

# Db2 Web Query for i

**InfoAssist+**

**Reporting Lab**

**February 2021**

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# InfoAssist+ Tutorials

With InfoAssist, you can quickly and easily:

- Generate Business Intelligence reports, charts, and documents from any enterprise information source without IT interaction.
- Complete tasks, such as building a report, with minimal clicks.
- Convert reports to charts, or charts to reports, in a single click.
- Output report data in a variety of formats, including HTML, Active Reports, active Flash, PDF, active PDF, Excel, and PowerPoint.

In **Section 1 - Creating Reports**, you will create several of these types of reports using the InfoAssist+ report interface.

## PLEASE READ THIS:

These tutorials were built with the Version 2.2.1 level of Db2 Web Query. If you are running Version 2.3.0 you have some choices about how you want to invoke InfoAssist and take the tutorials. We recommend choice 2 below 😊 :

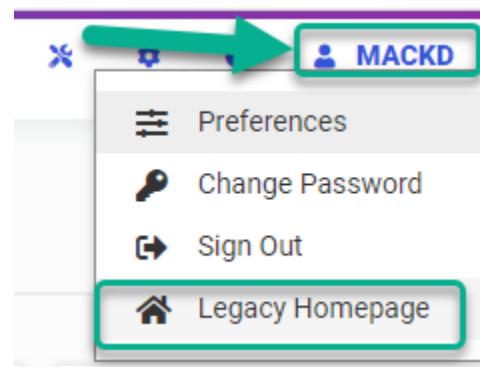
### Choice 1: Use the Legacy Mode of Db2 Web Query 2.3.0

Sign on directly to the legacy home page:

- Bring up a browser
- Instead of using the standard sign on URL use this one instead:  
<http://your.system.name.com:12331/legacyhome>
- Sign on using your IBM i userid and password

Or, you can sign on using the normal URL: <http://your.system.name.com:12331/webquery>

- After signing in, **click on your user ID in the upper right-hand corner and select “Legacy Homepage.”**
- This will open up the Version 2.2.1 BI Portal user interface in a new browser tab and you should be able to follow along with this tutorial from here.

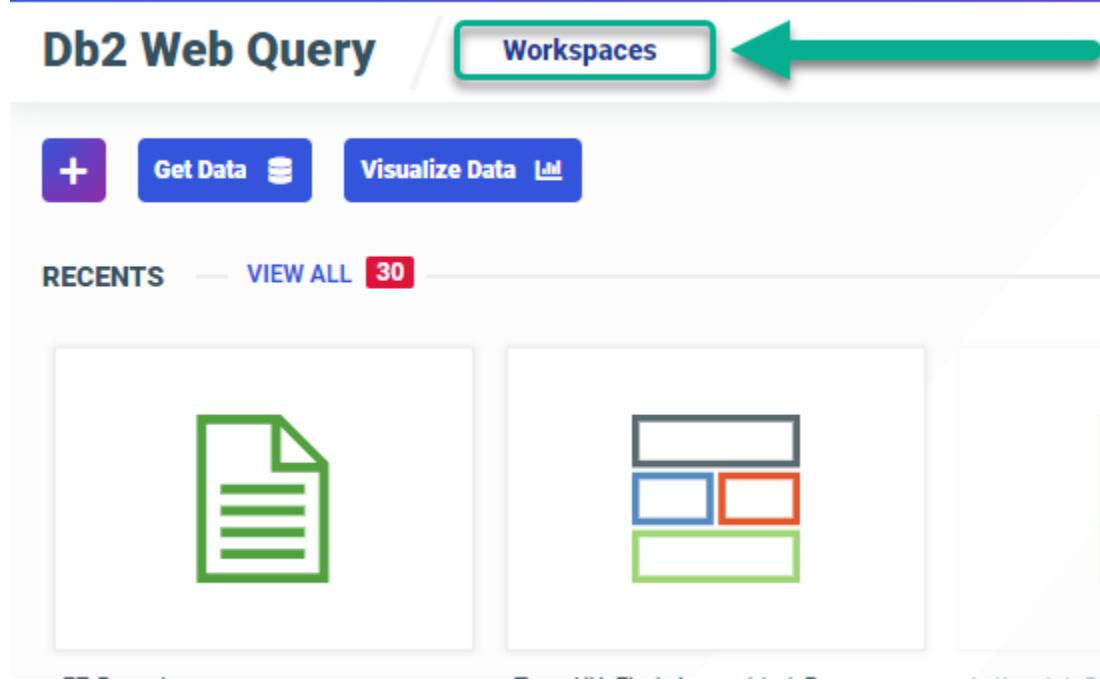


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## Choice 2: Be ADVENTUROUS (We recommend this)!

Use the new Home Page and Workspace interfaces to invoke InfoAssist. Assuming you have installed Db2 Web Query with EZ-Install 2.3.0 AND that you have gone through the TEST DRIVE, it should be fairly easy to navigate through these tutorials from the Home Page and Workspaces views. For instance, sign into web query home page:

Click on Workspaces.



