



POWER BI: AN INTRODUCTION

Introduction to Visualizations

ABSTRACT

Power BI is quickly becoming the most powerful business intelligence data analytics platform. An understanding of Power BI is essential for data professionals. With Power BI it is possible to connect to many different types of data, easily manipulate and analyze the data, and then create stunning, interactive dashboards to provide visuals for your audience.

This interactive seminar provides an introductory understanding of Power BI visualizations.

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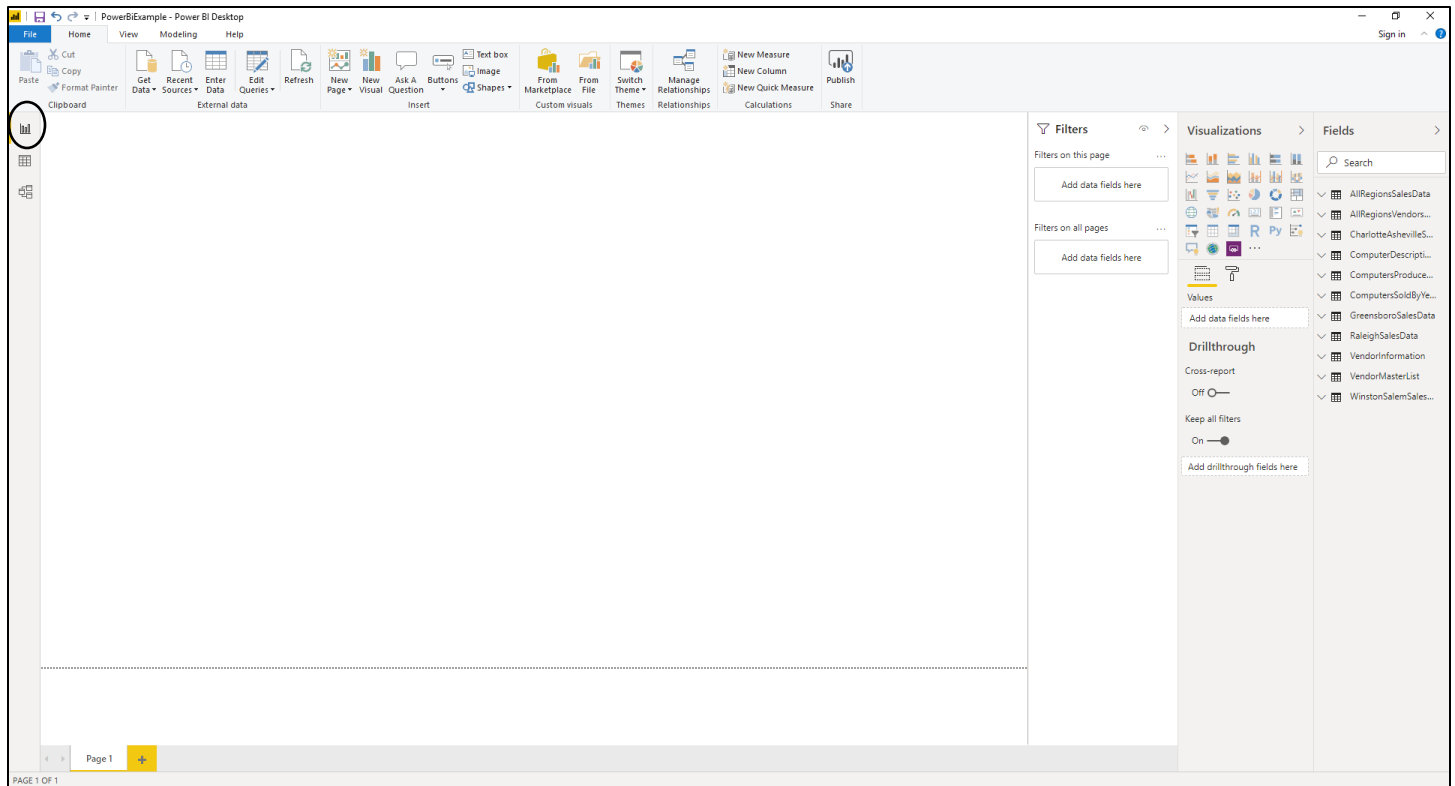
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Visualizing Data with Reports: The Report View



The Report View of the Data Model window is where we put together our visualizations.

The goals of good visualizations include (but are not limited to):

- Easy to understand visual representations of numbers
- Easy data analysis
- Easy decisions
- Easy question generation and answers

The Report View is designed to help with all of those goals.

At the top you will find the ribbon and tabs.

In the middle you will find the report workspace and view area.

On the right, you will find the tools used to create the visualizations, including:

