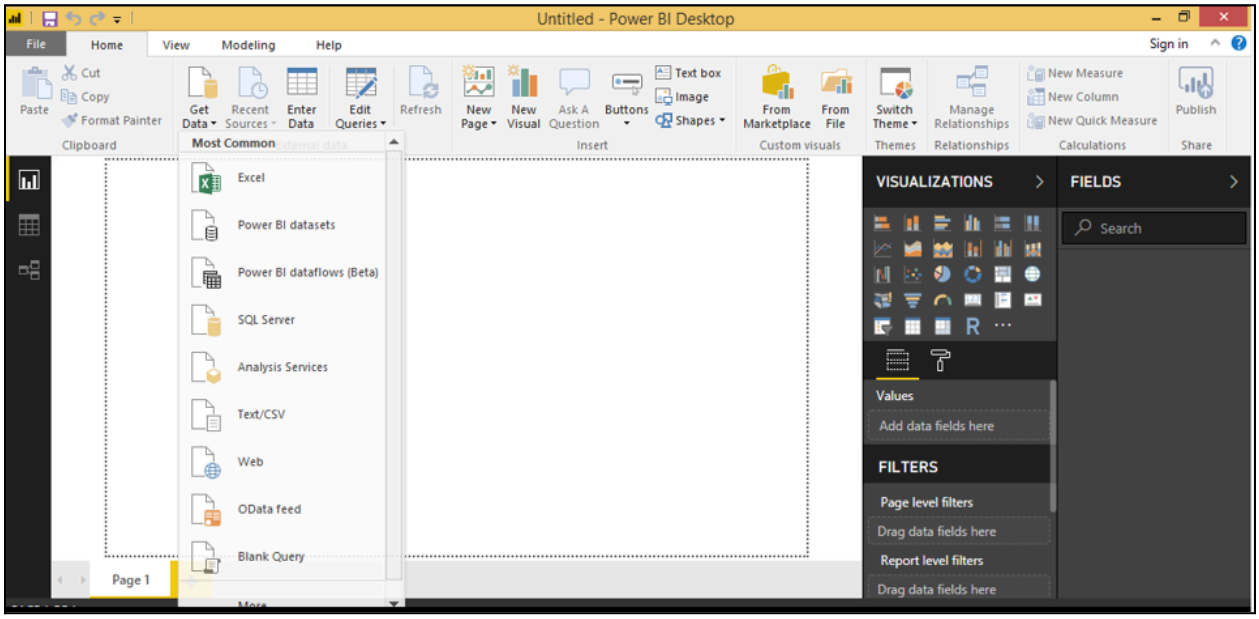
Practical No. 2

a. Perform the Extraction Transformation and Loading (ETL) process to construct the database in Power BI.

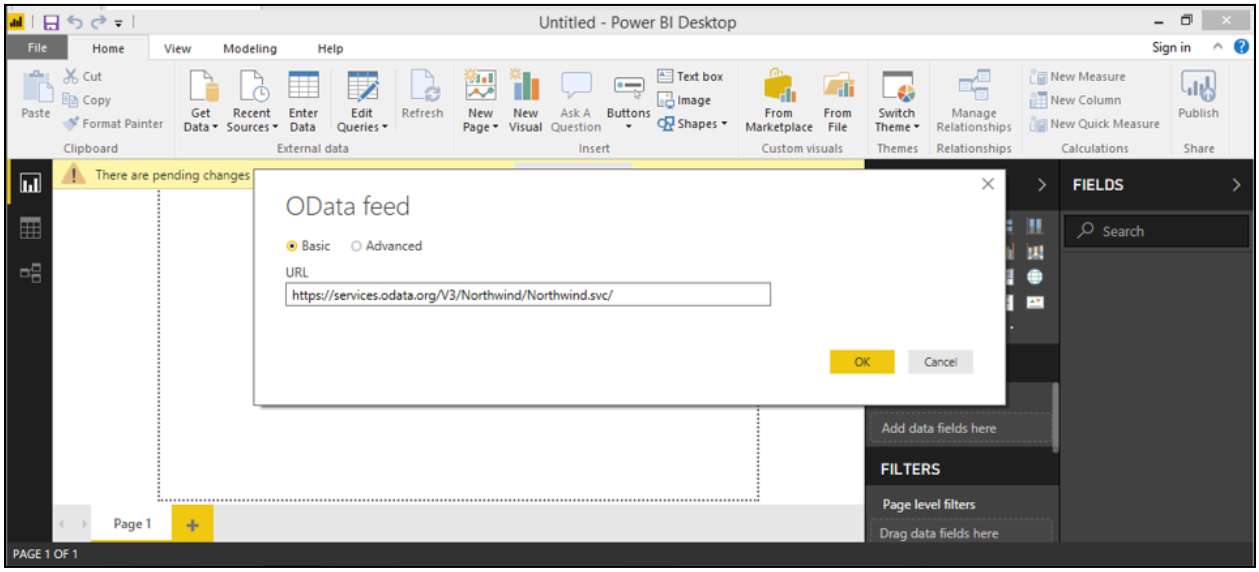
Steps to perform the practical:

Step 1 : Open Power BI Software, Click on Get Data ➜ OData Feed.

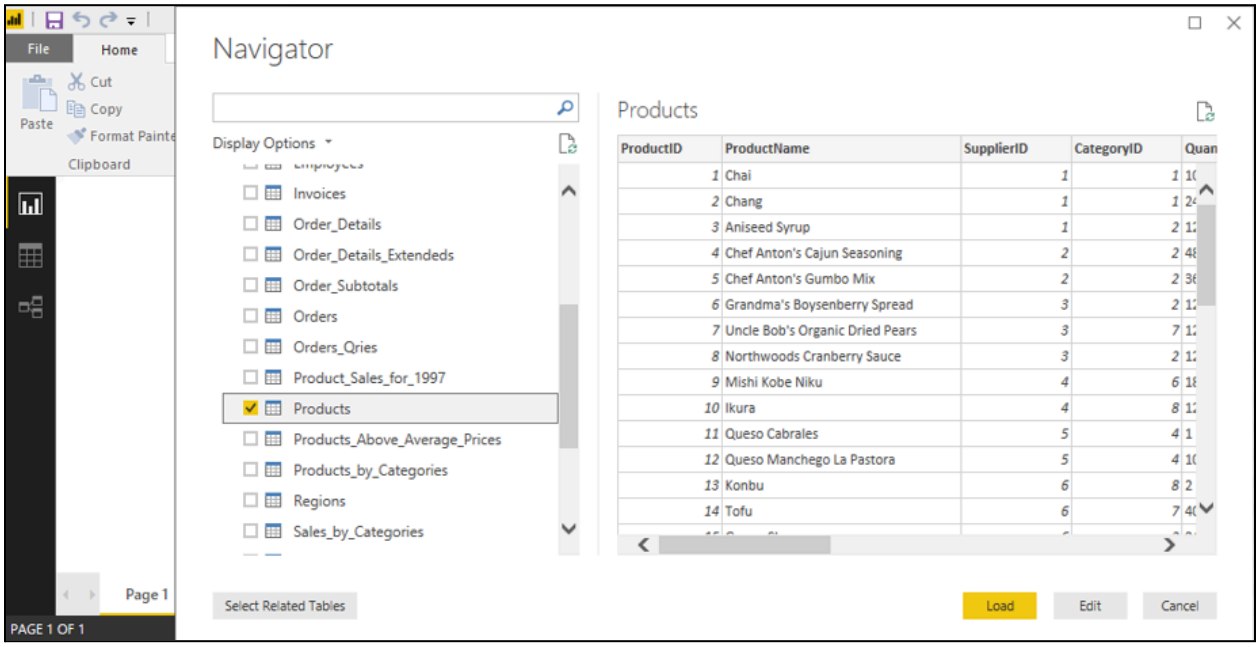


Step 2 : Paste URL as : http://services.odata.org/V3/Northwind/Northwind.svc/

Then Click on OK.

