



Create a Sales Dashboard using Power BI

Kawtar Oukil

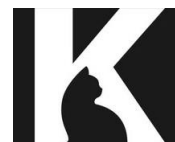


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This project is for anyone who is interested in Power BI and data visualization. We will be creating a sales dashboard that is going to make your audience go wow. We will use Power BI to create a smart sales dashboard.

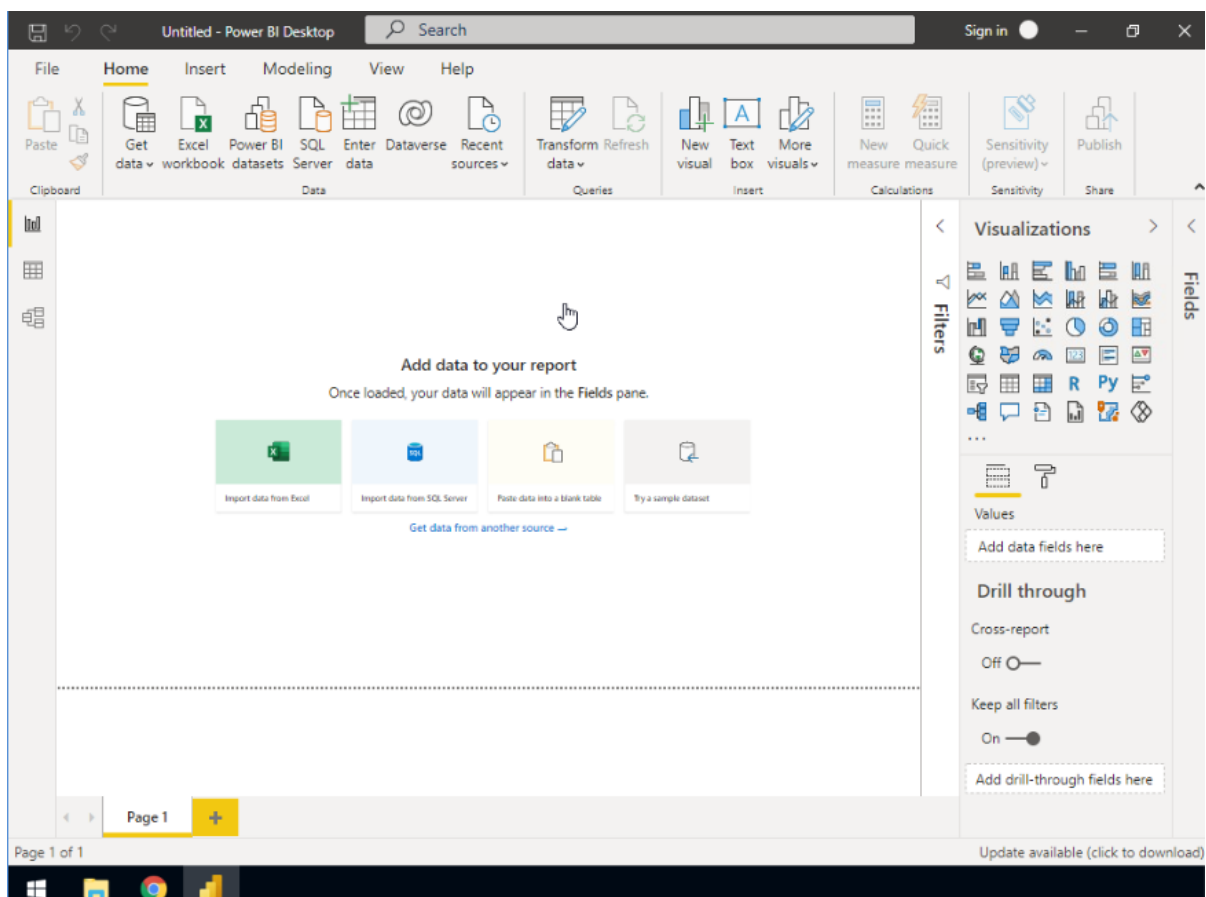
I. Project Power BI

Power BI has a free plan, a pro plan and a premium plan.

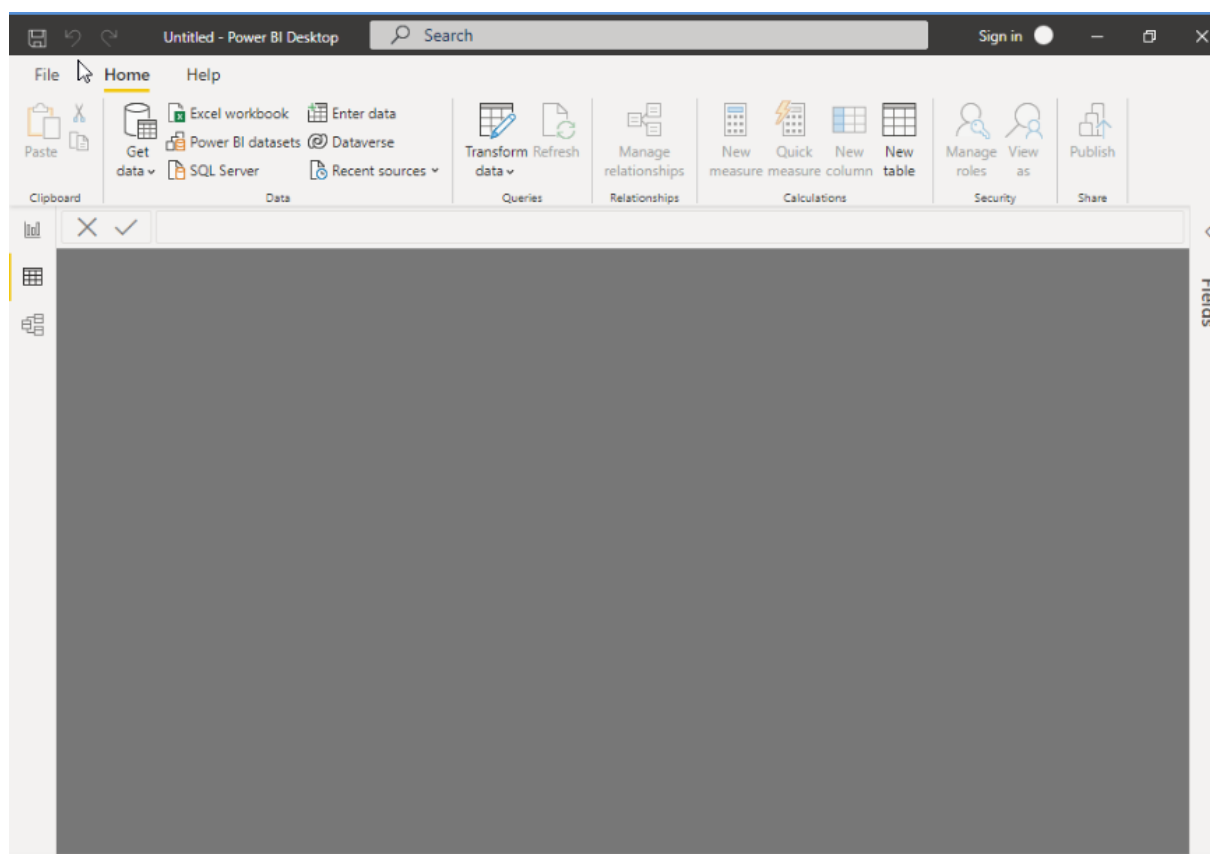
Power BI has a free plan, a pro plan and a premium plan. The free plan allows you to do everything from importing data to creating visualizations but it doesn't allow you to publish the dashboard or share it with your organization, but you can save the dashboard in a PBIX file.

The premium plans have more advanced features that include AI, Machine learning and Big data and has individual pricing that is suitable for a small business and enterprise pricing that is suitable for large businesses.

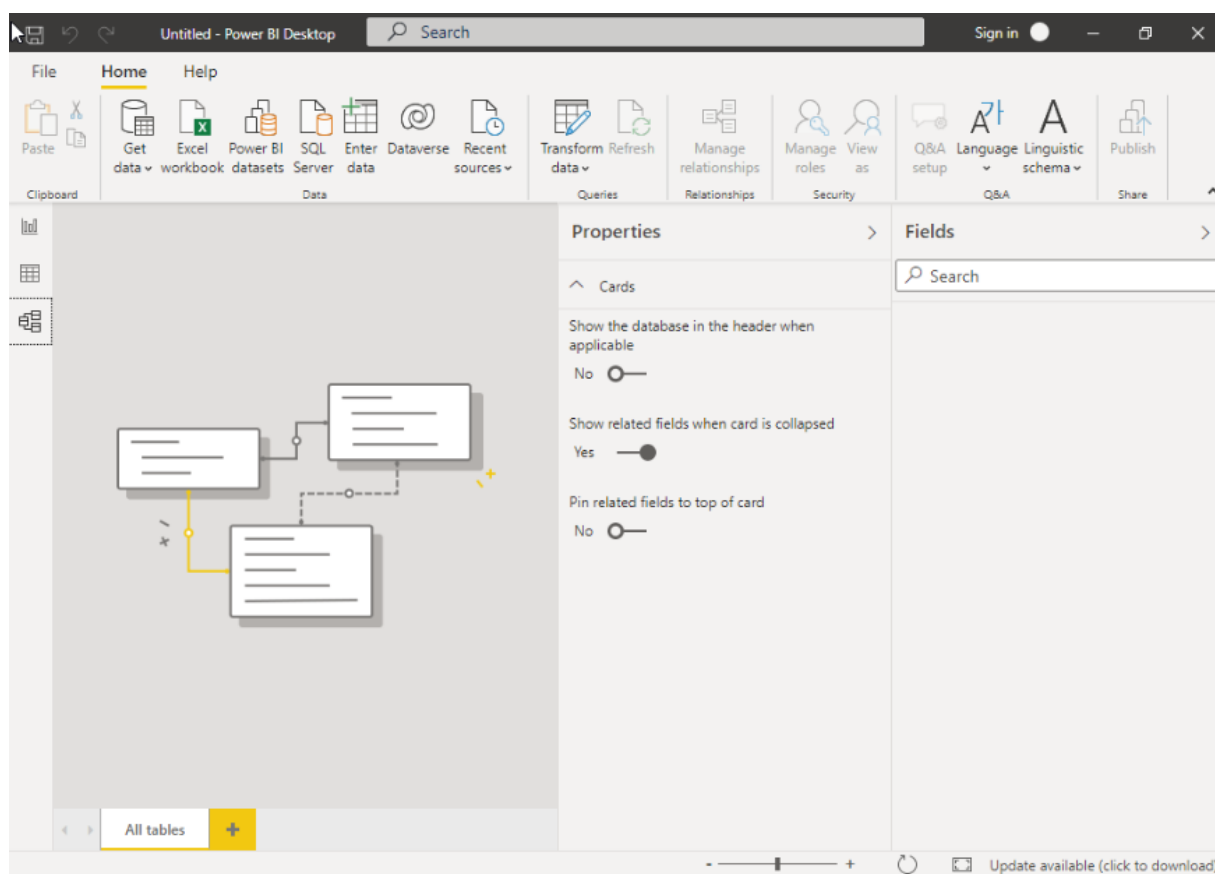
So we'll be using the free plan for this project. So, let's begin, this is our Power BI Desktop where we will be creating our data visualizations, so this is the visualization tab:



And this is the data tab:



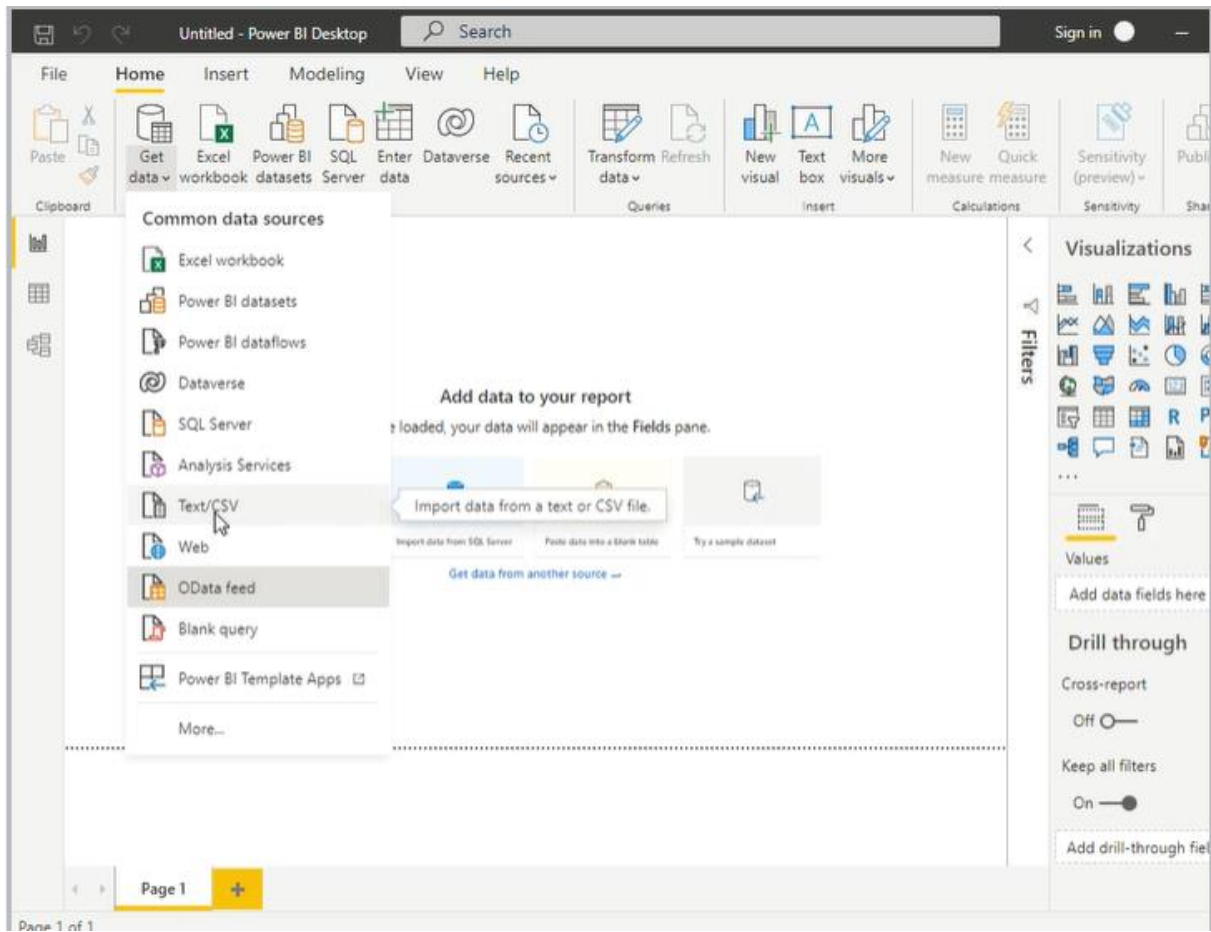
And this is the relationship tab where we will be performing the modeling:





a. Importing and Loading data:

So let's in the first import data:





Untitled - Power BI Desktop

superstore data.csv

File Origin: 1252: Western European (Windows) | Delimiter: Comma | Data Type Detection: Based on first 200 rows

Order ID	Customer ID	Customer Name	Segment	Country	Market	Product ID	Category	Sub-Category	
AG-2011-2040	TB-11280	Toby Braunhardt	Consumer	Algeria	Africa	OFF-TEN-10000025	Office Supplies	Storage	Tene
IN-2011-47883	JH-15985	Joseph Holt	Consumer	Australia	APAC	OFF-SU-10000618	Office Supplies	Supplies	Acme
HU-2011-1220	AT-735	Annie Thurman	Consumer	Hungary	EMEA	OFF-TEN-10001585	Office Supplies	Storage	Tene
IT-2011-3647632	EM-14140	Eugene Moren	Home Office	Sweden	EU	OFF-PA-10001492	Office Supplies	Paper	Ener
IN-2011-47883	JH-15985	Joseph Holt	Consumer	Australia	APAC	FUR-FU-10003447	Furniture	Furnishings	Eldor
IN-2011-47883	JH-15985	Joseph Holt	Consumer	Australia	APAC	OFF-PA-10001968	Office Supplies	Paper	Eator
IN-2011-30733	PO-18865	Patrick O'Donnell	Consumer	Bangladesh	APAC	TEC-CO-10002316	Technology	Copiers	Brotl
CA-2011-115161	LC-17050	Liz Carlisle	Consumer	United States	US	FUR-BO-10003966	Furniture	Bookcases	Saud
AO-2011-1390	DK-3150	David Kendrick	Corporate	Angola	Africa	OFF-FEL-10001541	Office Supplies	Storage	Fello
ID-2011-56493	SP-20650	Stephanie Phelps	Corporate	China	APAC	OFF-ST-10002161	Office Supplies	Storage	Tene
IN-2011-36074	DK-13150	David Kendrick	Corporate	China	APAC	OFF-AP-10001254	Office Supplies	Appliances	Kitch
US-2011-118892	DH-13075	Dave Hallsten	Corporate	Panama	LATAM	OFF-AP-10002317	Office Supplies	Appliances	Hamm
IR-2011-6550	PO-8850	Patrick O'Brill	Consumer	Iran	EMEA	FUR-ADV-10002601	Furniture	Furnishings	Adva
ES-2011-5268439	GH-14485	Gene Hale	Corporate	France	EU	OFF-AR-10001529	Office Supplies	Art	Binn
IN-2011-30733	PO-18865	Patrick O'Donnell	Consumer	Bangladesh	APAC	OFF-SU-10000484	Office Supplies	Supplies	Kleer
US-2011-118892	DH-13075	Dave Hallsten	Corporate	Panama	LATAM	TEC-AC-10001221	Technology	Accessories	Merr
ES-2011-5460465	RR-19315	Ralph Ritter	Consumer	Italy	EU	OFF-AR-10000980	Office Supplies	Art	Sanfo
IN-2011-30733	PO-18865	Patrick O'Donnell	Consumer	Bangladesh	APAC	OFF-BI-10003012	Office Supplies	Binders	Wils
IN-2011-30733	PO-18865	Patrick O'Donnell	Consumer	Bangladesh	APAC	OFF-LA-10001292	Office Supplies	Labels	Smei
ES-2011-5268439	GH-14485	Gene Hale	Corporate	France	EU	OFF-EN-10004597	Office Supplies	Envelopes	Glob