- Filters
- Visualizations
- Fields

Visualizing Data with Reports: Adding Simple Objects

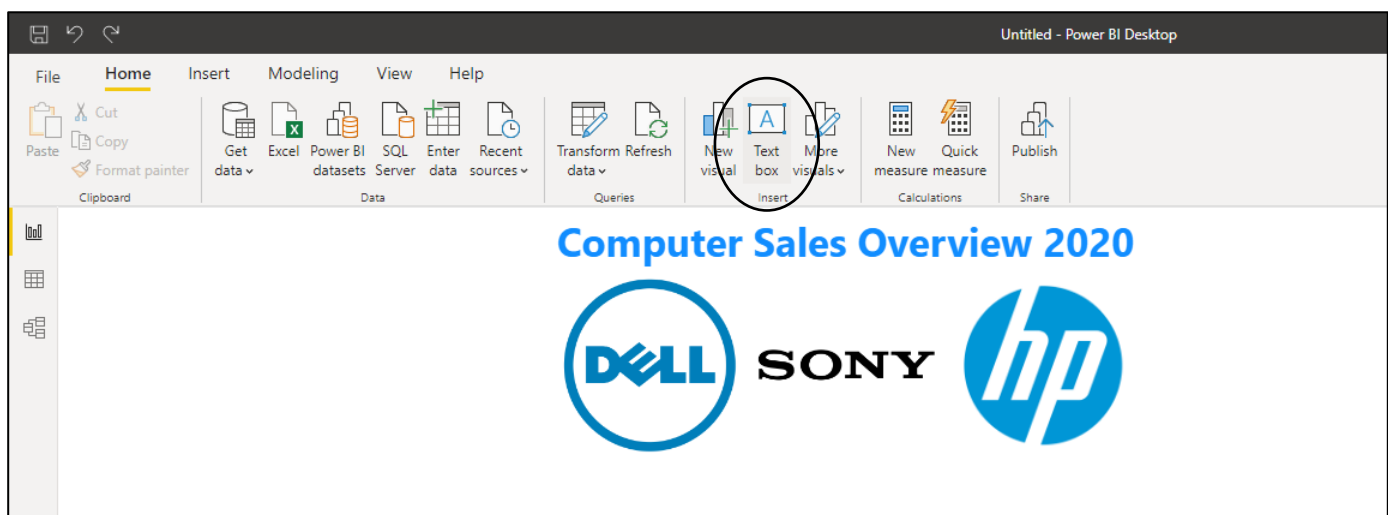
To add a report title to the Report window:

- On the Home tab of the ribbon, click on the Text box tool
- Type in the title

You can size the title by clicking and dragging from a corner. You can move the title by clicking and dragging from the interior of the title.

To change the formatting of the title:

- Highlight the title
- A new toolbar will appear – use the font, size, and color tools on the toolbar to make changes



Notes:

Visualizing Data with Reports: Adding Simple Objects

To add an image to the Report window:

- On the Insert tab of the ribbon, click on the Image tool
- Navigate to the folder that contains the image
- Click once on the Image
- Click on the Open button in the lower right corner

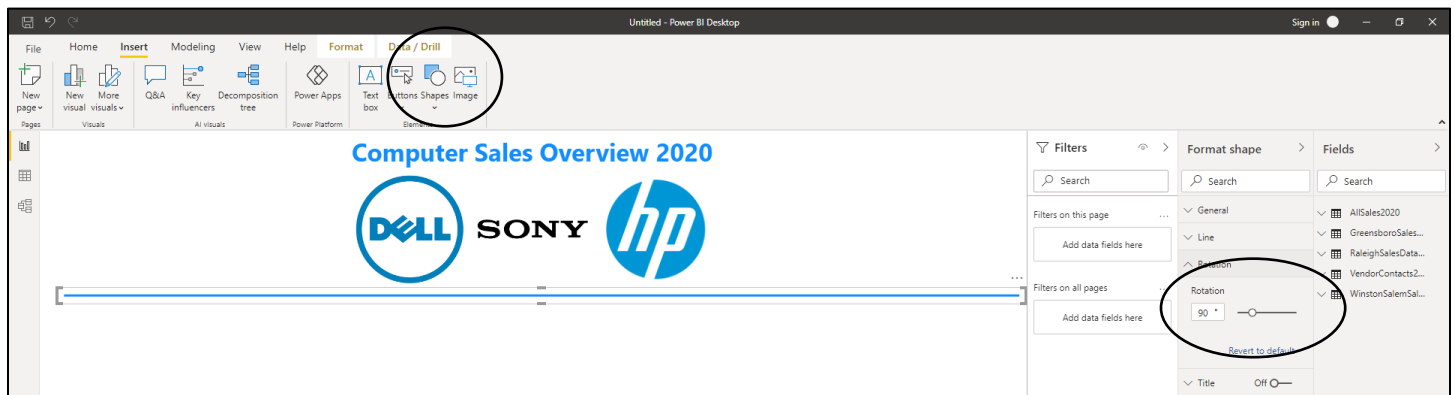
To add a shape to the Report window:

- On the Insert tab of the ribbon, click on the Shapes tool
- Click on the shape you wish to add

You may need to click on the shape and format it – to create a horizontal line, for example.

To create a horizontal, rather than vertical line, simply make sure the shape is highlighted, and go to the Rotation option on the right side of the window under Format Shape.

Change the Rotation to 90 degrees and press Enter.