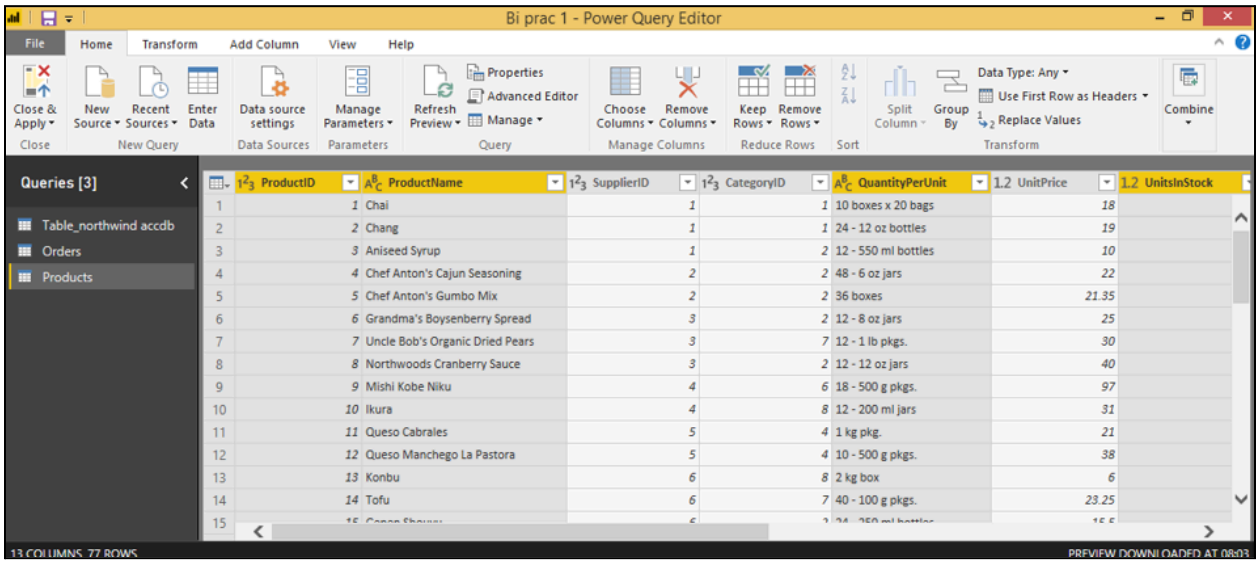


Step 3 : Select by checking the box of Products table and then Click on Edit.

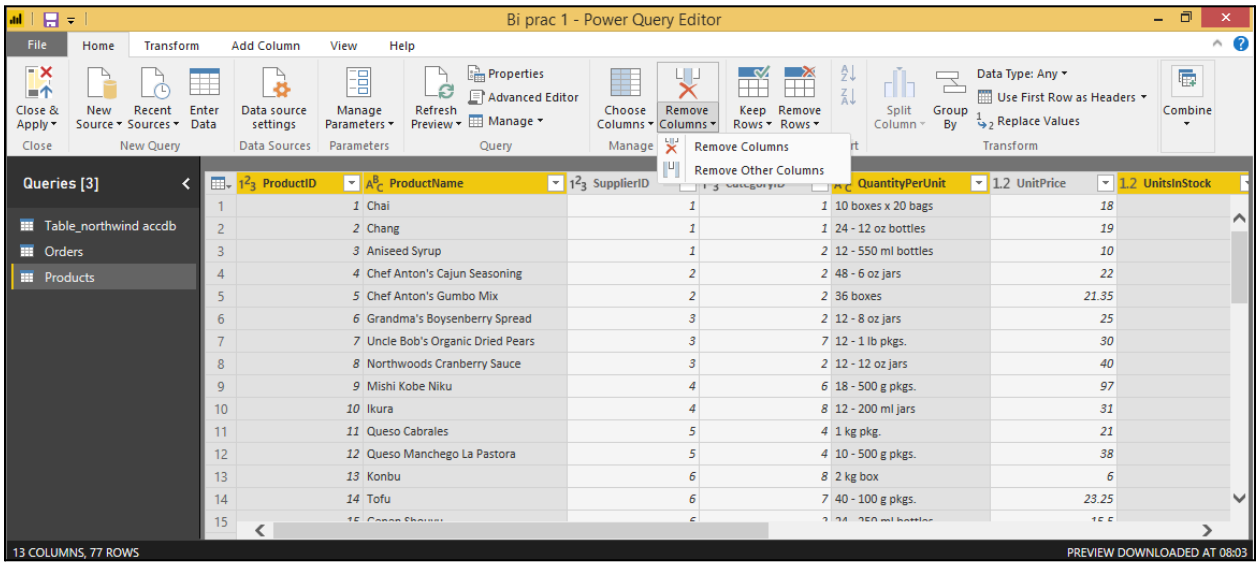


1) Remove other columns to only display columns of interest:

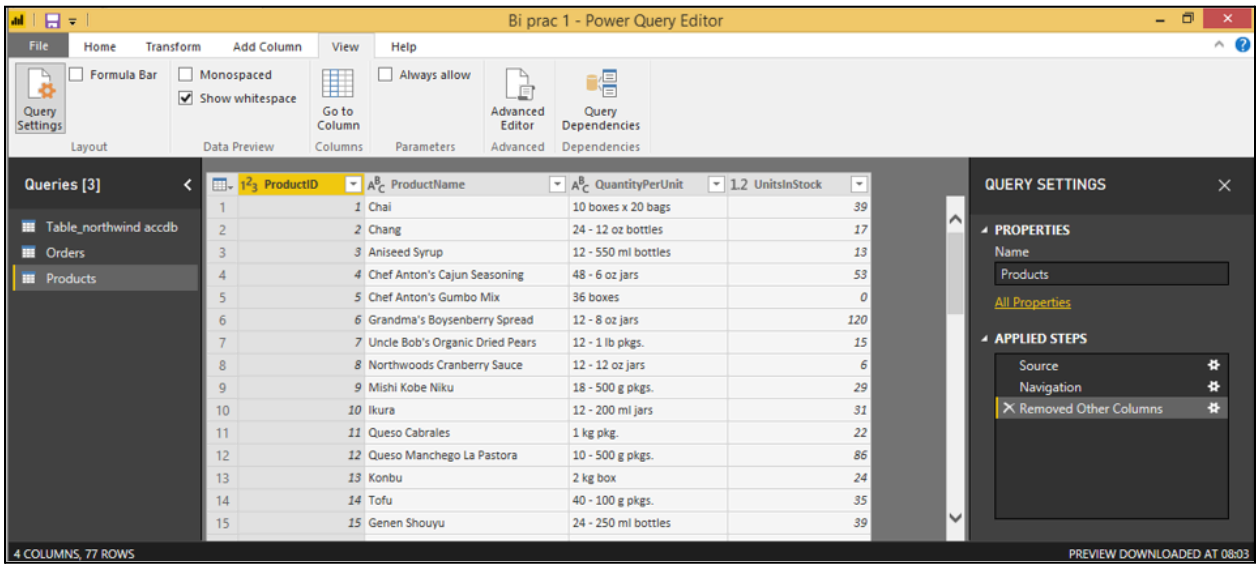
Step 1: In the Query Editor, select ProductID, ProductName, QuantityPerUnit, and UnitsInStock columns.



Step 2 : Select Remove Columns Remove Other Columns from the ribbon, or right-click on a column header and click Remove Other Columns.



Step 3 : After selecting Remove Other Columns only selected four columns are displayed other columns are discarded.

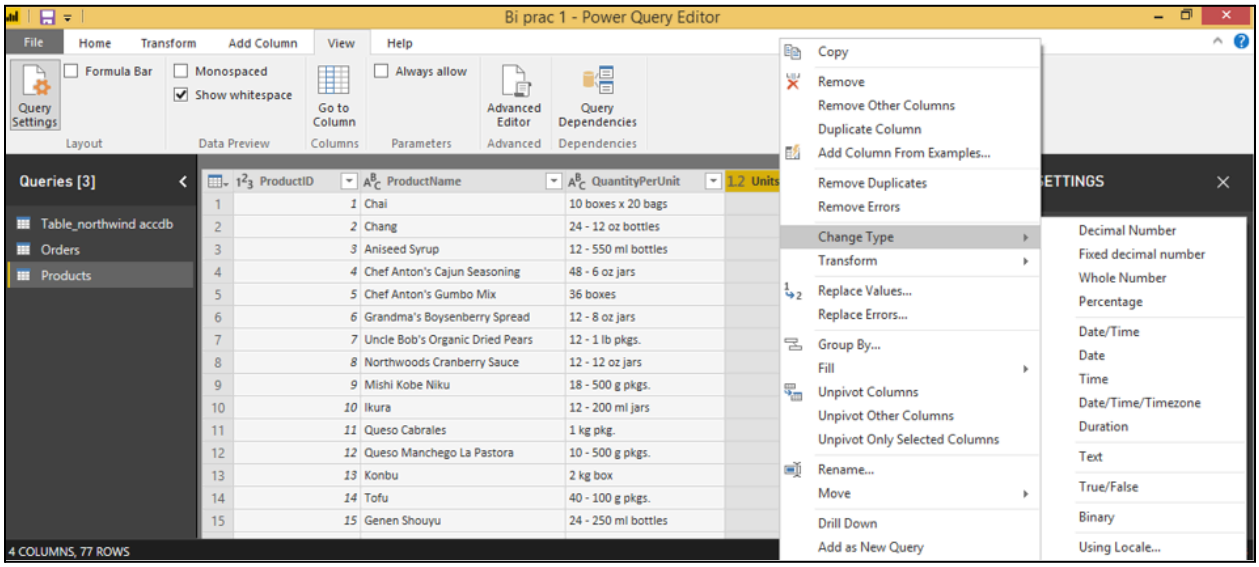


2) Change the data type of the UnitsInStock column.

