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Objectives:

- What is Power BI
- Key Components
- Power BI Desktop
- Environment of Power BI Desktop
- Connect to Data
- Edit Queries
- Relationship
- Data Visualization (Report)

What is Power BI ?

Power BI is business analytic tools to analyze and share insights, provided by Microsoft.

Power BI provided Interactive Visualization .

Originally conceived by Dhers and Amir Netz (Server Reporting Services Team Microsoft)

Originally designed by Ron Goerge in summer 2010 → Project Crescent.

In September 2013 unveiled by Microsoft as Power BI for office 365.

First release on July 24, 2015.

Key Components

- Power BI Desktop

  Windows based application for PCs

- Power BI Service

  The software as a service based on online service. Publish report securely and setup automatic data refresh.

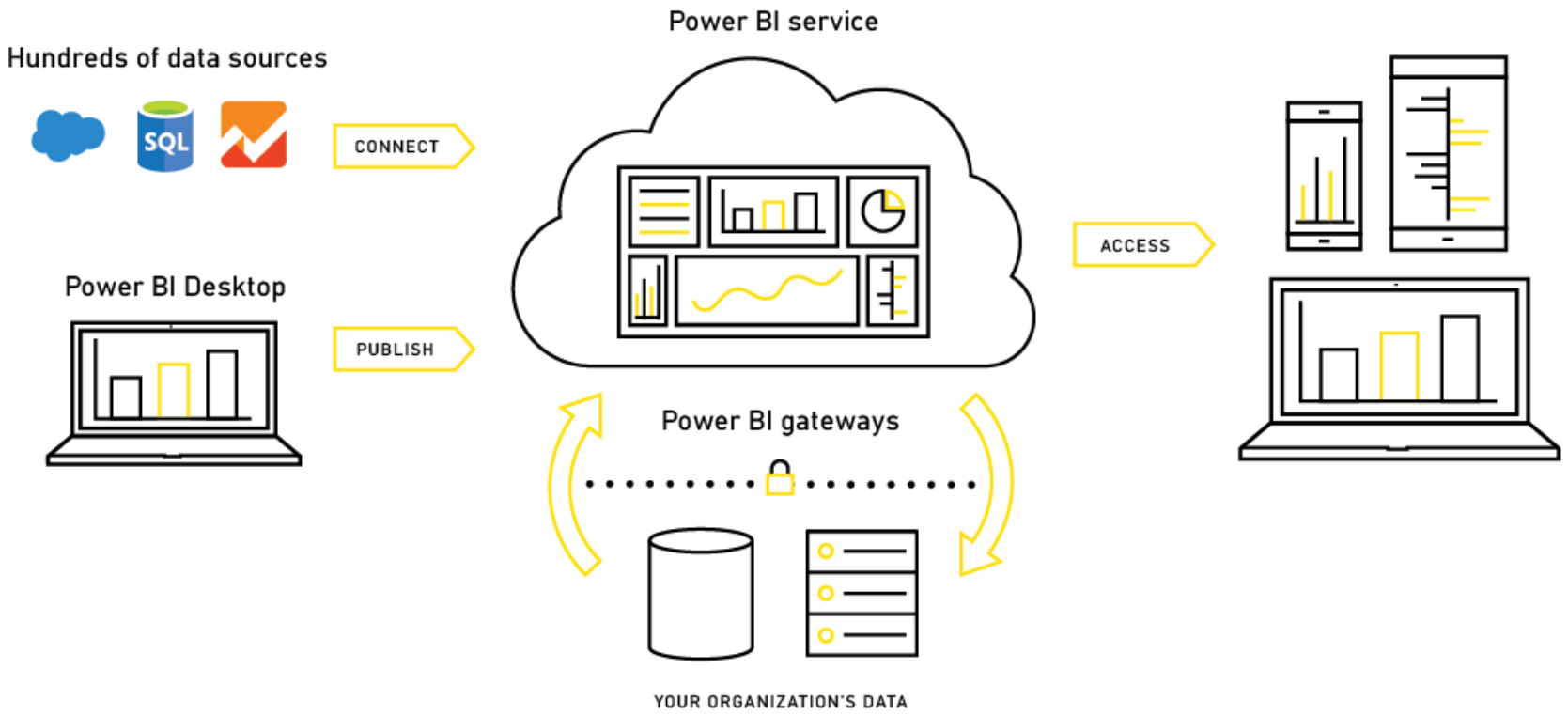
- Power BI Mobile Apps

  Mobile Apps for Android and iOS devices and Windows phones and tablets.

- Power BI Gateways

  Connect to SQL databases, Analysis services model, etc.

Key Components



Power BI Desktop

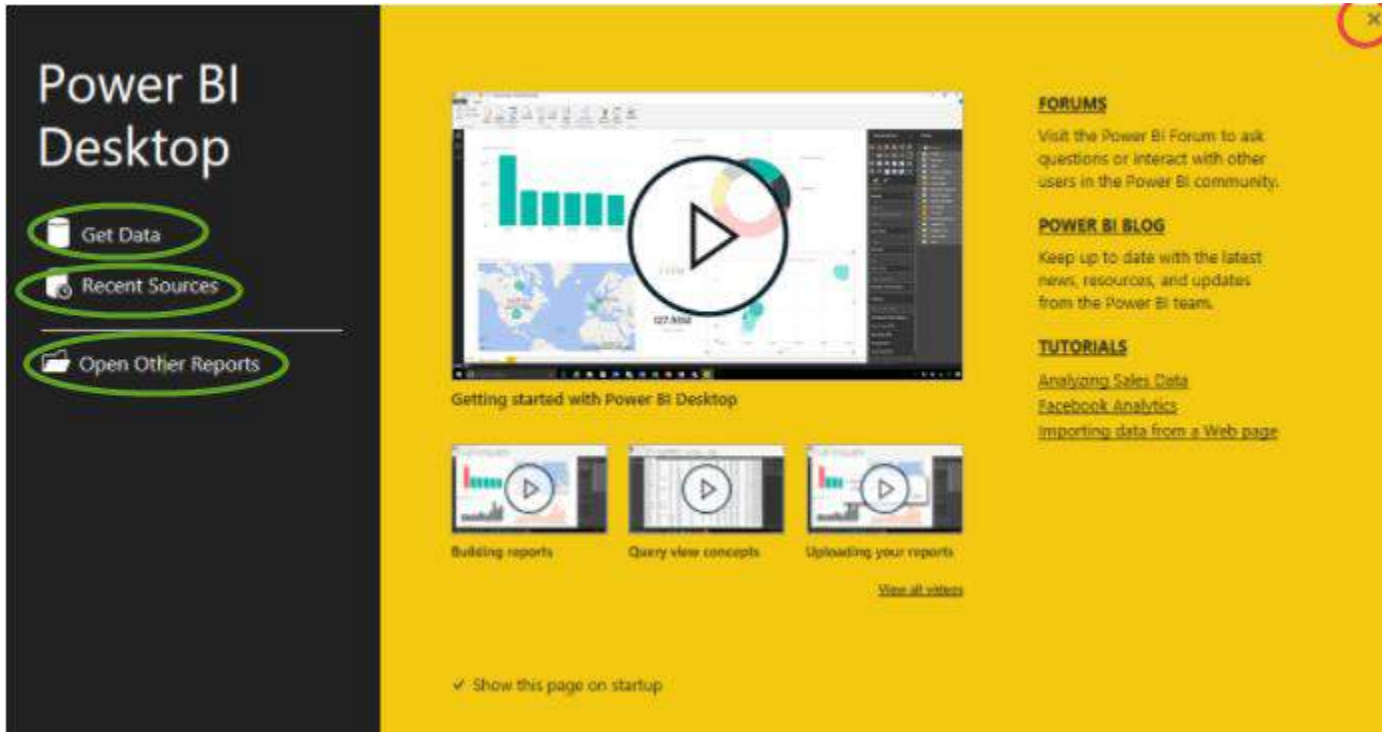
- Minimum requirements:
- Windows 7 / Windows Server 2008 R2, or later
- NET 4.5
- Internet Explorer 9 or later
- Memory (RAM): at least 1 GB available, 1.5 GB or more recommended.
- CPU: 1 gigahertz or faster.