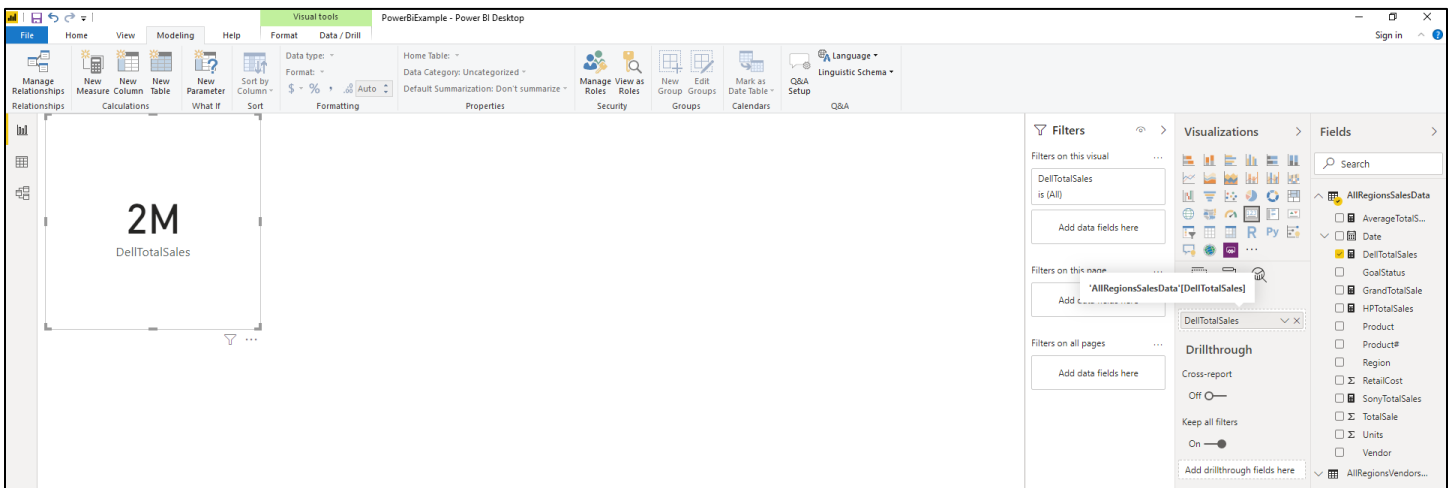
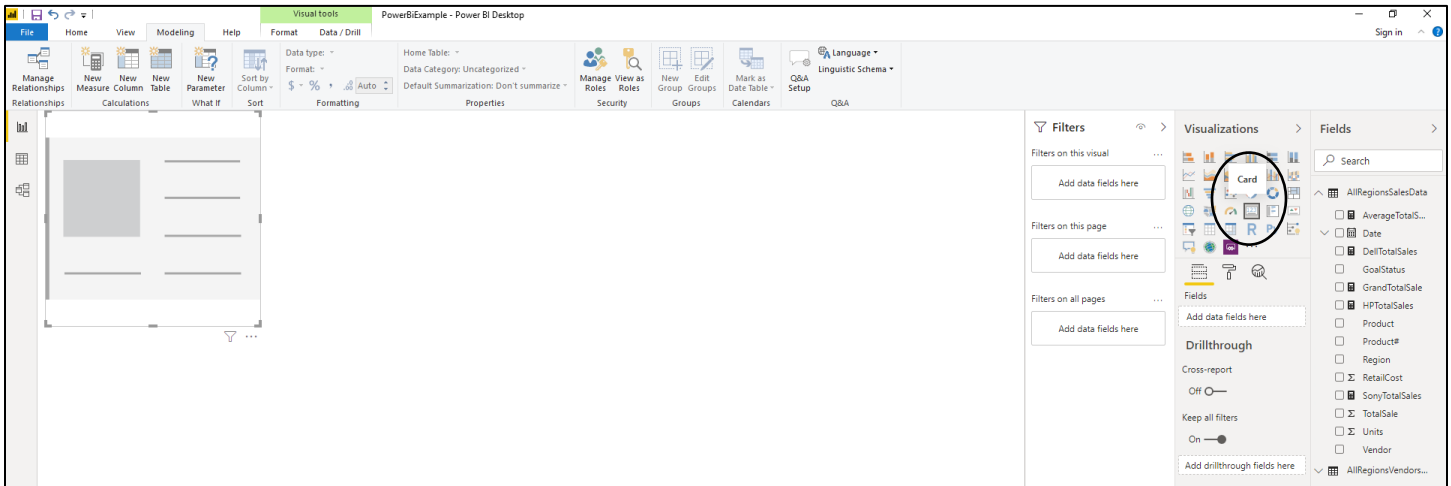
Notes:

Visualizing Data with Reports: Adding Simple Objects

The Card shows a single value or data point

To Add a Card:

- On the Home tab of the ribbon, click on the Card tool under visualizations
- Click on the query that contains the data element that should show on the card
- Drag the field containing the number to the Card placeholder in your workspace (it will also show up under Visualizations in the Fields placeholder)



