brunswick, Quebec and Ontario.

Newfoundlanc	Nova S	Prince E	New Brunsv	Quebec	Ontario

British Columbia, Alberta, Saskatchewan and Manitoba.

British Columbi	Alberta	Saskatc	Manitoba

Returned	Order ID	Region
Yes	CA-2012-SA20830140-41210	Central US
Yes	IN-2012-PB19210127-41259	Eastern Asia
Yes	CA-2012-SC20095140-41174	Central US
Yes	IN-2015-JH158207-42140	Oceania
Yes	IN-2014-LC168857-41747	Oceania
Yes	ID-2013-AB1001527-41439	Eastern Asia
Yes	ES-2015-RA1994545-42218	Western Europe
Yes	CA-2014-TB21280140-41724	Central US
Yes	ES-2014-JF15295120-41924	Southern Europe
Yes	IN-2014-NM1844527-41800	Eastern Asia
Yes	IN-2015-GB145307-42260	Oceania
Yes	ES-2012-SC208458-41070	Western Europe
Yes	TU-2013-SF10200134-41417	Western Asia
Yes	ID-2015-RD1993092-42140	Oceania
Yes	CA-2014-TC21295140-41800	Southern US
Yes	SF-2015-MV8190117-42362	Southern Africa
Yes	IN-2014-EM1382566-41850	Eastern Asia
Yes	ES-2015-CC1210045-42182	Western Europe
Yes	ES-2015-MM1792045-42199	Western Europe
Yes	IN-2015-DB1306027-42353	Eastern Asia
Yes	IN-2013-JC157757-41310	Oceania
Yes	CA-2015-RB19705140-42262	Eastern US
Yes	ES-2015-BB1154548-42336	Western Europe
Yes	AL-2012-SC102302-40970	Southern Europe
Yes	UP-2014-MC7275137-41997	Eastern Europe
Yes	IN-2013-EJ13720113-41608	Southeastern Asia
Yes	CA-2012-AJ10780140-41212	Eastern US



Buy_Cost_Price	Unit_Sales_price	Sell_price_without_shipping	profit_percent	Return_Product	Vendor_Name	Order_Year	Order_Month	Order_Day	No_of_Days
$119.06	$90.61	$181.21	28%	No	Lon Bonher	2014	Nov	11	2
$3,074.53	$309.53	$2,785.77	-8%	No	Kauri Anaru	2014	Feb	5	2
$3,339.71	$473.30	$4,259.68	18%	No	Kauri Anaru	2014	Oct	17	1
$2,078.89	$396.47	$1,982.35	-3%	No	Gilbert Wolff	2014	Jan	28	2
$1,618.40	$241.24	$1,929.92	11%	No	Katlego Akosua	2014	Nov	5	1
$1,202.05	$393.07	$1,965.33	27%	No	Kauri Anaru	2014	Jun	28	3
$362.47	$231.83	$927.31	31%	No	Kauri Anaru	2012	Nov	6	2
$3,369.98	$727.74	$4,366.46	19%	No	Kauri Anaru	2013	Apr	14	4
$261.98	$158.35	$316.69	16%	No	Lon Bonher	2014	Nov	11	2
$32.10	$37.58	$37.58	11%	No	Derrick Snyders	2012	Mar	6	1
$8.99	$4.55	$13.65	26%	No	Derrick Snyders	2012	Mar	6	1
$3,143.03	$758.12	$3,790.58	14%	No	Chandrakant Chaudhri	2013	Apr	19	3
$633.15	$446.14	$1,784.55	44%	No	Kaoru Xun	2012	Dec	26	2
$789.53	$201.65	$1,411.55	28%	No	Vasco Magalhães	2013	Nov	13	0
$1,860.90	$241.42	$2,896.98	28%	No	Hadia Bousaid	2014	Jun	6	2
$880.98	$266.98	$1,067.93	10%	No	Gilbert Wolff	2015	Jul	31	3
$13.18	$5.33	$10.65	-20%	No	Lon Bonher	2012	Feb	19	6
$3,201.18	$512.88	$7,180.26	50%	No	Gavino Bove	2015	Sep	8	6
$1,770.26	$199.85	$1,798.66	1%	No	Kauri Anaru	2015	Jan	31	1
$1,828.08	$441.06	$2,646.36	24%	No	Wasswa Ahmed	2015	Dec	5	2
$941.41	$304.56	$1,218.25	14%	No	Oxana Lagunov	2013	Aug	8	2
$236.80	$80.55	$241.66	2%	No	Derrick Snyders	2012	Mar	6	1
$1,643.51	$333.59	$2,001.53	13%	No	Hadia Bousaid	2012	May	1	1
$2,644.39	$454.28	$4,542.79	36%	No	Milna Nylund	2014	Feb	27	2
$539.35	$246.22	$984.87	26%	No	Nicodemo Bautista	2015	Jul	31	1
$851.61	$172.26	$1,378.11	25%	No	Nicodemo Bautista	2015	Sep	5	3
$269.23	$494.80	$989.59	42%	Yes	Hadia Bousaid	2012	Dec	16	3