Power BI Desktop

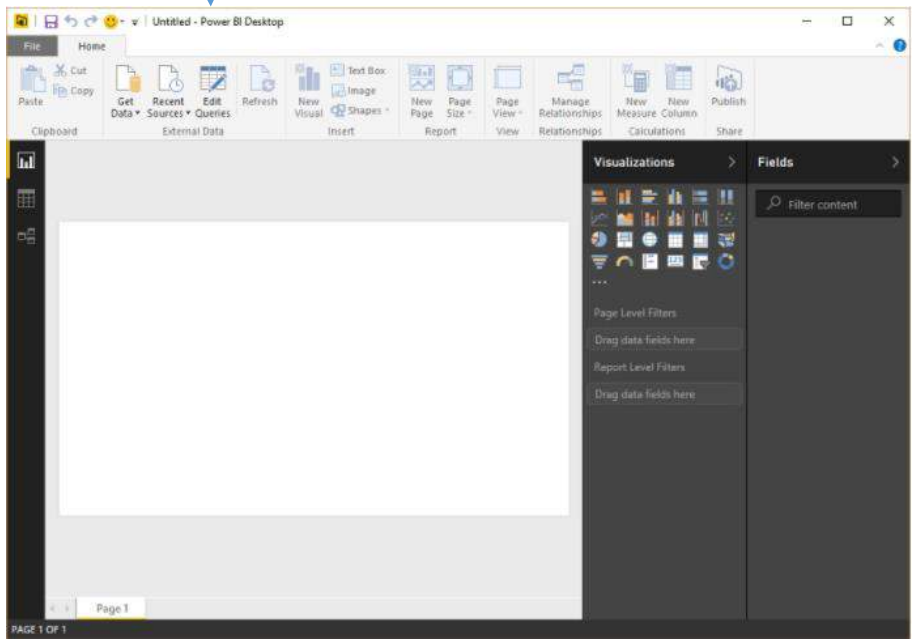
How Power BI Desktop Works?

- Connect with multiples data sources
- Shape that data (query, compelling data, etc)
- Create Report