Extract Table Using Examples

Load Transform Data Cancel

Let's transform our data:

Untitled - Power Query Editor

File Home Transform Add Column View Tools Help

Close & Apply New Source Recent Sources Enter Data Data source settings Manage Parameters Refresh Preview Advanced Editor Manage Reduce Rows Sort Split Column Group By Use First Row as Headers Replace Values Combine

Queries [1] superstore data

Order ID	Customer ID	Customer Name	Segment
1 AG-2011-2040	TB-11280	Toby Braunhardt	Consum
2 IN-2011-47883	JH-15985	Joseph Holt	Consum
3 HU-2011-1220	AT-735	Annie Thurman	Consum
4 IT-2011-3647632	EM-14140	Eugene Moren	Home O
5 IN-2011-47883	JH-15985	Joseph Holt	Consum
6 IN-2011-47883	JH-15985	Joseph Holt	Consum
7 IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
8 CA-2011-115161	LC-17050	Liz Carlisle	Consum
9 AO-2011-1390	DK-3150	David Kendrick	Corpora
10 ID-2011-56493	SP-20650	Stephanie Phelps	Corpora
11 IN-2011-36074	DK-13150	David Kendrick	Corpora
12 US-2011-118892	DH-13075	Dave Hallsten	Corpora
13 IR-2011-6550	PO-8850	Patrick O'Brill	Consum
14 ES-2011-5268439	GH-14485	Gene Hale	Corpora
15 IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
16 US-2011-118892	DH-13075	Dave Hallsten	Corpora
17 ES-2011-5460465	RR-19315	Ralph Ritter	Consum
18 IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
19 IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
20 ES-2011-5268439	GH-14485	Gene Hale	Corpora
21 ES-2011-2205486	IM-15055	Ionia McGrath	Consum
22 ES-2011-2205486	IM-15055	Ionia McGrath	Consum
23 US-2011-118892	DH-13075	Dave Hallsten	Corpora
24 CA-2011-1800	TP-11415	Tom Prescott	Consum
25			

Query Settings

PROPERTIES

Name: superstore data

APPLIED STEPS

Source

Promoted Headers

Changed Type

This our power query editor, This is the place where we can clean our data

So we can Click on "Close and apply" > Apply Changes for loading the data into Power BI



	Order ID	Customer ID	Customer Name	Segment
1	AG-2011-2040	TB-11280	Toby Braunhardt	Consum
2	IN-2011-47883	JH-15985	Joseph Holt	Consum
3	HU-2011-1220	AT-735	Annie Thurman	Consum
4	IT-2011-3647632	EM-14140	Eugene Moren	Home O
5	IN-2011-47883	JH-15985	Joseph Holt	Consum
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10	ID-2011-56493	SP-20650	Stephanie Phelps	Corpora
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13	IR-2011-6550	PO-8850	Patrick O'Brill	Consum
14	ES-2011-5268439	GH-14485	Gene Hale	Corpora
15	IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
16	US-2011-118892	DH-13075	Dave Hallsten	Corpora
17	ES-2011-5460465	RR-19315	Ralph Ritter	Consum
18	IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
19	IN-2011-30733	PO-18865	Patrick O'Donnell	Consum
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21	ES-2011-2205486	IM-15055	Ionia McGrath	Consum
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23	US-2011-118892	DH-13075	Dave Hallsten	Corpora
24	CA-2011-1800	TP-11415	Tom Prescott	Consum
25				

And like we can see if we go into data tab, we can see the dataset has been loaded into Power BI Desktop successfully.



b. Understanding the data:

In this step, we are going to explore the data and try to understand the data and KPIs or Key Performance Indicators.

The dashboard for senior management is going to be much different than the one that is going to required by our operational level staff or entry-level staff.

So, our data contains sales information. It has around 13 columns and around 51,290 rows.

The first column in our data is order Id.

Order Id: is that one person can order multiple products under a single order Id, which means one order Id here contains sales of multiple products and is often repeated in the first row.

Customer Id: is basically a unique Id that is allotted to every single customer.

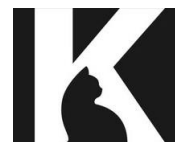
Customer Name: is basically the name of the customer.

Segment: All our customers have been divided into three separate segments: Consumer, corporate and home office.

Country: is basically the location of our customers.

Market: the location of our customers has been divided into multiple markets.

The major markets in this data are EU that is European Union, APAC which contains all the countries in East Asia like China, India, Singapore, Japan and also Australia.



Product Id: is a unique Id that is allotted to every single product.

Category: the major category in this data is furniture, office supplies and technology

Sub-Category: like paper, supply, phones.

Product Name: is a unique name that is given to every single product.

And then we have three quantitative measures / quantitative columns: **sales, quantity** and **profit**.

The most important column is **Sales**: that is gross sales, quantity, that is number of orders and profit, that is gross profit.

Now, we can create an entire dashboard with just one of them like we're going to do in this project.

So, we will be creating a sales dashboard using the sales column as a quantitative measure, but we can also use profit. For example, we can visualize sales by countries as well as we can visualize profit by countries that is which countries are more profitable. We also can use all these quantitative columns like sales, quantity and profits to create a dashboard.

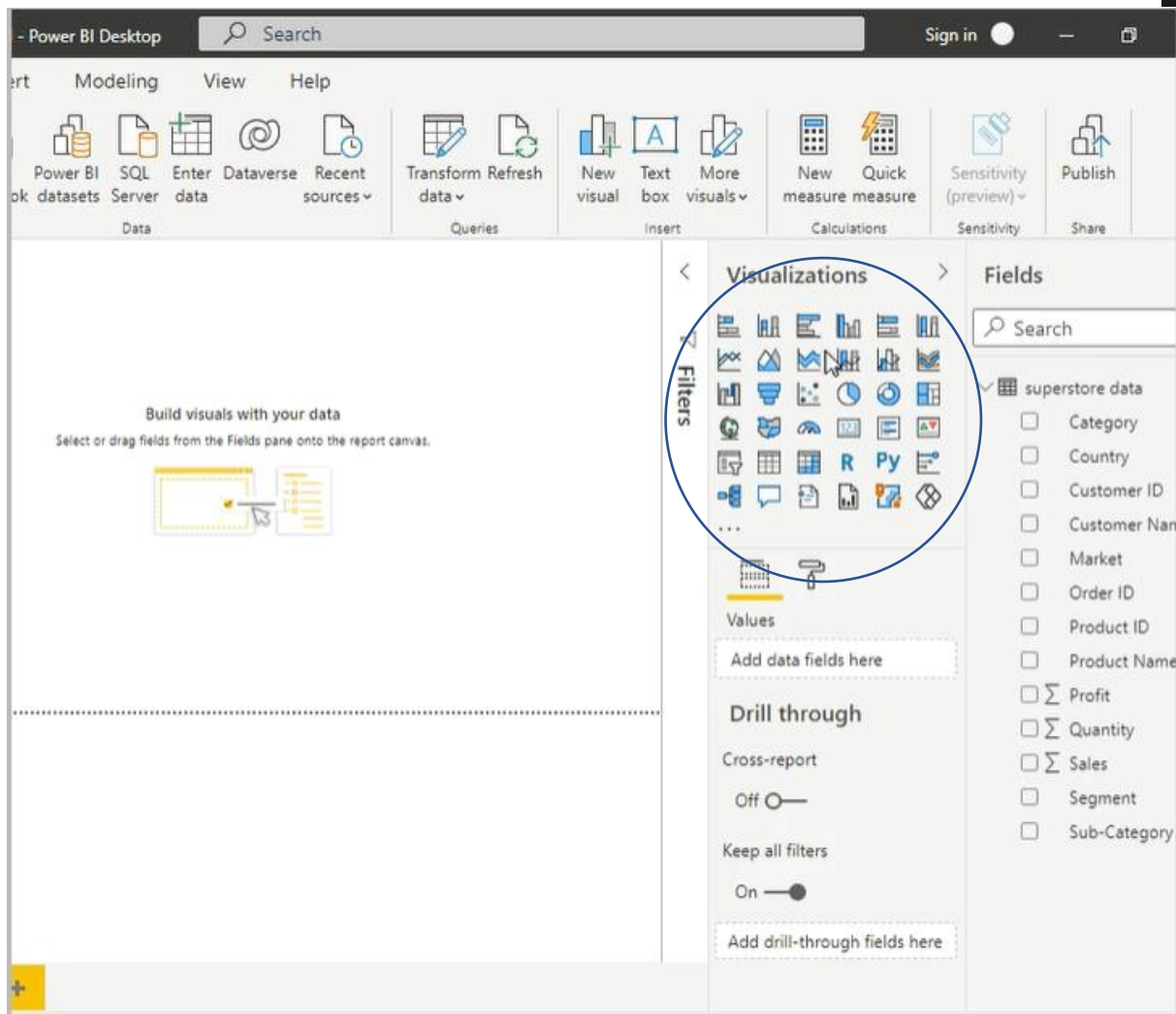
But for my project I'm going to visualize sales with our segment, category, subcategory and sales with countries and also sales with markets.

I want to know which category, subcategory and countries has the highest sales. And which markets has the highest sales that is which markets are our major customers.

c. Selecting Dashboard background:

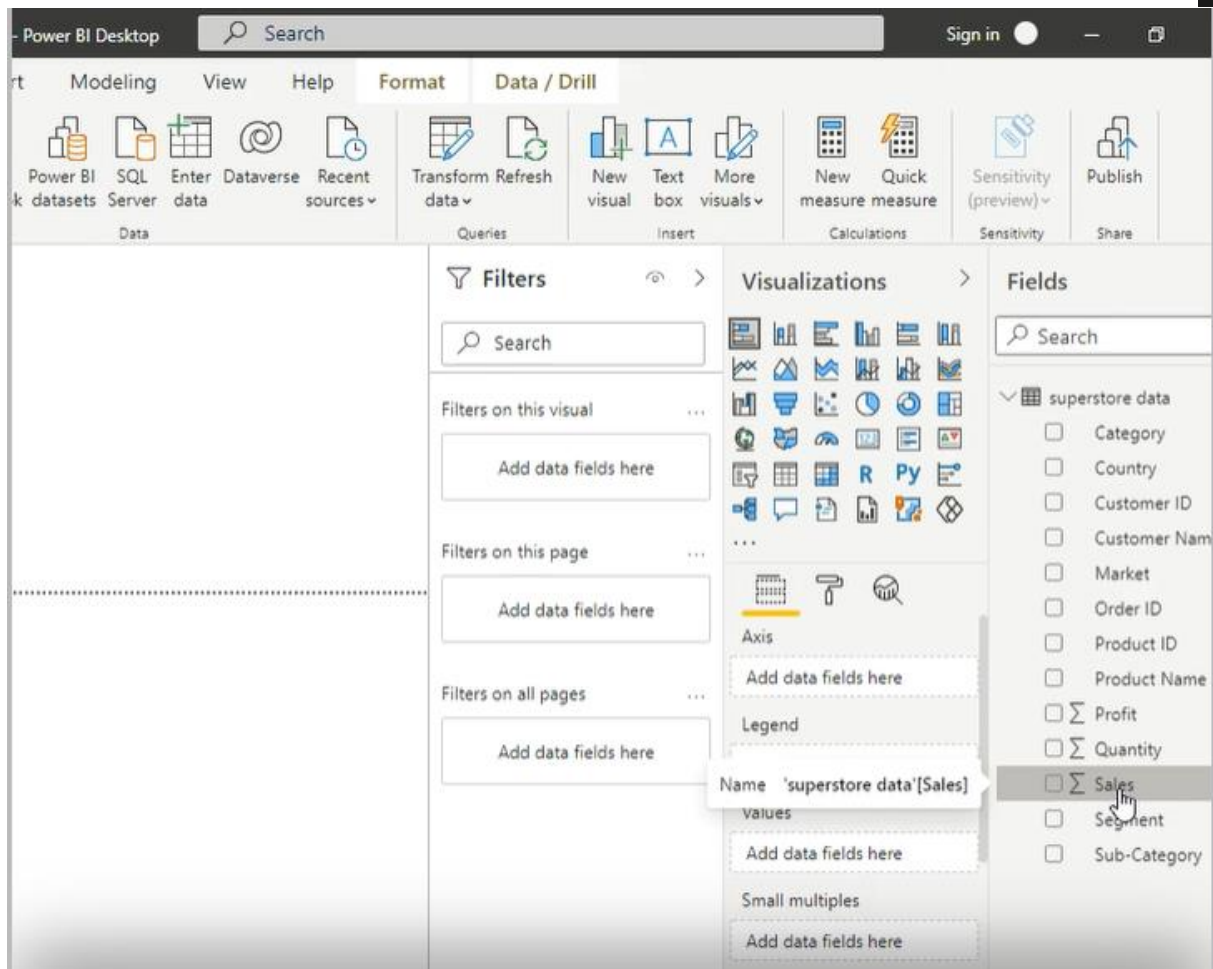
In this step we are going to create our first visualization, So in the first thing is let's go to "fields".

In Power BI, these are our visualization tabs where we have different kinds of visualizations, like bar charts, pie chart, doughnut chart, maps and much more.

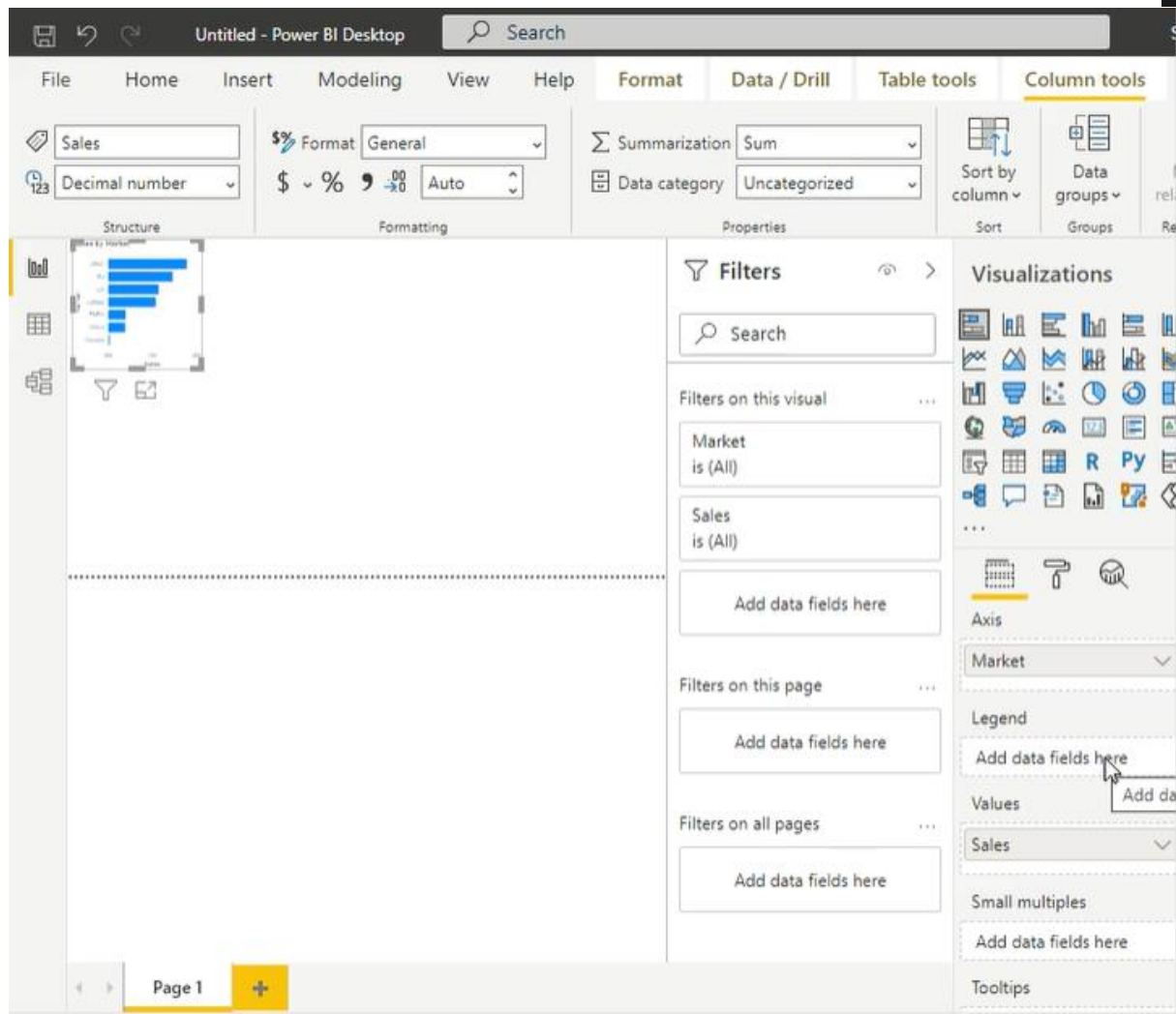


So we are going to use one of these quantitative columns: profit, quantity or sales.

