Microsoft

Power BI

Cloud based Data Visualization – Non-Programming Approach

Creating Visualizations using Microsoft Power BI

Hands on Activity

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- Creating different types of charts
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- Asking questions about the data from reporting engine.
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Power BI Architecture
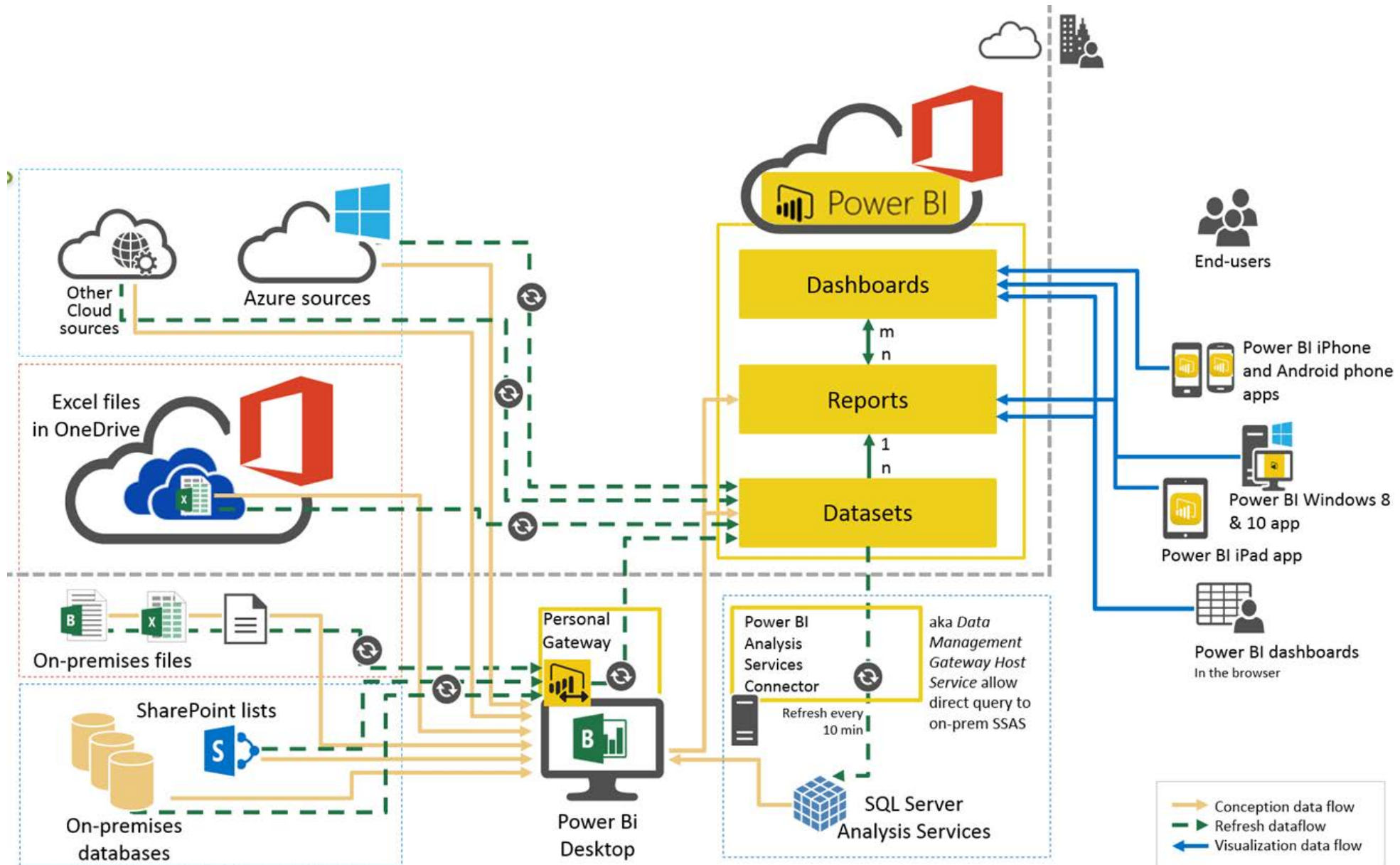
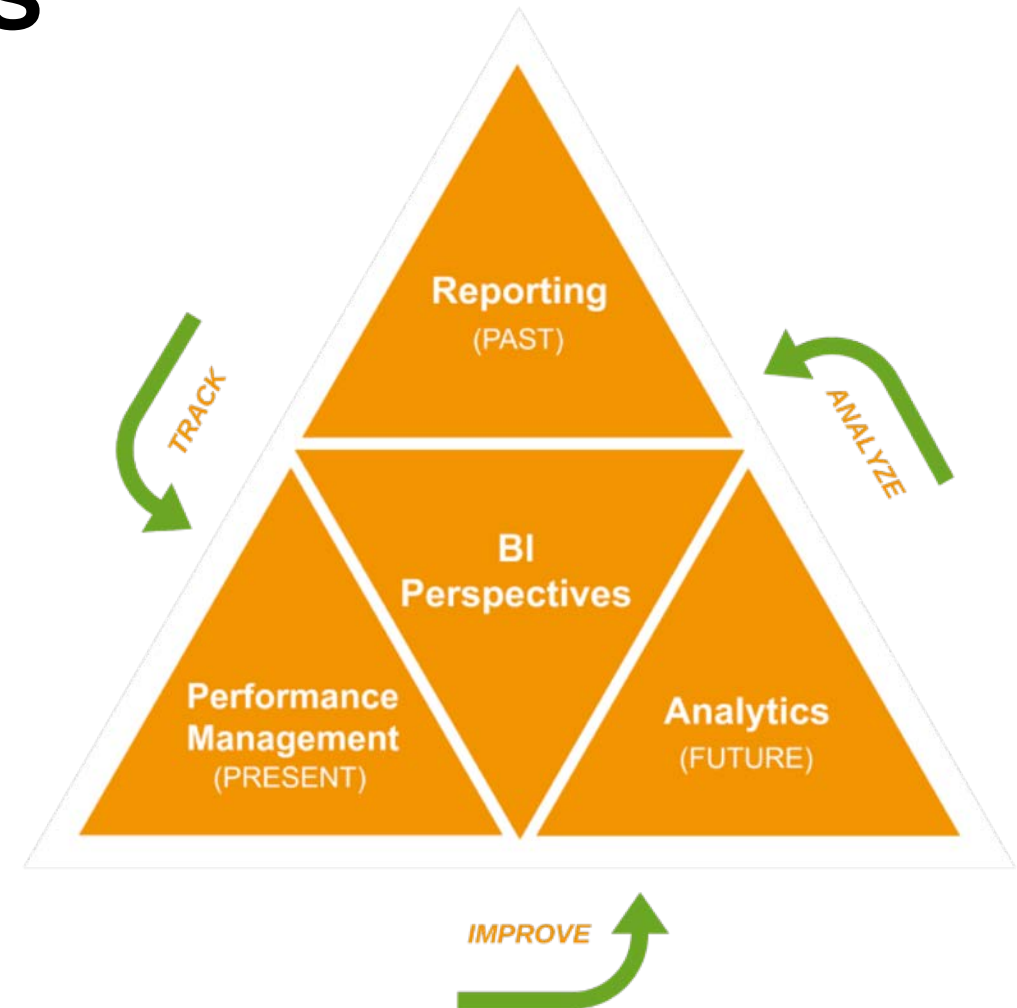# The Data Perspectives

PAST: What Happened?

- Reactive reporting
- Common among most companies

PRESENT: What is Happening?

- KPI's and CPM Concepts
- Streaming analytics

FUTURE: What will Happen?

- Predict based on trends and external data
- Understand impact and what-if analysis

Power BI Online - Introduction

- Cloud based service (Part of Office 365)
- Access your data, wherever it may exist
- Ask questions, integrate with cortana analytics and more
- Create curated content based on your organizational needs
- Share insights across web, mobile and embedded within your own applications
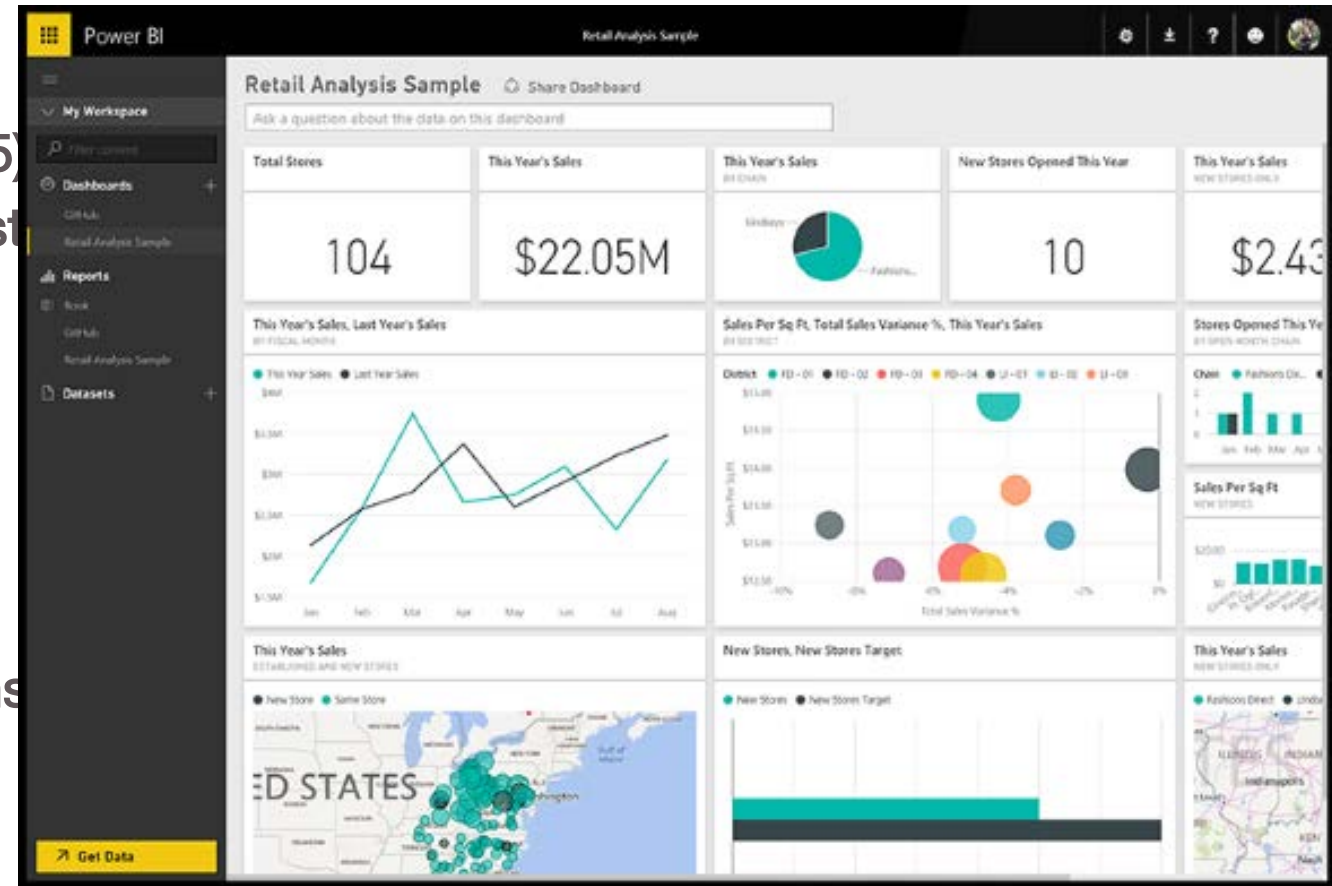
Power BI Desktop - Introduction

- Free download that starts your Power experience.
- Not an end user tool, but a power user and designer tool.
- Can be used to mash, model and desig engaging experiences.
- Transform and clean data
- Design once and view anywhere

Power BI Desktop – Hands On

- Before we start with the hands on exercise; download the data set that we will be using for creating visualizations in Power BI from the given link:

- http://icts.ictp.it/Members/oayub/Lab%205%20-%20Canada.xlsx/view

- Alternatively; you may use the other data set that can be accessed through the following link:

- http://icts.ictp.it/Members/oayub/Financial%20Sample.xlsx/view

- Or; you may use a data set of your choice.

Understanding Power BI Features - 1

Step-1:

We need to load some data from any file or online data source.