Power BI Desktop

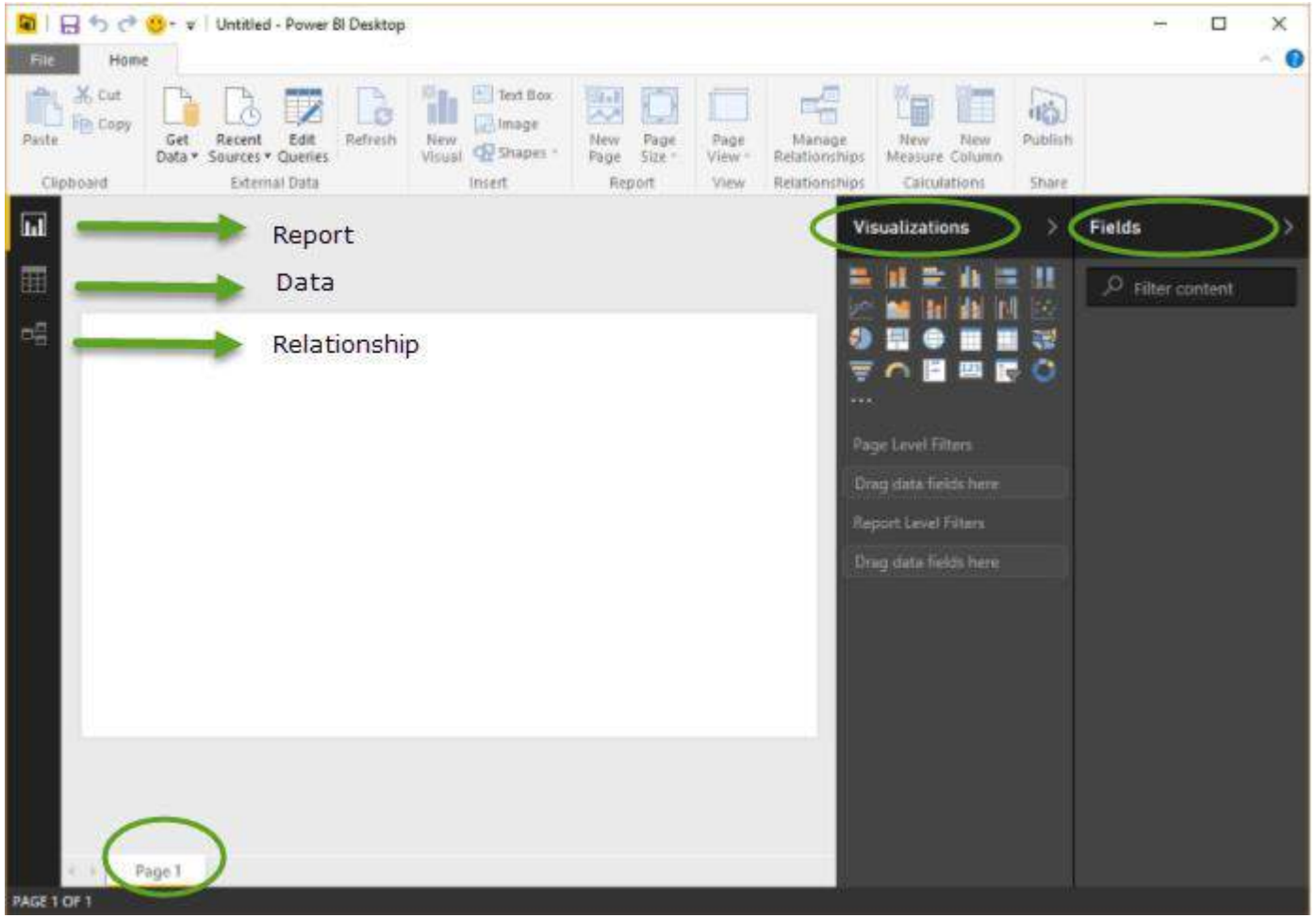


View of workbook of Power BI



The first view of Power BI

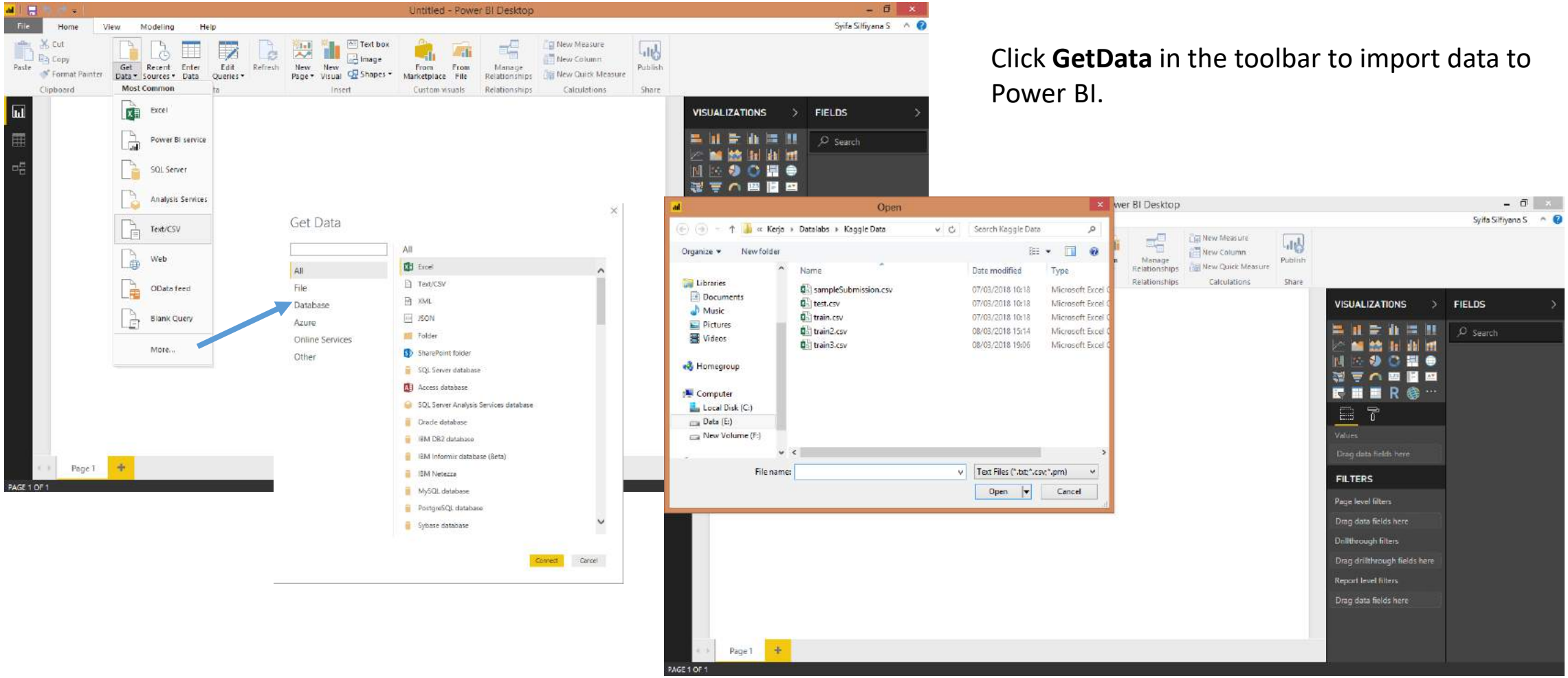
Environment Power BI Desktop



Elements in Power BI Desktop:

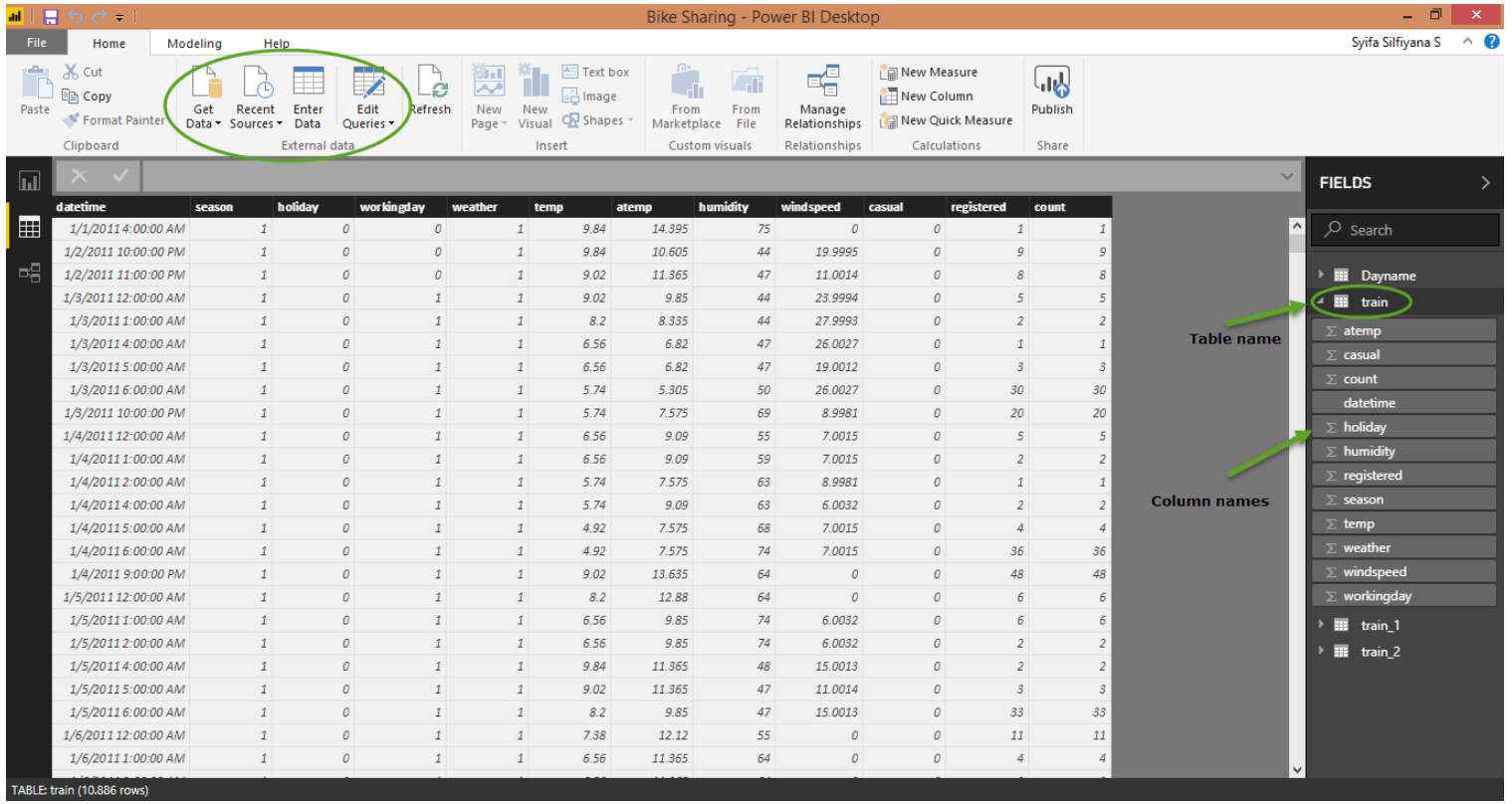
1. Report, window when you want create data visualization.
2. Data, Tables of data which is imported to Power BI.
3. Relationship, window to make relationship between tables.
4. Visualization, types of data visualization that you want used.
5. Fields, list of tables that inserted.