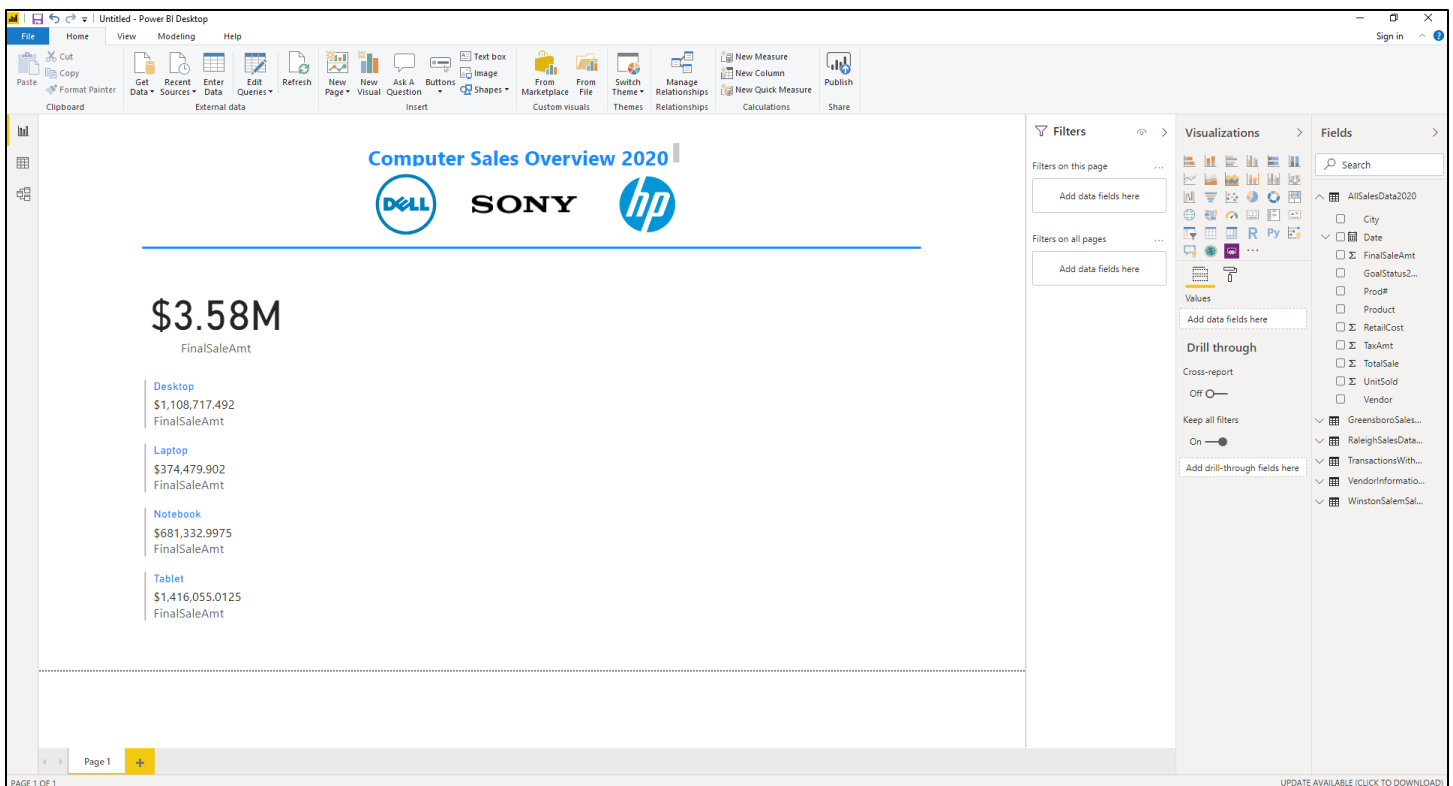
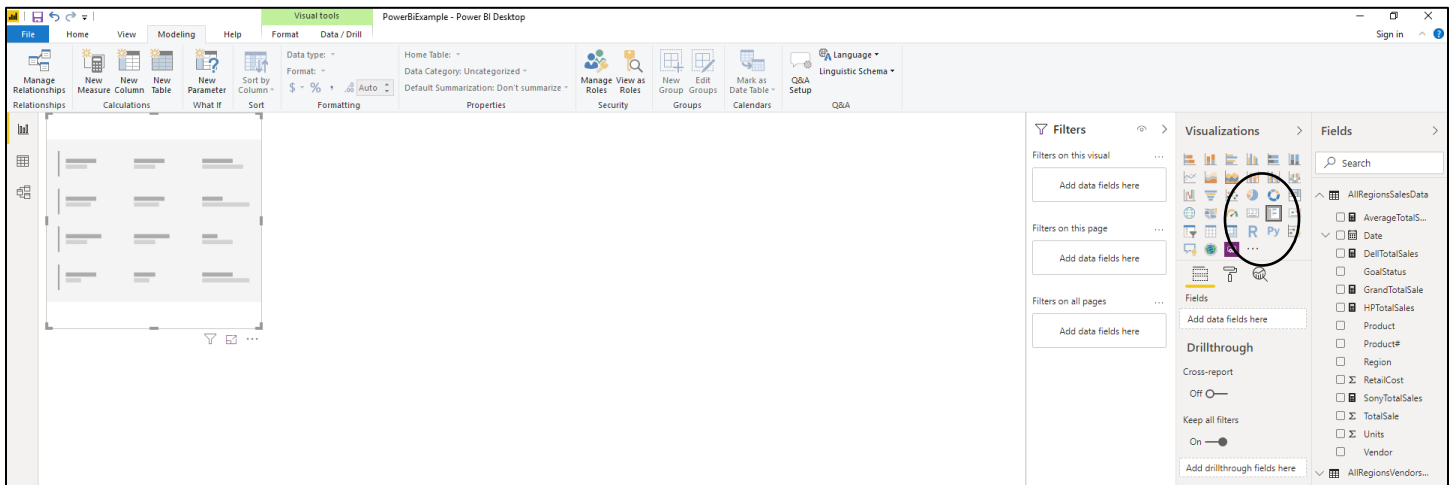
You can size the card by clicking and dragging from a corner. You can move the card by clicking and dragging from the interior of the card.

Visualizing Data with Reports: Adding Simple Objects

The Multi-row card is great for showing a comparison of items – perhaps totals or averages that have been filtered by specific criteria.

To Add a Multi-row card:

- Click on the Multi-row card tool under visualizations
- Click on the query that contains the data elements that should show on the card
- Drag the first field containing the number to the Card placeholder in your workspace (it will also show up under Visualizations in the Fields placeholder). Drag the second field to the placeholder or drop it under the first field in the Fields placeholder under visualizations. Repeat this step until all items have been added to the card.