Step 1 : Select the UnitsInStock column.

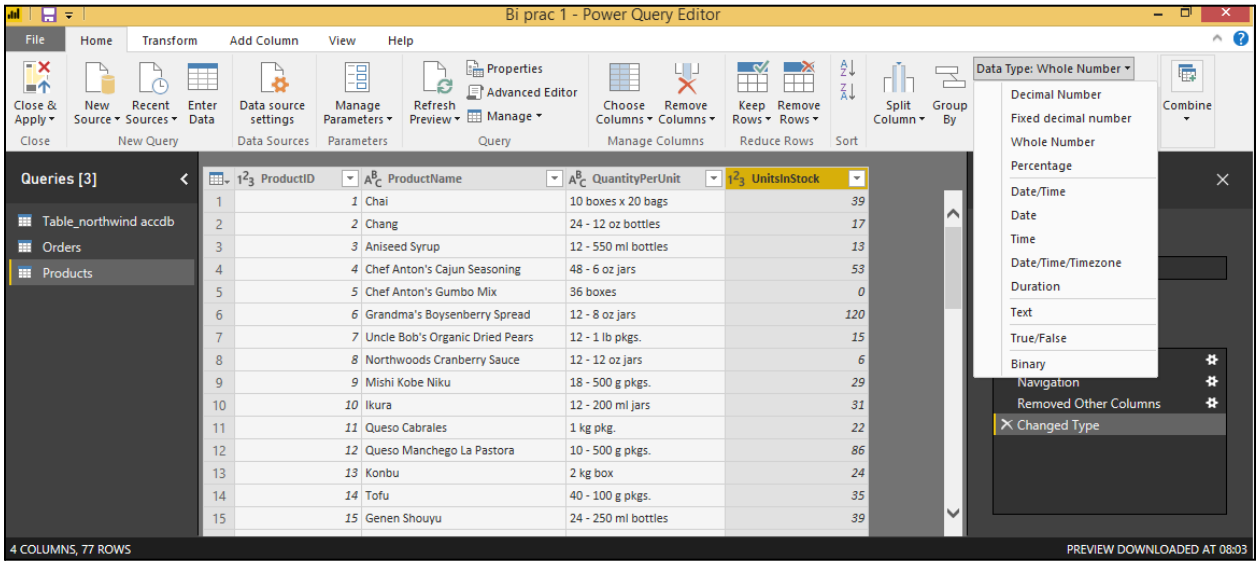
Step 2 : Right-click on a column header and select the Change Type from the drop-down.

Step 3 : Change it and select Whole Number as Data Type from the drop-down.



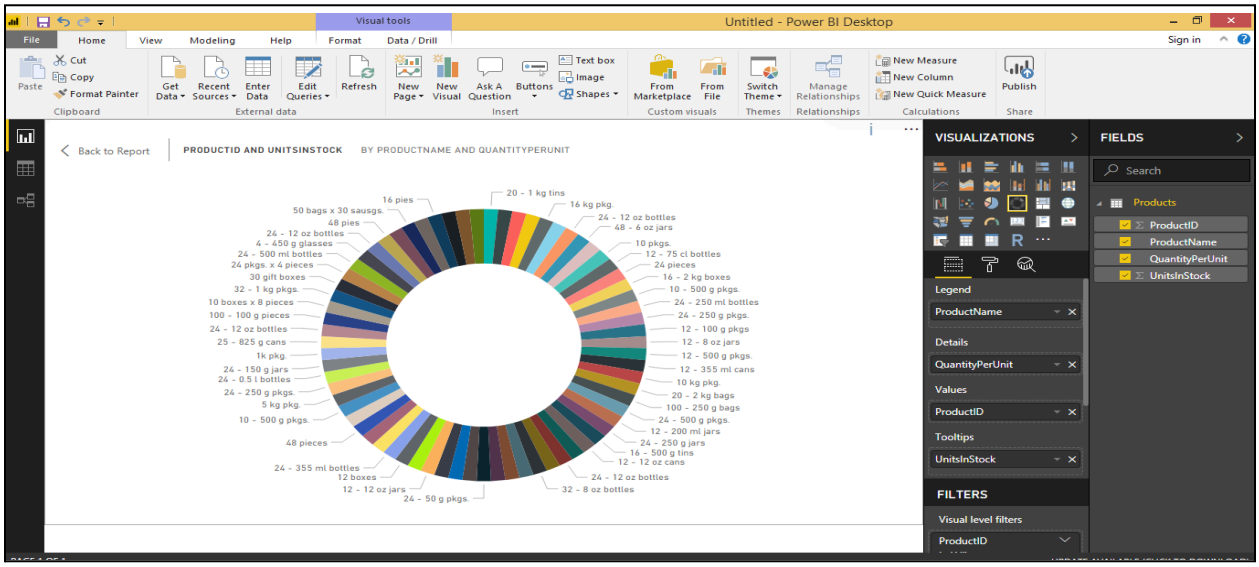
Step 4 : You can also change Data Type by Select the Data Type drop-down button in the Home ribbon, Then Change it and select Whole Number as Datatype from the drop-down.

Step 5 : After Clicking on Whole Number, you can see the changed Data Type in column header of UnitsInStock.



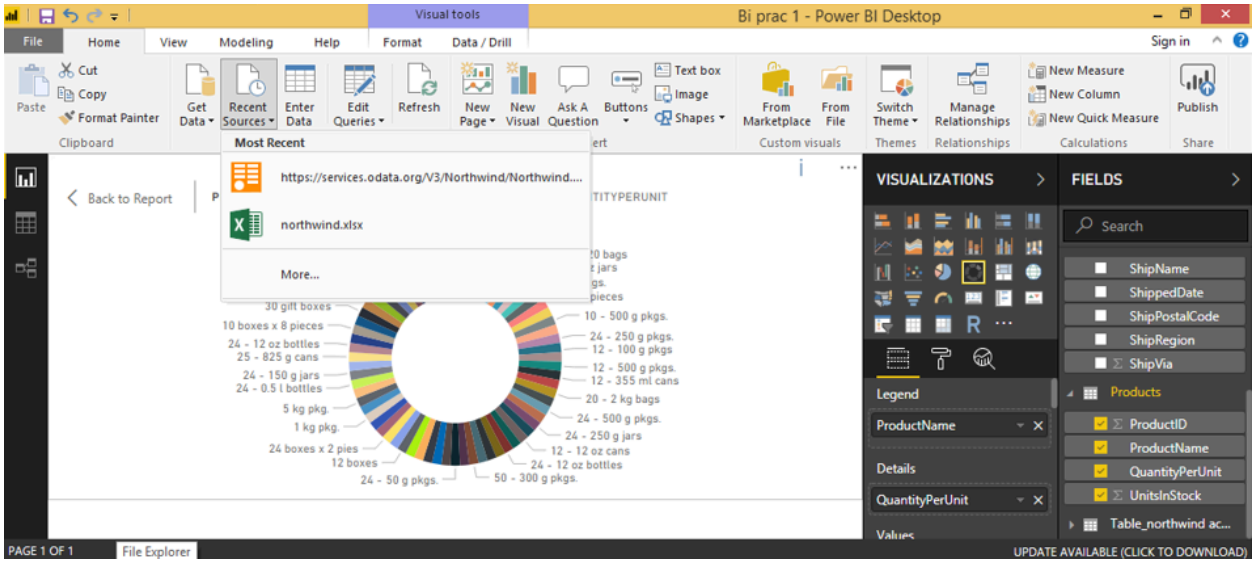
Step 6 : After the above step, close the query editor and click on Yes to save changes.