Power BI Desktop: Connect to data



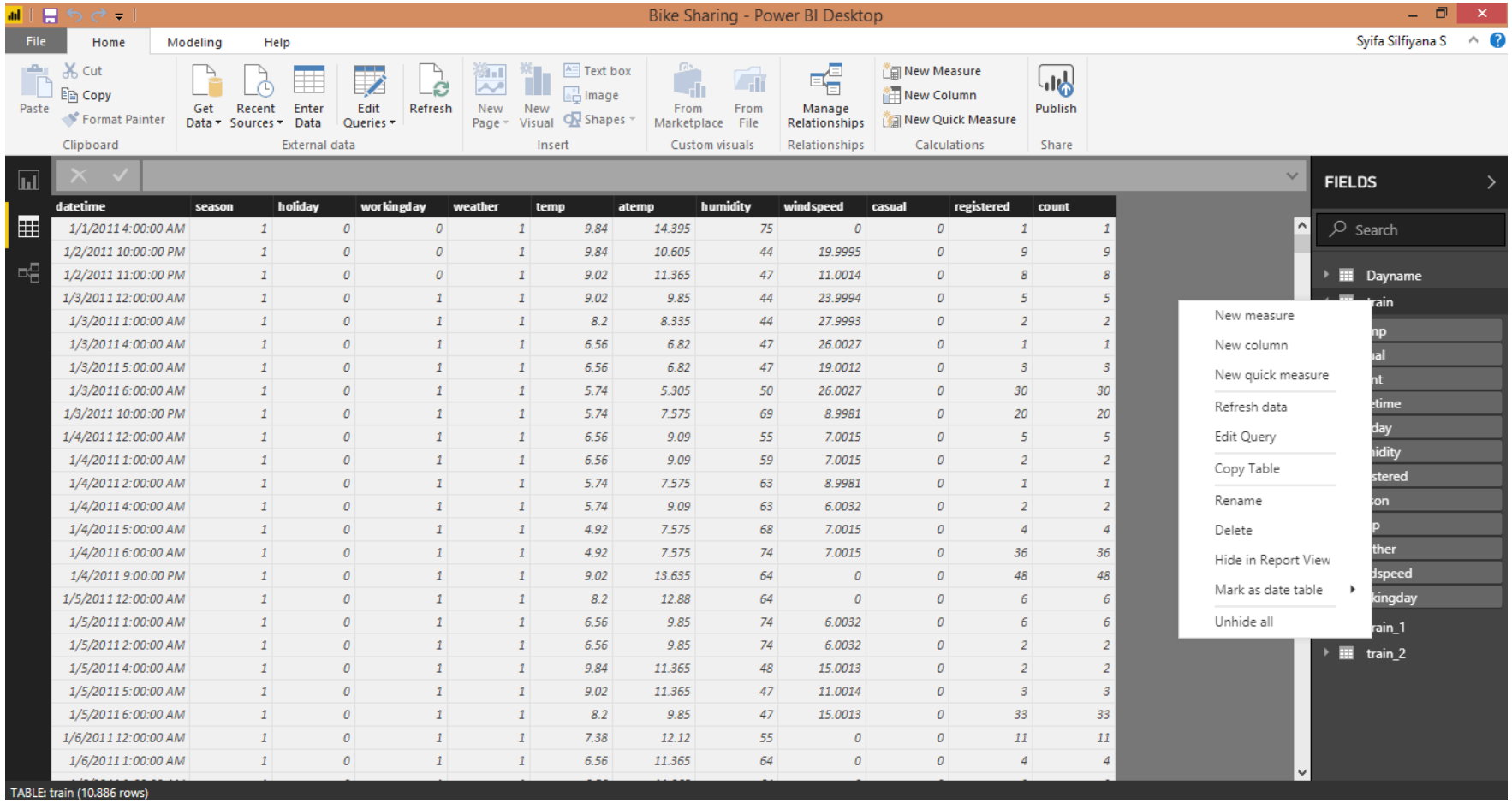
Click **GetData** in the toolbar to import data to Power BI.

Power BI Desktop: Connect to data (continue)



When data successful load to Power BI and to see your data click menu **Data.**

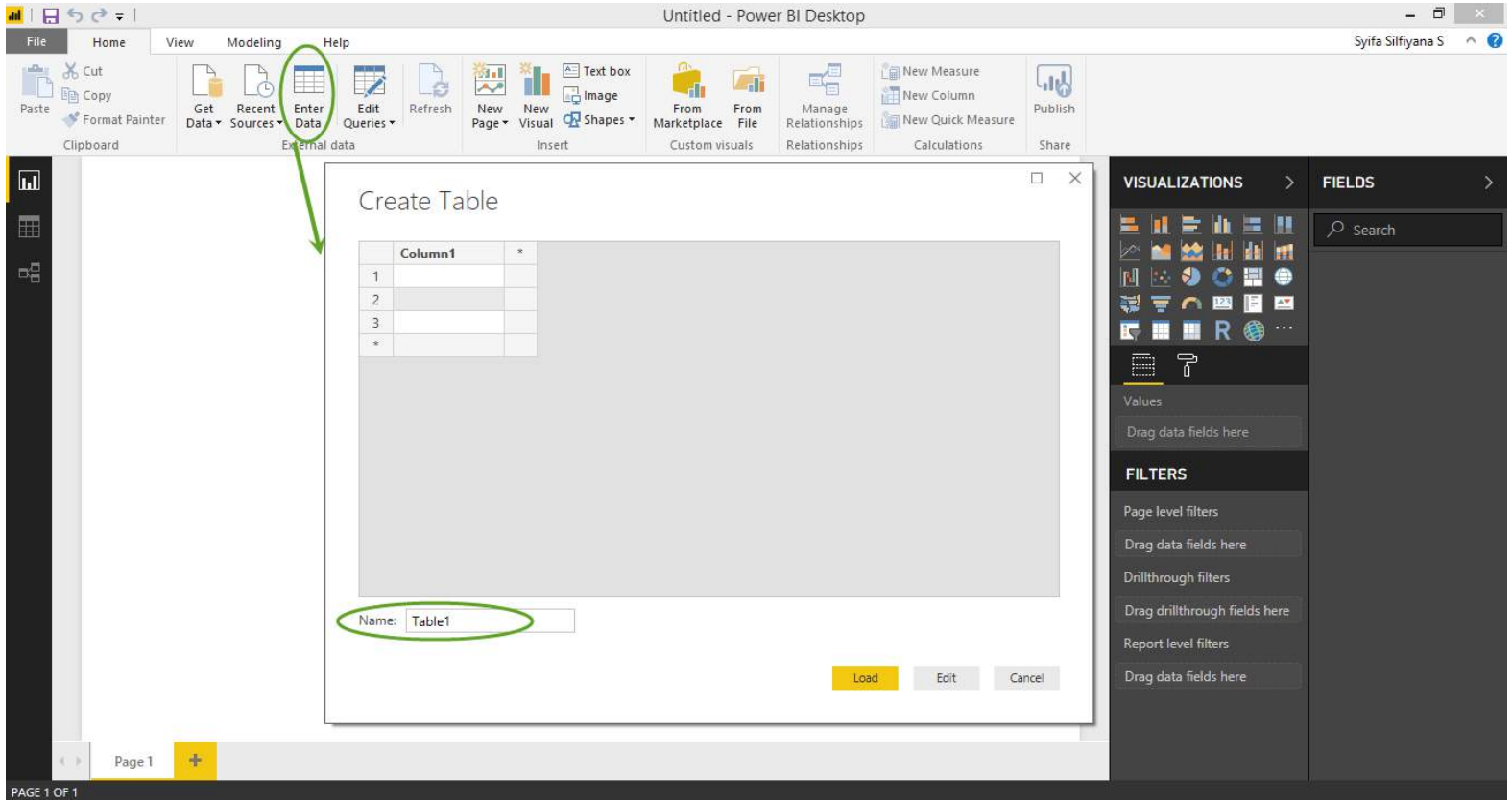
Power BI Desktop: Connect to data (continue)