And let's choose the sales column. And we are going to select any of these remaining columns in this axis field. For example, you can choose market. So we can just select it and drag it over here, like it was showing in this picture below:



And like we can see the visualization is being created:



And this "legend" over here is for more advanced visualizations.

For example, we can select segments in legends and you can see the visualization is far better.



Untitled - Power BI Desktop

Search

Sign in

Home Insert Modeling View Help Format Data / Drill Table tools Column tools

les

Format General

Summarization Sum

Data category Uncategorized

Sort by column

Data groups

Manage relationship

Structure

Formatting

Properties

Sort

Groups

Relationships

Filters

Search

Filters on this visual

Market is (All)

Sales is (All)

Add data fields here

Filters on this page

Add data fields here

Filters on all pages

Add data fields here

Visualizations

Axis

Market

Legend

Values

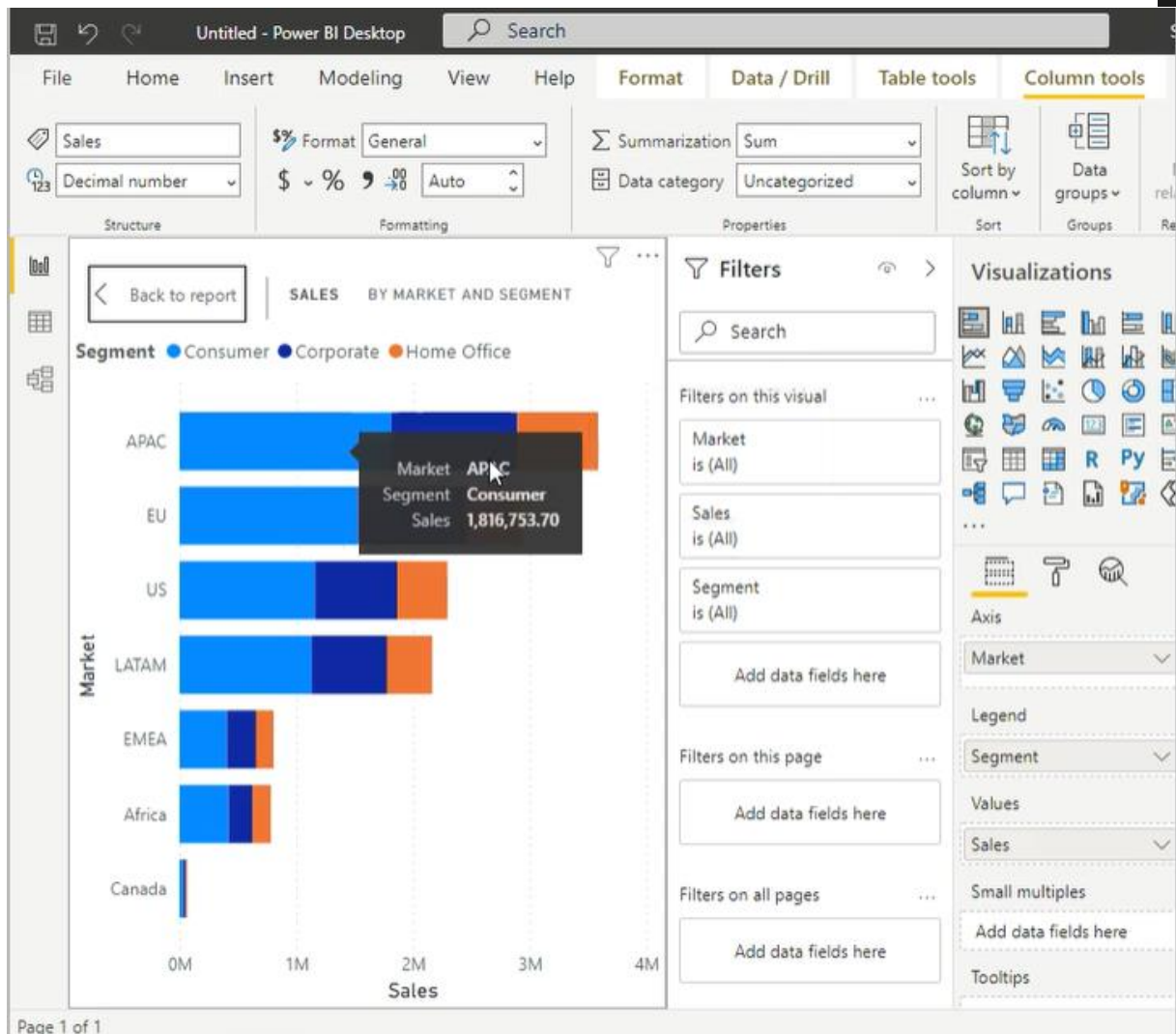
Sales

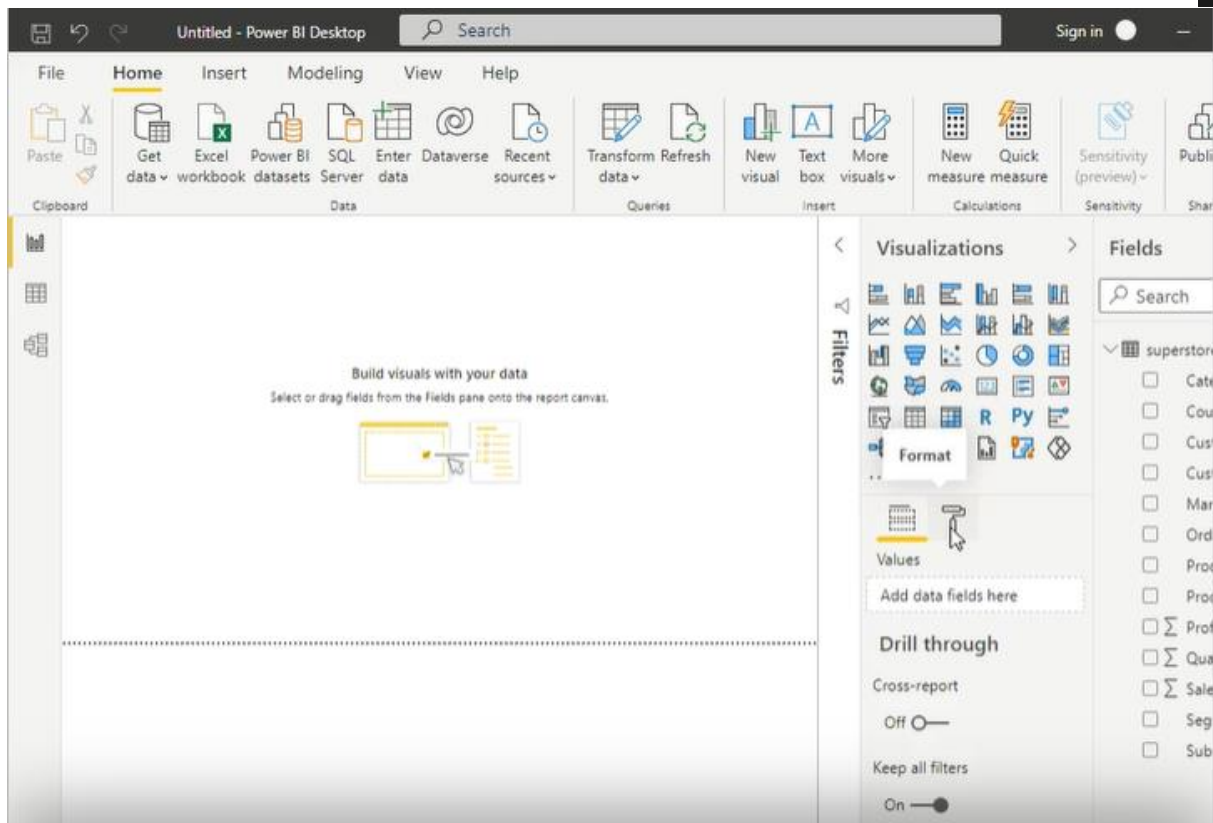
Small multiples

Add data fields here

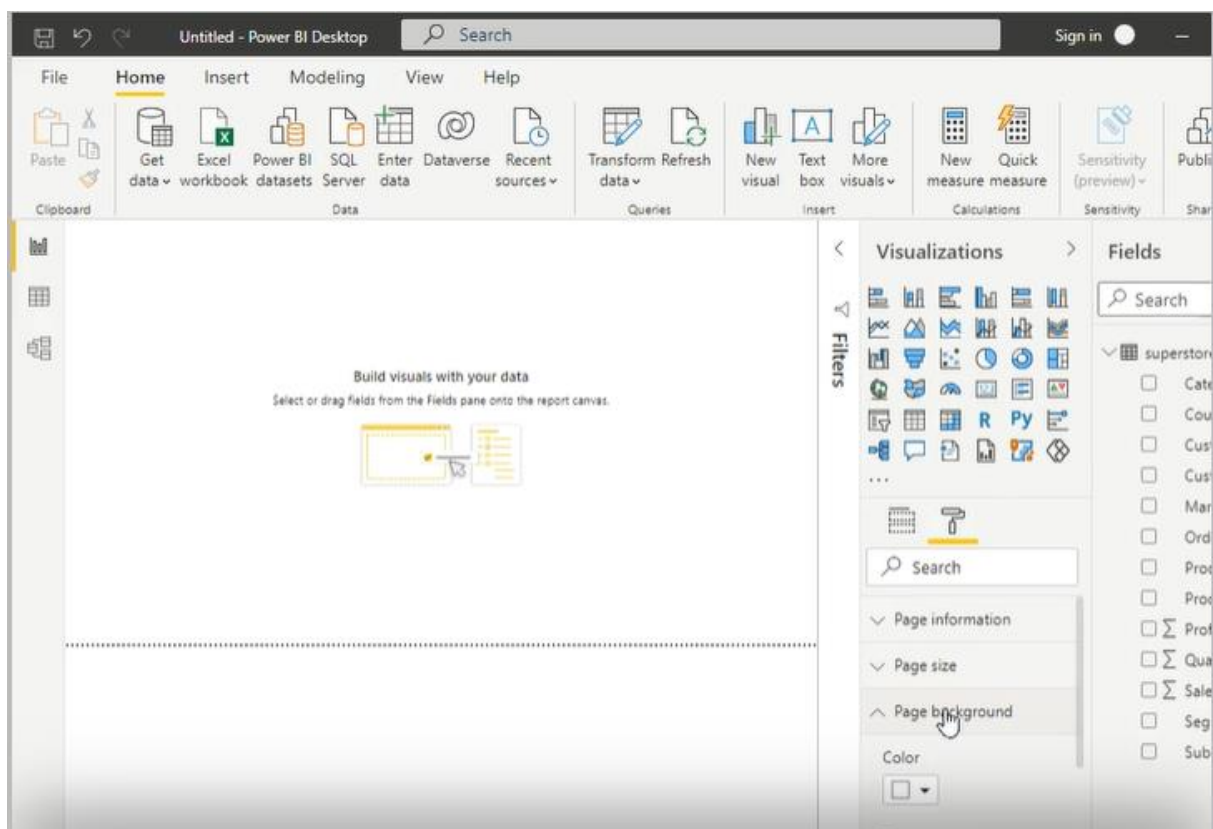
Tooltips

Page 1



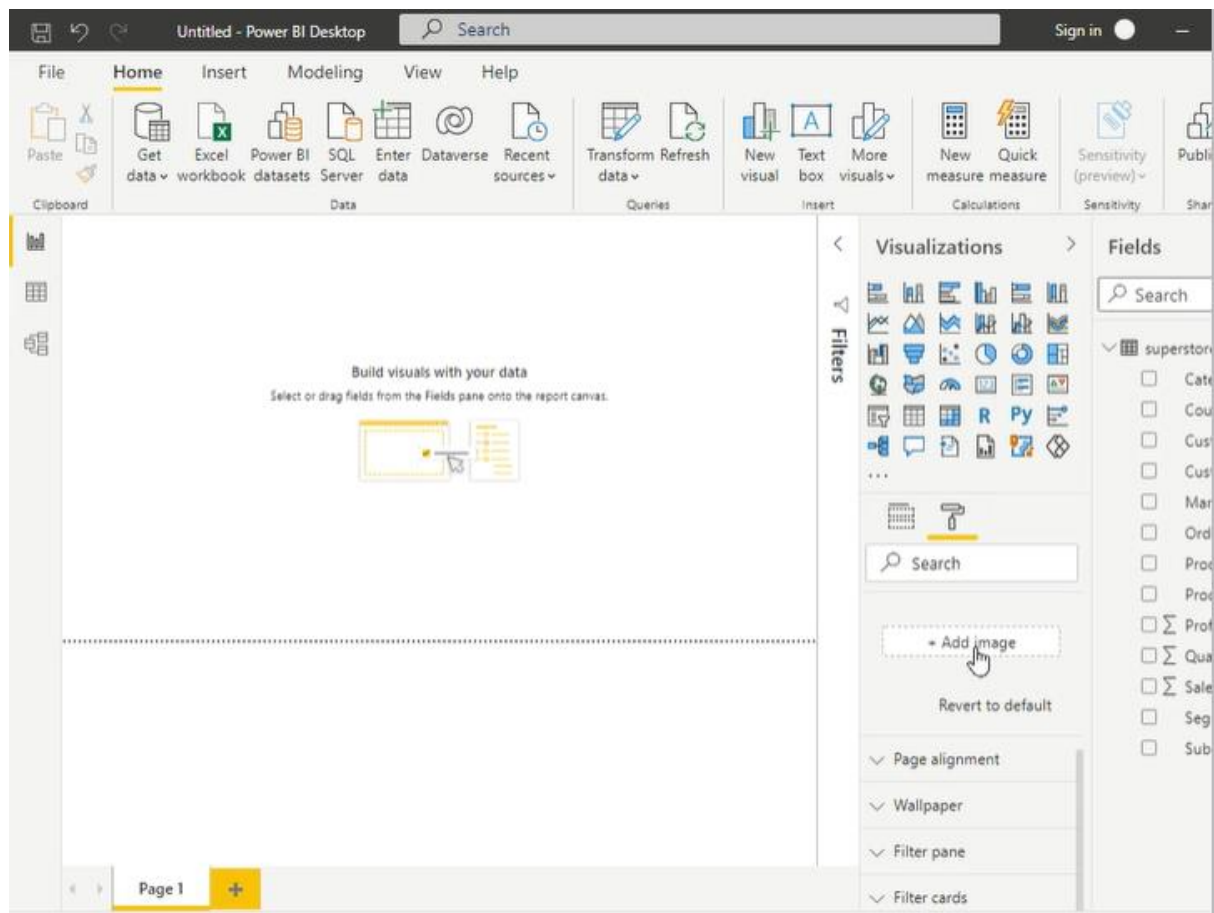


For choosing a dashboard for our dashboard, we click on 'Add image'