To load data into the Power BI Application; click Get Data
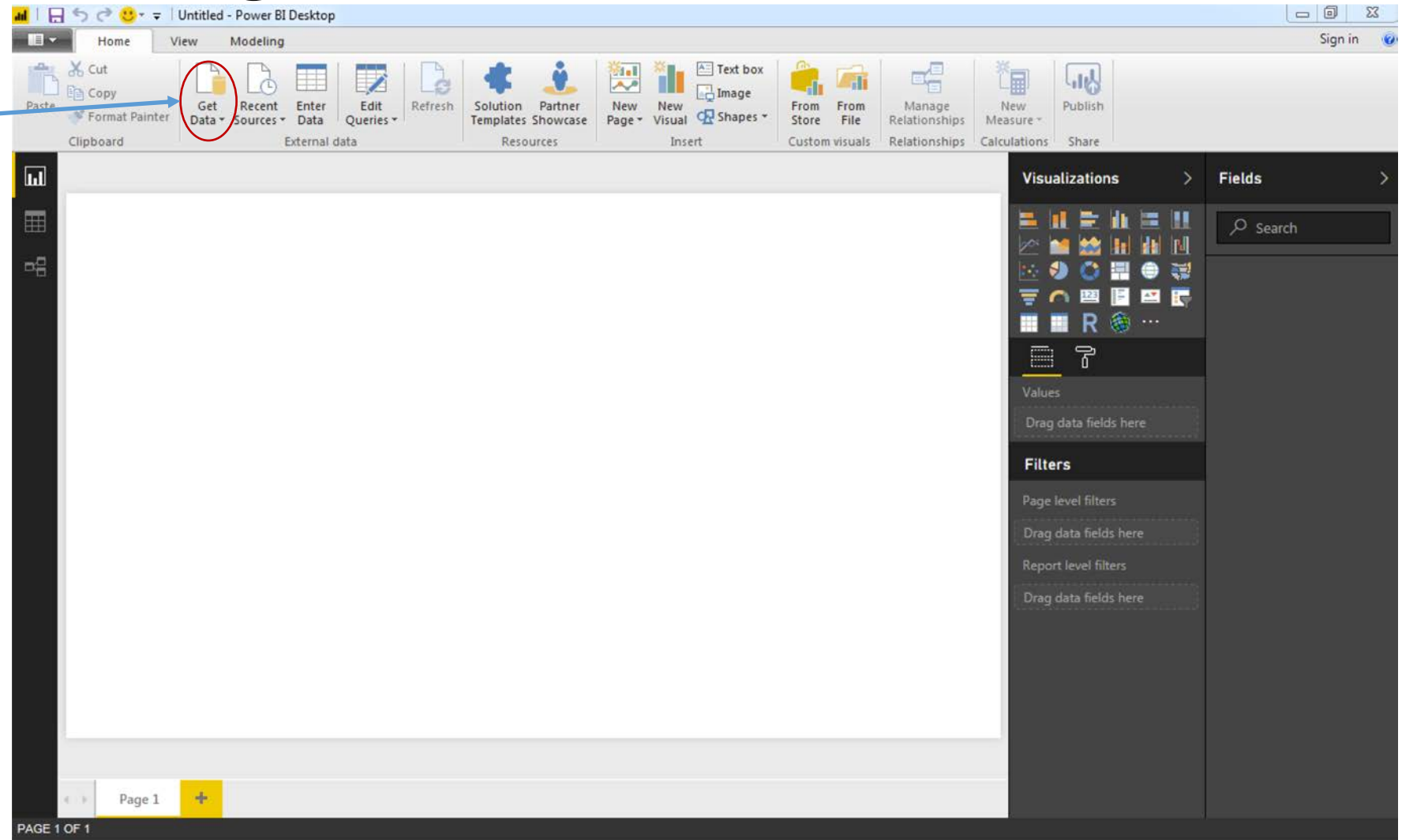
Understanding Power BI Features - 2

Step-2:

You will come across a dialog box with variety of options with different file types to load. Select the file type of your choice and proceed with "Connect"

In this case; we choose excel file
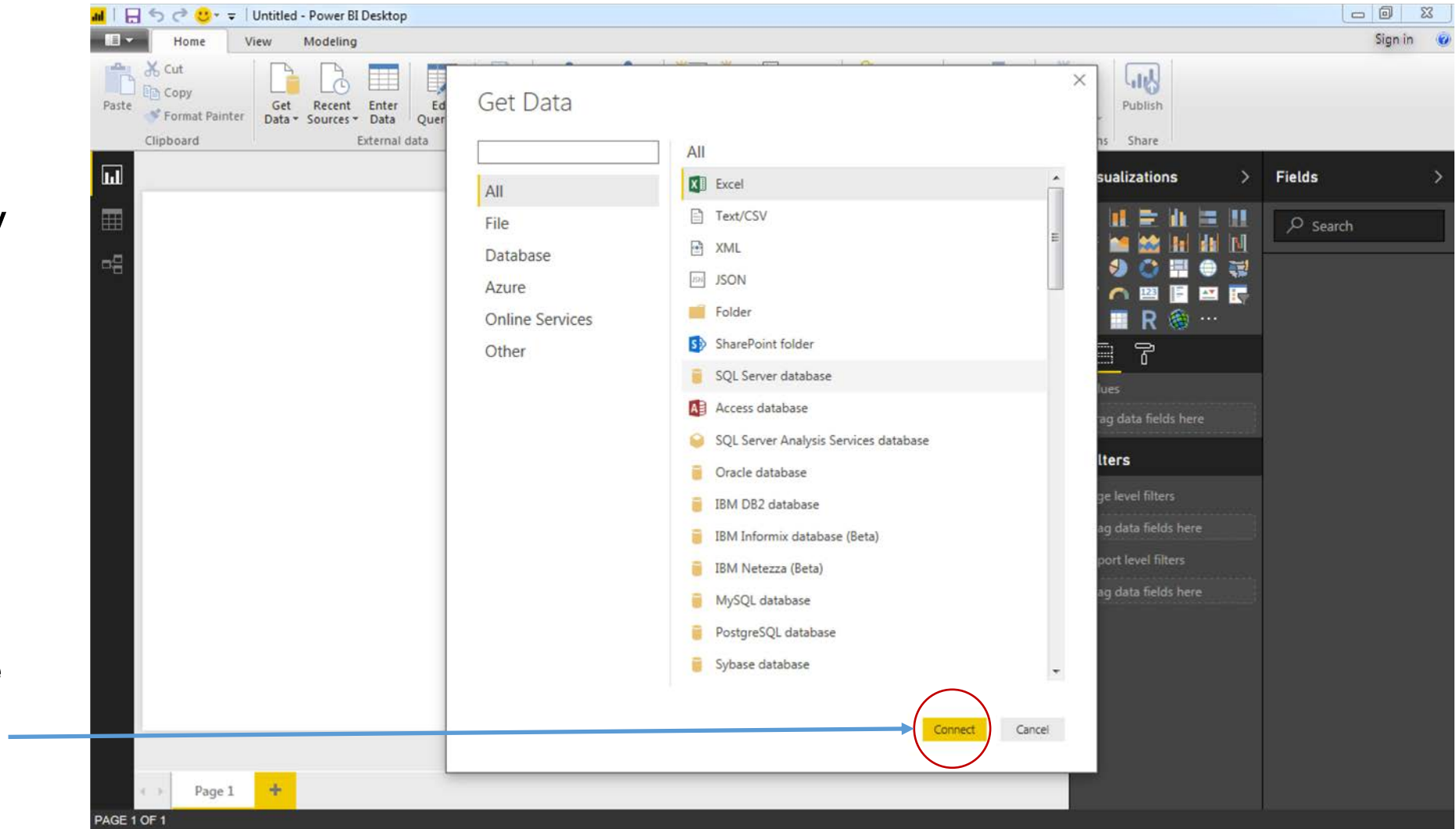
Understanding Power BI Features - 3

Step-3:

You will come across a dialog box with variety of options with different file types to load. Select the file type of your choice and proceed with "Connect"

In this case; we choose excel file
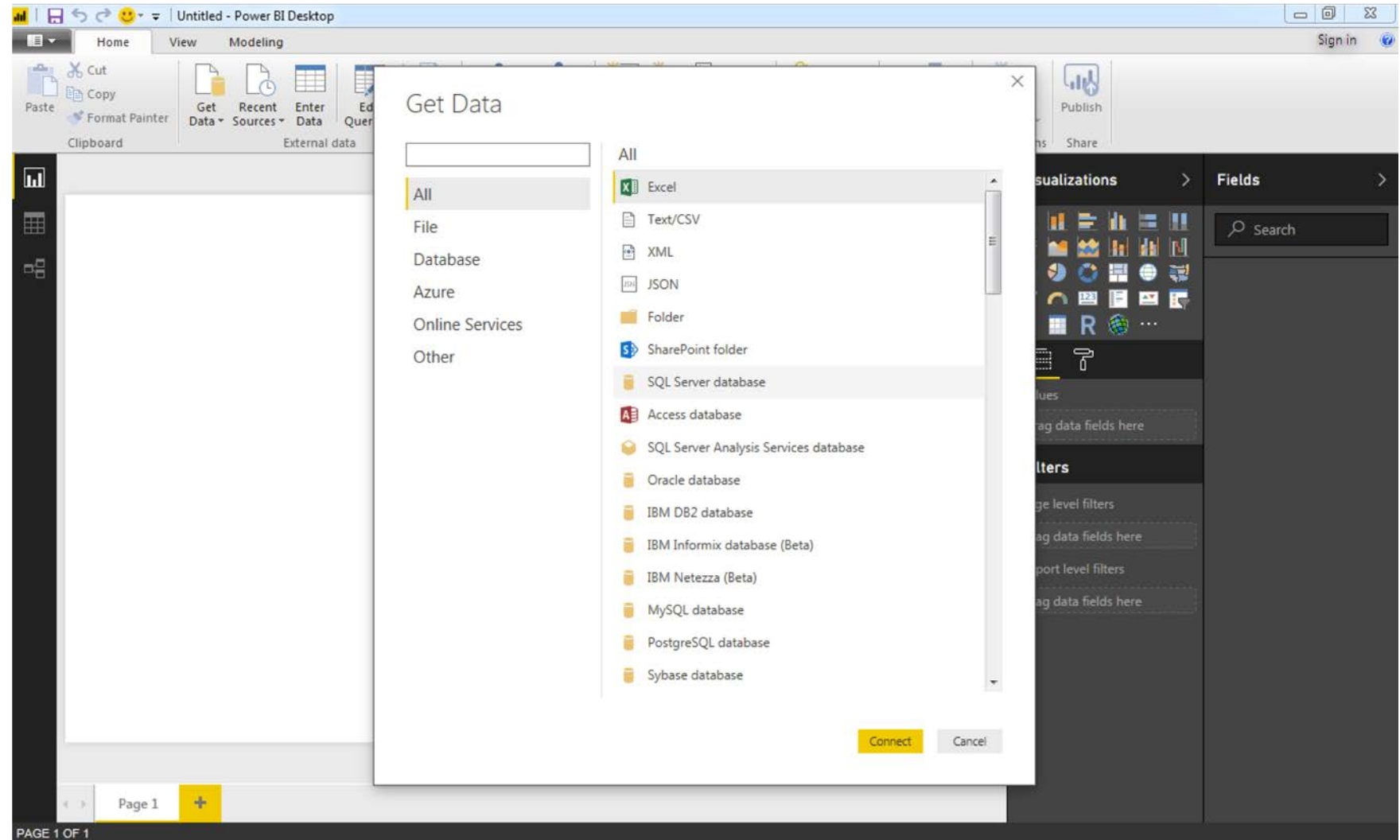
Understanding Power BI Features - 4

Step-4:

Choose the sheet you want to import from the file you selected. In this case; we have selected "CA Sales"
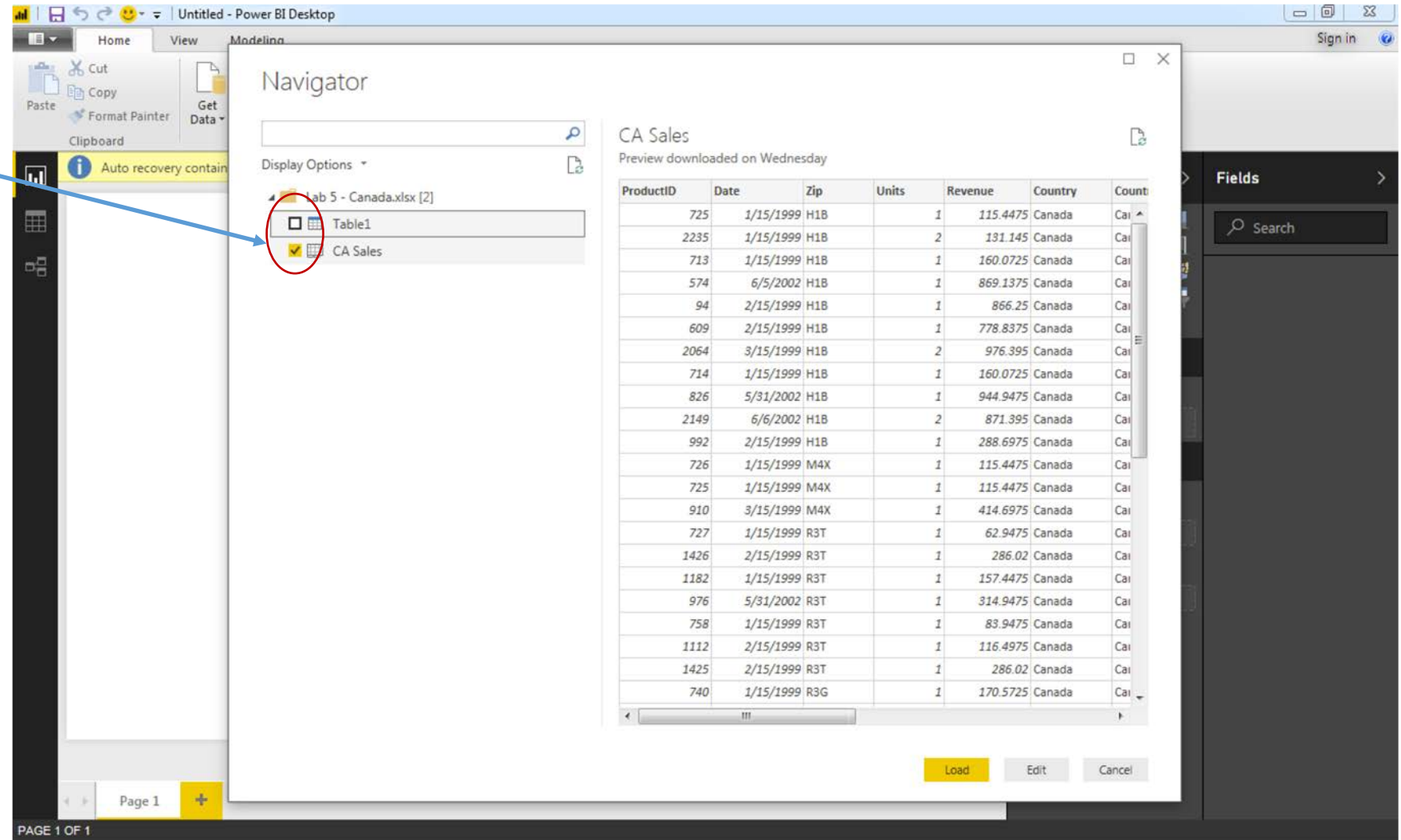
Once file is selected; it will provide you the data preview in the dialog window and also it will allow you to edit the data or load it as the way it is.
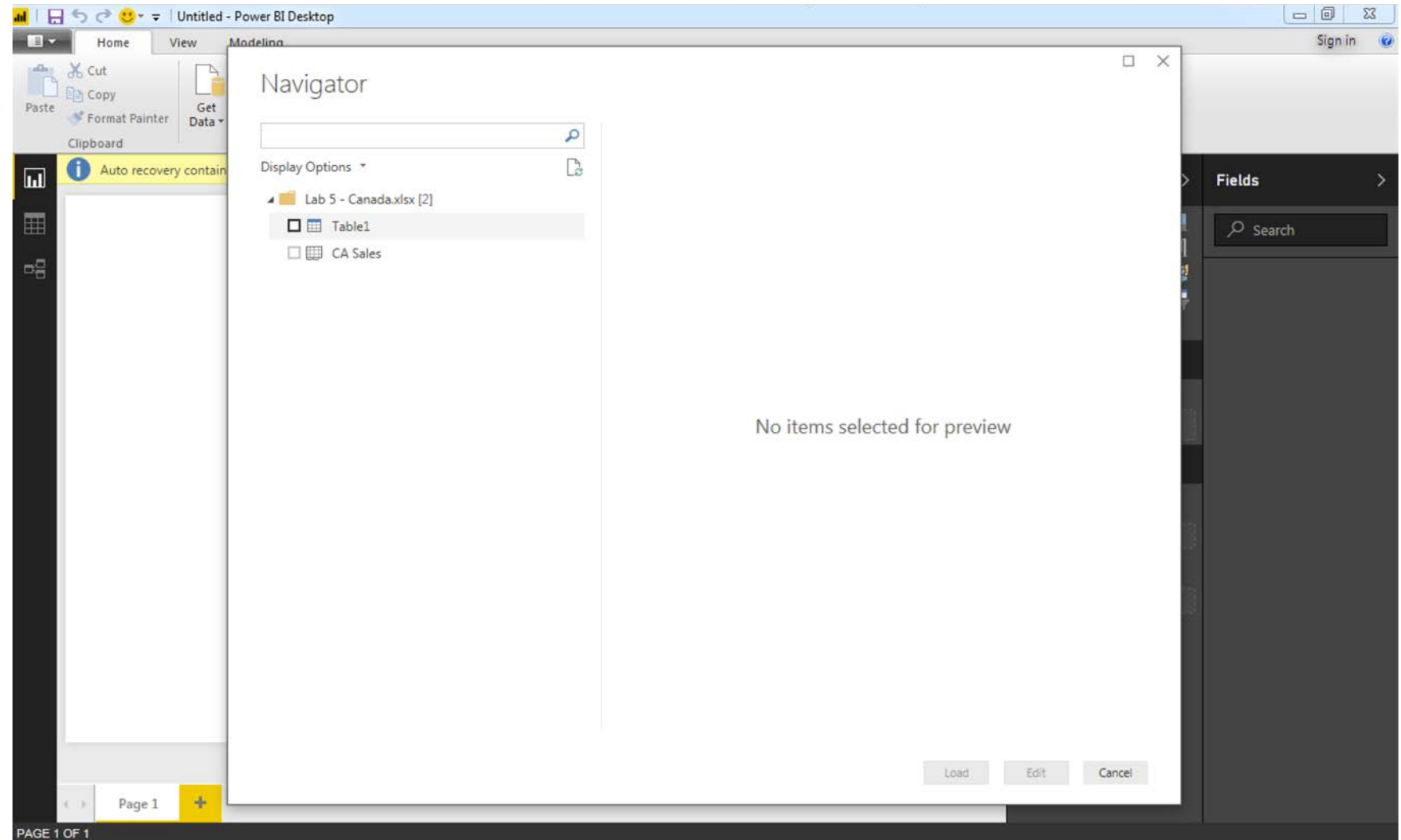
Understanding Power BI Features - 5

Step-5:

Select the file by ticking the box at the left of each sheet in the file you selected. It will preview the data and its current format in the right pane. Should you need to modify, edit data, change data types, add custom values or any operations on data; click Edit

Understanding Power BI Features - 6

Step-6:

Choose the sheet you want to import from the file you selected. In this case; we have selected "CA Sales"

Once file is selected; it will provide you the data preview in the dialog window and also it will allow you to edit the data or load it as the way it is.
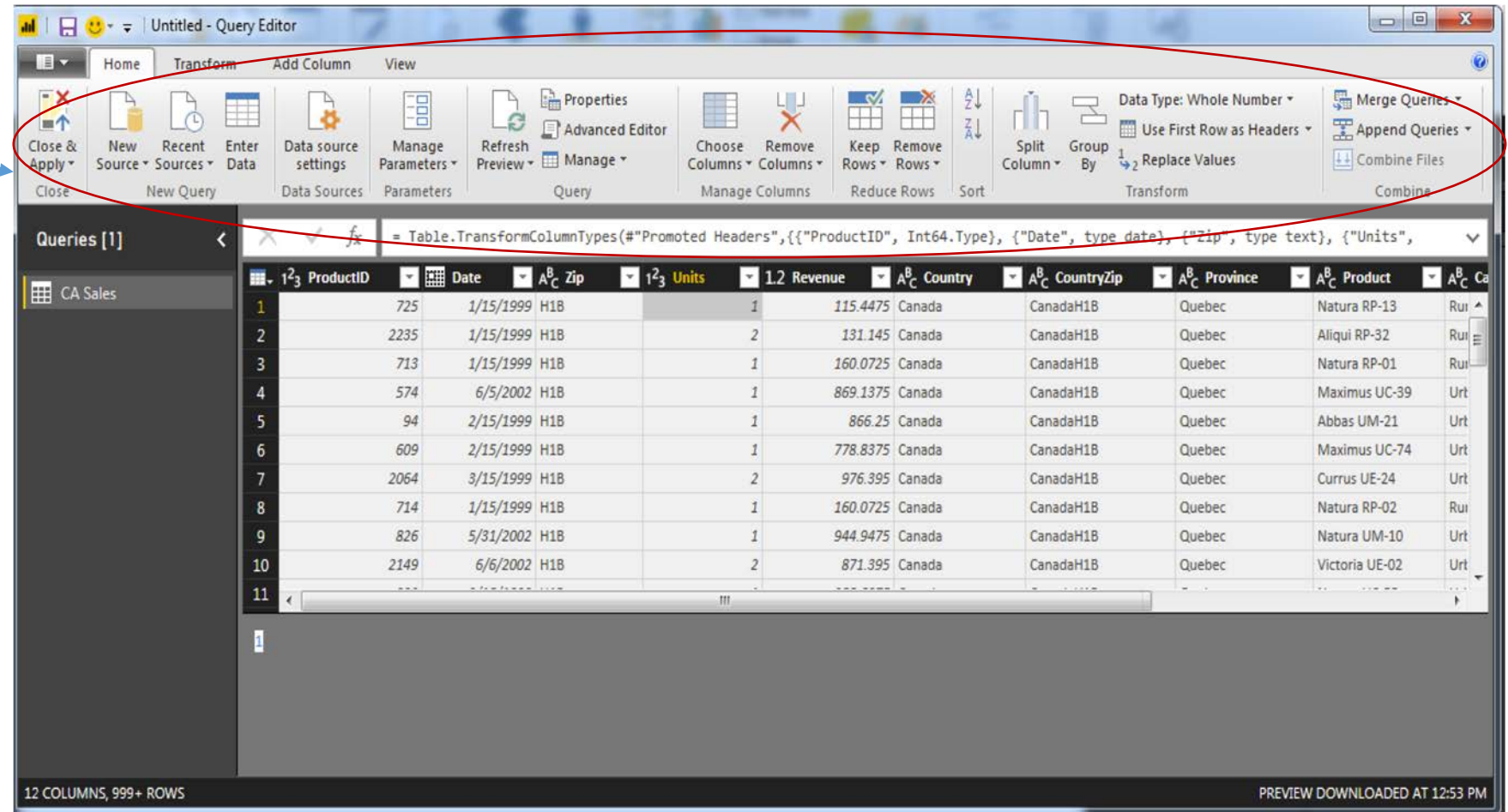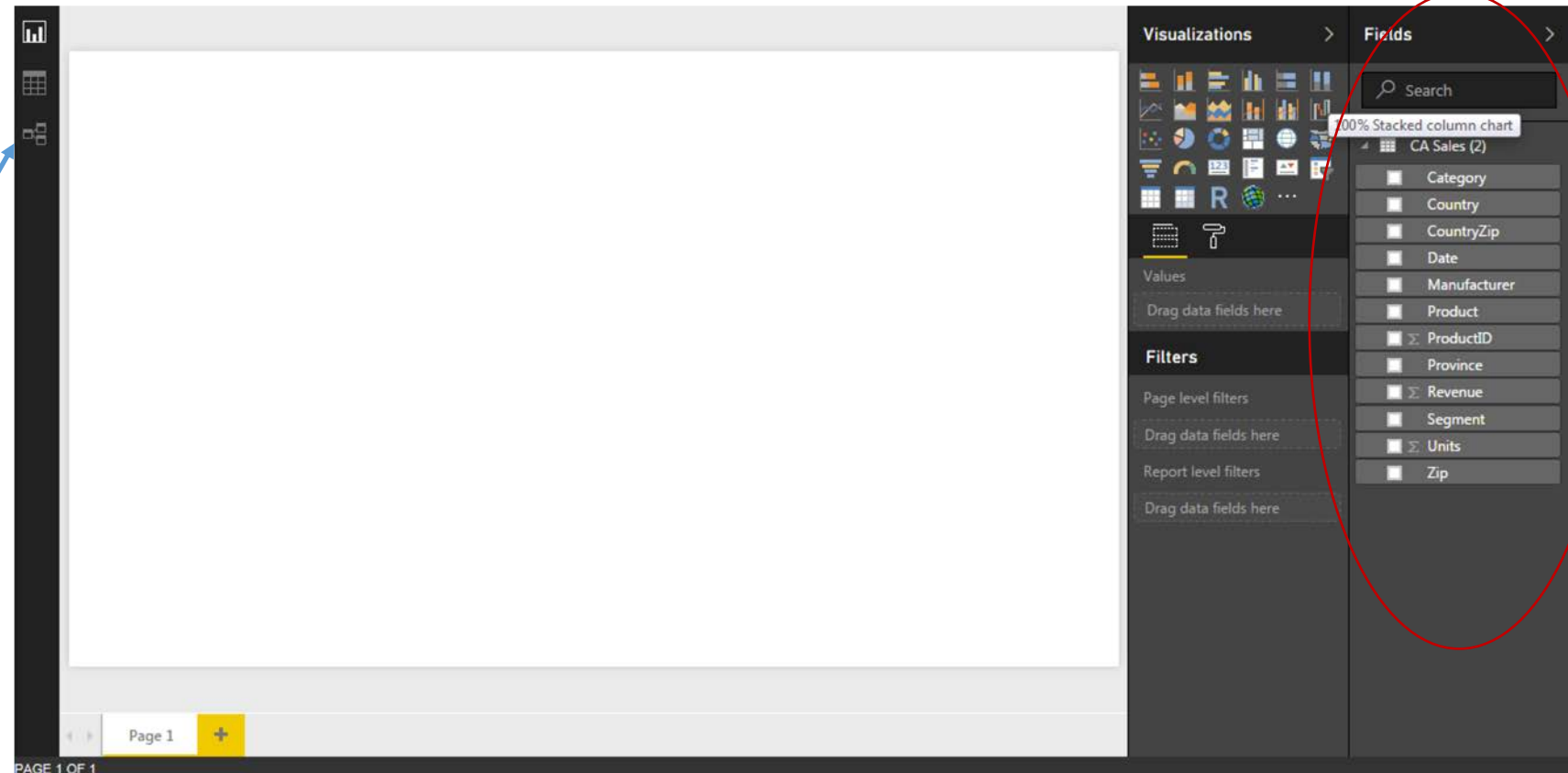
Understanding Power BI Features - 7