datetime	season	holiday	workingday	weather	temp	atemp	humidity	windspeed	casual	registered	count
1/1/2011 4:00:00 AM	1	0	0	1	9.84	14.395	75	0	0	1	1
1/2/2011 10:00:00 PM	1	0	0	1	9.84	10.605	44	19.9995	0	9	9
1/2/2011 11:00:00 PM	1	0	0	1	9.02	11.365	47	11.0014	0	8	8
1/3/2011 12:00:00 AM	1	0	1	1	9.02	9.85	44	23.9994	0	5	5
1/3/2011 1:00:00 AM	1	0	1	1	8.2	8.335	44	27.9993	0	2	2
1/3/2011 4:00:00 AM	1	0	1	1	6.56	6.82	47	26.0027	0	1	1
1/3/2011 5:00:00 AM	1	0	1	1	6.56	6.82	47	19.0012	0	3	3
1/3/2011 6:00:00 AM	1	0	1	1	5.74	5.305	50	26.0027	0	30	30
1/3/2011 10:00:00 PM	1	0	1	1	5.74	7.575	69	8.9981	0	20	20
1/4/2011 12:00:00 AM	1	0	1	1	6.56	9.09	55	7.0015	0	5	5
1/4/2011 1:00:00 AM	1	0	1	1	6.56	9.09	59	7.0015	0	2	2
1/4/2011 2:00:00 AM	1	0	1	1	5.74	7.575	63	8.9981	0	1	1
1/4/2011 4:00:00 AM	1	0	1	1	5.74	9.09	63	6.0032	0	2	2
1/4/2011 5:00:00 AM	1	0	1	1	4.92	7.575	68	7.0015	0	4	4
1/4/2011 6:00:00 AM	1	0	1	1	4.92	7.575	74	7.0015	0	36	36
1/4/2011 9:00:00 PM	1	0	1	1	9.02	13.635	64	0	0	48	48
1/5/2011 12:00:00 AM	1	0	1	1	8.2	12.88	64	0	0	6	6
1/5/2011 1:00:00 AM	1	0	1	1	6.56	9.85	74	6.0032	0	6	6
1/5/2011 2:00:00 AM	1	0	1	1	6.56	9.85	74	6.0032	0	2	2
1/5/2011 4:00:00 AM	1	0	1	1	9.84	11.365	48	15.0013	0	2	2
1/5/2011 5:00:00 AM	1	0	1	1	9.02	11.365	47	11.0014	0	3	3
1/5/2011 6:00:00 AM	1	0	1	1	8.2	9.85	47	15.0013	0	33	33
1/6/2011 12:00:00 AM	1	0	1	1	7.38	12.12	55	0	0	11	11
1/6/2011 1:00:00 AM	1	0	1	1	6.56	11.365	64	0	0	4	4

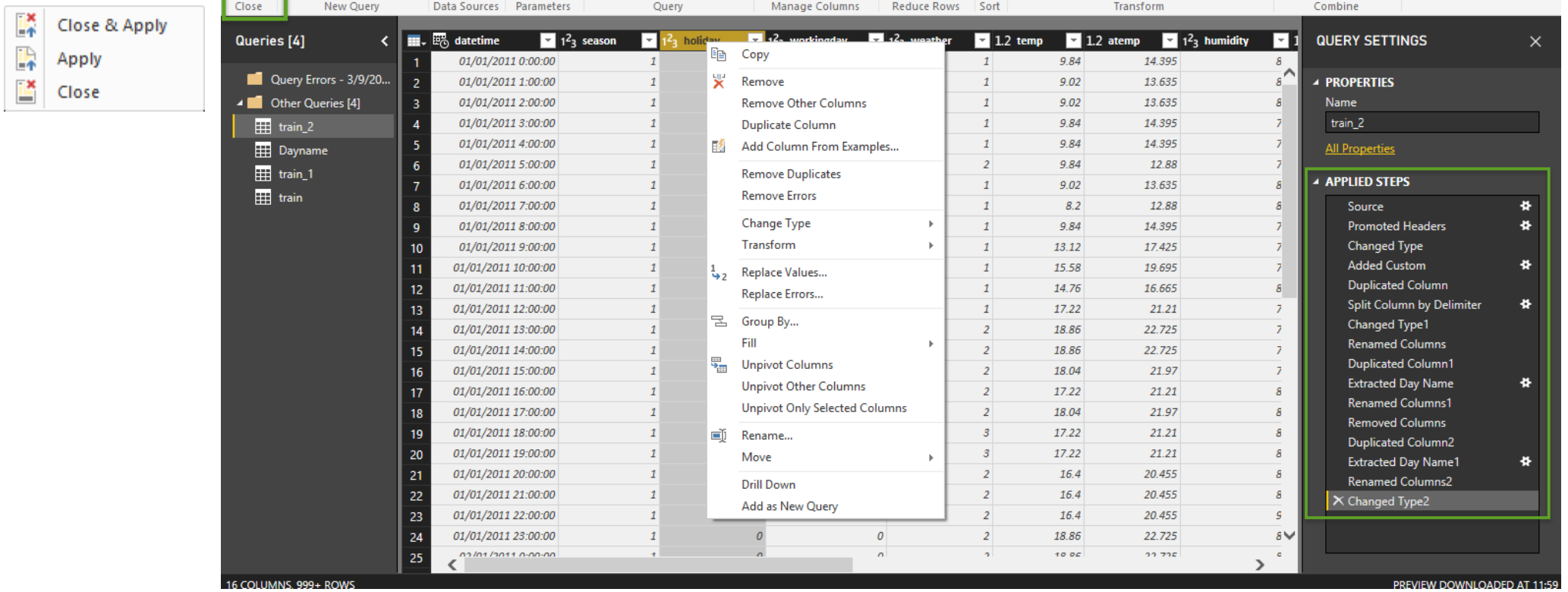
To edit your table right click name of tables in Fields area.

Power BI Desktop: Connect to data (continue)



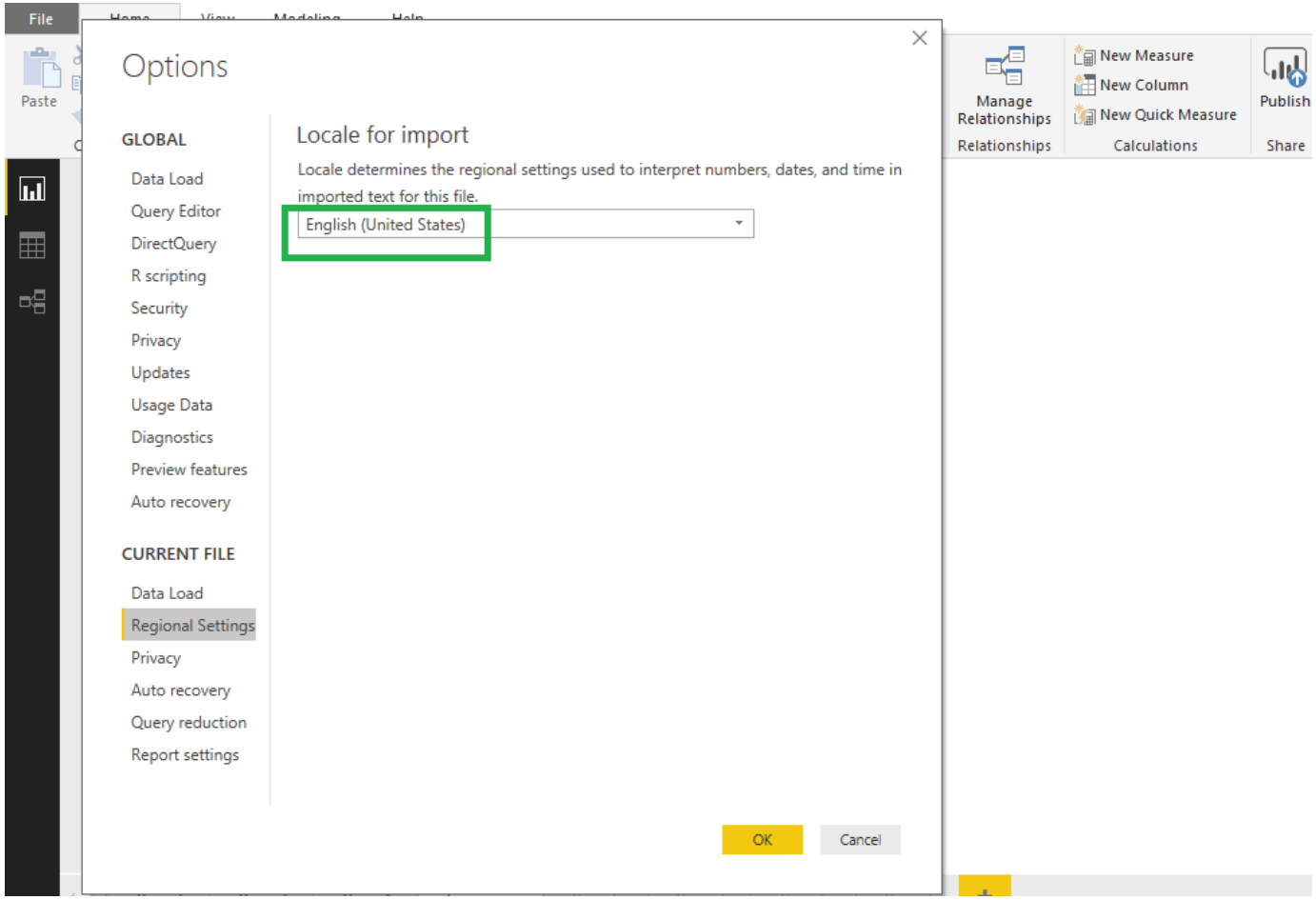
We can also create table in Power BI. To Create table click **Enter Data** on the toolbar.