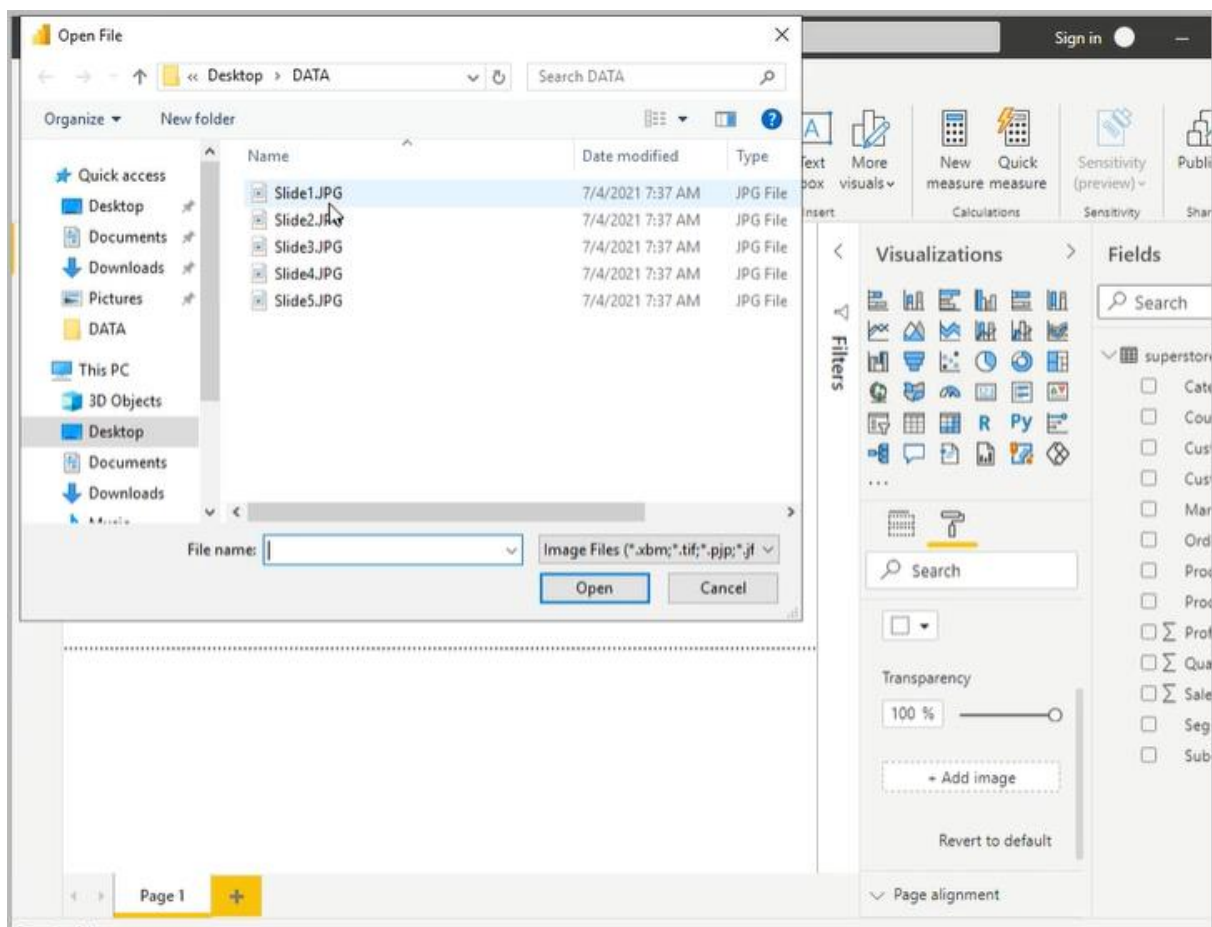




So click on "Add image".



So, you can see slides 1,2,3,4

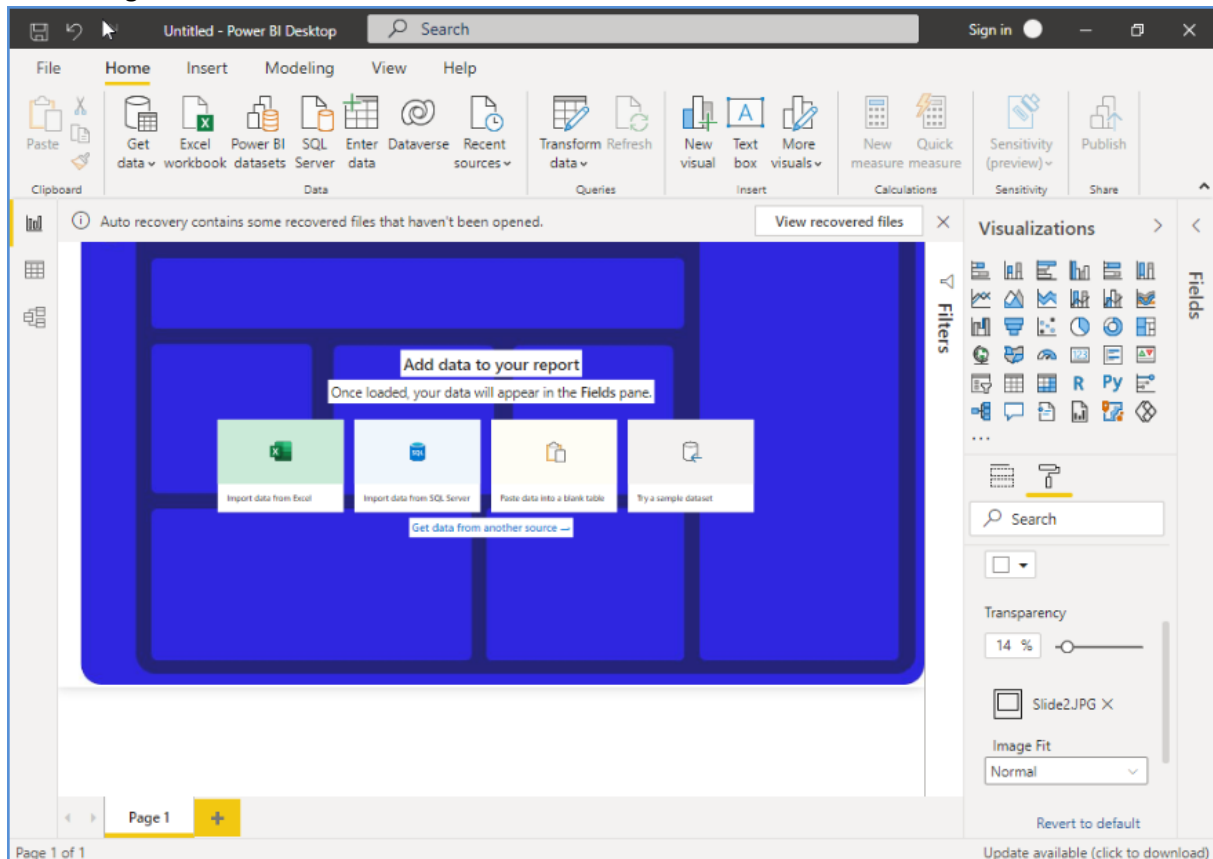


So our image has been loaded but you can see nothing is shown over here.

That's because transparency is 100%.

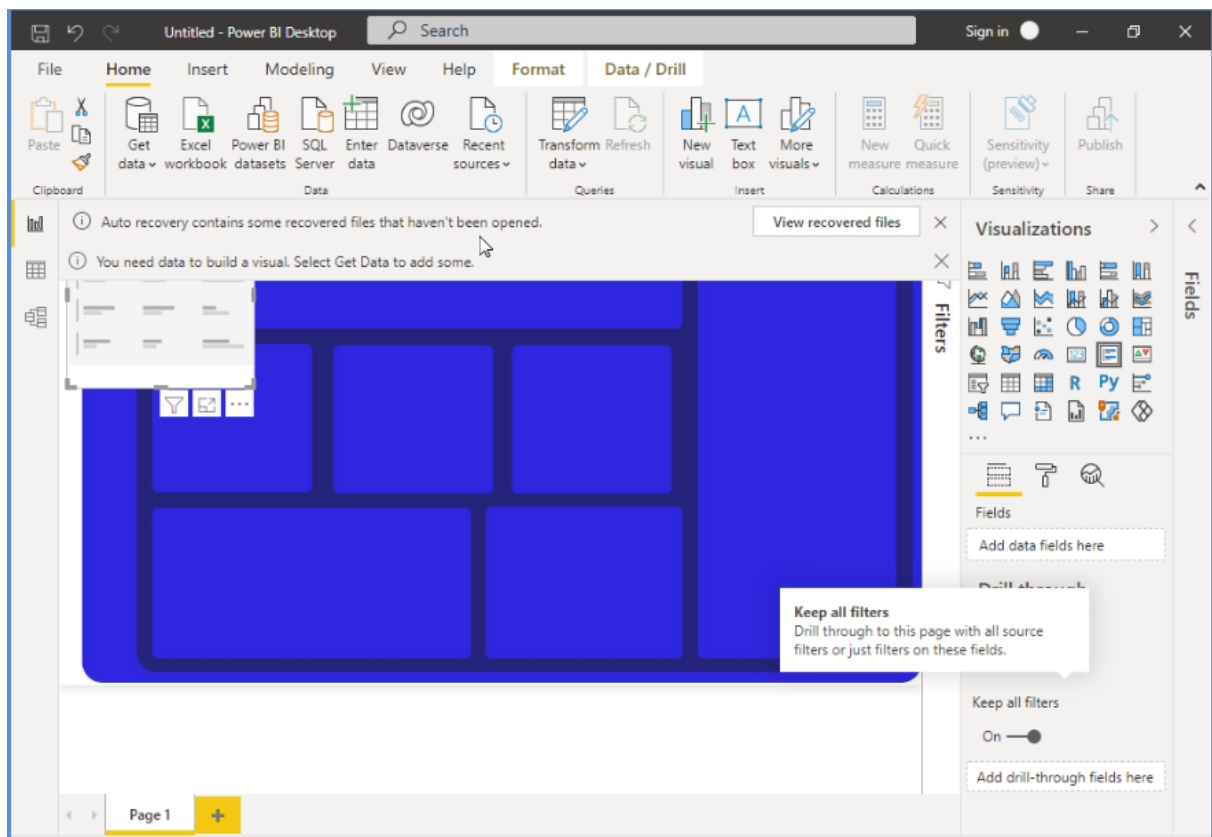


Let's change from normal to fit.

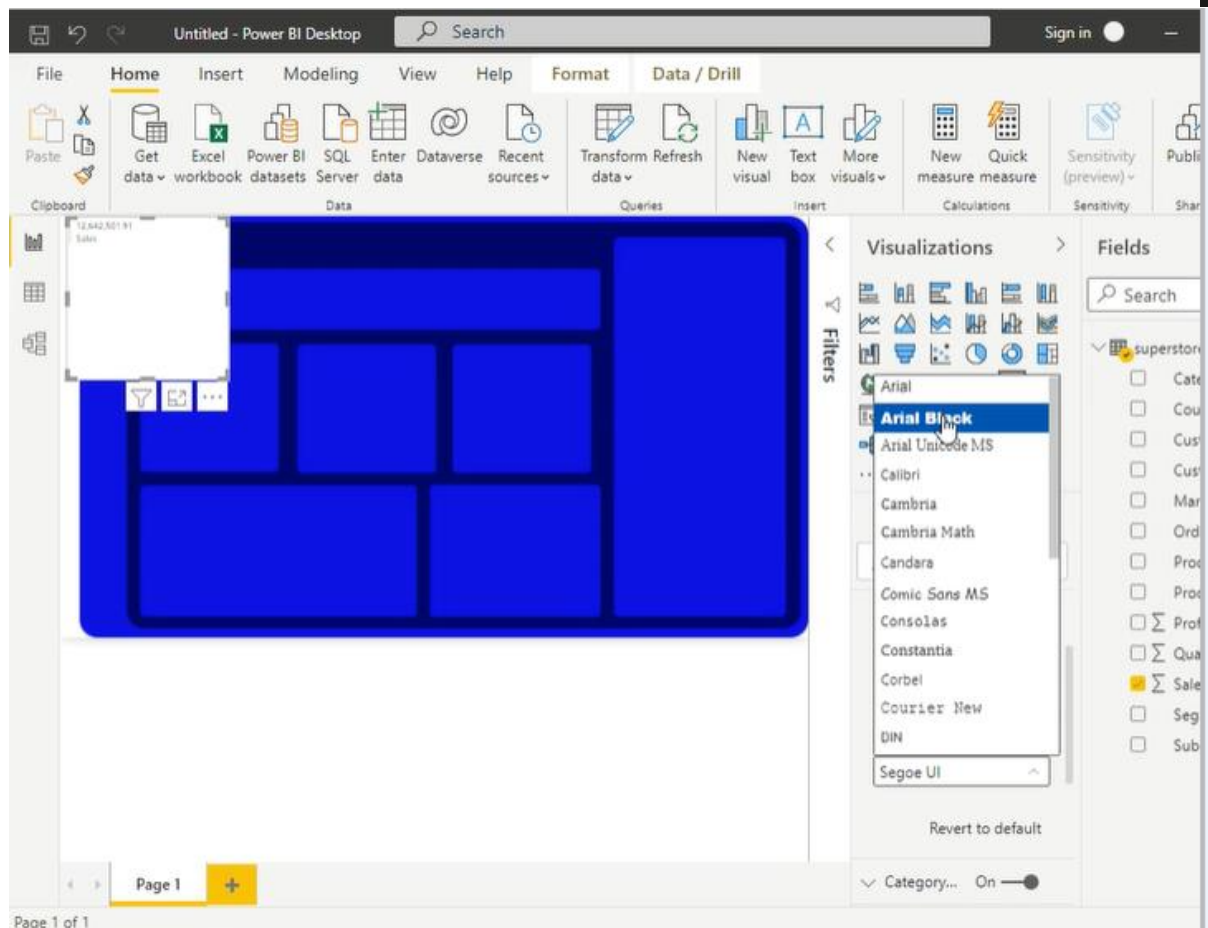


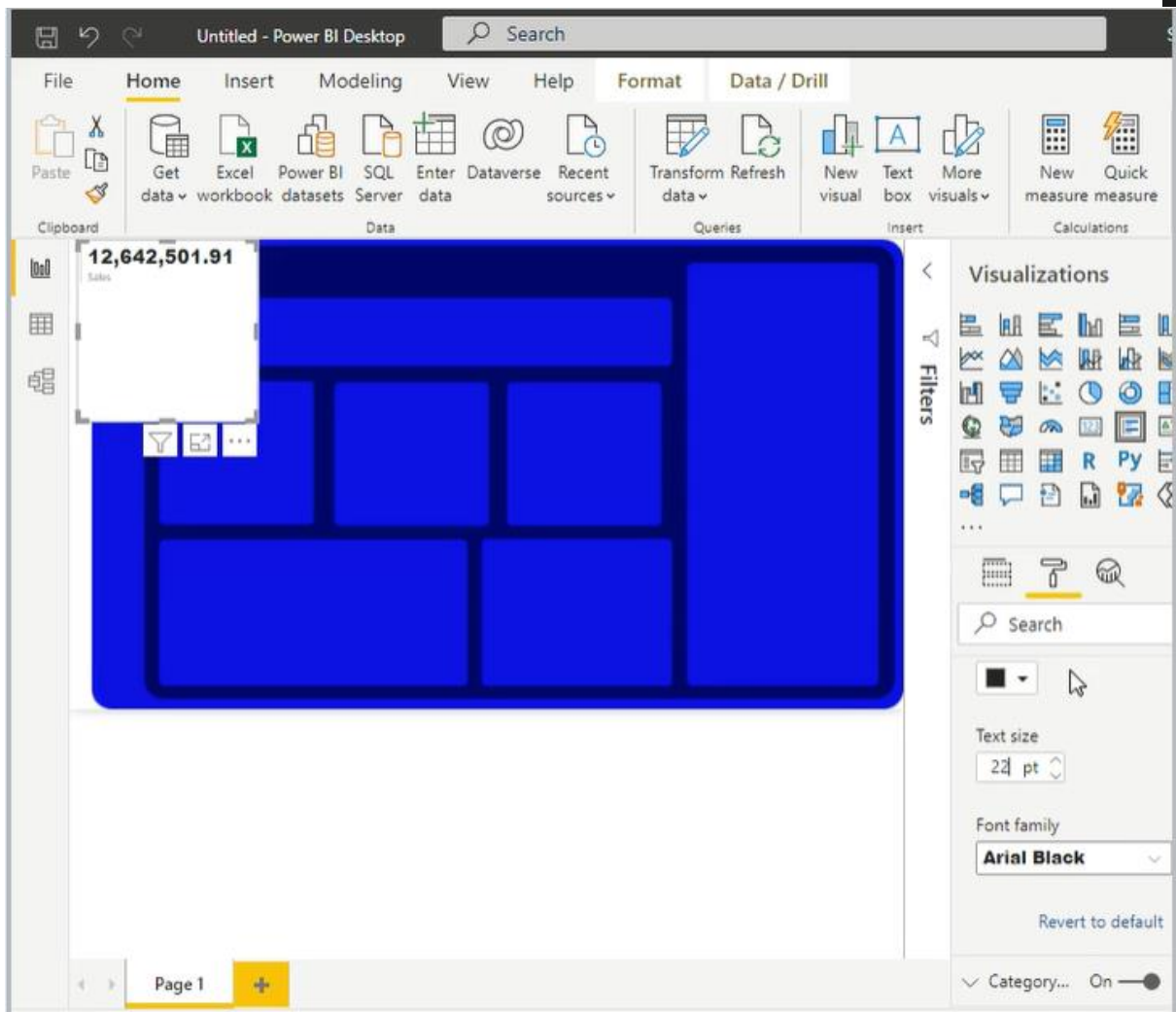
So this is our dashboard where we are going to create all our graphs. Now, our dashboard has been imported so, let's start with our first visualizations.