Step-7:

With the "Edit" mode; the editor allows you to change different properties of the data; change record values; add new values; execute queries and many other options as can be seen above at the pane. You may scroll through the other options as "transform", "Add Column" and "View"
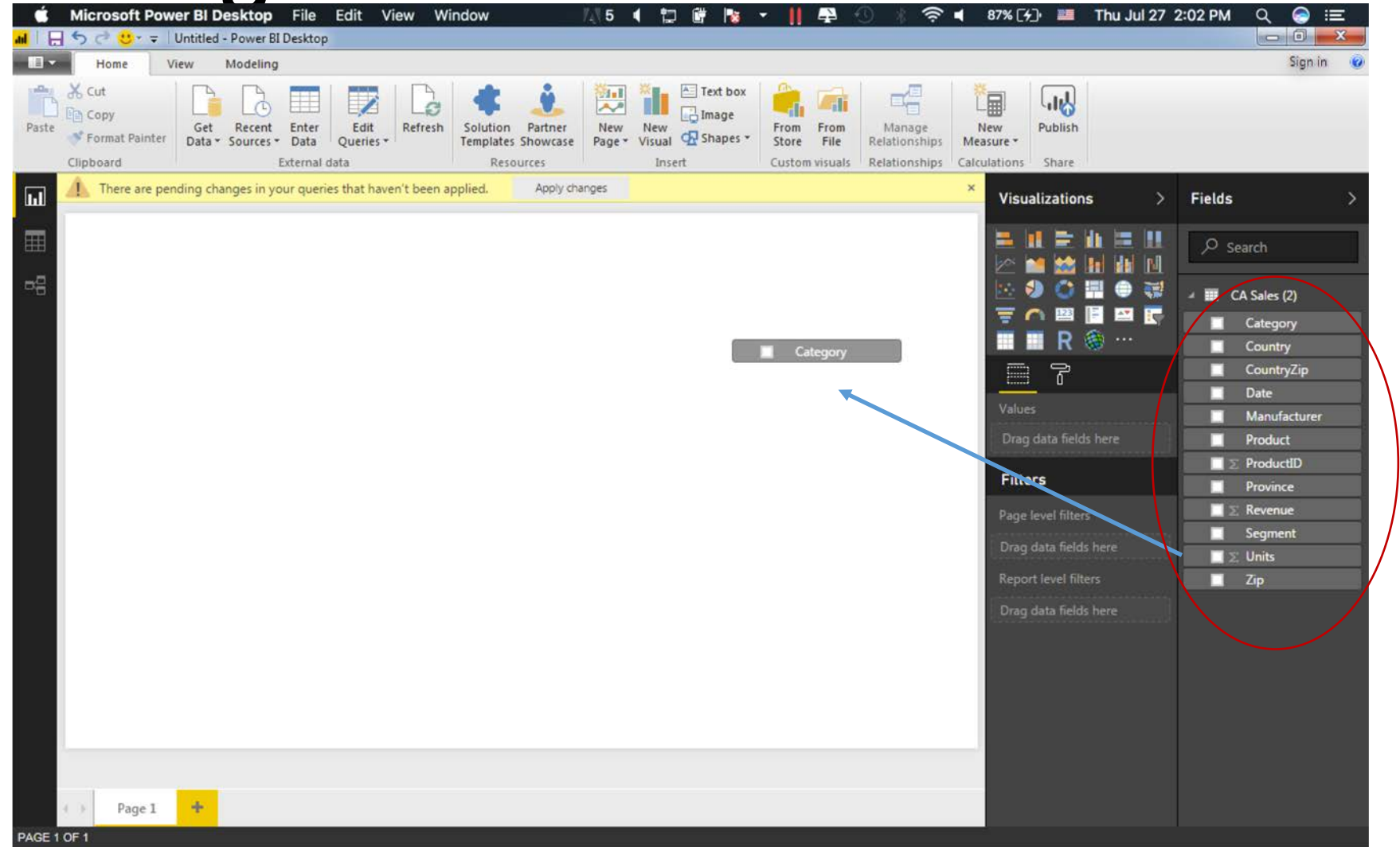
Understanding Power BI Features - 8

Step-8:

Once you close and save the changes; your data columns will be visible at the rightest pane of the window.
You can view the relationships between multiple data sets; view the data itself and scroll back to visualization window using the left side menu pane.

Understanding Power BI Features - 9

Step-9:

Drag one of the fields from the "Fields" section to the canvas and it will display the data it contains. Repeat the same procedure for another column and drag it to the existing column.
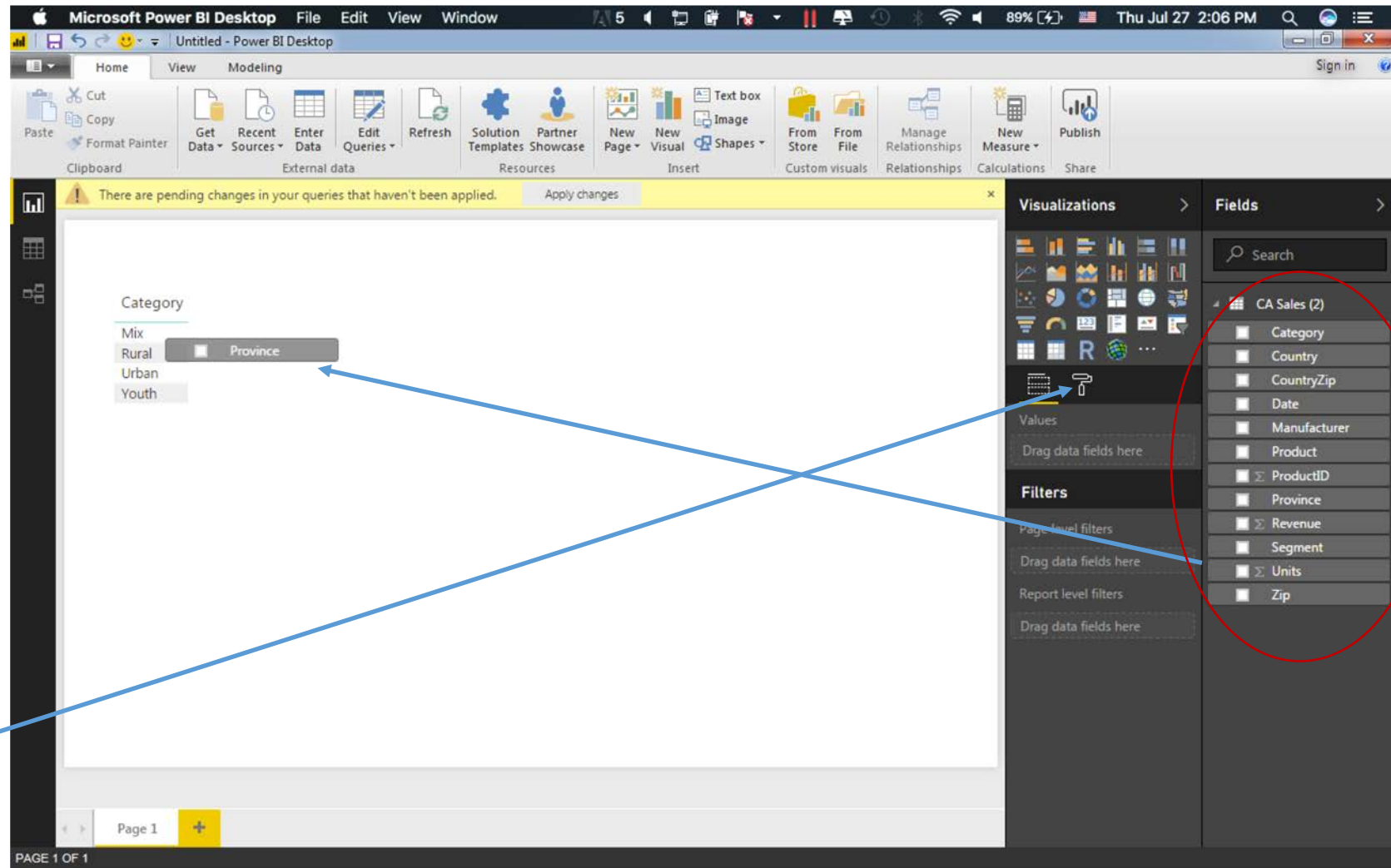
Understanding Power BI Features - 10

Step- 10:

Drag one of the fields from the "Fields" section to the canvas and it will display the data it contains. Repeat the same procedure for another column and drag it to the existing column.
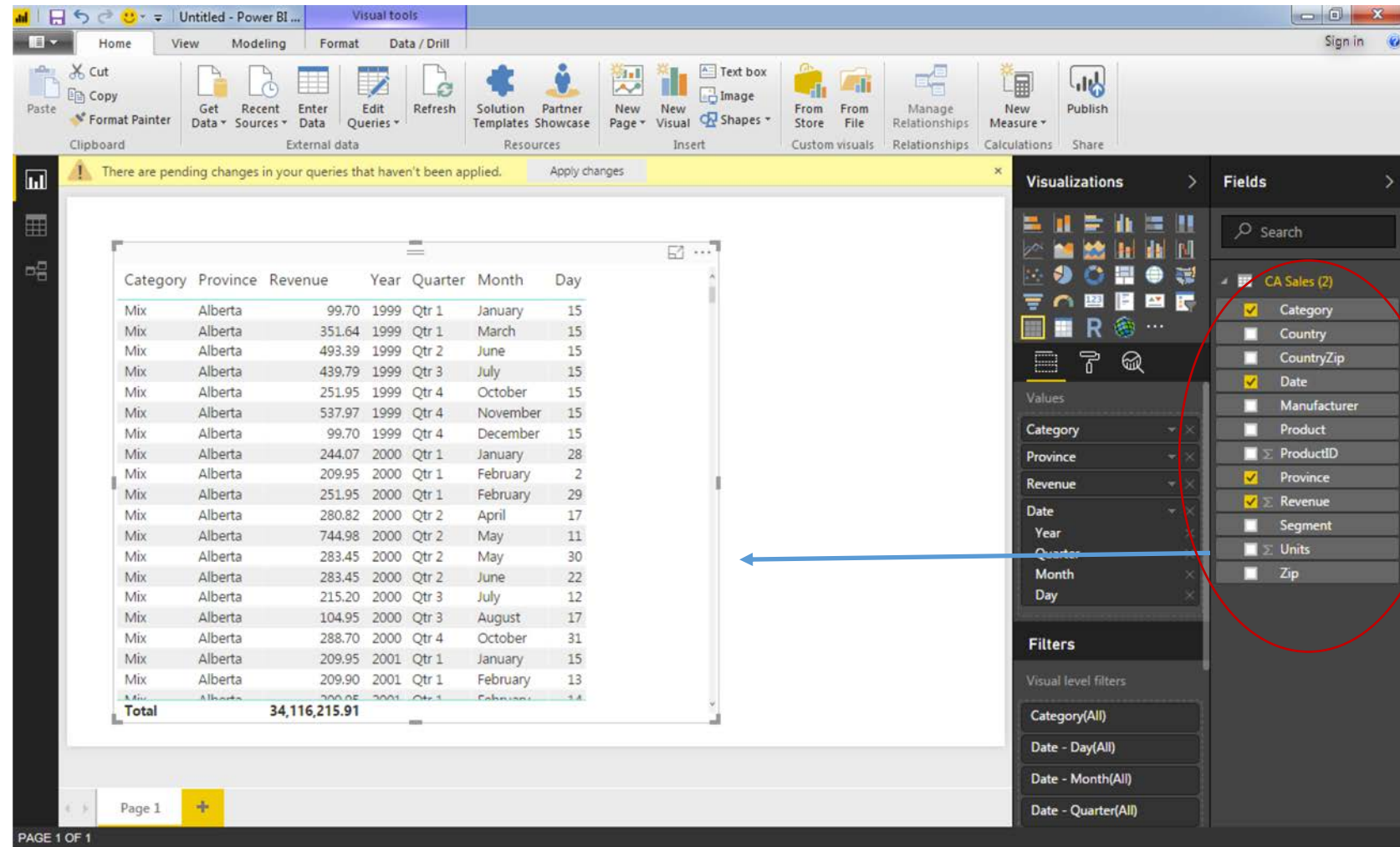
You can change the data text size and color by using the menu below visualizations

Understanding Power BI Features - 11

Step- 11:

Similarly, following the same procedure; drag more fields from the "Fields" area onto the existing field area. If you drop them somewhere else on the canvas, they would plot individually as a unit parameter and will not contribute to the group plotting.
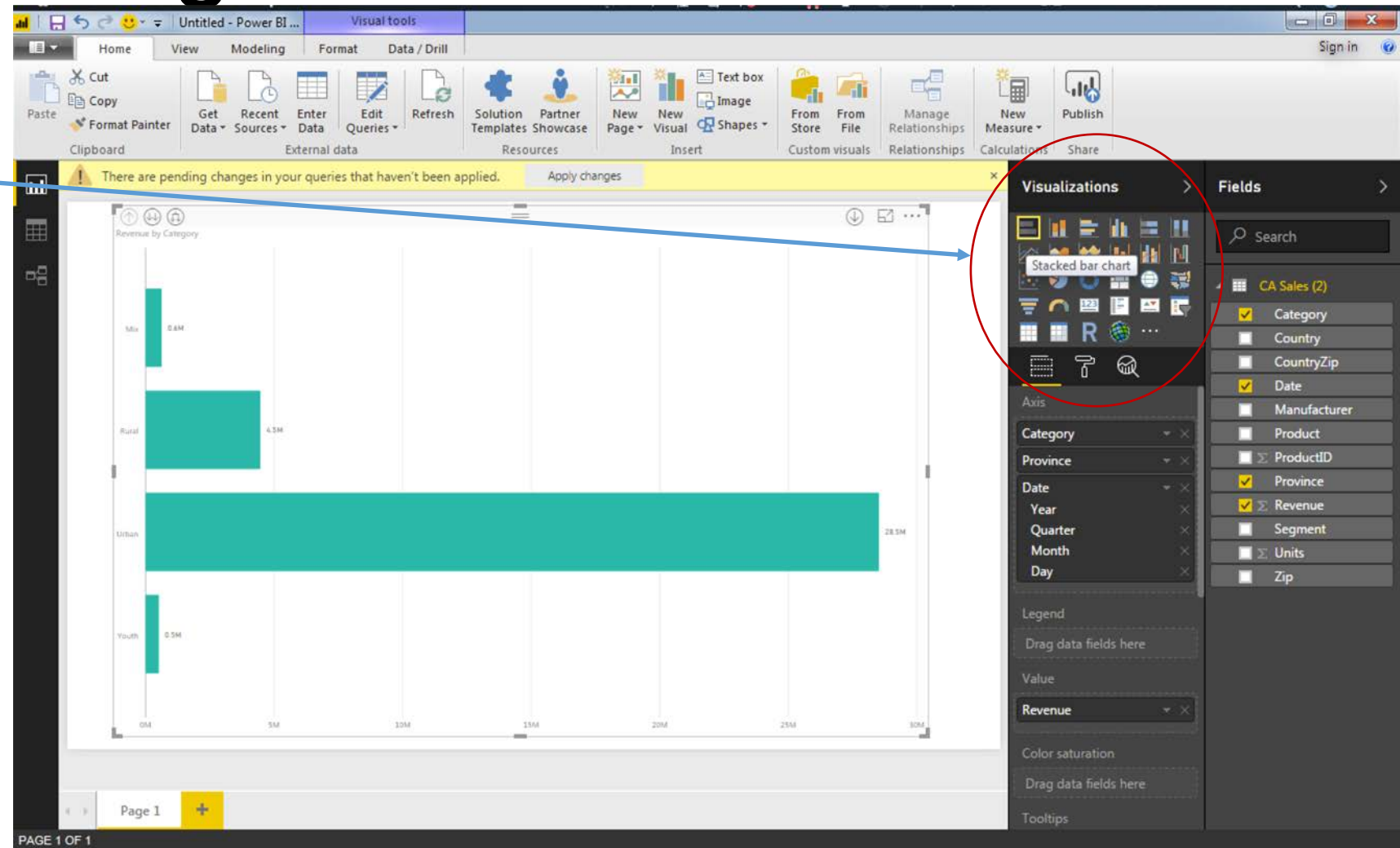
Understanding Power BI Features - 12

Step- 12:

With the data selected on the canvas; you may click on the first visualization option and it will transform the table into a simple bar chart.

You may choose to plot it differently either as stacked bar chart, line chart, pie chart or any other type; is solely your own choice to try.
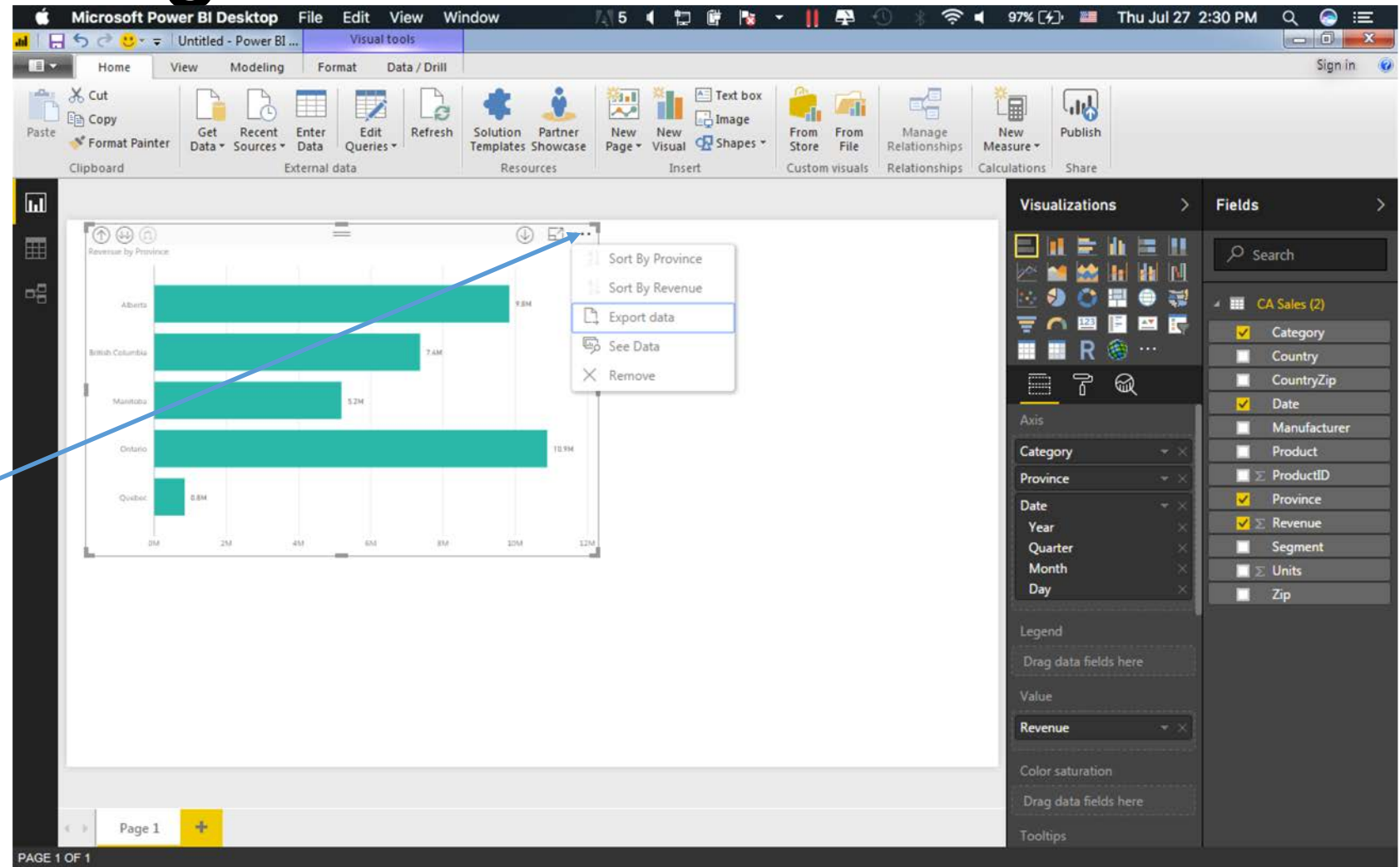
Understanding Power BI Features - 13

Step- 13:

Since you selected to plot revenue by different provinces, in different years and by different categories; the single plot allows you to scroll through the other visuals in the same plot. Click on the double down arrow to scroll between different views for the parameters mentioned.
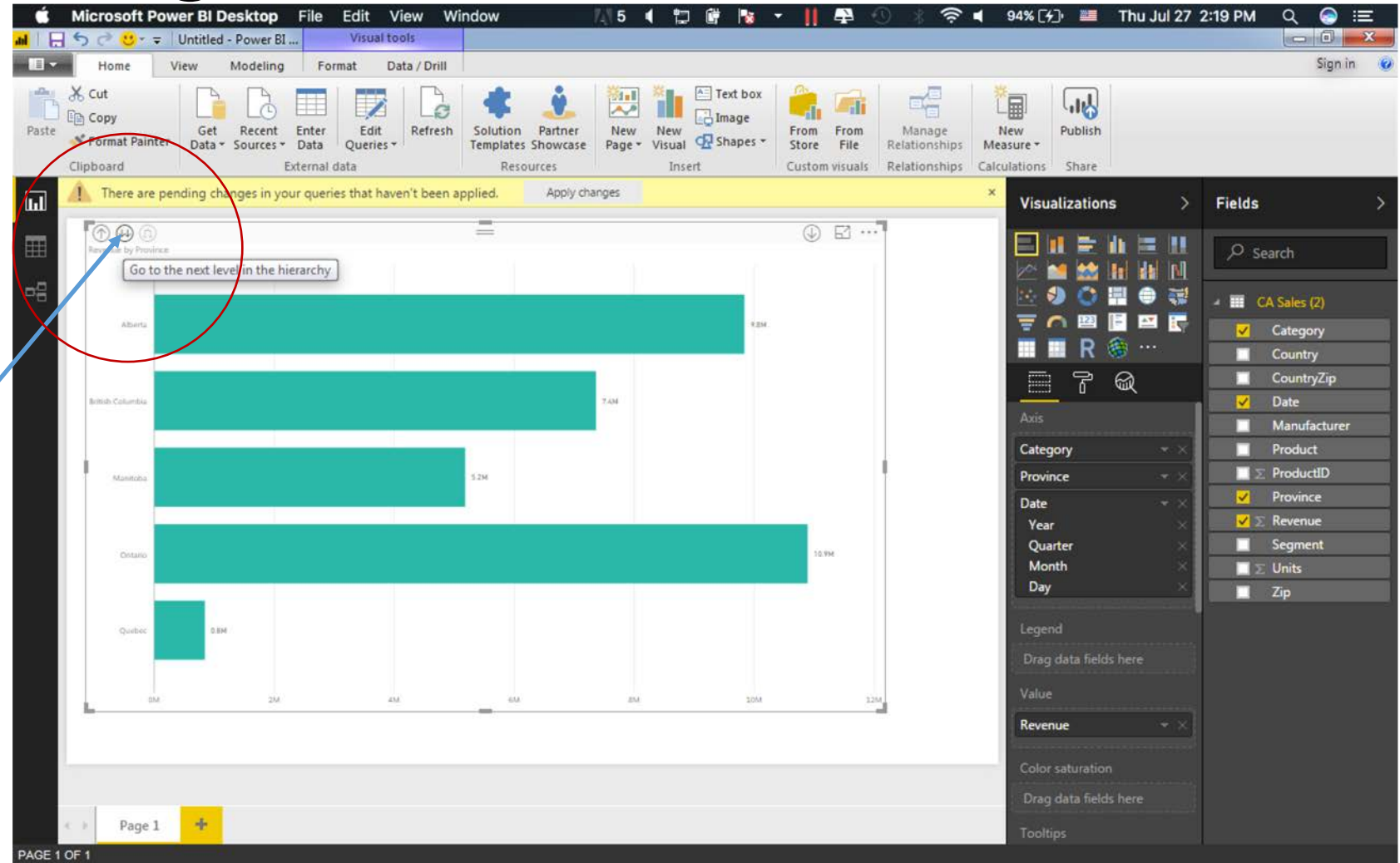
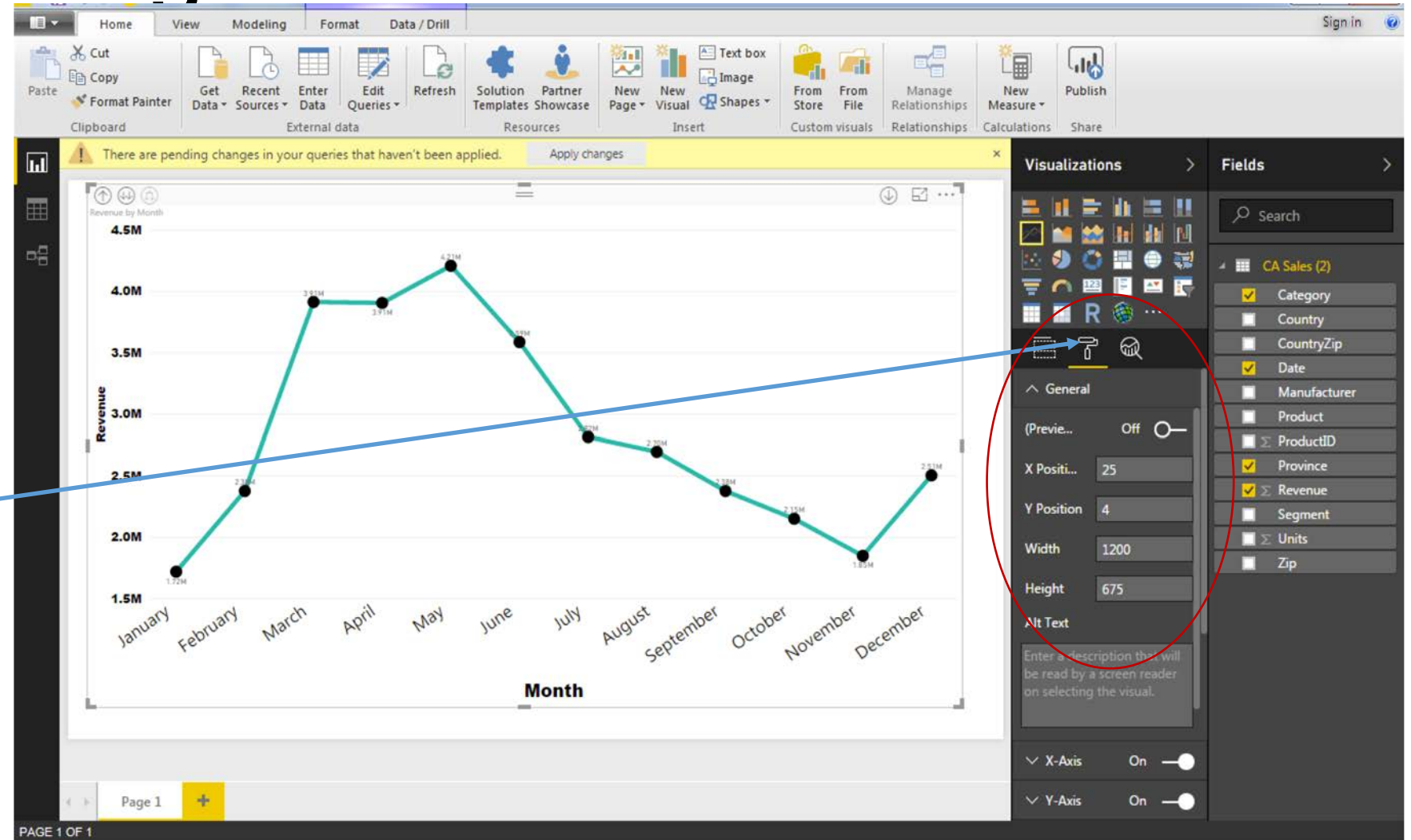# Understanding Power BI Features - 14