Step 7 : Now you can view the fields of the Products table on the right side, check all the fields of the table to get representation in charts form.

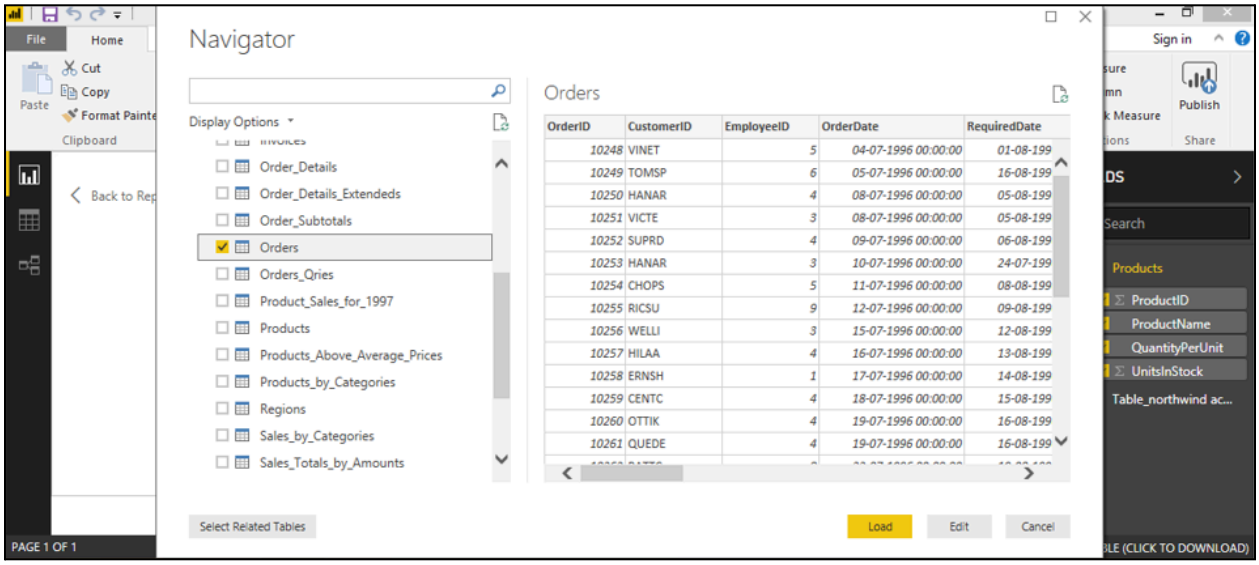


3) Expand the Orders Table

Step 1 : Once you have loaded a data source, you can click on Recent Sources to select the desired table (Orders).



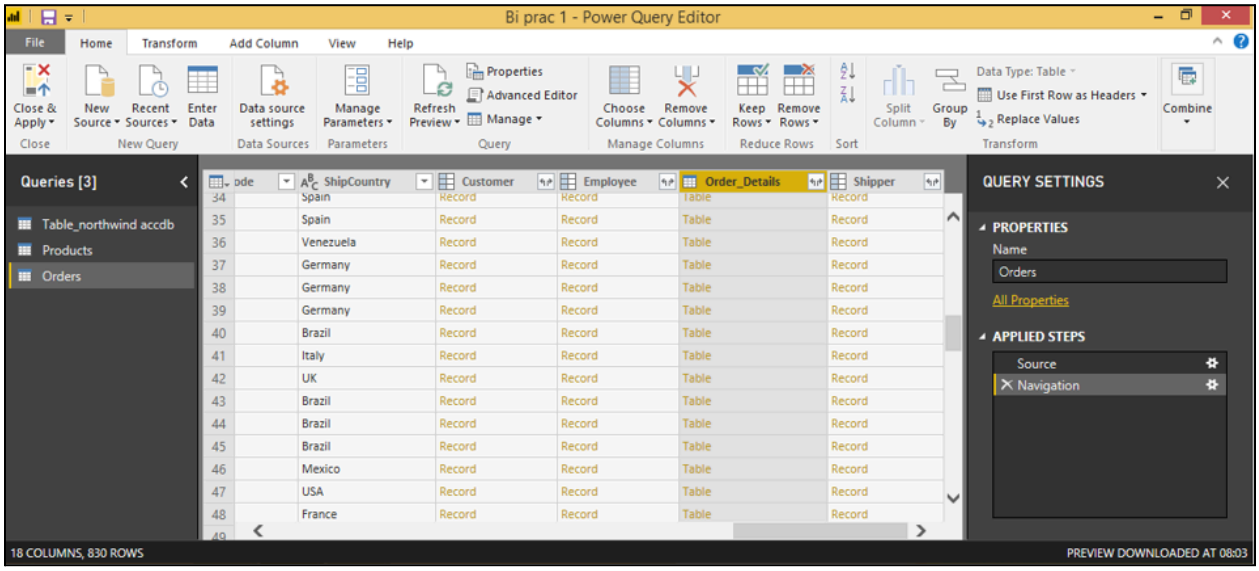
Step 2 : After selecting the URL, a Navigator window will appear from which you can select the Orders table. Click on Edit.



Step 3 : Query Editor will appear:

a. In the Query View, scroll to the Order_Details column.

b. In the Order_Details column, select the Expand Icon.

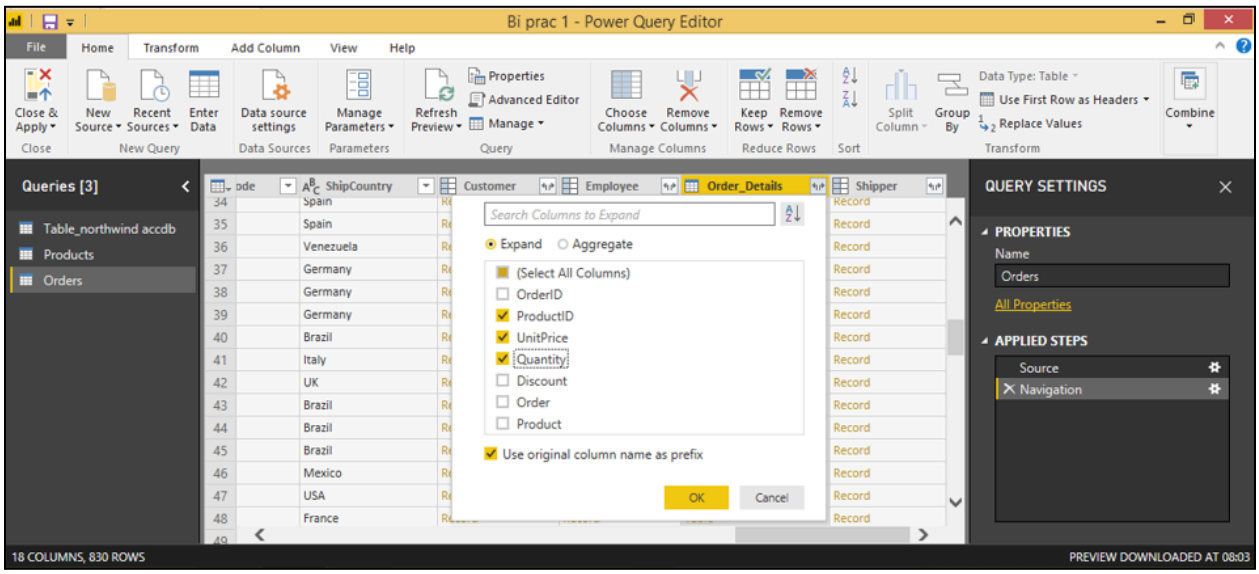


c. In the Expand drop-down:

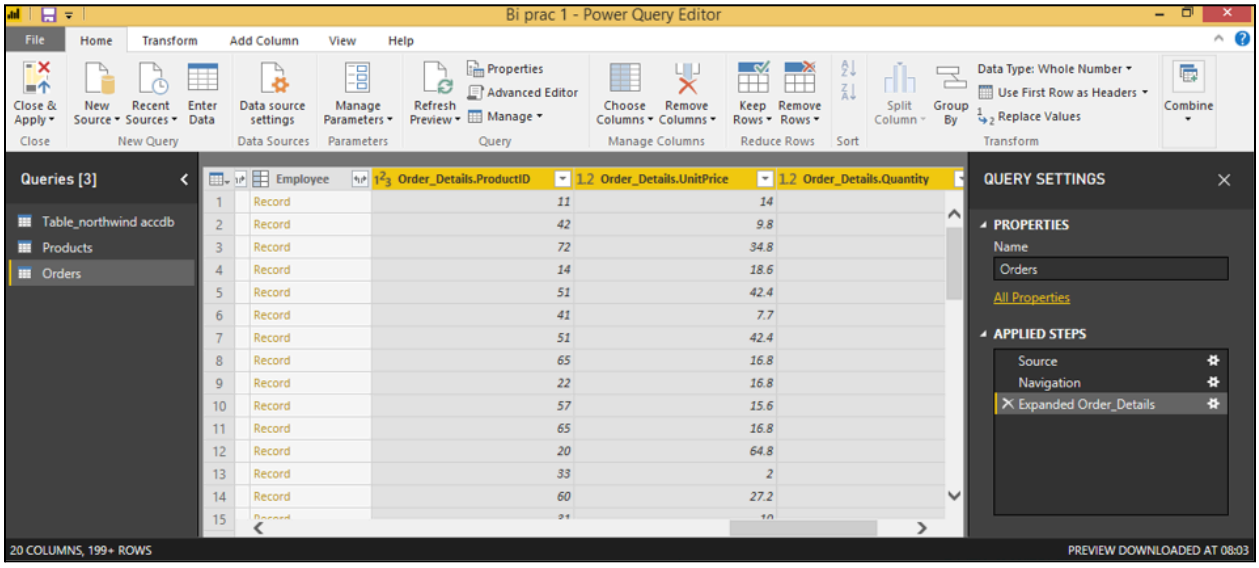
i. Select (Select All Columns) to clear all columns.

ii. Select ProductID, UnitPrice and Quantity.

iii. Click OK.

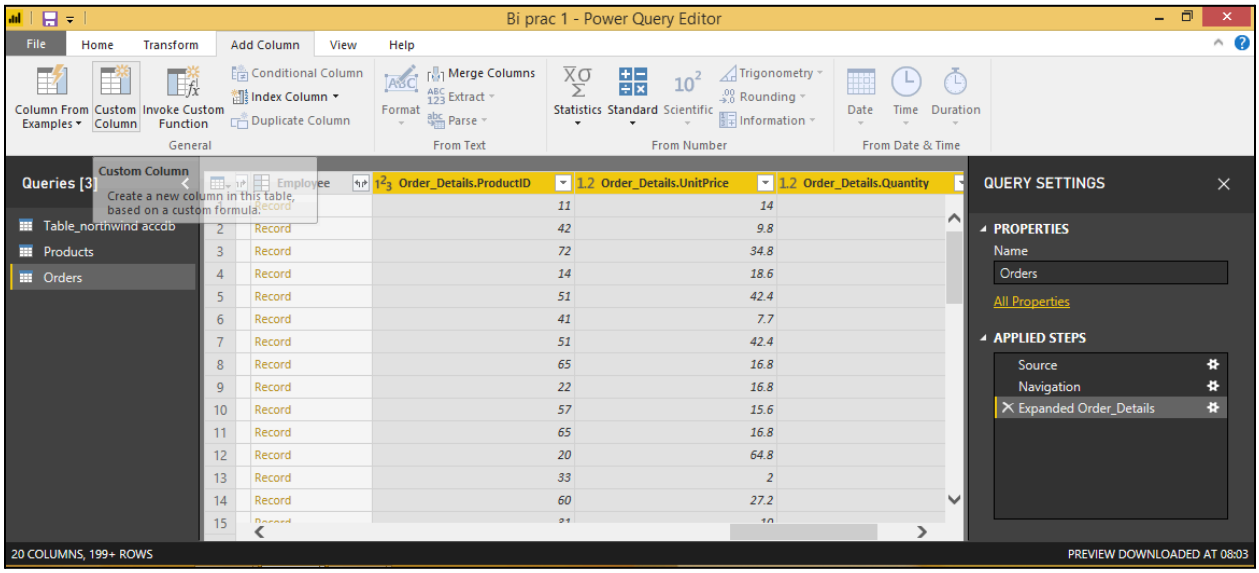


iv. After clicking on OK following screen appears with combined columns:



4) Calculate the line total for each Order_Details row.

Step 1 : In the Add Column ribbon tab, Click Add Custom Column.



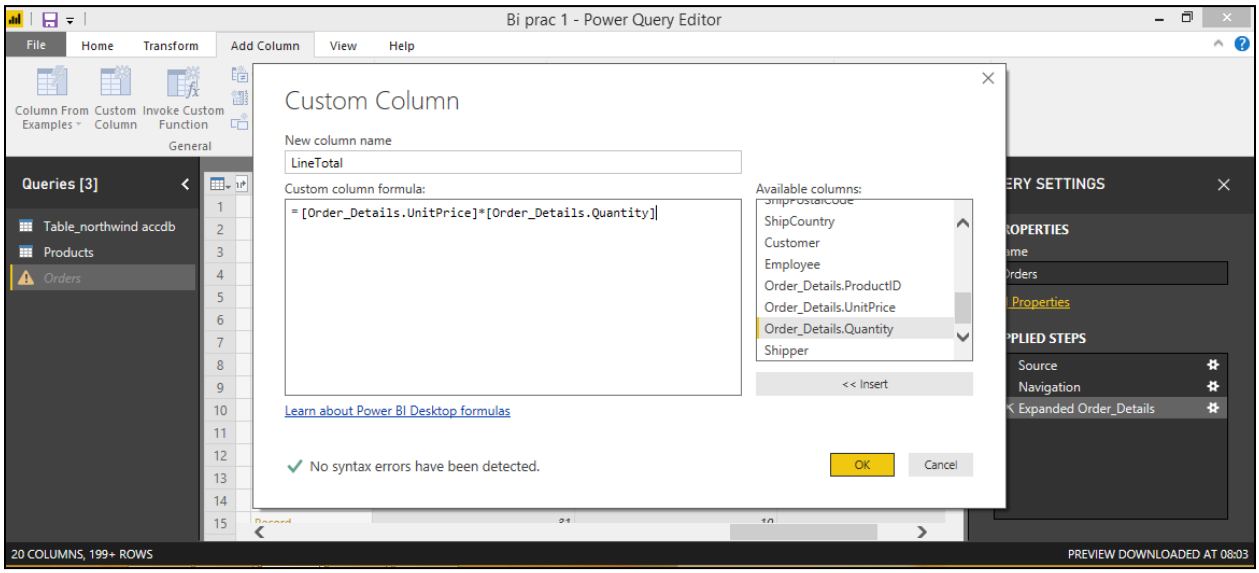
Step 2 : In the Custom Column dialog box, in the Custom Column Formula textbox, Enter:

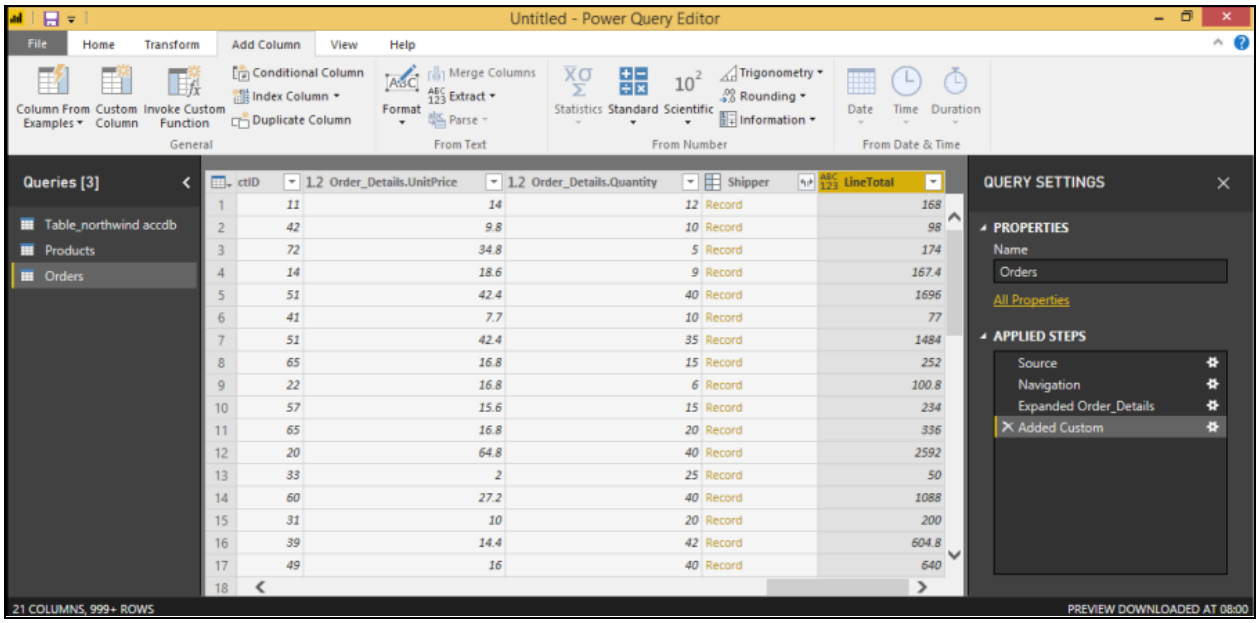
Enter: [Order_Details.UnitPrice] * [Order_Details.Quantity]

Step 3 : By selecting from available columns and clicking on insert for each column.

Step 4 : In the New Column name textbox, Enter: LineTotal.

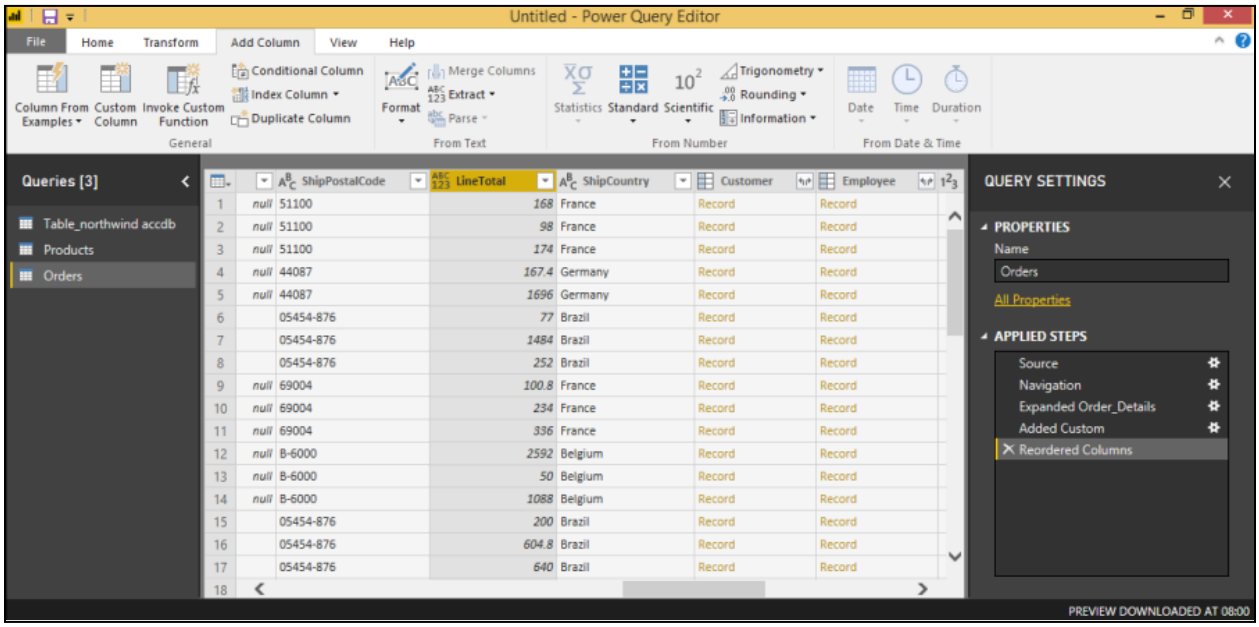
Step 5 : Click OK.



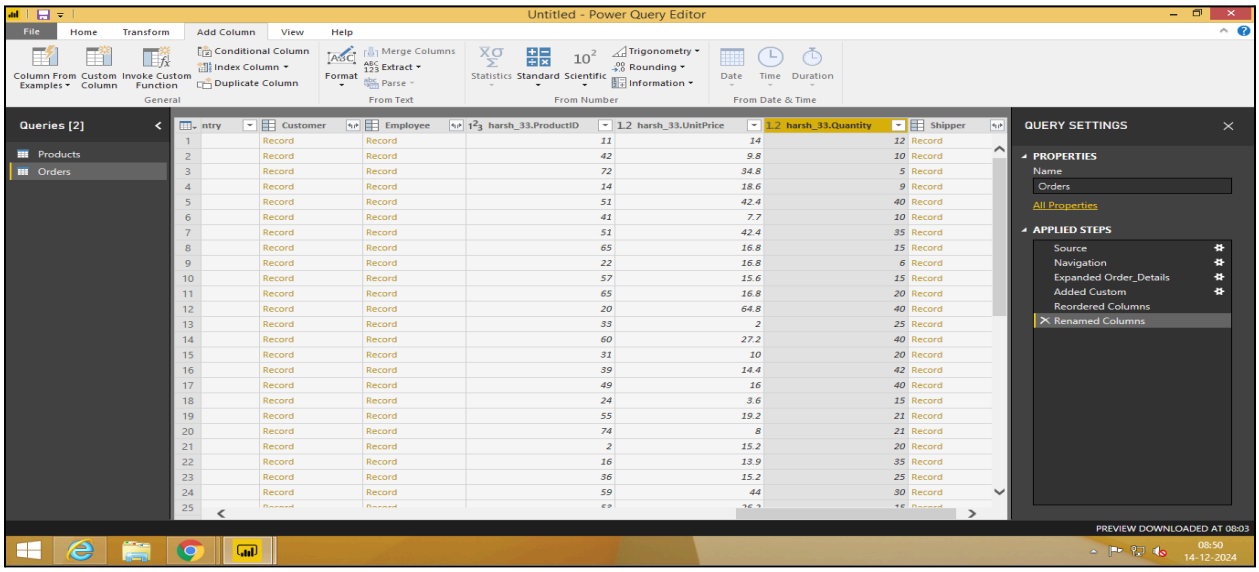


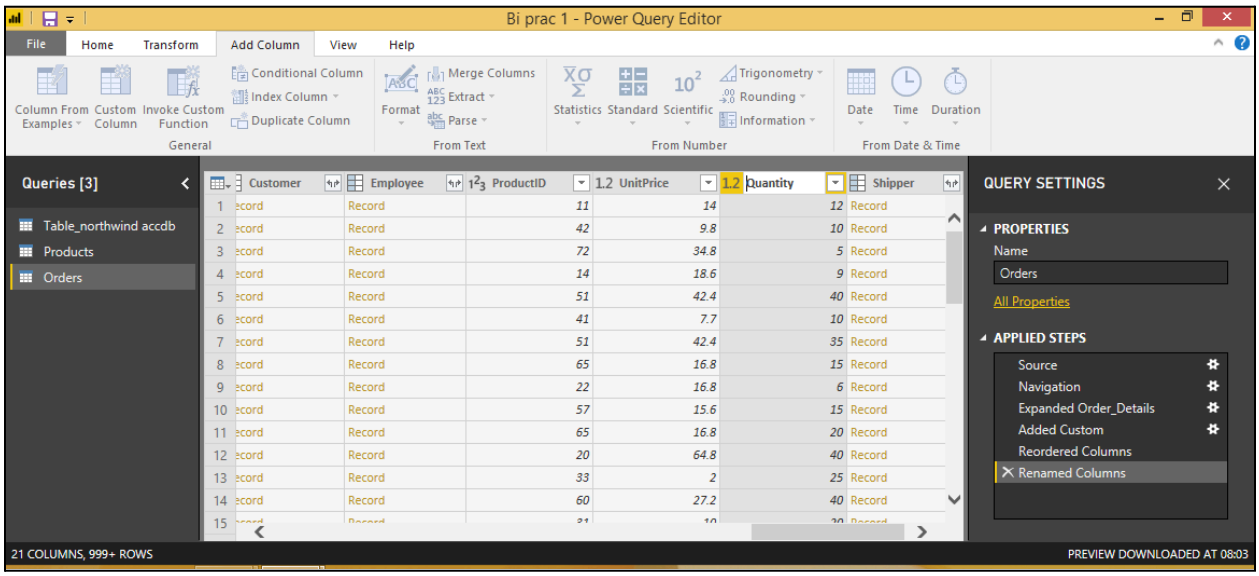
5) Rename and reorder columns in the query:

Step 1 : In the Query Editor, drag the LineTotal column to the left, after ShipCountry.