Power BI Desktop: Edit Queries



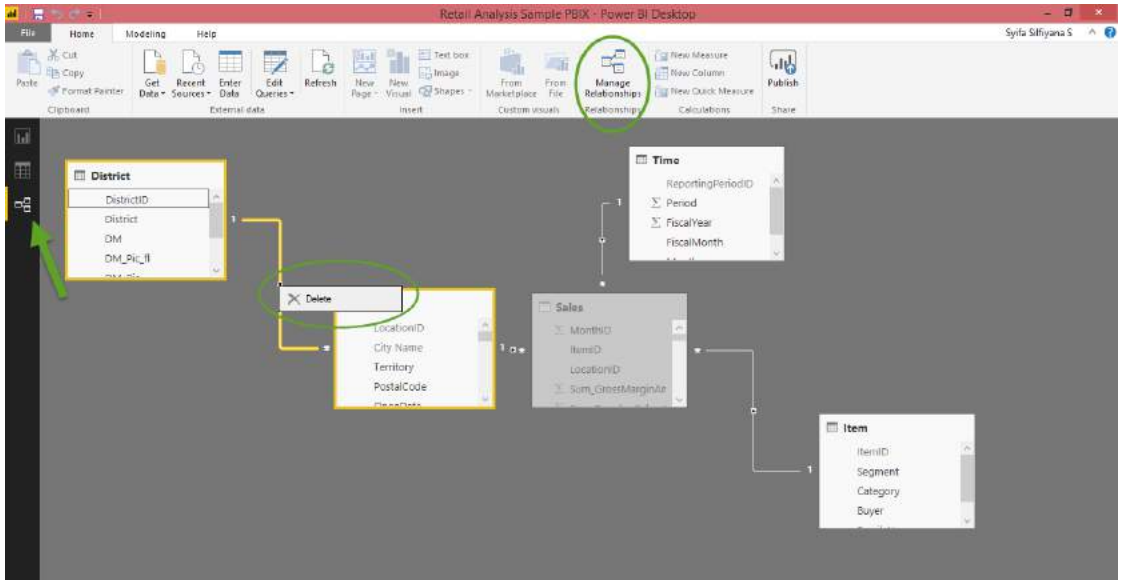
To edit data loaded click **Edit Queries** on the toolbar then Query Editor window will appear. To save or apply click menu **Apply** on the top left toolbar.

Power BI Desktop: Decimal setting



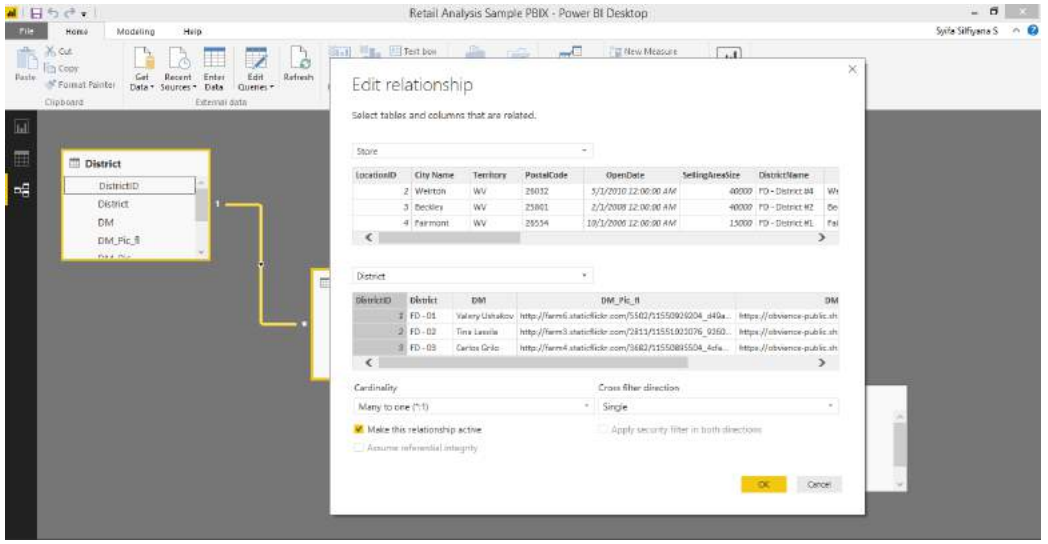
If your decimal not appear in Power BI, try to change regional setting in Power BI.
Go to **File → Options & Settings → Options → Region Settings →** chose **English (US)**

Power BI Desktop: Relationship



To make relationship between tables, click **Relationship** on the left side. Click **Manage Relationship** menu on the toolbar to start make new relationship. Or you can delete the relationship by right click the line.

To edit relationship double click the line and **Edit relationship** window will appear.