Step- 14:

You can even view the data associated to the plot by clicking on the right most option that appears if you hover on the visualization; Select "See Data" and it will open a new tab below the visualization that will contain the data figures plotted above in the graph.

Understanding Power BI Features - 15
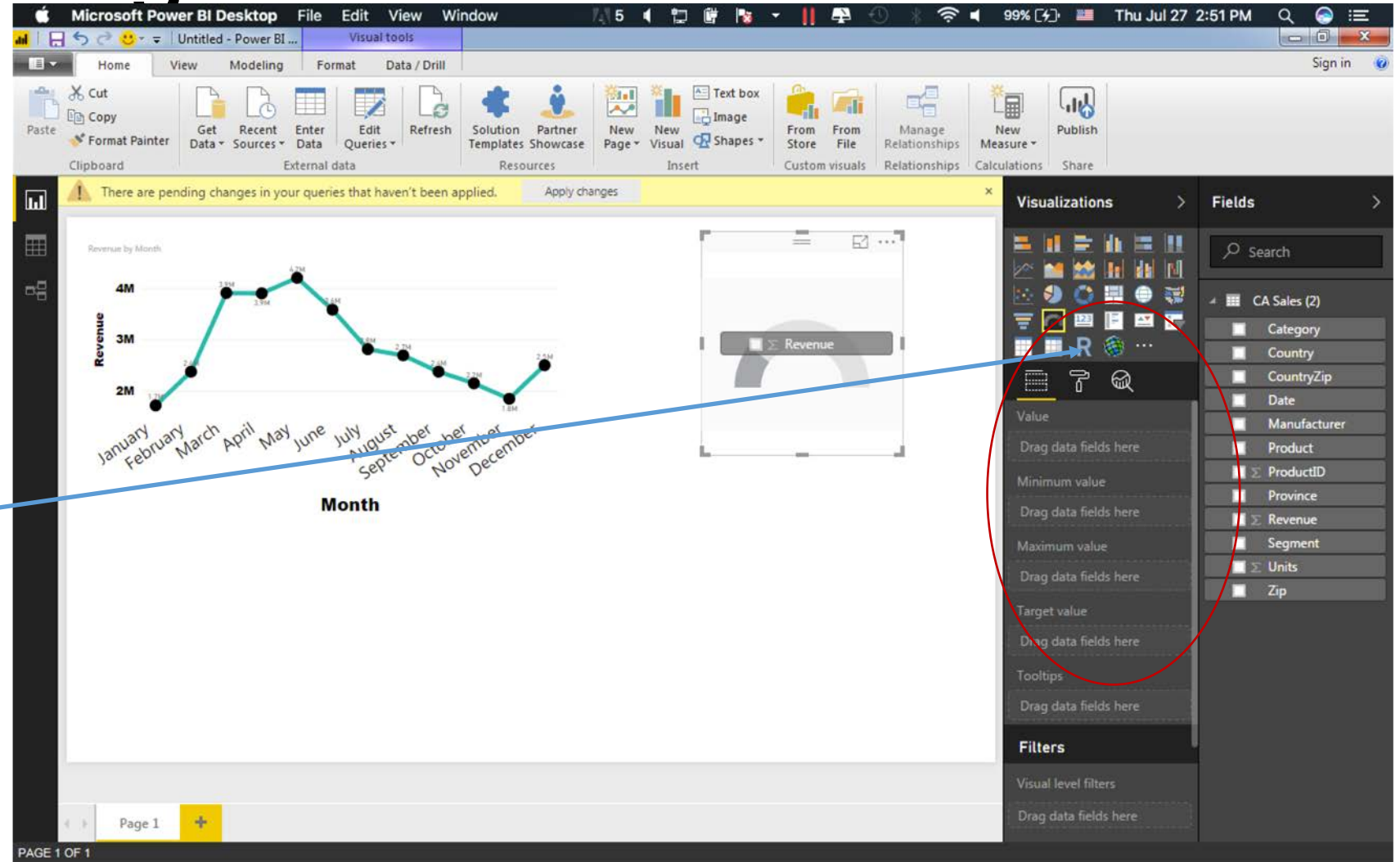
Step- 15:

Changing the axis style, line color, points on the canvas, font-size, font-style and height of the graph or visualization can be accustomed according to users' choice. Simply click on the "Format" icon below the visualization types and you will get access to all features

Understanding Power BI Features - 16
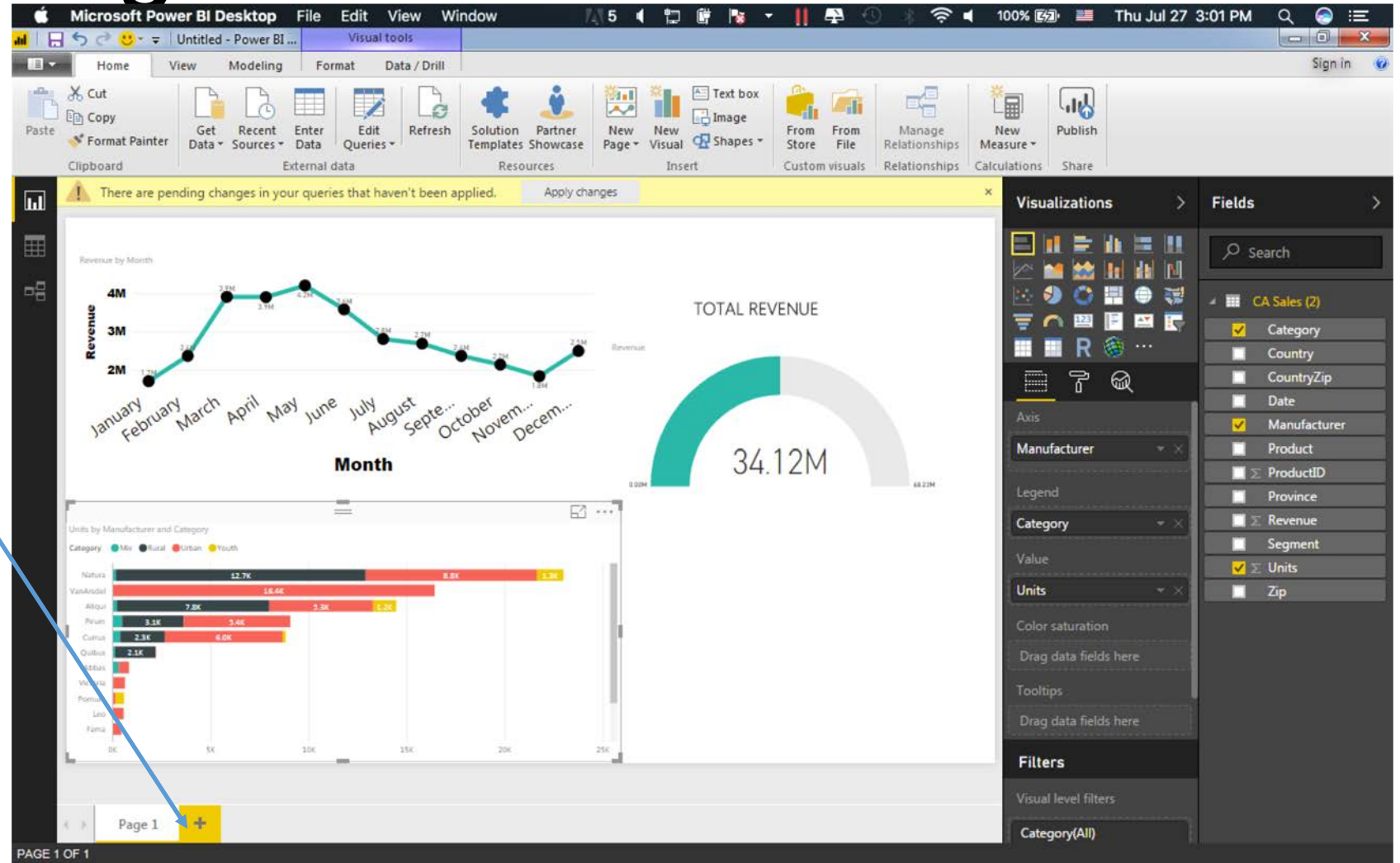
Step- 16:

Alternative method to plot something is by selecting on the type of visual you want to plot; It will plot a vague or dim visual representing the prototype of actual visual. Now you may choose the field from the "Fields" section and drop on the visual to generate an actual visual based on the data.

Understanding Power BI Features - 17

Step- 17:

Experiment yourself by creating new visualizations, adding new categories of data and varying between different types for same data set. If you fall short of space on the first page, you an always create additional pages by clicking on the + button and rename them by your choice
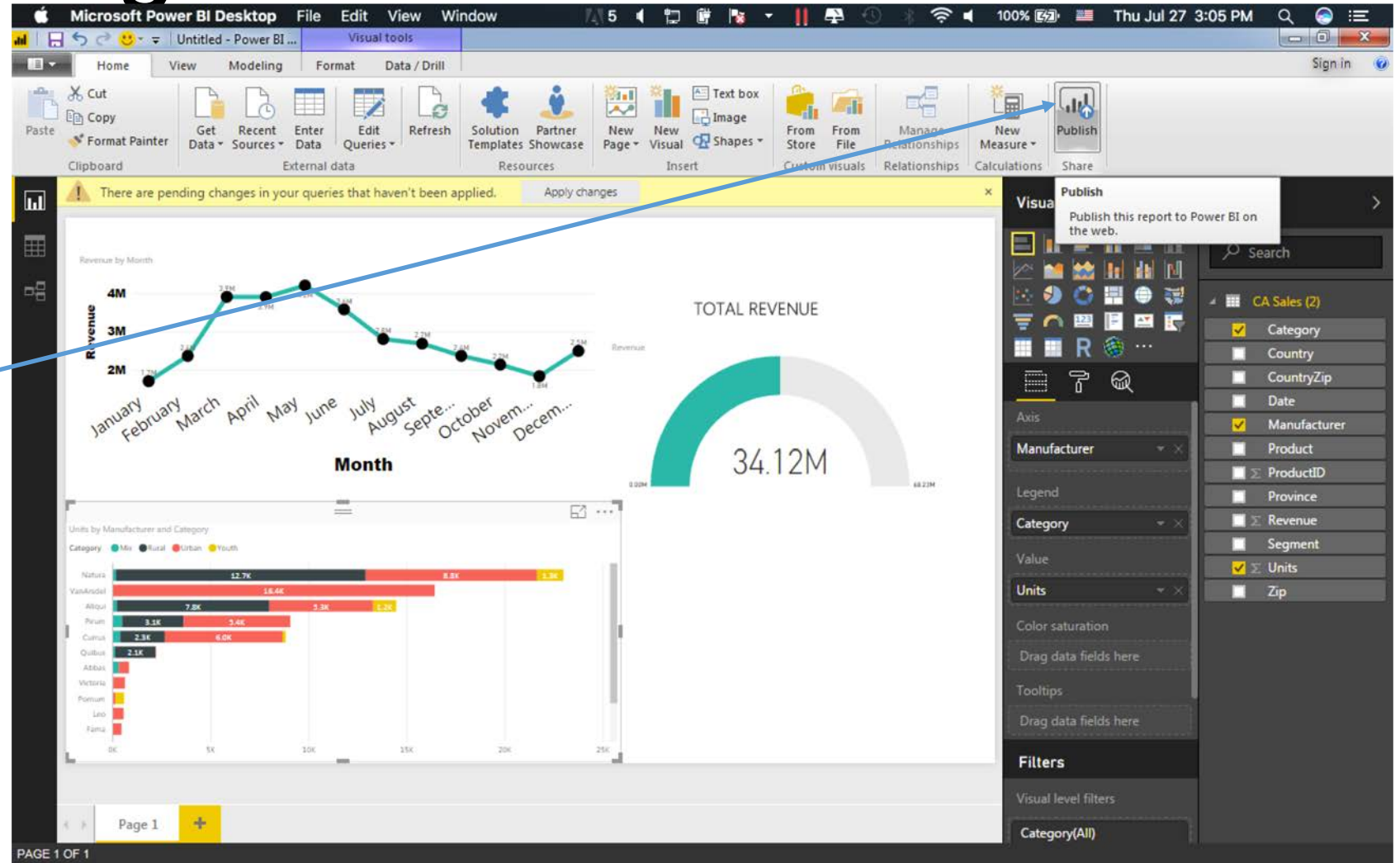
Understanding Power BI Features - 18

Step- 18:

Now that we have done some of the visualizations and we would like to export them or use them in our reports; click on "Publish".