Assuming you finished the TEST DRIVE tutorial, you should already have created a Db2 Web Query Training workspace and your own sub-folder. **Make sure you navigate to the Db2 Web Query Training workspace by double clicking it, and also double click on your sub-folder:**

Db2 Web Query Workspaces

+ Get Data  Visualize Data 

Workspaces

Action Bar

 Folder

Folders

My Workspace Common Db2 Web Query Training IBM Db2 Web Query Infor... IBM i Administration Sam...

IBM QRY/400 Discovery S... krs Retail Samples Century Electronics

Db2 Web Query Workspaces

+ Get Data  Visualize Data 

Workspaces > Db2 Web Query Training

INFOASSIST SCHEDULE OTHER

 Chart  Visualization  Report  Document

Folders

 TEAMxx

Db2 Web Query / Workspaces

INFOASSIST SCHEDULE OTHER

Chart Visualization Report Document

Items

line chart pre PAGE creation

revenue a cogs by prod cat...

Teamxx\_First\_Page

TeamXX\_First\_Assembled...

From here you can just **click on the REPORT** to open up InfoAssist and continue on with these tutorials in section 1.1.2, step 2!

BE ADVENTUREOUS! Note references to Top Level Folders in 2.2.1 equates to “Workspaces” in 2.3.0, and references to the BI Portal equate to the new Home Page in 2.3.0.

If you have any issues feel free to reach out to the Db2 Web Query team at [QU2@us.ibm.com](mailto:QU2@us.ibm.com).

# 1 Creating Reports

## 1.1 InfoAssist+ Environment

### 1.1.1 How to Create your Tutorial Folder

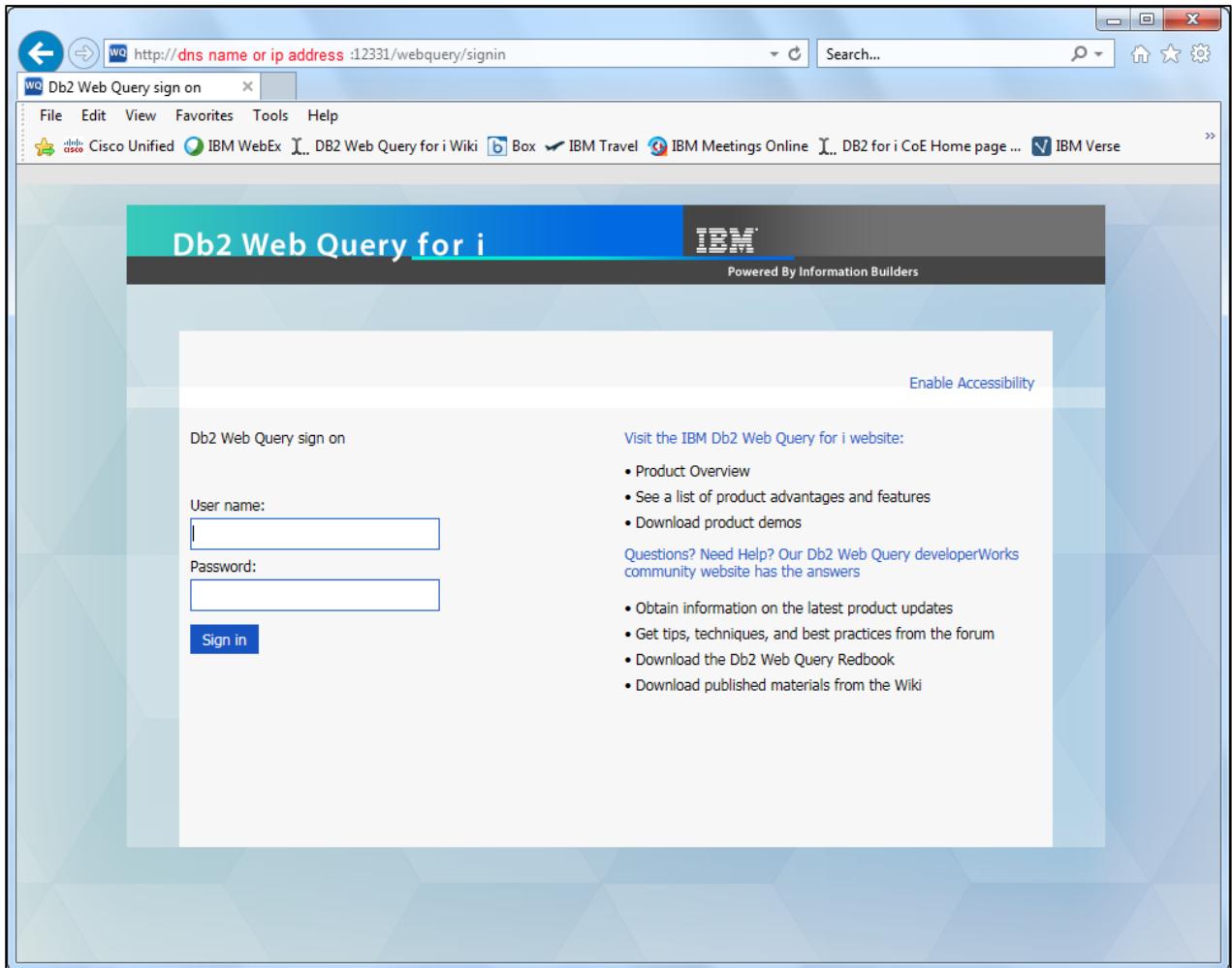
You can create InfoAssist+ reports from both Developer Workbench and a browser. The following screens and instructions depict starting from a browser window. You can create the folder and start InfoAssist+ from within Developer Workbench if you have Developer Workbench available to you.