Let's start with this one: "multi-card":



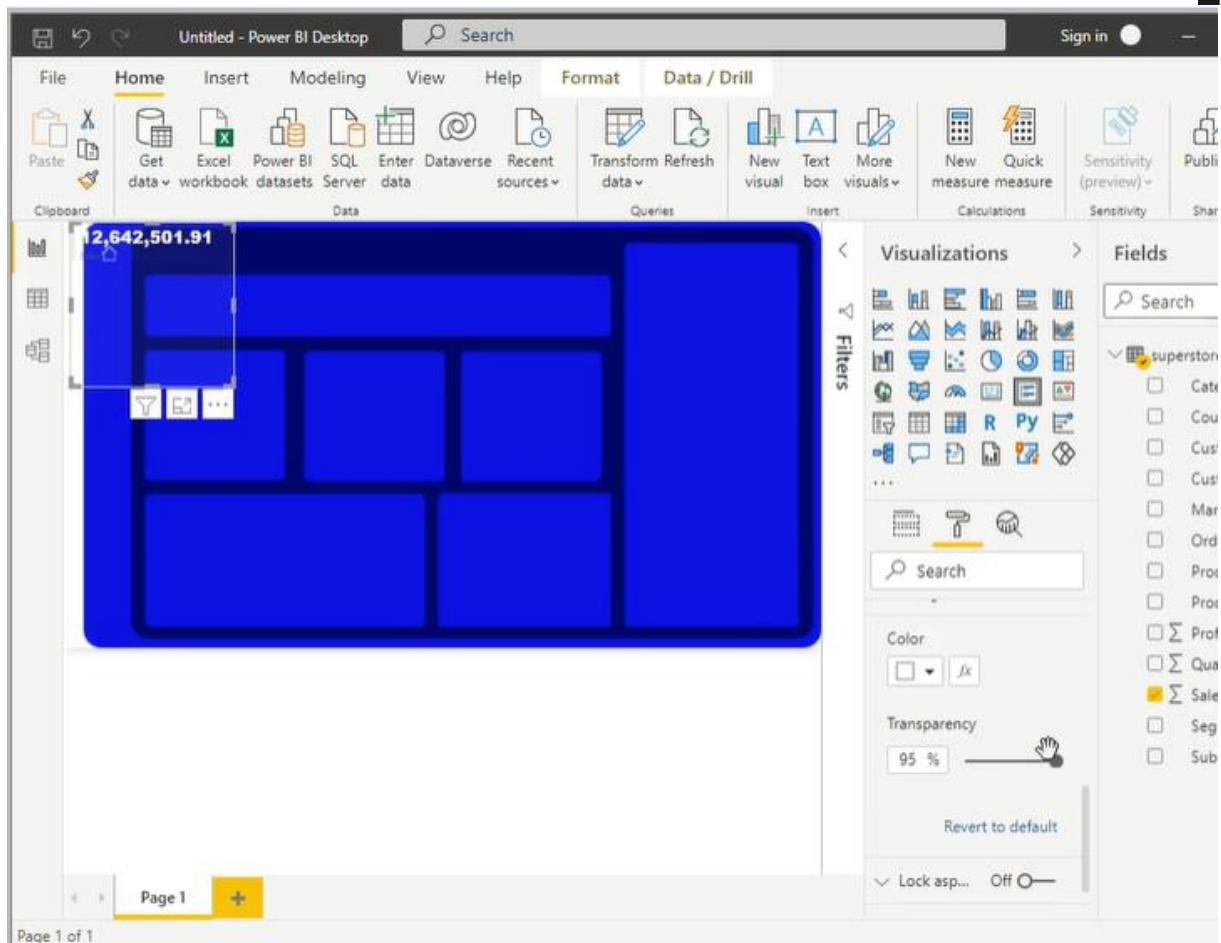
First of all, let's change the text size and font family to Arial Black.



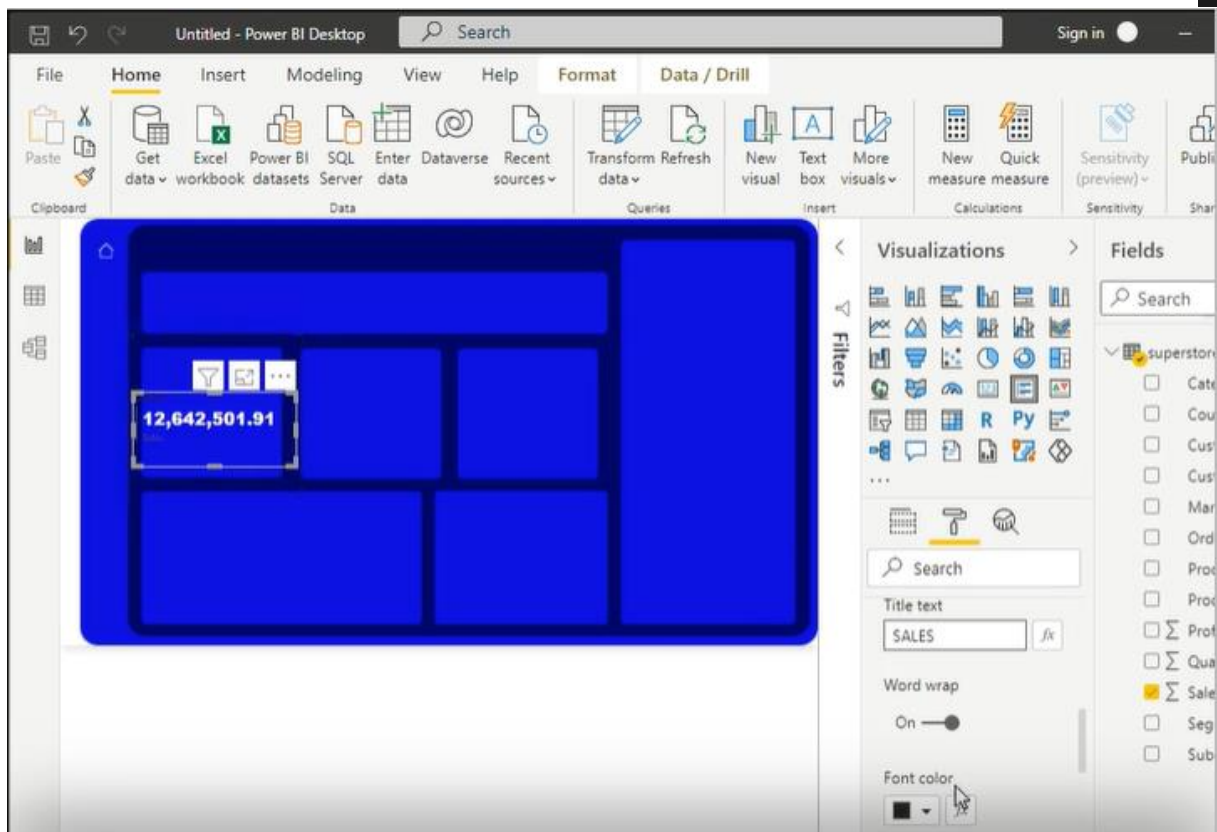


And let's change the color to white. It's not visible right now but it soon will be.

So let's scroll down and in the background, let's set transparency to 100% and let's drag it down over here.



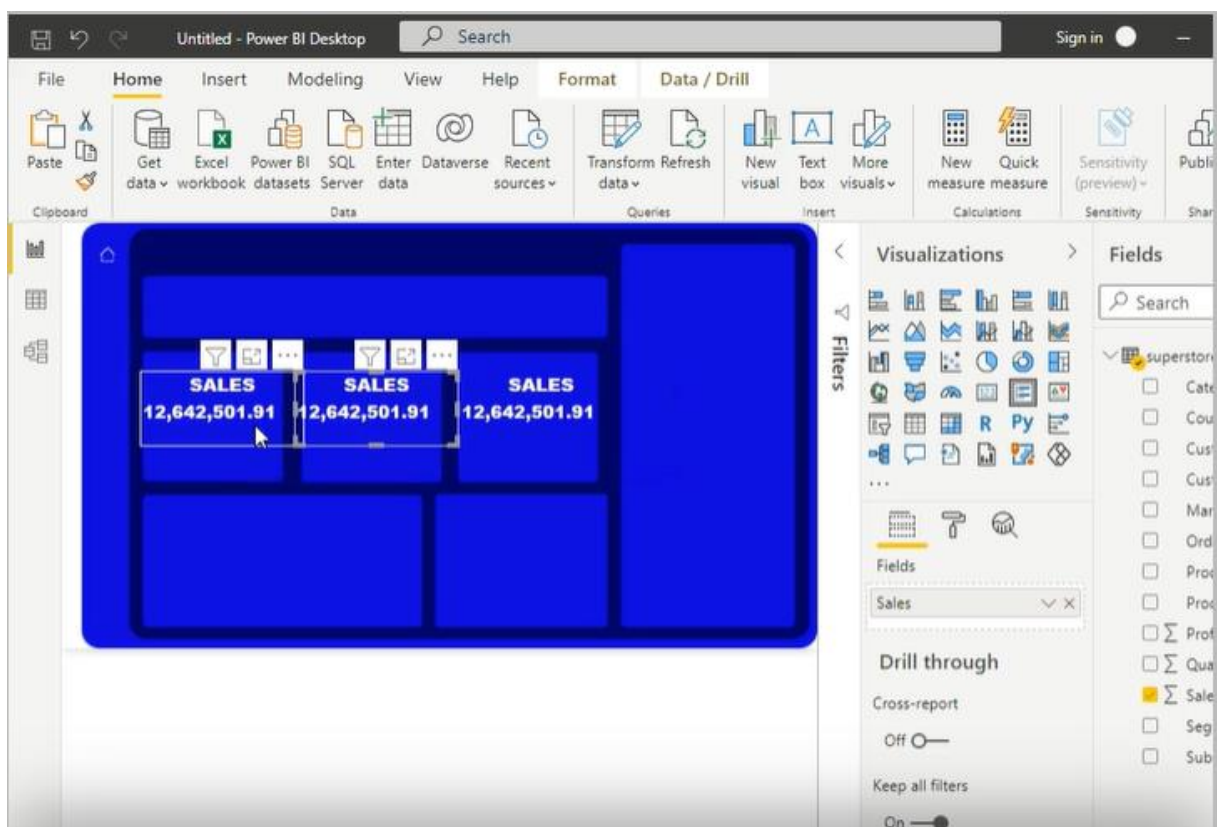
And under "Title" > "ON" this "Title" and under the title, please write "SALES" and the colour is white; alignment is centre. Font family "Arial Black" and text size is 23 points. So this is our sales.



Let's go to "Card" > remove "bar". We don't want a "bar". So it looks good

but there's a small "sales" written over here.

So, similarly just copy this and paste it.





So, it's faster. So let's select the second one, and in the "sales" field, we're going to select "quantity".

So this is our "quantity" and let's go over here and all we need to do is change the title to "Orders" and let's go to data label and alignment is "centre".

And let's go to this one and instead of sales,

let's select "Profit".

And so this is the Profit: 1.4 million.

And let's go to our title and change it to

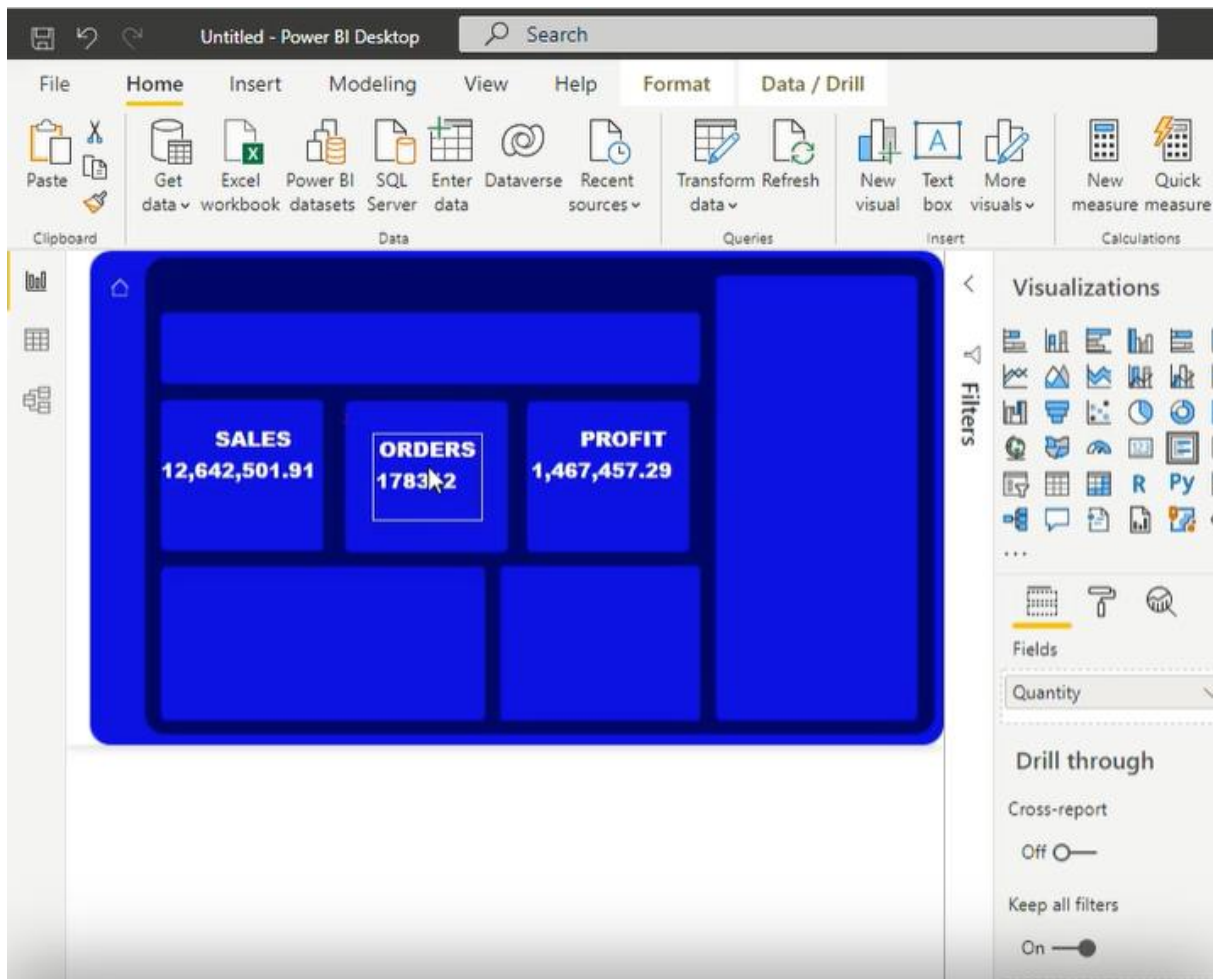
"Profit".

So we need to position this one over here.

So select this box > go to the "format" > Under "General"

So, we can see this width is way too high.

So we are going to reduce this width to 160.