7. Configuring Microsoft Excel or CSV Data Sources

1. In the menu, click Project:<Project Name> > Project Settings.
2. Click the Data Sources tab. The Data Sources page displays a list of all of the data sources that have been created for the system.
3. Click New Data Source to open the New Data Source dialog box.
4. Type a Name for the data source.
5. From the Data source type list box, select MS Excel to configure a Microsoft Excel data source or select CSV to configure a CSV data source.
6. From the Source control profile list box, select the pre-configured source control profile that hosts your data file. For detailed information regarding the configuration of source control profiles, see *Source Control Profiles*.
7. Click Browse to open the Select Source Control Path dialog box. Browse to and select a data source file of the selected type in your source control path.
8. *Optional:* MS Excel only. If you are working with an Excel spreadsheet that includes multiple worksheets, and you want to narrow down the data source to specific worksheets, you can browse to and select specific worksheets for inclusion. To do this:
9. Click [...] next to the Worksheet filter field.
10. The Select Worksheet Filter dialog box displays. Select the worksheets that you want to be included as your data source.
11. Click OK.
12. *Optional:* Key column selection is used by tests to define which worksheet columns within a data source are used as the primary key. This is helpful if your data source will undergo edits,

for example when you add or remove rows within a worksheet. Even if your data source is edited, tests will still be able to identify which columns or rows should be used. Tests created from data-driven data sources use key column values in their names, rather than column numbers.

Note: MS Excel only: If the data source includes multiple worksheets, only columns with identical names are available to be defined as key columns.

To configure a key column:

a. Click [...] next to the Key column field.

b. The Select Key Column dialog box displays. Select a column from the column list that is to act as a key column.

c. Click OK.

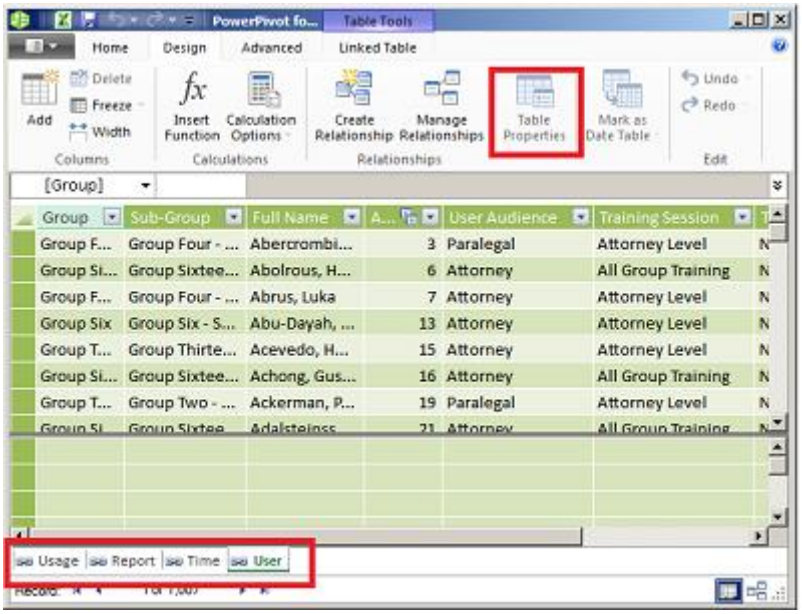
13. Click OK on the New Data Source dialog box.

8. Data sources are used in a workbook data model

Here are a few easy steps you can follow to determine exactly what data exists in the model:

1. In Excel, click Power Pivot > Manage to open the Power Pivot window.
2. View the tabs in the Power Pivot window.

   Each tab contains a table in your model. Columns in each table appear as fields in a PivotTable Field List. Any column that is grayed out has been hidden from client applications.



3. To view the origin of the table, click Table Properties.

   If Table Properties is grayed out and the tab contains a link icon indicating a linked table, the data originates from a sheet in the workbook rather than an external data source.

   For all other types of data, the Edit Table Properties dialog shows the connection name and query used to retrieve the data. Make a note of the connection name, and then use Connection

Manager in Excel to determine the network resource and database used in the connection:

a. In Excel, click Data > Connections.
b. Select the connection used to populate the table in your model.
c. Click Properties > Definition to view the connection string.