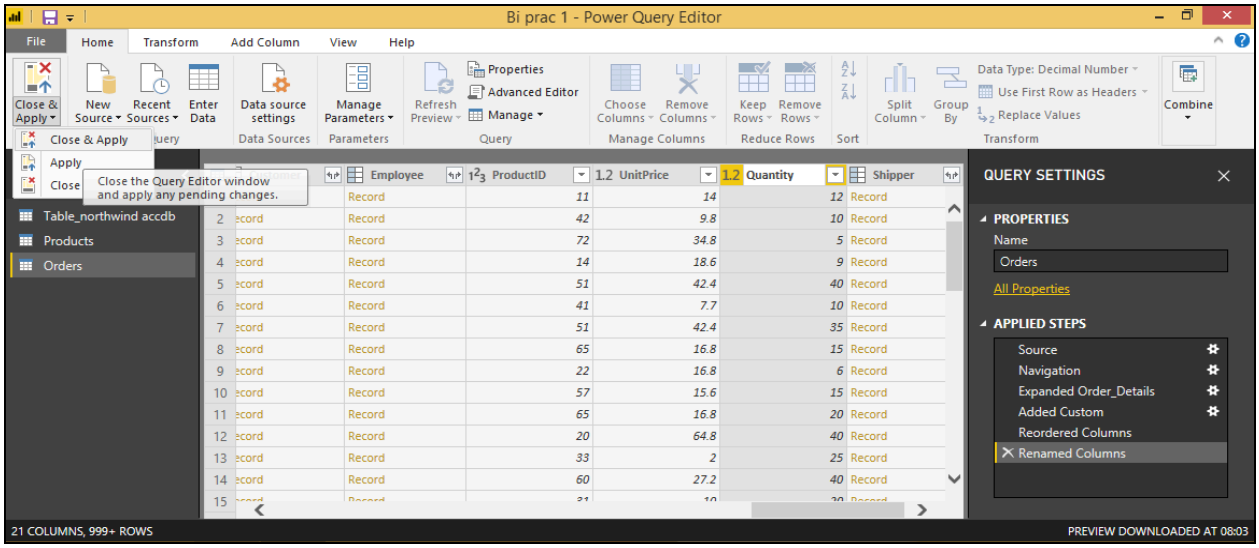
Step 2 : Right-click on a column header and click on Rename option, and Rename the column name.



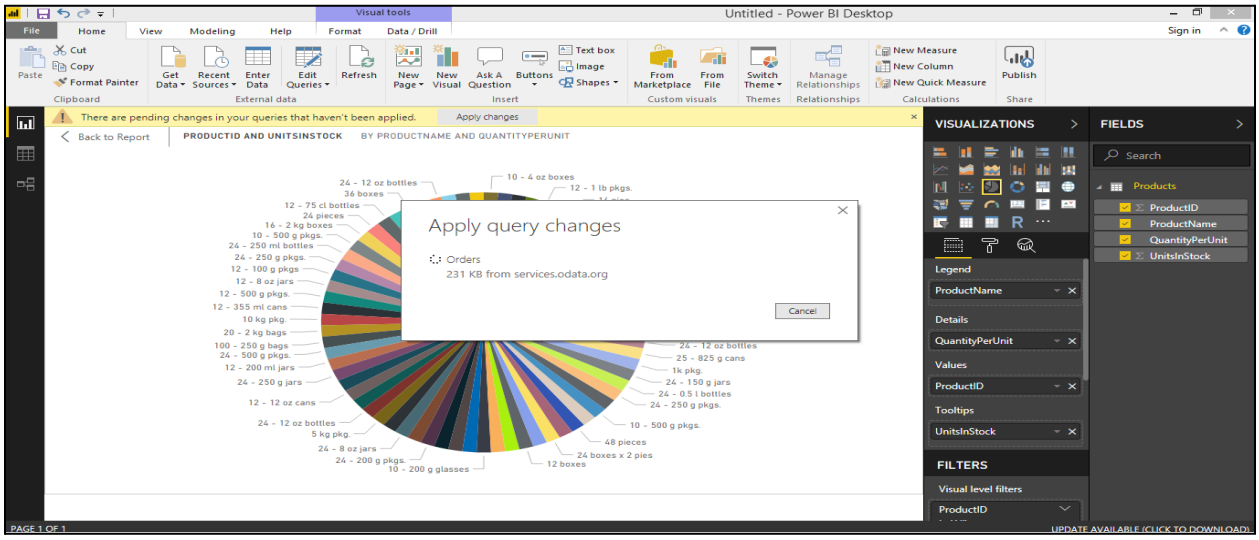


6) Combine the Products and Total Sales queries:

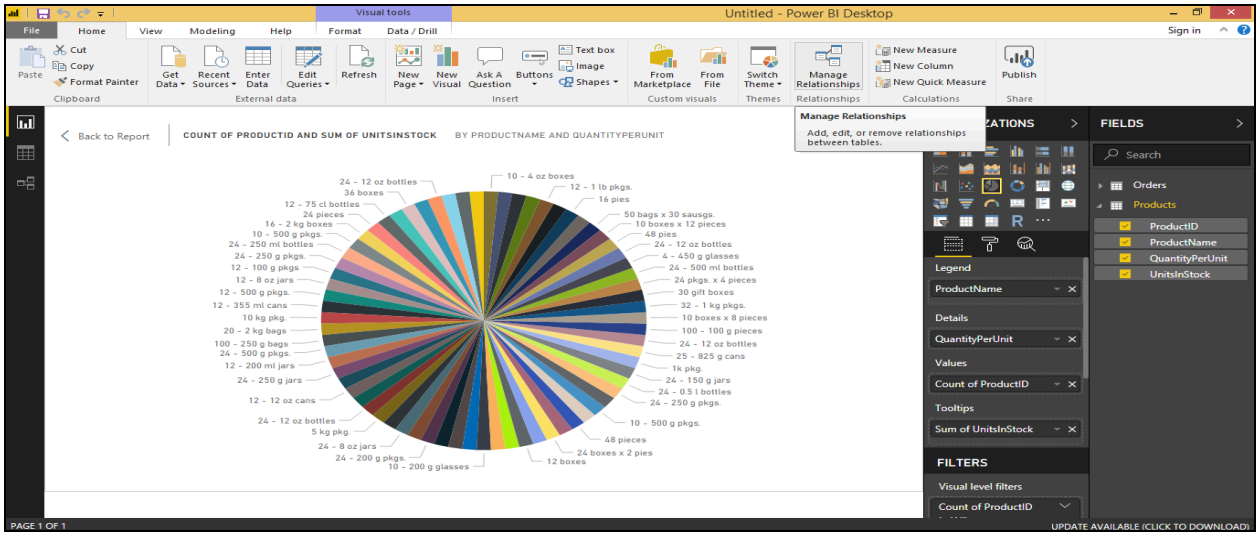
Step 1 :Confirm the relationship between Products and Total Sales, first we need to load the model that we created in the Query Editor into Power BI Desktop. From the Home ribbon of Query Editor ➜ Select Close & Apply.