It will ask you to save your project as ".pbix" extension. Name your project and save it on your local disk.
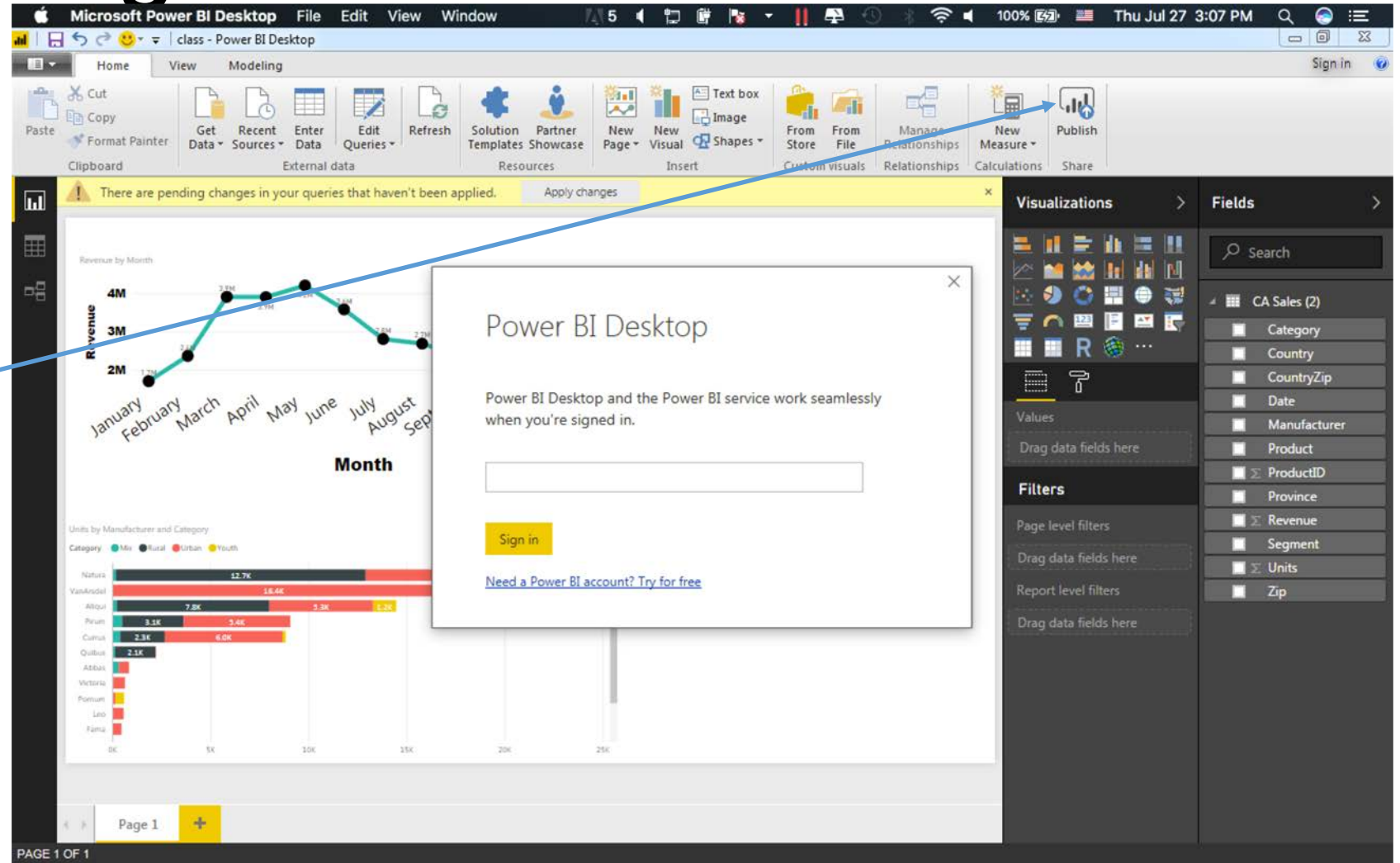
Understanding Power BI Features - 19

Step- 19:

Upon saving your file, a new dialog box will appear asking you to enter your sign in information to Microsoft Power BI Pro version (cloud version) of the same product.

To sign in; please enter the information in the next slide:
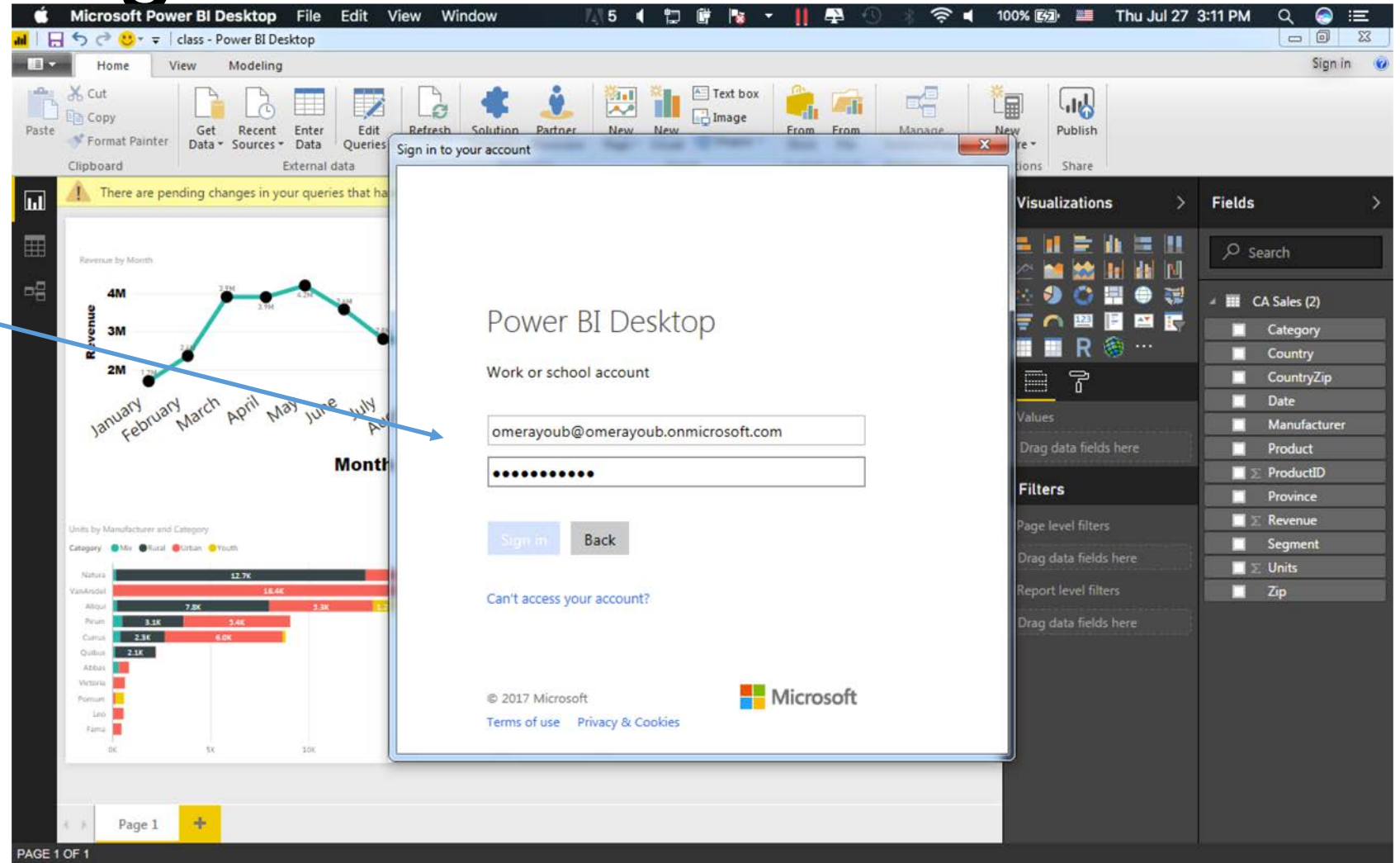
Understanding Power BI Features - 20

Power BI Pro Accounts (Cloud Access) for ICTP Codata Workshop

Username	Password
ictp01@omerayoub.onmicrosoft.com	Codata2018
ictp02@omerayoub.onmicrosoft.com	Codata2018
ictp03@omerayoub.onmicrosoft.com	Codata2018
ictp04@omerayoub.onmicrosoft.com	Codata2018
….	….
ictp50@omerayoub.onmicrosoft.com	Codata2018

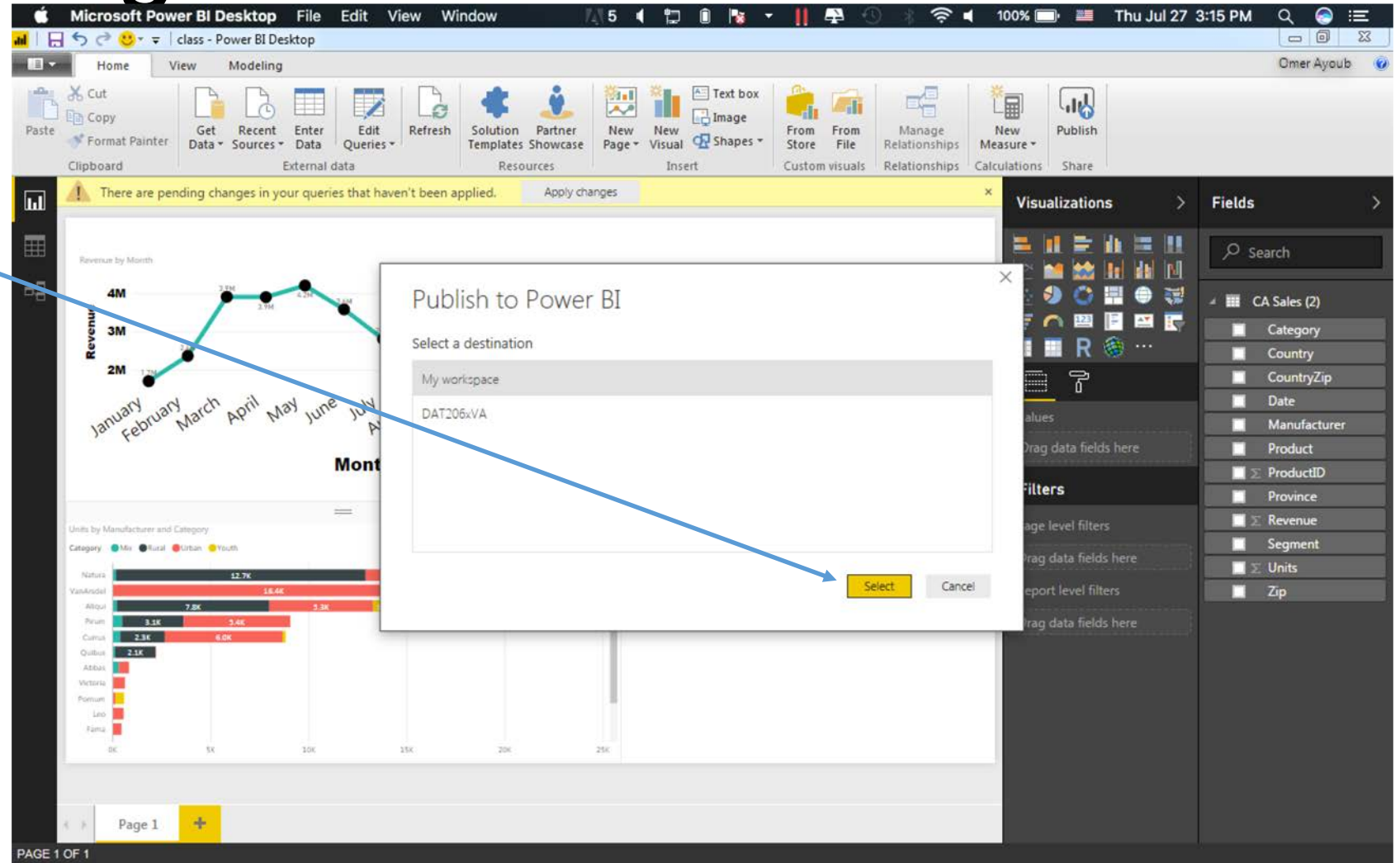# Understanding Power BI Features - 21

Step- 21:

Using the information provided in the above slide; login through this window to access live cloud based version of your visualization

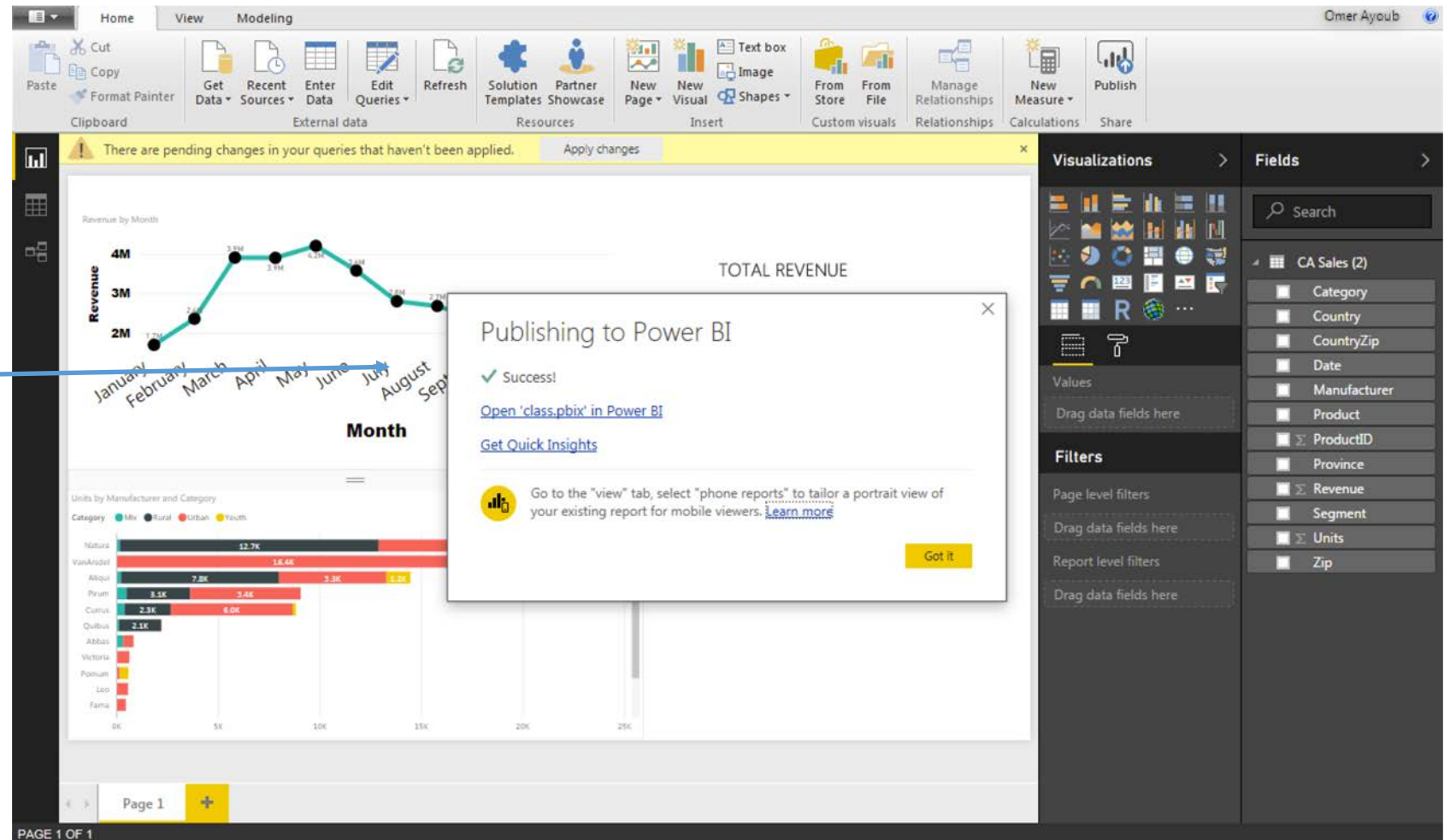# Understanding Power BI Features - 22

Step- 22:

You will be asked to select the workspace where you want to save and publish your visualizations. Select the default "My Workspace" and proceed further.

Understanding Power BI Features - 23

Step- 23:

Once your project is successfully published, you will get a success message informing you that you can get quick insights about your data and learn more about reporting tools using the Power BI mobile and Pro version.

Understanding Power BI Features - 24
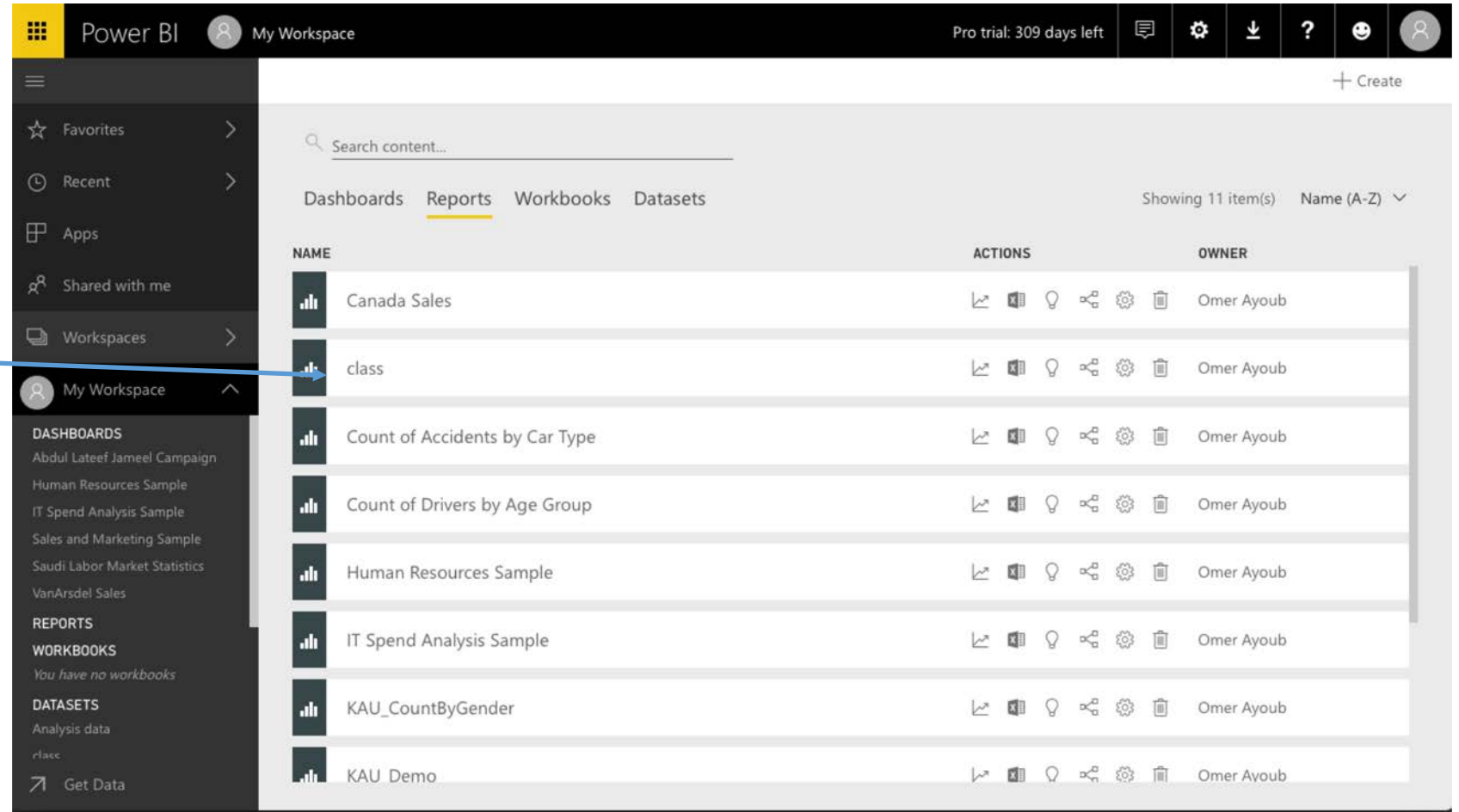
Step- 24:

- After you have successfully published your project; go to:

  http://powerbi.microsoft.com

- Login with your Power BI Pro account details

- You will get to see the same project uploaded under the Tab "My Workspace"

Understanding Power BI Features - 25

Step- 24:

Click on "My Workspace". It will load a list of all the Dashboards, Reports, Workbooks and Datasets that have been created so far by the logged in user. Since we exported or published our Report; select "Reports" and you will find your project there. I saved it as "class.pbix"

Understanding Power BI Features - 26

Step- 24:

Select the Report and click on File. Now you can export your report as an "interactive report" to be used in powerpoint or for embedding as html iframe in your website for live interaction.
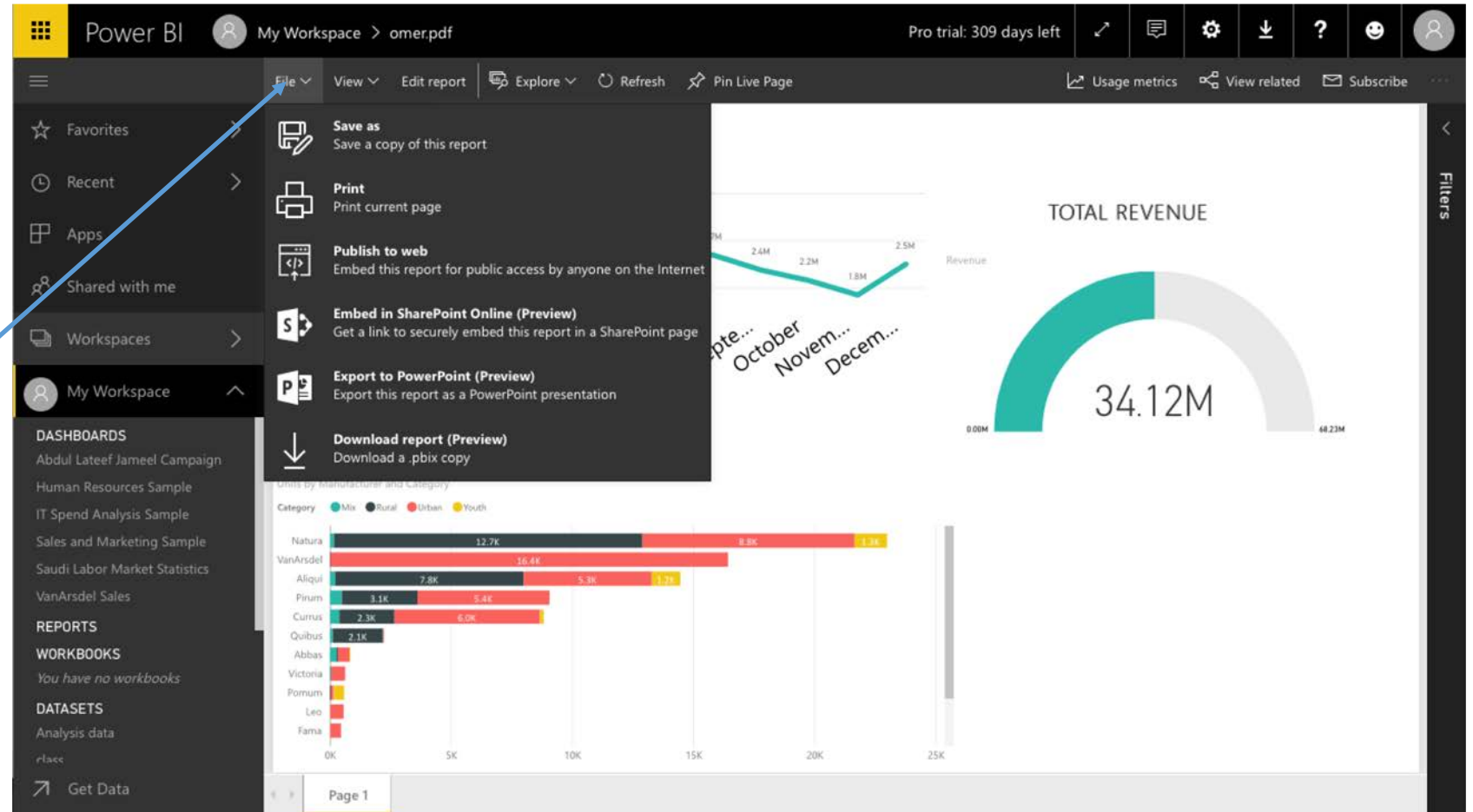
Understanding Power BI Features - 27

To preview a web based report version that can be embedded as iframe object; Click here