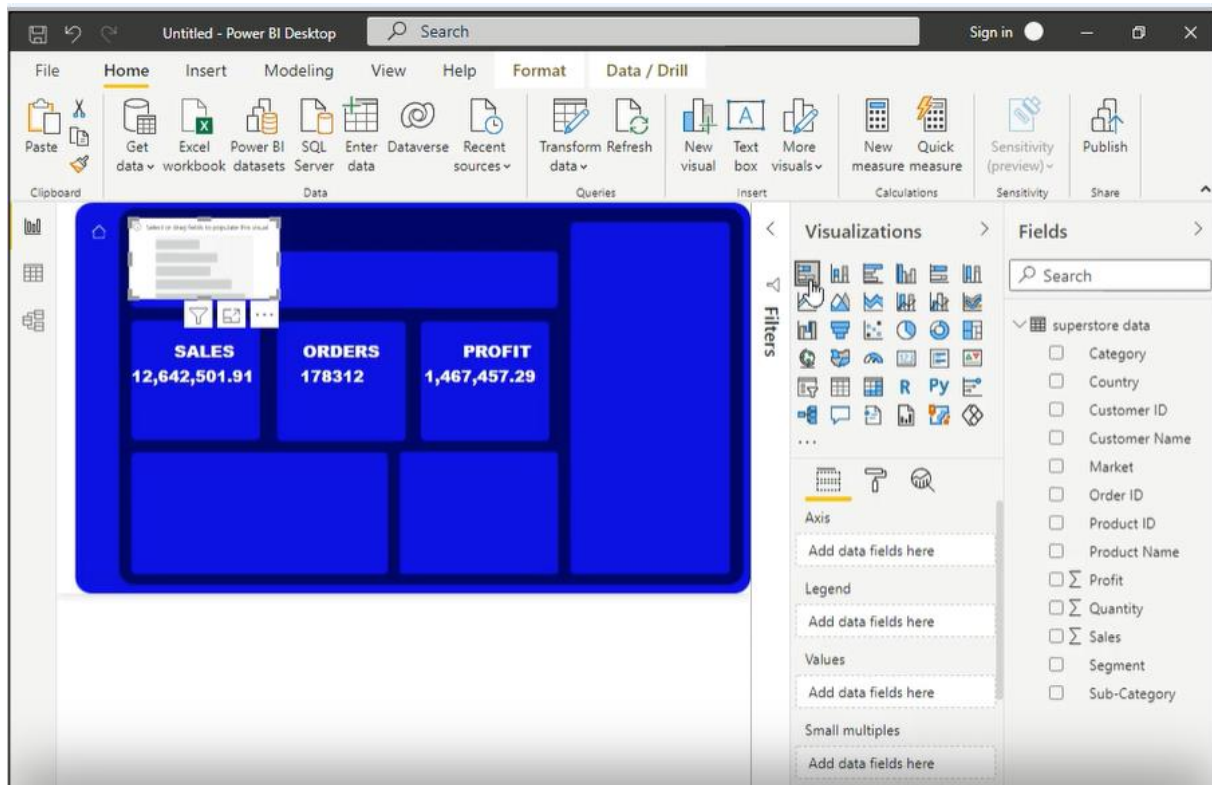


d. Visualizations: Sales by Segments, Categories and Markets:

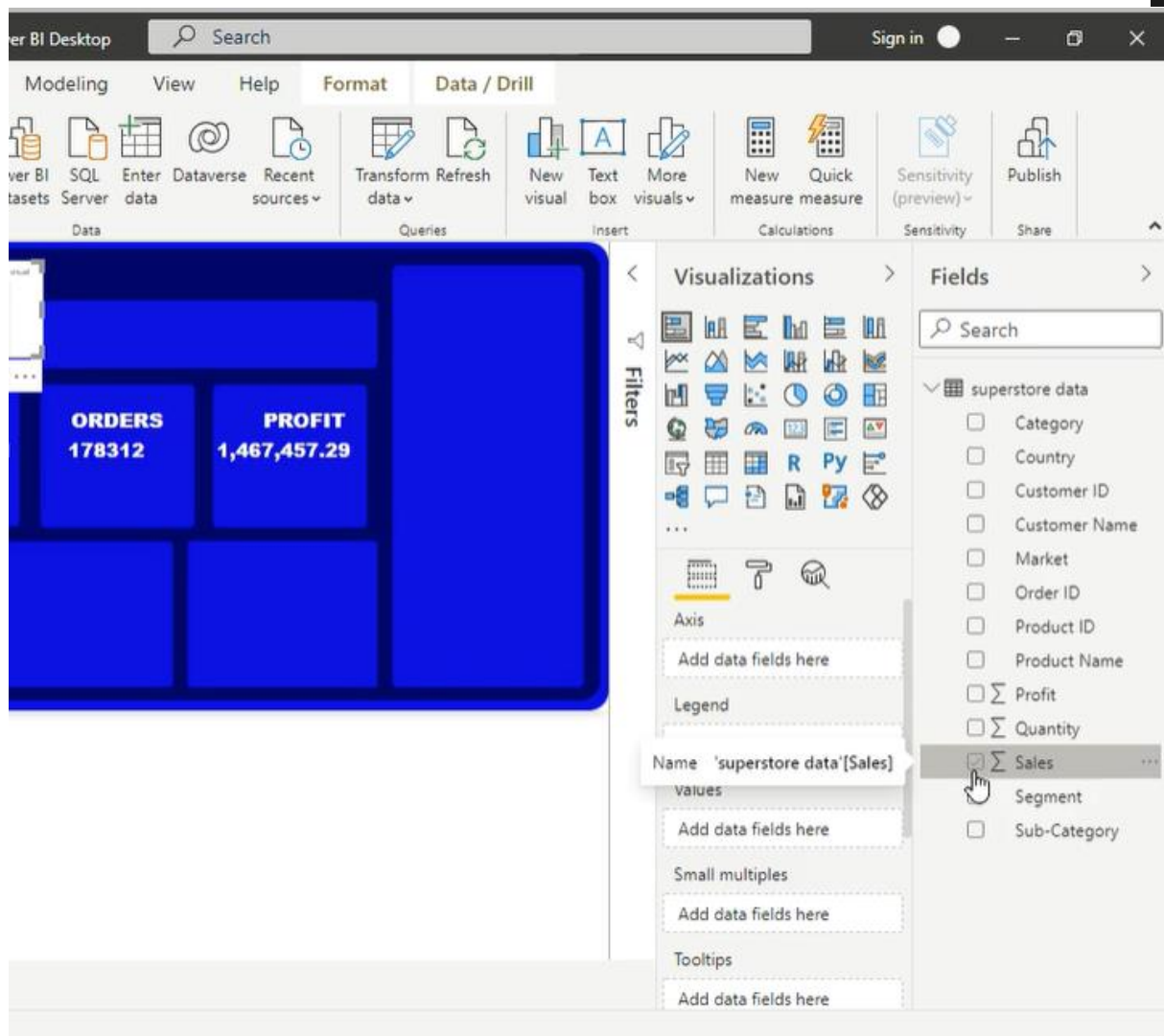
In this step, we are going to create further more visualizations:

So, we are going to create a column chart, a bar chart now.

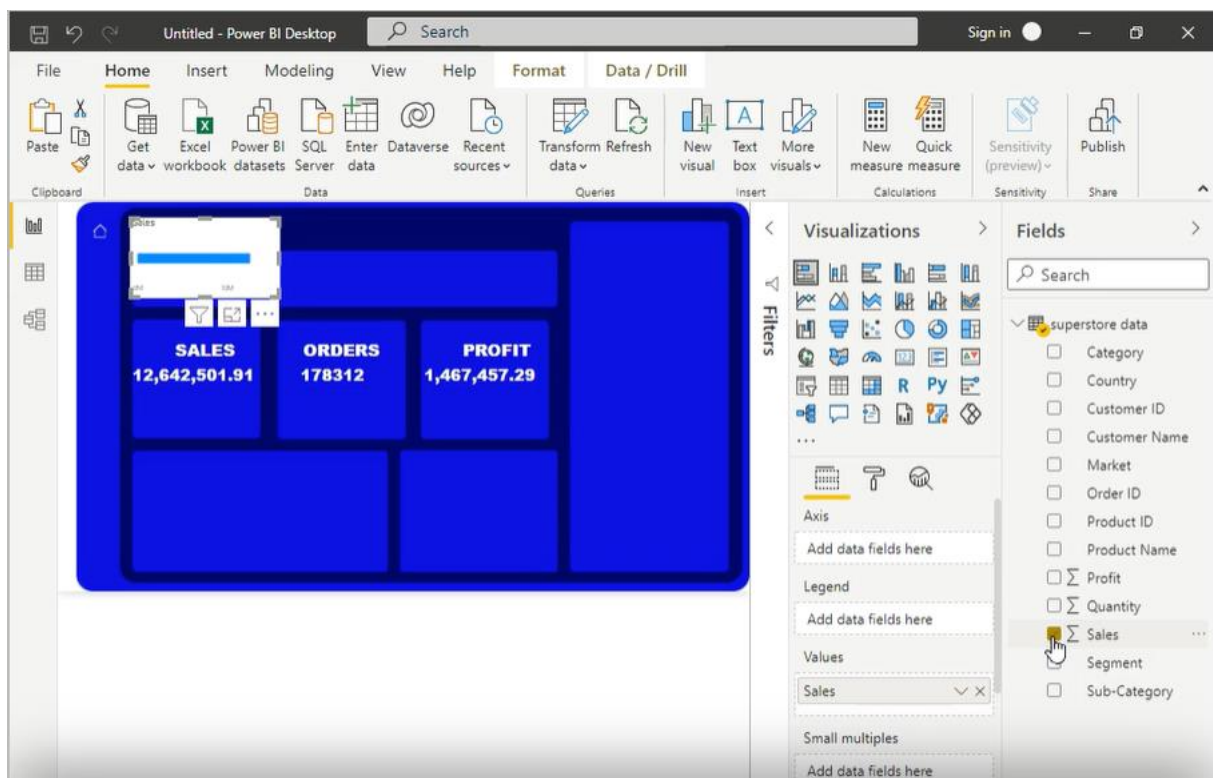
So, let's select this one: the first one



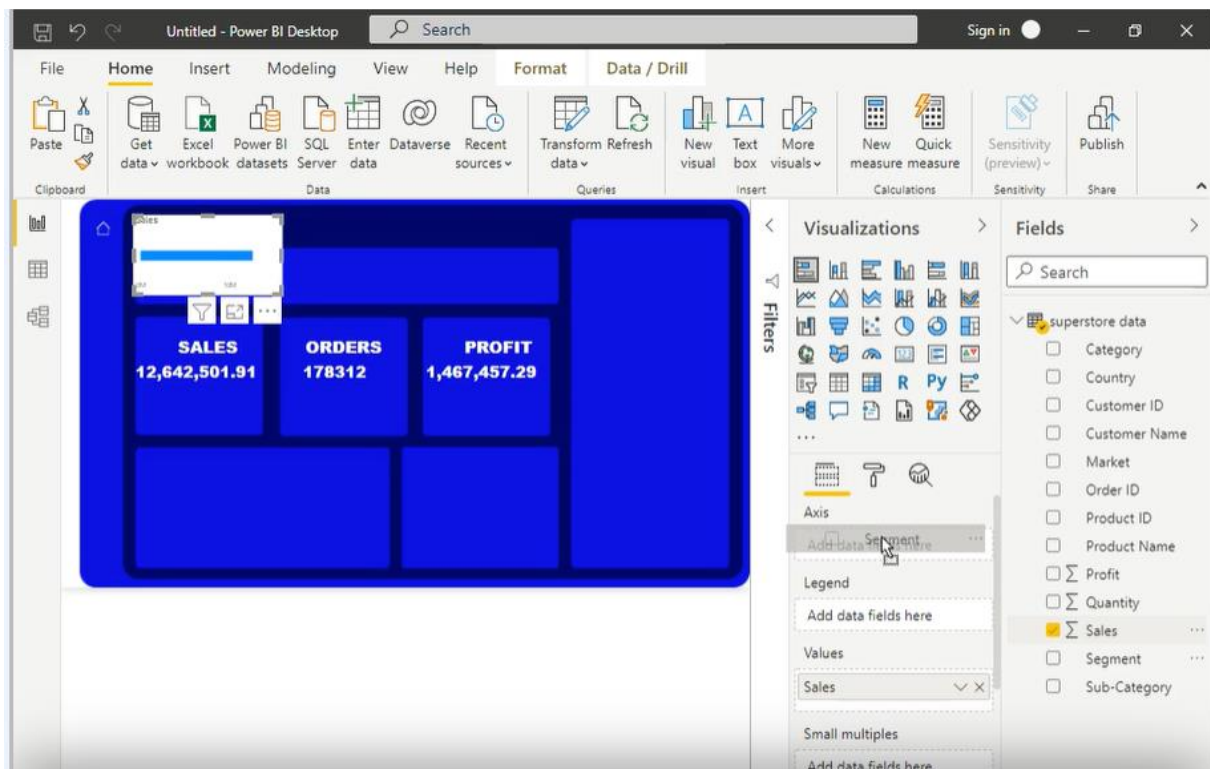
And now let's select sales.



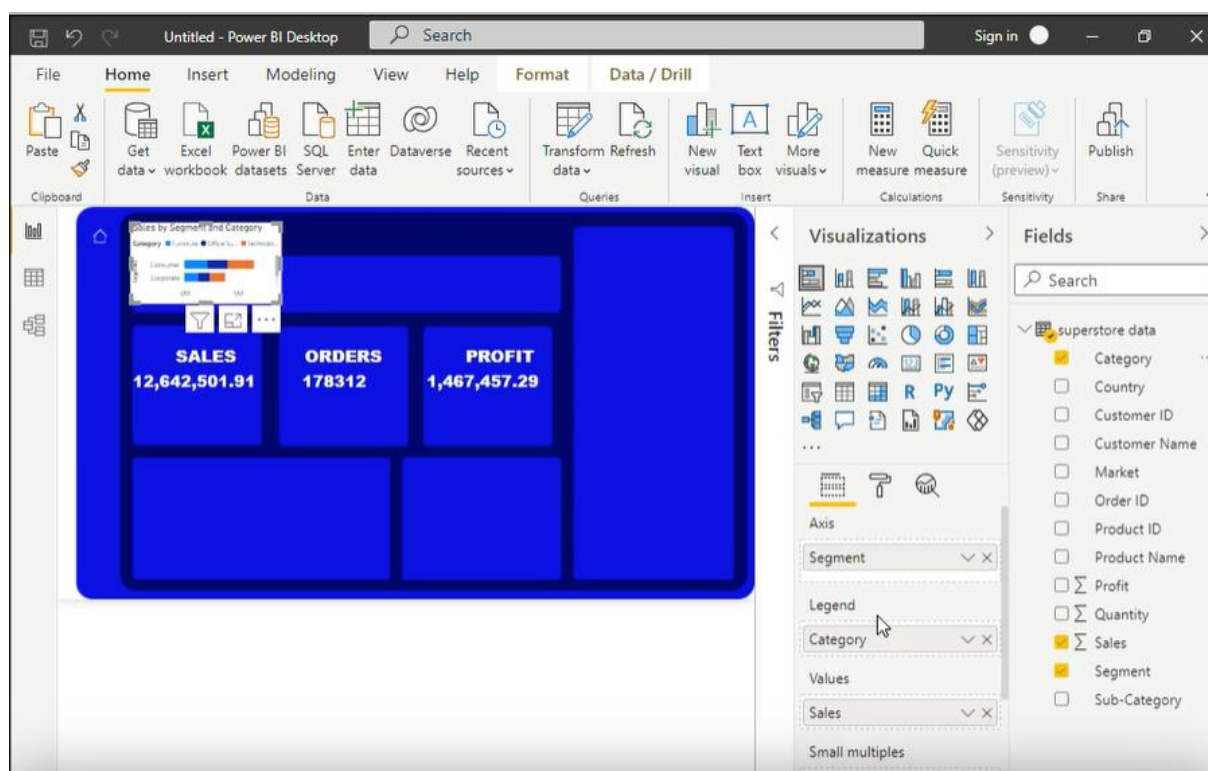
So, it will auto-populate in the "values" field



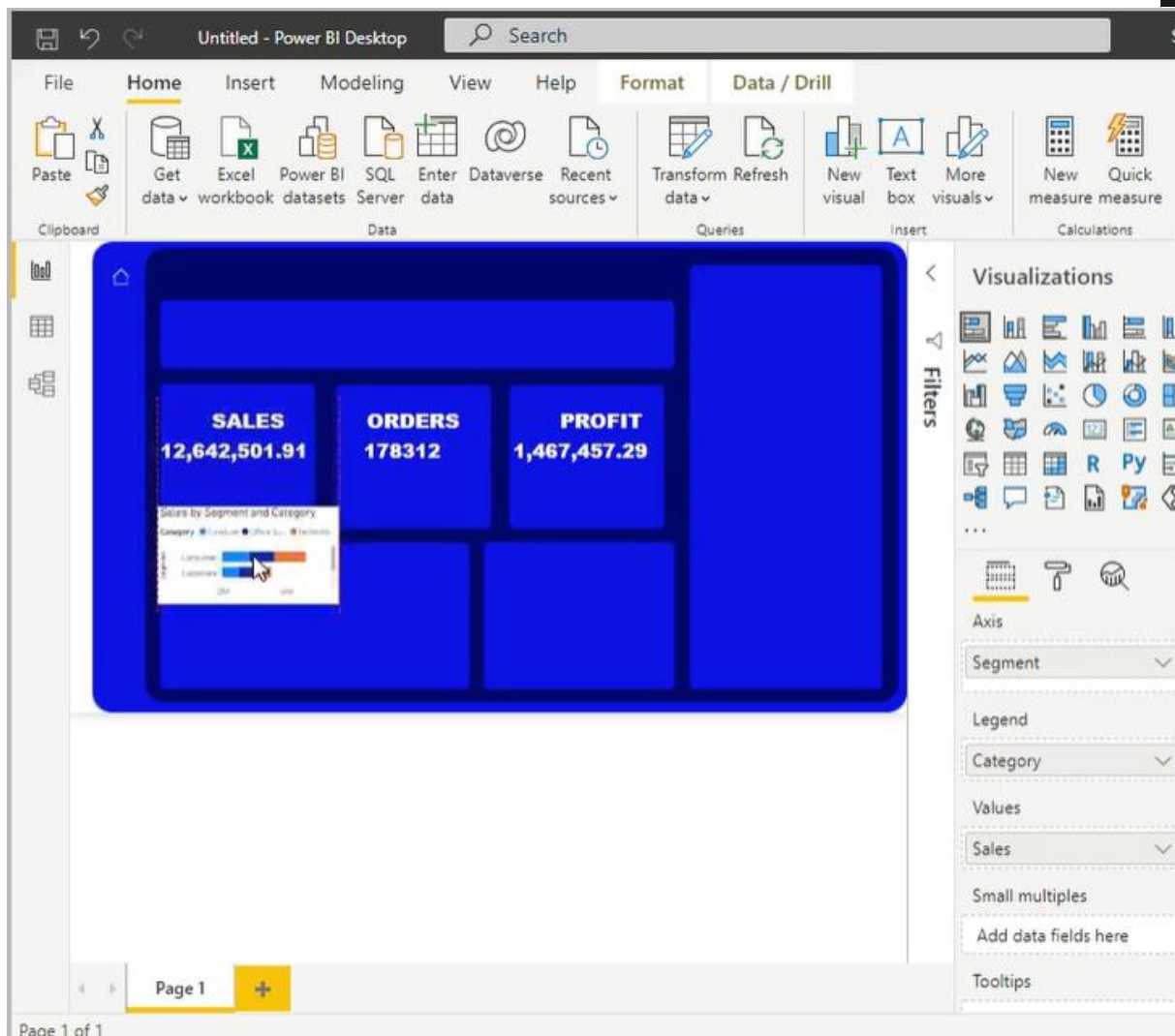
and we are going to select "segments" in the axis