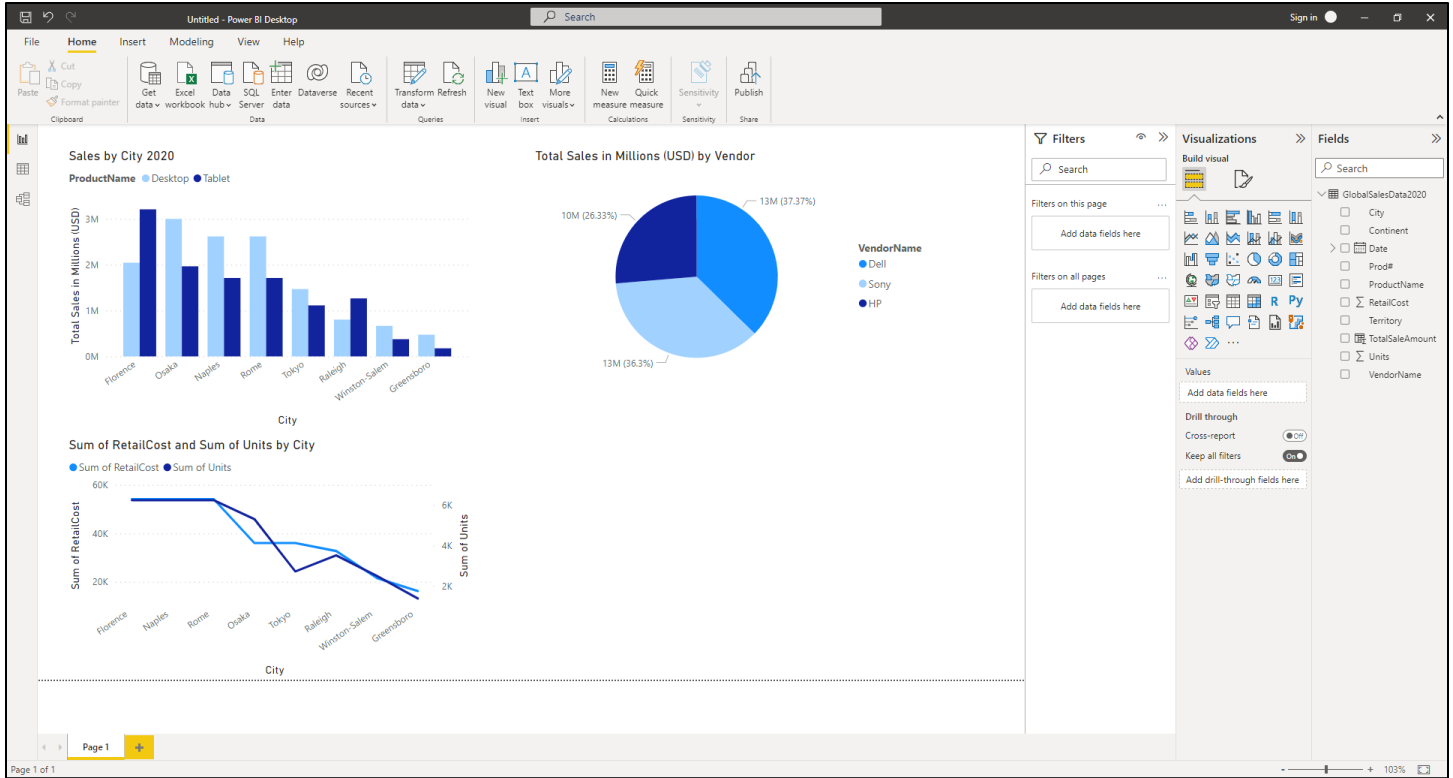


Visualizing Data with Reports: Inserting Basic Charts and Other Visuals

There are three types of charts that human beings can look at and immediately understand. They include:

- Bar/Column
- Line
- Pie

These charts are used to display specific types of data. In other words – you can't use all chart types on all data.



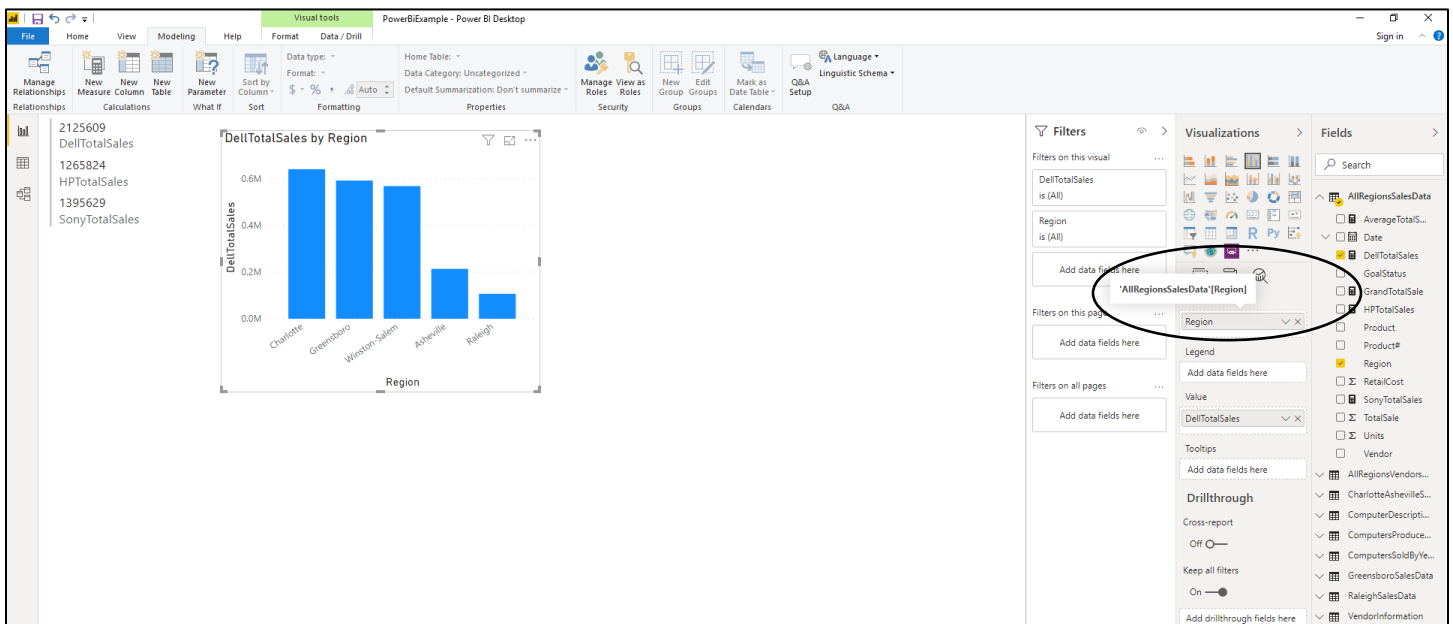
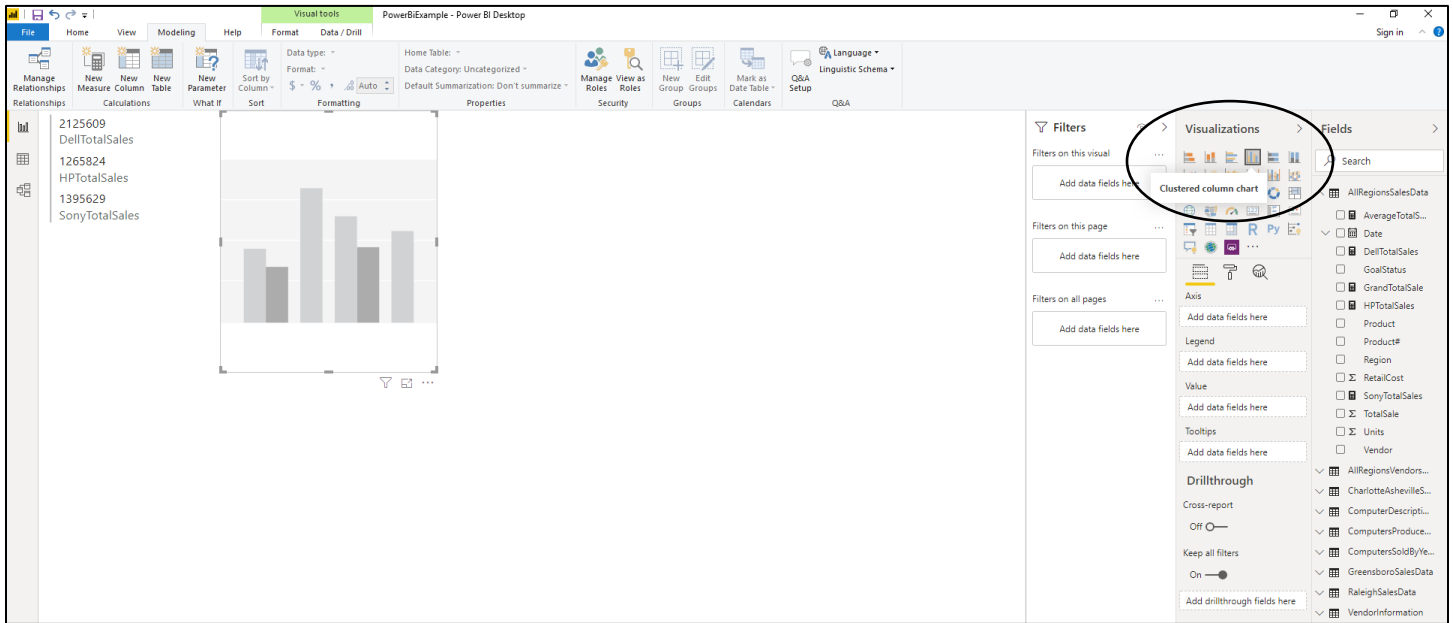
The path to follow when choosing a chart is below:

Bar/Column Chart	Line Chart	Pie Chart
Used to show data that changes over time		Shows a snapshot in time
Shows MANY rows and/or columns of data		Shows ONLY ONE row OR column of data
Use for <=16 bars	Use for >16 bars	Use for <=8 slices
Keep in mind: No 3-D ◆ Keep the visuals simple ◆ Do NOT use Red or Green font		

Visualizing Data with Reports: Inserting Basic Charts and Other Visuals

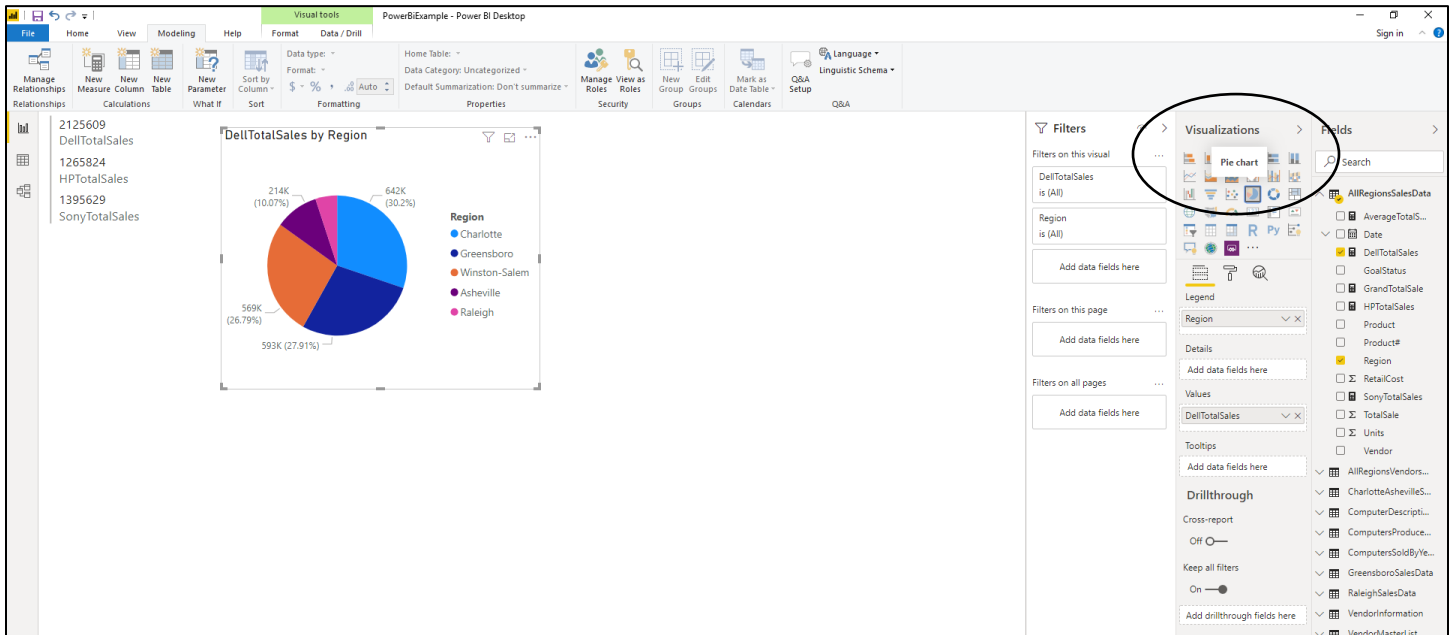
Adding a Clustered Column Chart

- To add a chart to the Report View:
- Click on the desired chart tool under Visualizations
- Drag the numeric data to the chart placeholder on the Report workspace
- Drag a defining field to the Axis box under Visualizations