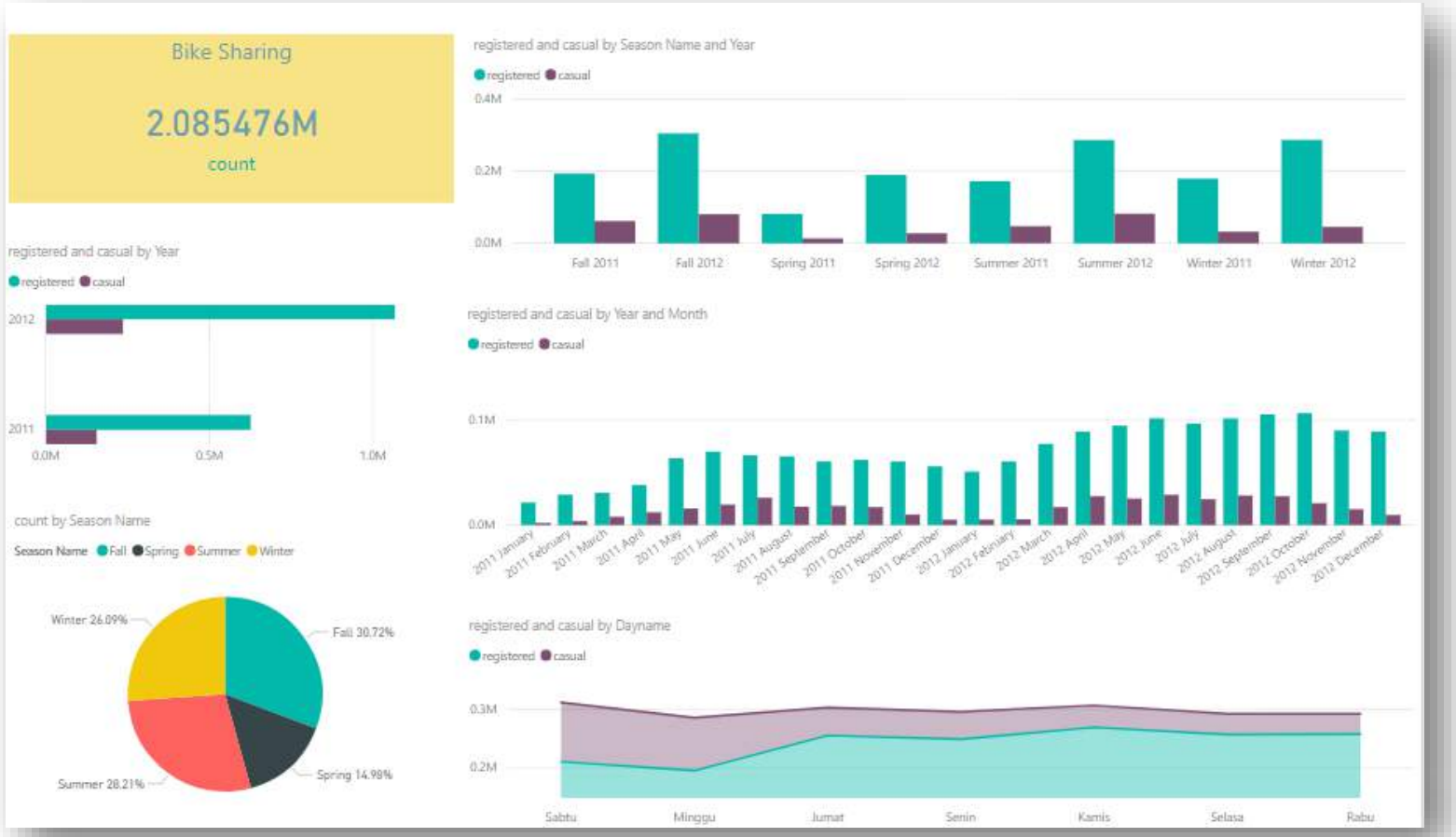


Power BI Desktop: Data Visualization (Report)

5 Tips To Make Your Report User Friendly:

1. Simplicity
2. Interrelation between elements
3. Make use a filter
4. High or low perspective – hierarchies
5. Meaningfulness

Power BI Desktop: Data Visualization (Report)



Dashboard from data loaded (bike sharing_train)

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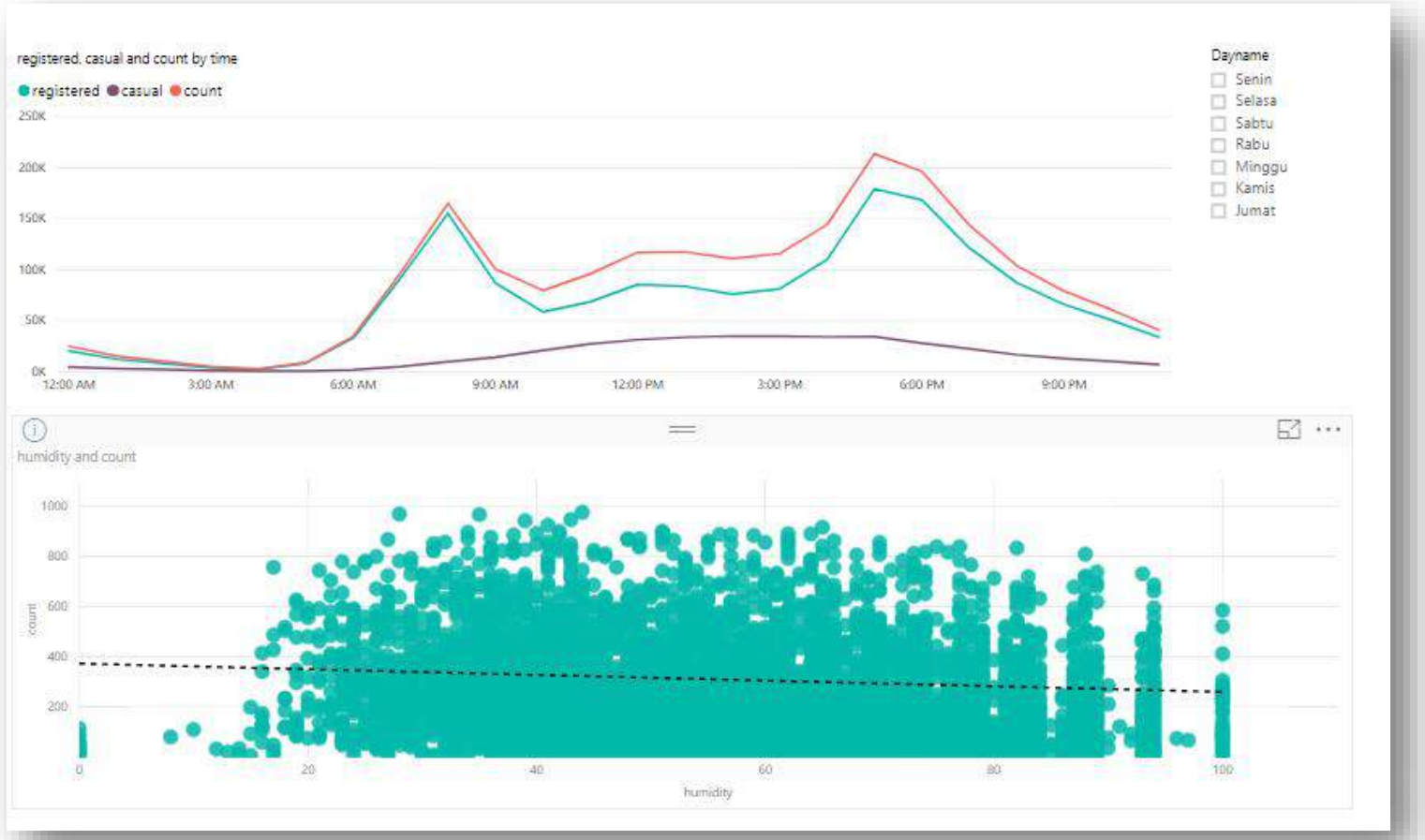
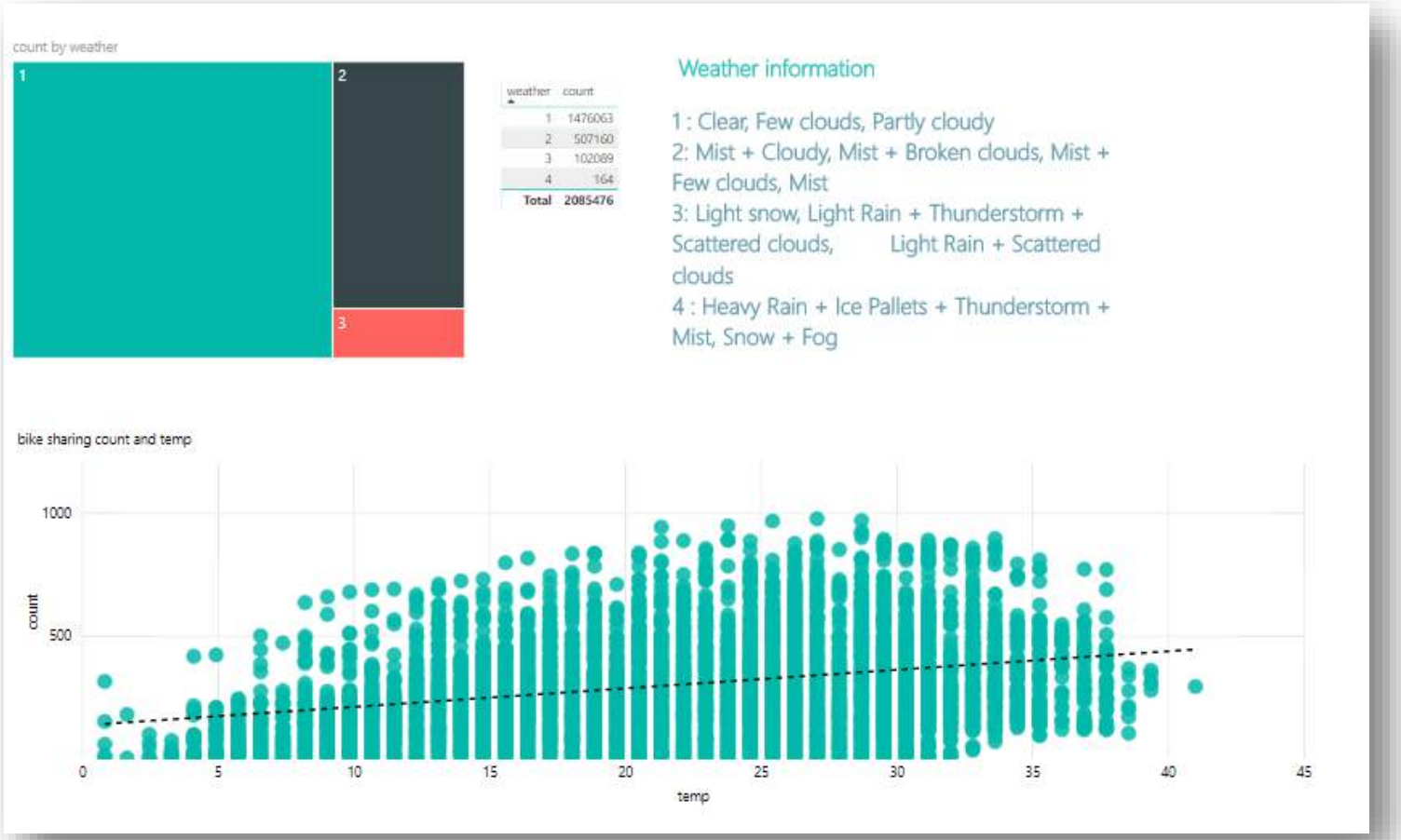
Power BI Desktop: Data Visualization (Report)