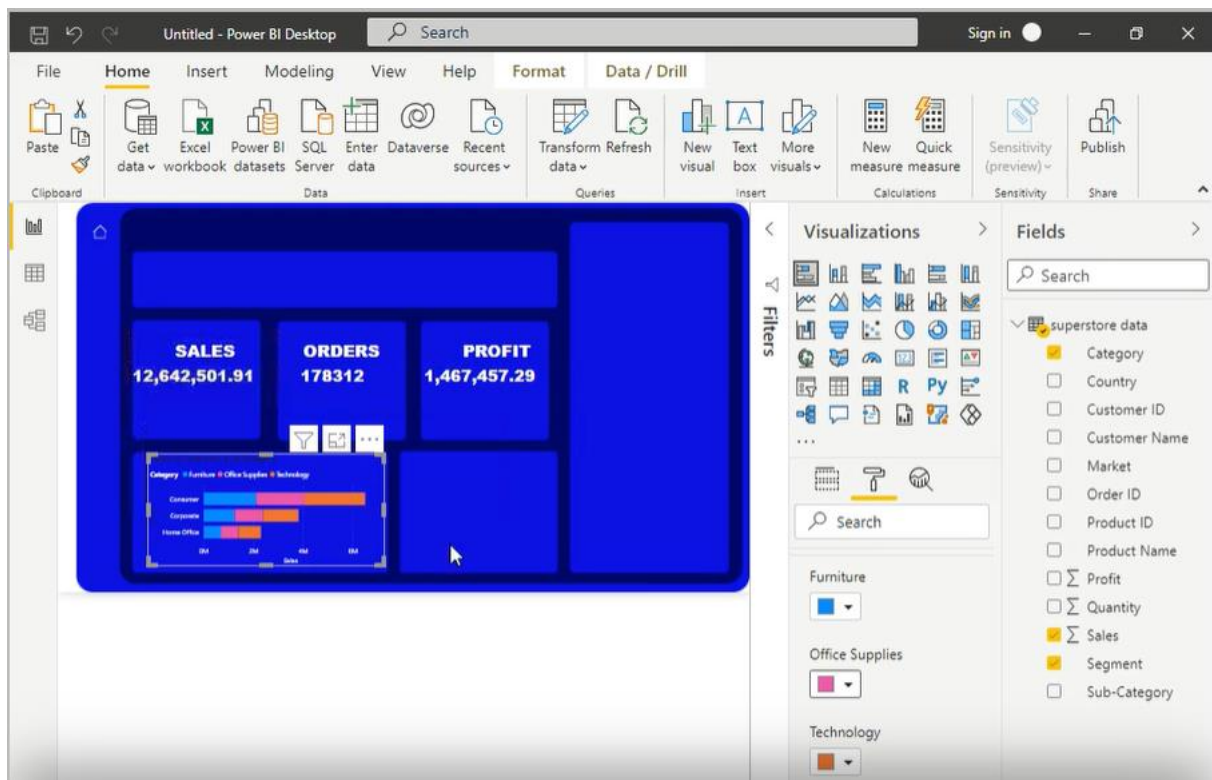
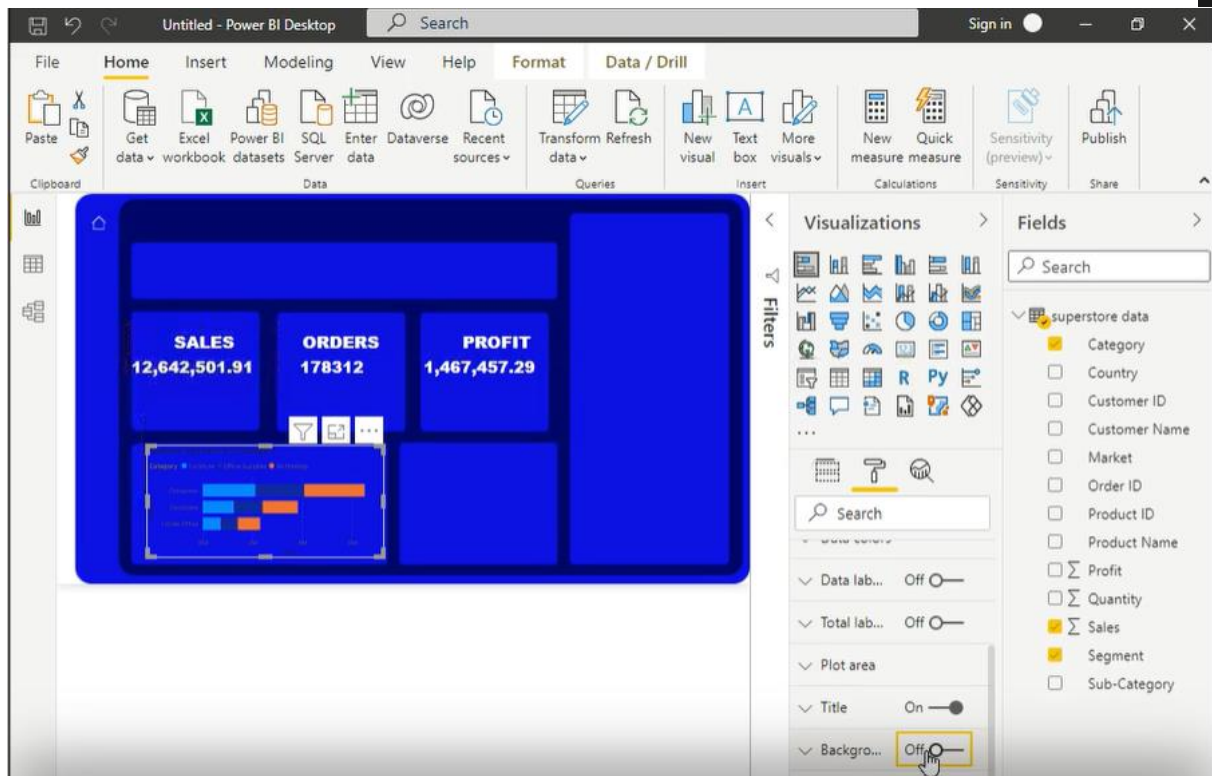
and we are going to select "category" in the legends field:



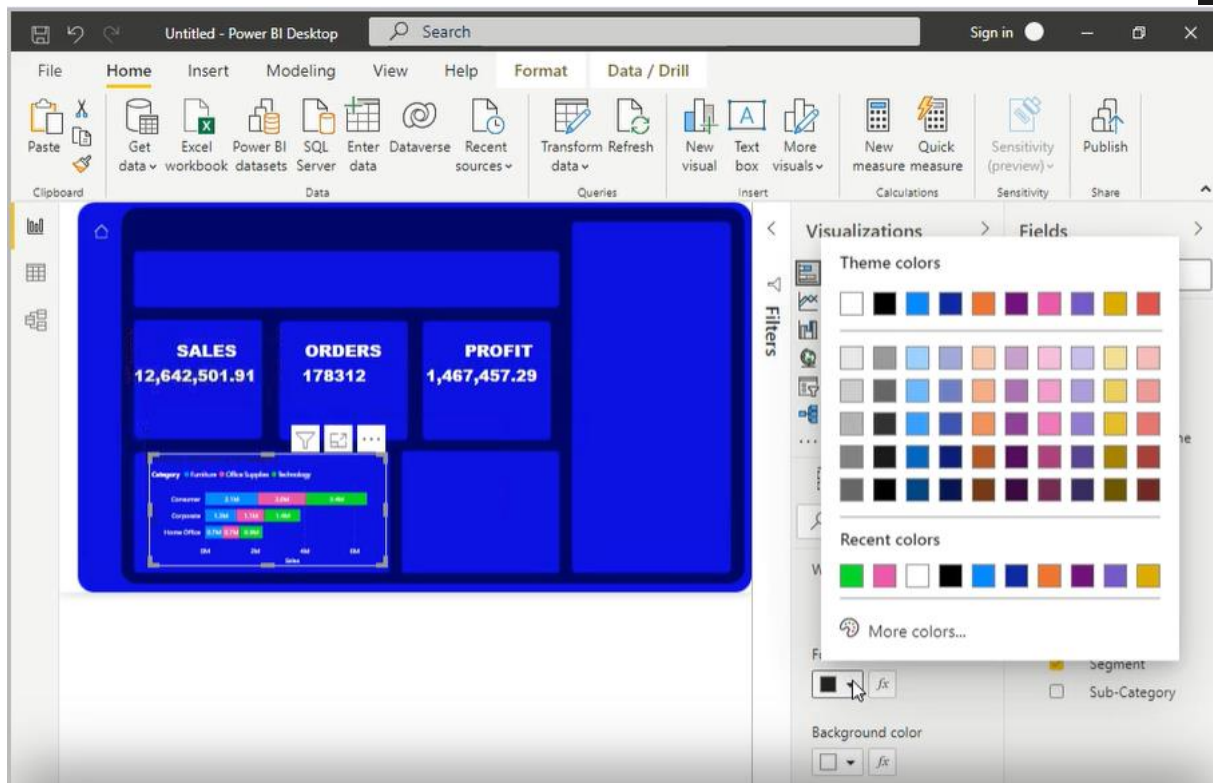
So, this is our graph.



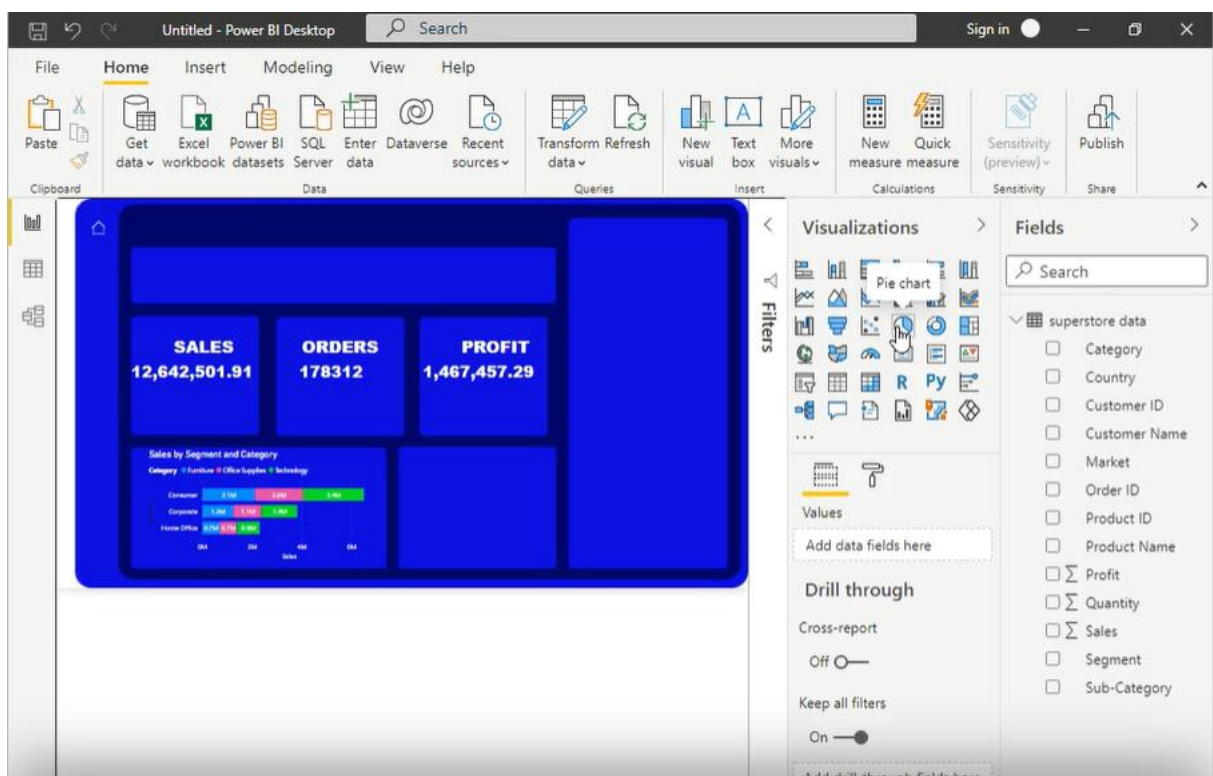
And let's change the background color on going to "background" > Off.

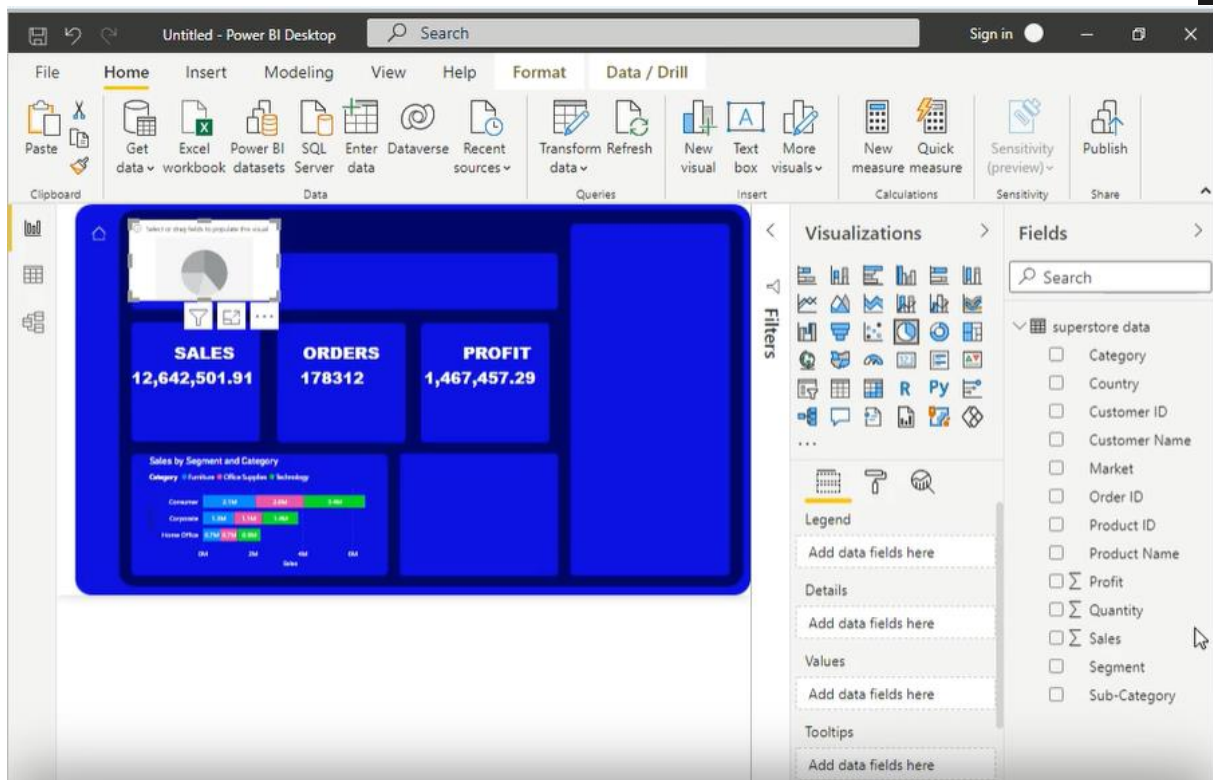


So it's pink and this one is orange. So let's change this one to Green. Go to "More colours". And select something that's "green".