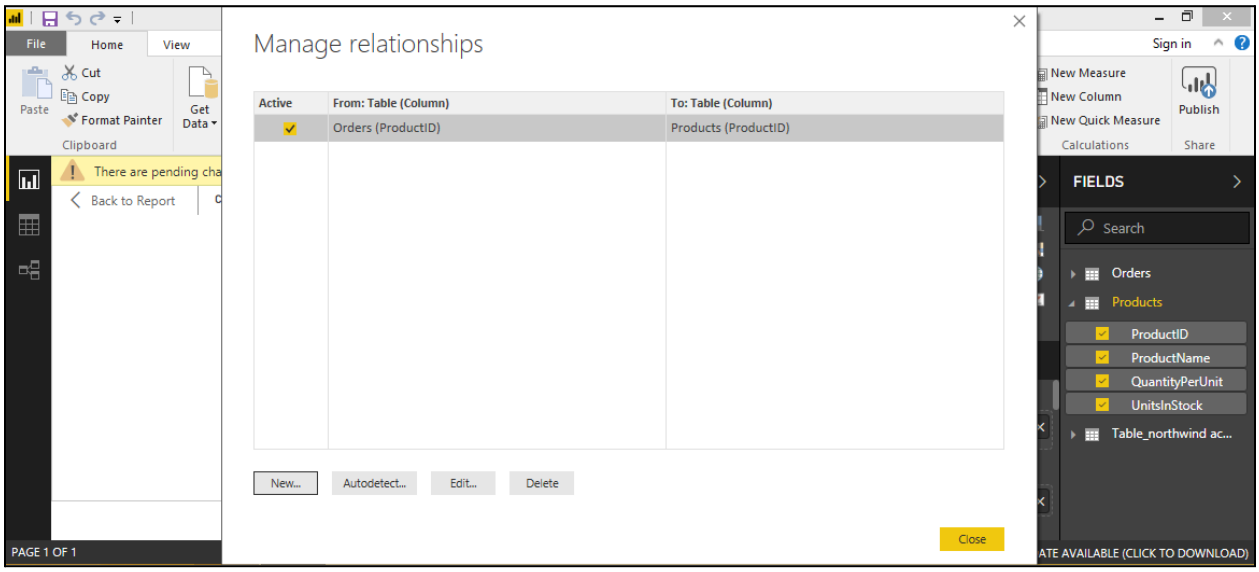
Step 2 : Power BI Desktop loads the data from the two queries.



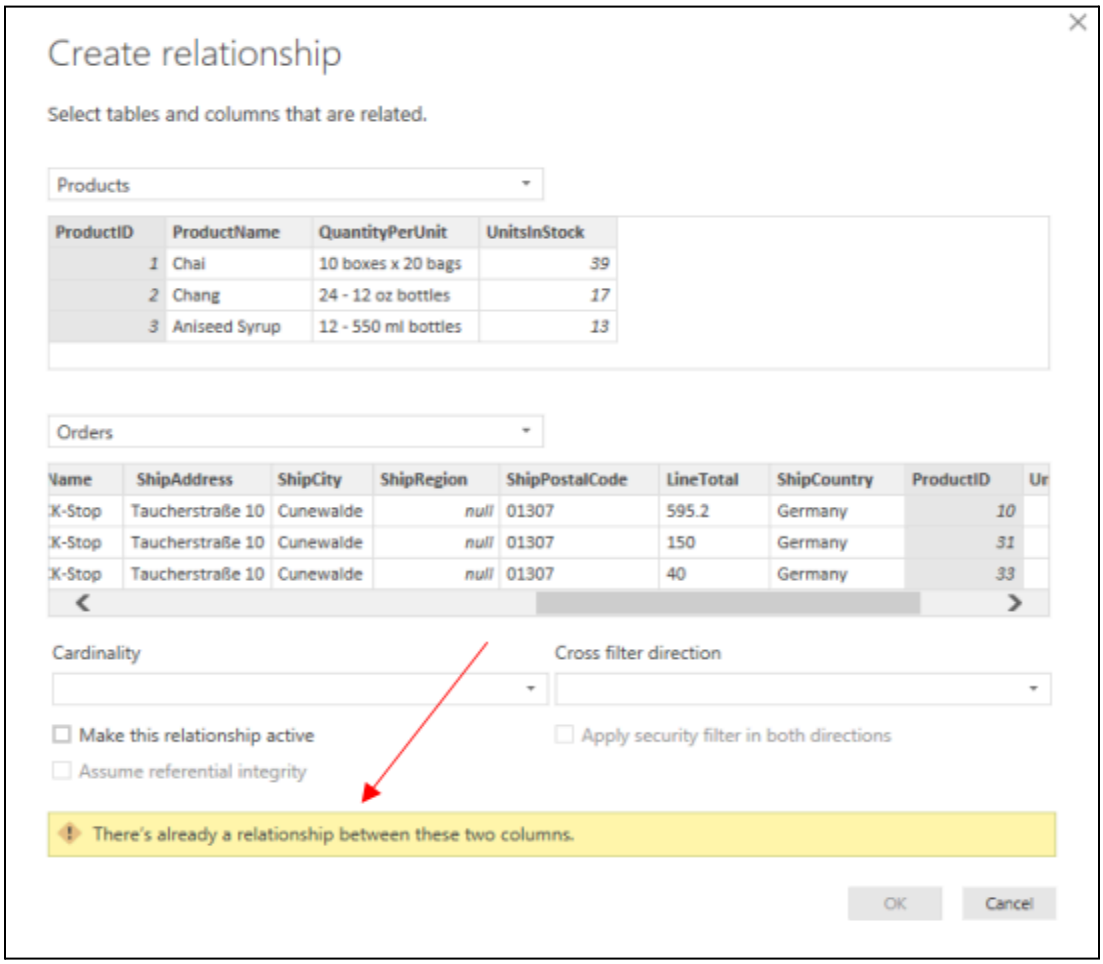
Step 3 : Once the data is loaded, select the Manage Relationships button at Home Ribbon.



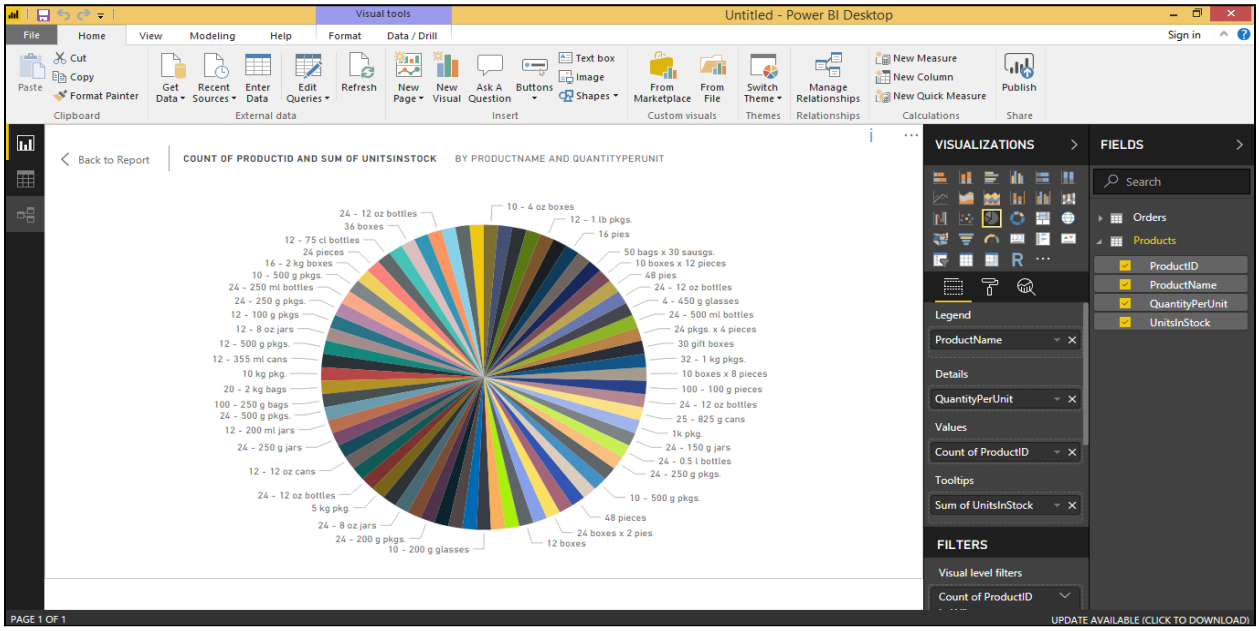
Step 4 : Select the New Button.



Step 5 : When we attempt to create a relationship, we see that one already exists! As Shown in the Create Relationship dialog (by the shaded columns), the ProductsID Fields in each query already have an established relationship.



Step 6 : Select Cancel, and then select Relationship view in Power BI Desktop.



Step 7 : We see the following, which visualizes the relationship between the queries