Dashboard from data loaded (bike sharing_train)

Power BI Desktop: Data Visualization (Report)



Dashboard from data loaded (bike sharing_train)

Bike Sharing

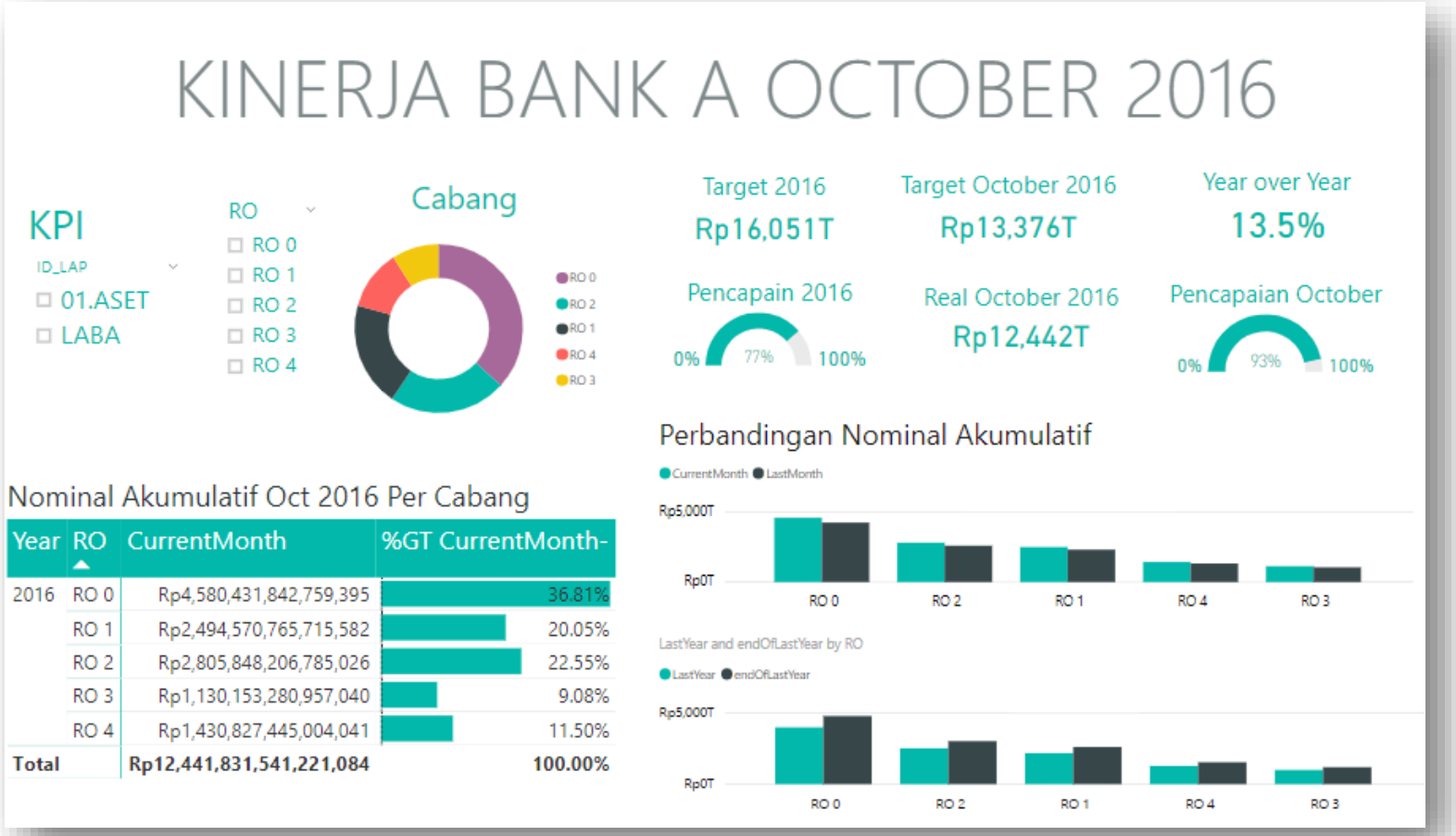
Summary

- Amount of registered more than amount of casual.
- Fall season has highest percentage compare to other season in 2011 and 2012.
- Amount of casual on June - August tend higher than other month.
- Amount of casual at Saturday higher than other day.
- Humidity not correlated with count of bike sharing.
- Temp has a tendency to be positively correlated.
- Demand of bike sharing increase where weather is clear, few cloud or partly cloudy.
- But decrease when weather heavy rain.
- Peak Hour weekday around 5 PM to 6 PM.
- Peak Hour weekend around 12 PM to 3 PM.

What We can Do?

1. Attract casual customers to registered customers.
2. Increase price at peak hour.
3. Improve marketing strategy in Fall season.
4. Do maintenance regularly.

Other Dashboard

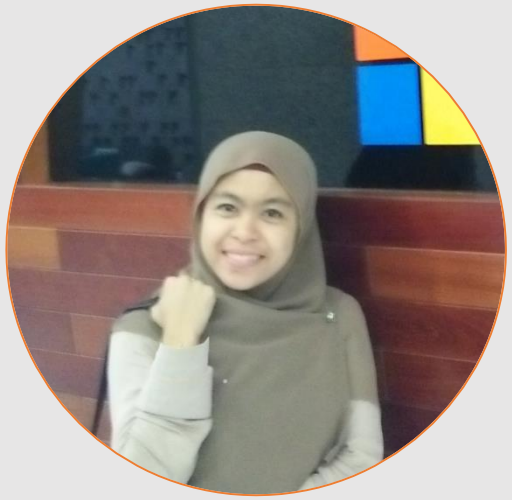


This dashboard just as example, data that used was dummy data

Sources

- https://docs.microsoft.com/en-us/power-bi/
- https://predica.pl/blog/powerbi-data-analytics-report-tips/
- https://www.kaggle.com/c/bike-sharing-demand

Thank you



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