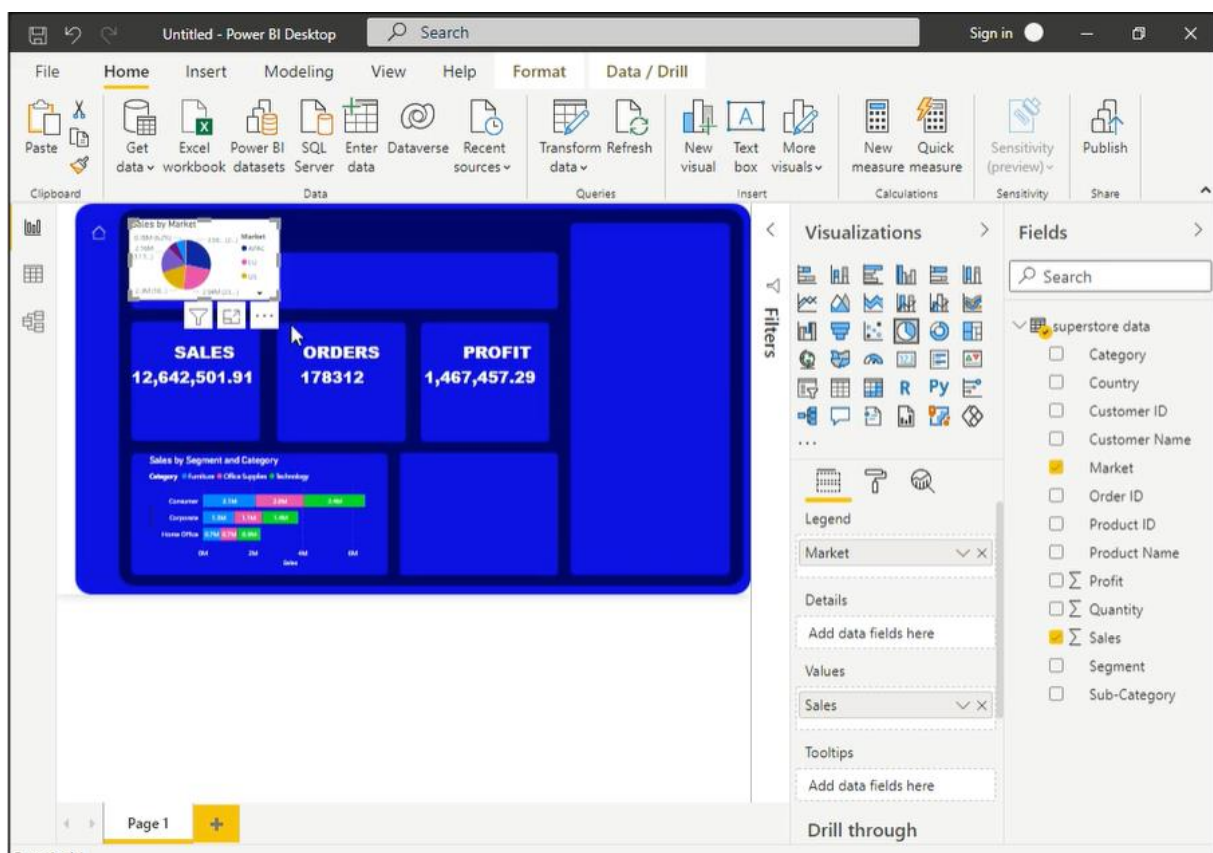
So similarly let's now create a pie chart for markets. So, for the pie chart, you can always go to this graph over here and we are going to select markets.



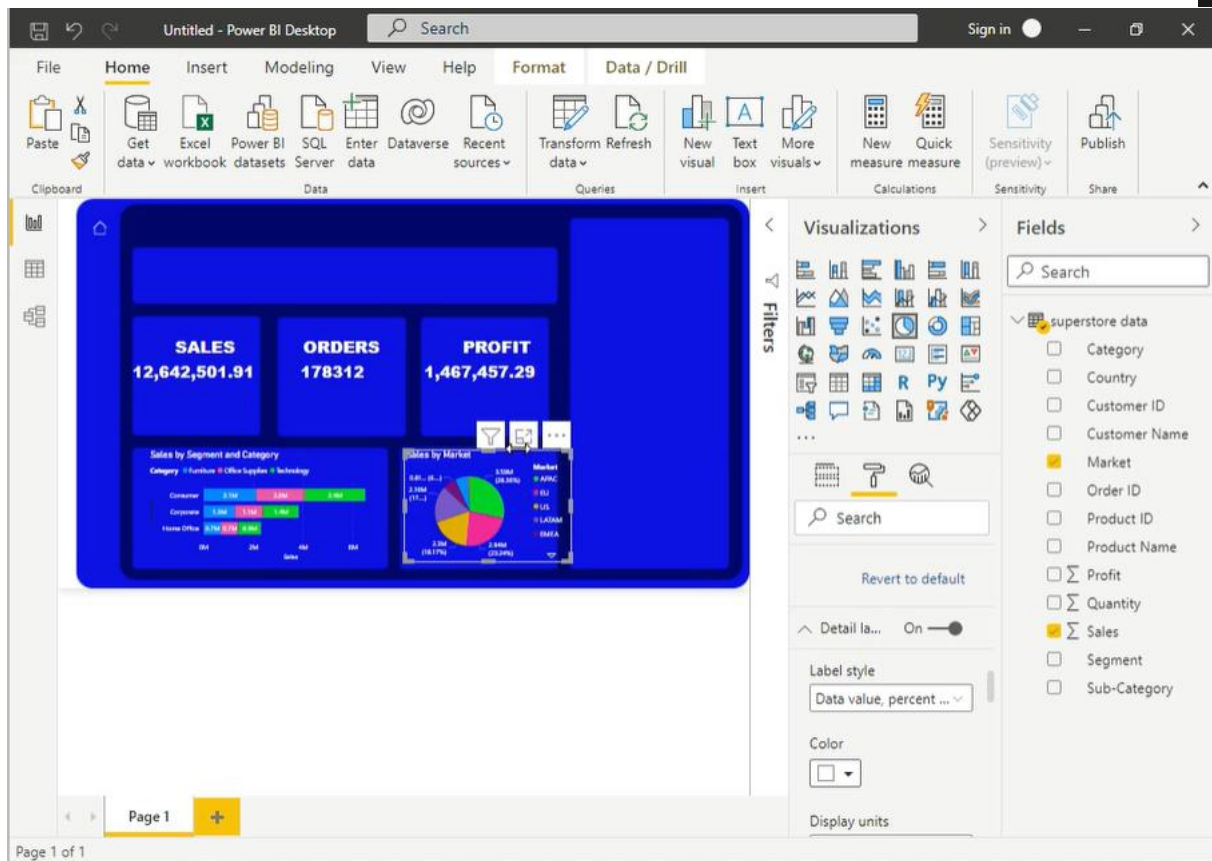


legend: markets

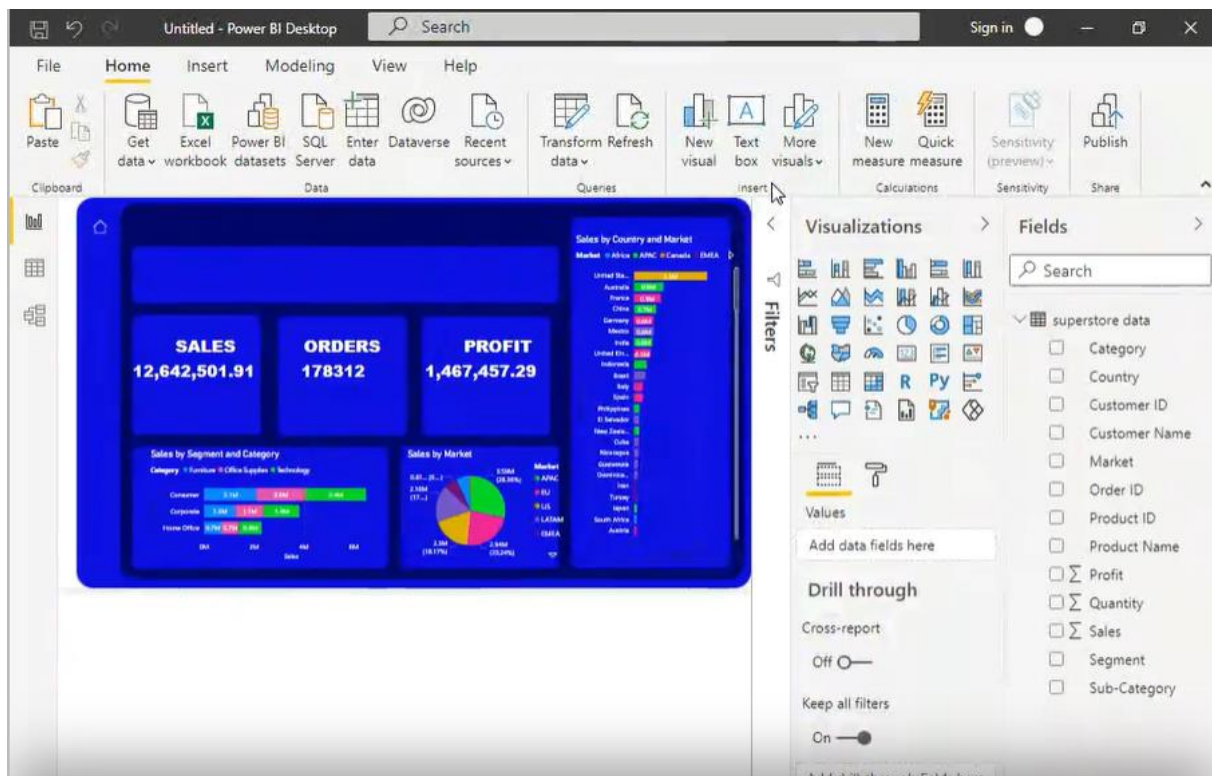
values: sales



Ans similarly, we can change the background and the design of our pie chart.



And let's now select an Bar chart for Sales by country, so we select country for Axis and Market for the legend and Sales in the Values

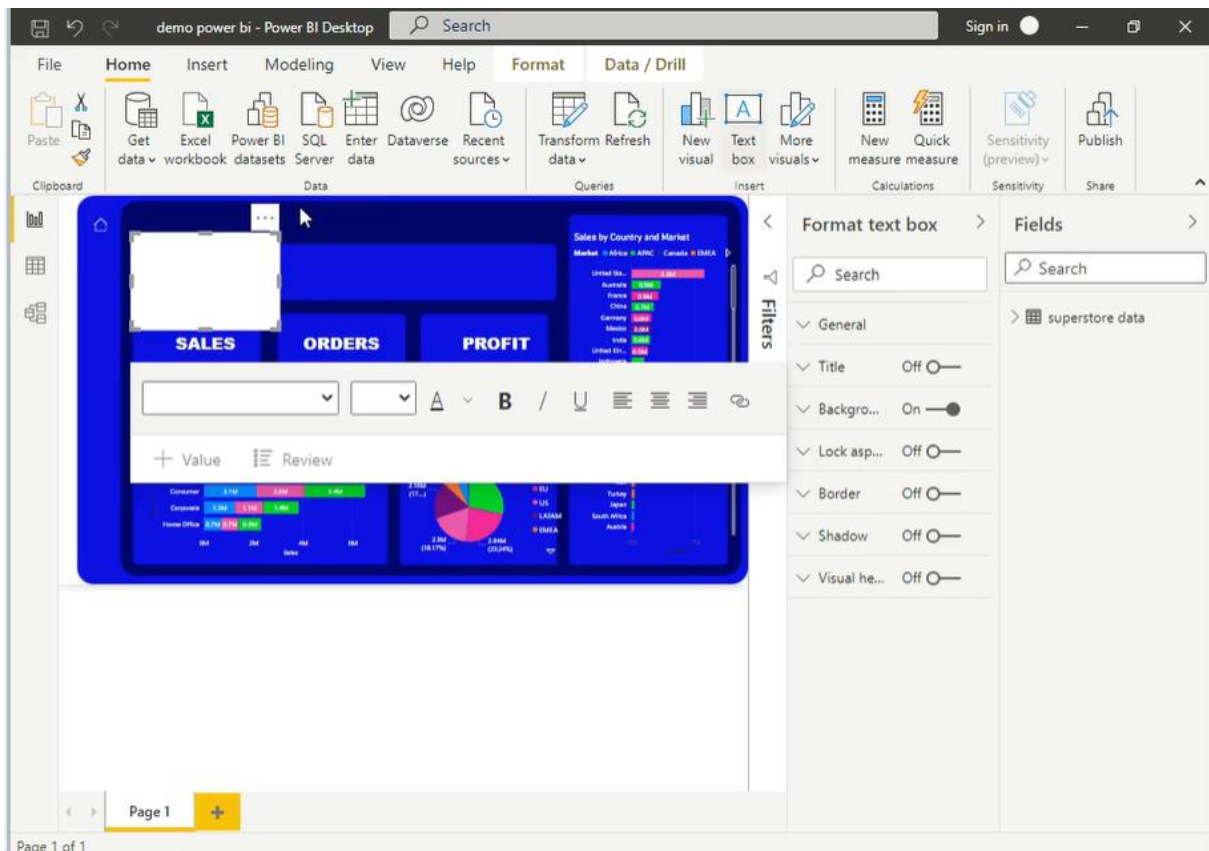


So, our dashboard is almost ready.

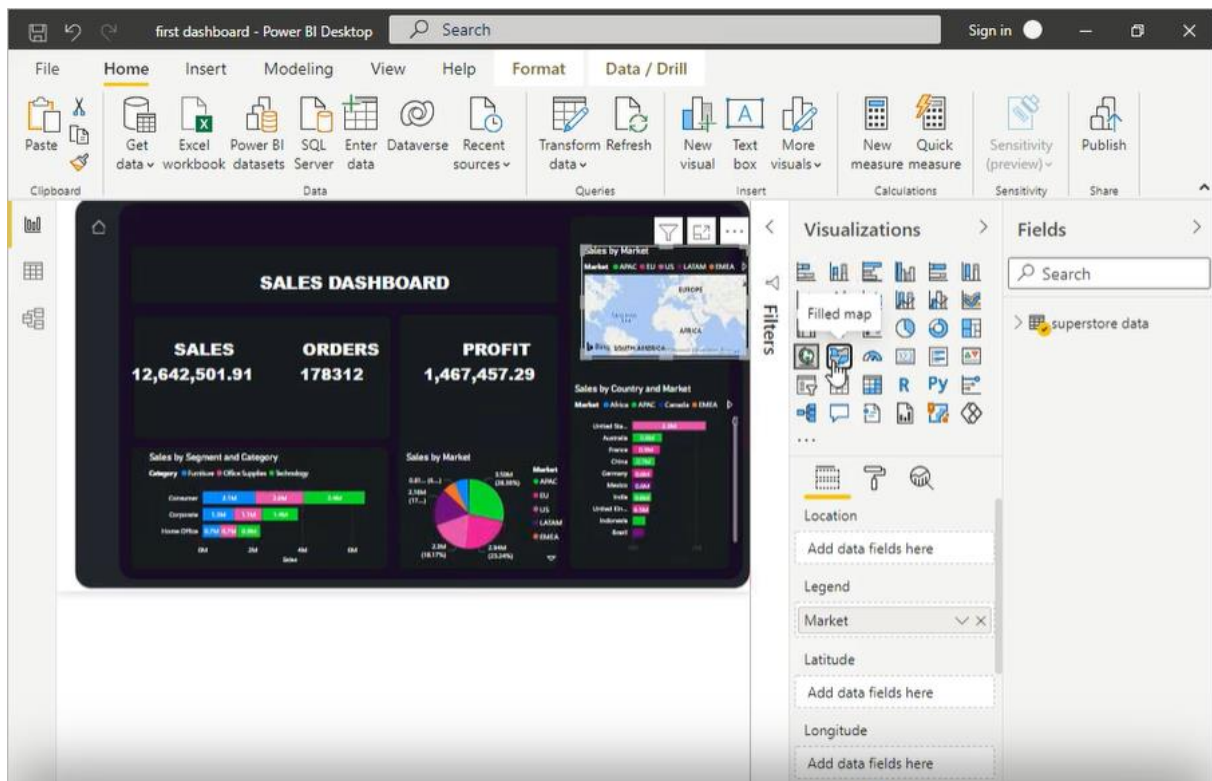


e. Visualization: Interactive Maps

Firstly we gonna create a text Box for the title of the dashboard:



And let's select Map on it:





So, we make country in the legend, and if we type any market in the pie chart, it will display the maps of countries for this market selected.