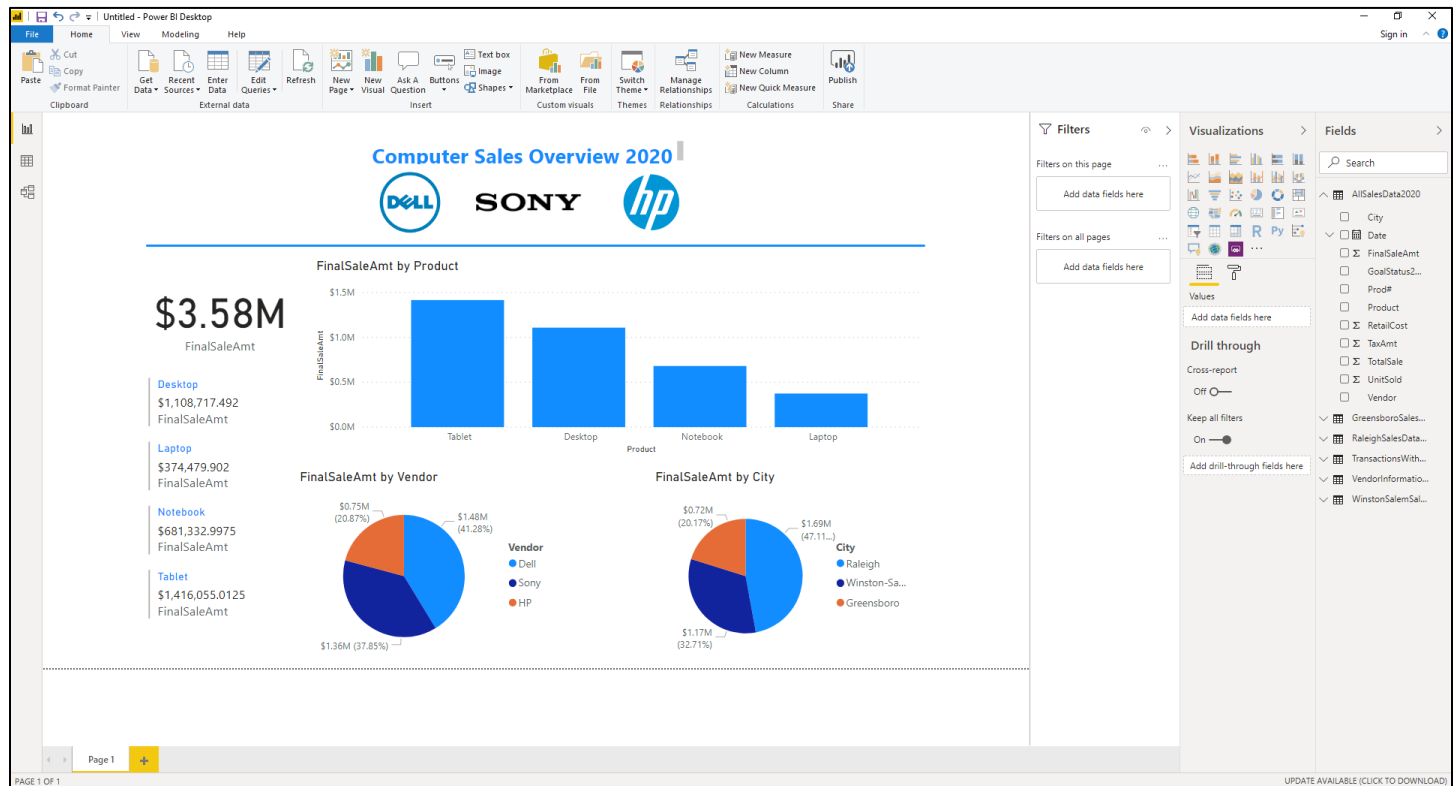


Visualizing Data with Reports: Inserting Basic Charts and Other Visuals

If the chart is not the chart you had in mind, with the chart selected, click on another of the chart types under Visualizations.



To add a second chart, click on the blank area of the workspace first, then click on the next chart tool to include under Visualizations.



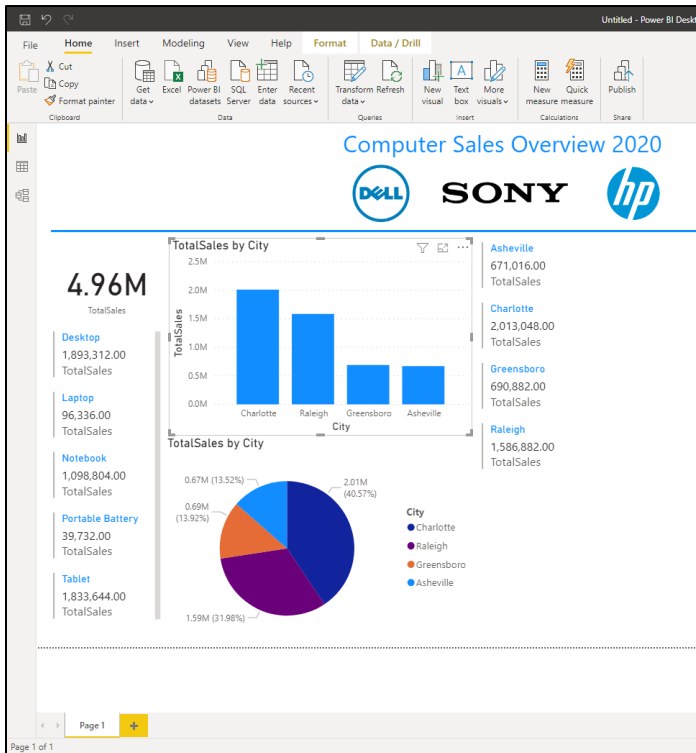
The Automatic Filter

Power BI has an automatic filter feature that allows you to use created visualizations to isolate crucial data.

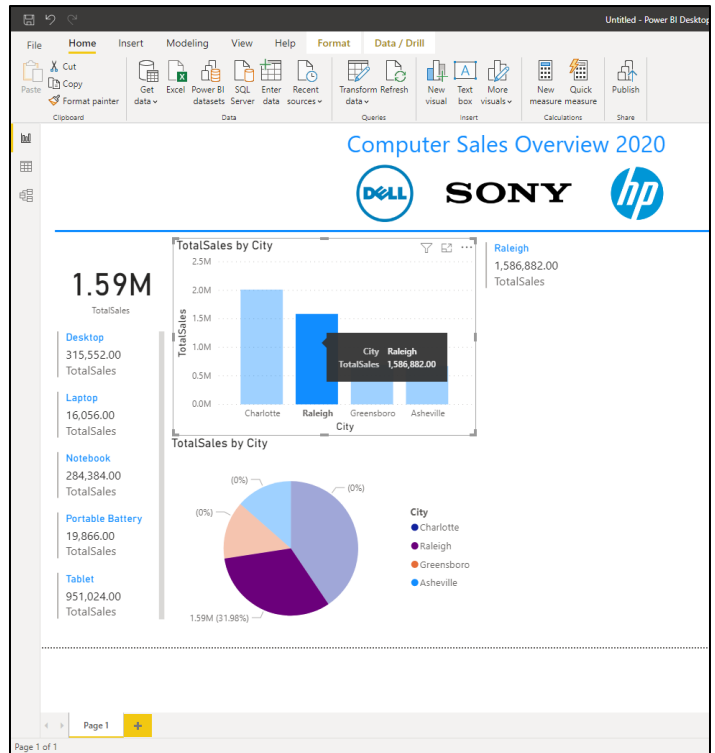
When you have two or more visuals on the report window, if you click on a pie slice or individual bar, all visuals will respond.

To bring all data back into view, simply click on the pie slice or individual bar once again.

Before Filter



After Filter



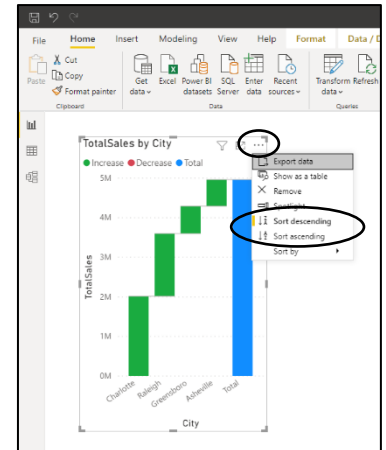
Notes:

Sorting Data Order in Visualizations

In Power BI, you can control the way the data is displayed by using the Sort option.

To sort a visual:

- Click on the visualization you would like to re-order.
- Click on the three dots in the upper right corner of the visual.
- Click on Sort Ascending or Sort Descending.



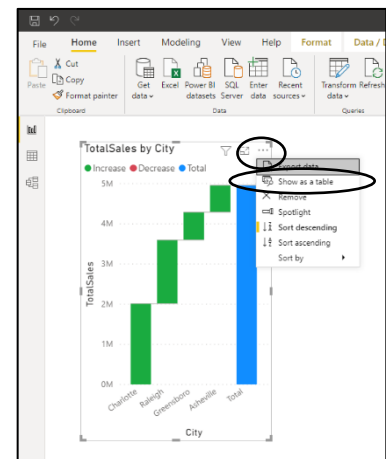
Displaying Data Points with Visualizations

In Power BI, you can display actual data points alongside visualizations by using the Show as table option.

To display data points with a visualization:

- Click on the visualization you would like to re-order.
- Click on the three dots in the upper right corner of the visual.
- Click on Show as table.

When you are done viewing the data points, you can click on Back to report to resume viewing Report View.



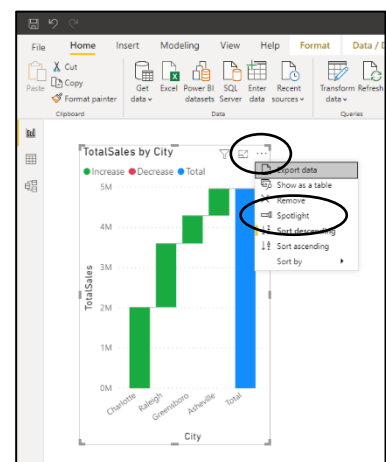
Spotlighting Visualizations

In Power BI, you can draw attention to one visualization while dimming the others.

To spotlight a visualization:

- Click on the visualization you would like to re-order.
- Click on the three dots in the upper right corner of the visual.
- Click on Spotlight.

To bring the other visualizations back into play, click anywhere away from the spotlighted visual.



Wrap-Up

Congratulations on completing an introduction to Power BI Desktop – Introduction to Data Visualizations!

You now have a new set of analytics tools on your technology tool belt.

Please remember that as humans, we don't remember much unless we put it to practice and use it on a regular basis. So, practice when you return to work! Train someone in the office on the new concepts you think would be most useful.

If you have any questions about the material contained in this seminar, please contact Dr. Holly using any of the contact points listed below.

Happy Power BI-ing!



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