Bring up a browser

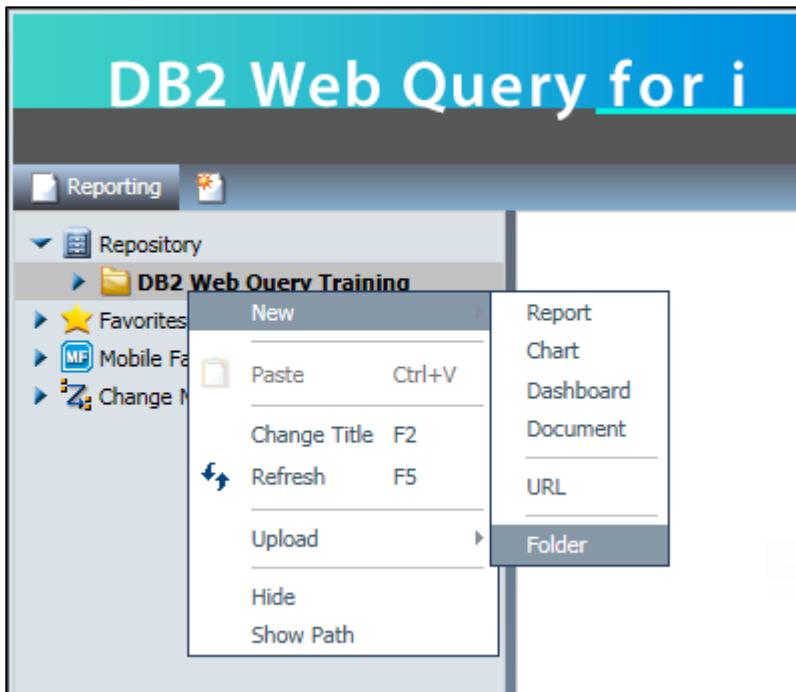
Go to <http://your.system.name:12331/webquery>

Sign on using your IBM i userid and password

Your IBM i user profile has already been registered as a licensed Db2 Web Query user and has development access to the top-level folder named Common (hidden) and Db2 Web Query Training.



Right-click on the **Db2 Web Query Training** top level folder and select **New→Folder**.

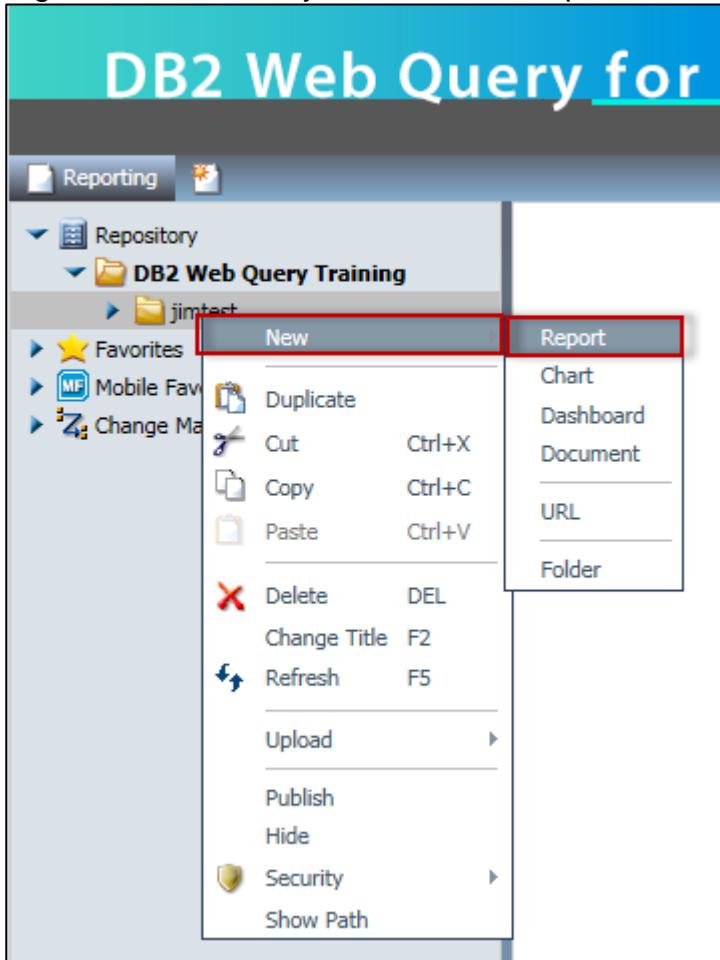


Name the new folder using your name or initials. This is where you will store your work.



### 1.1.2 How to Start InfoAssist

1. Right-click the folder you created in the previous step and select **New→Report**



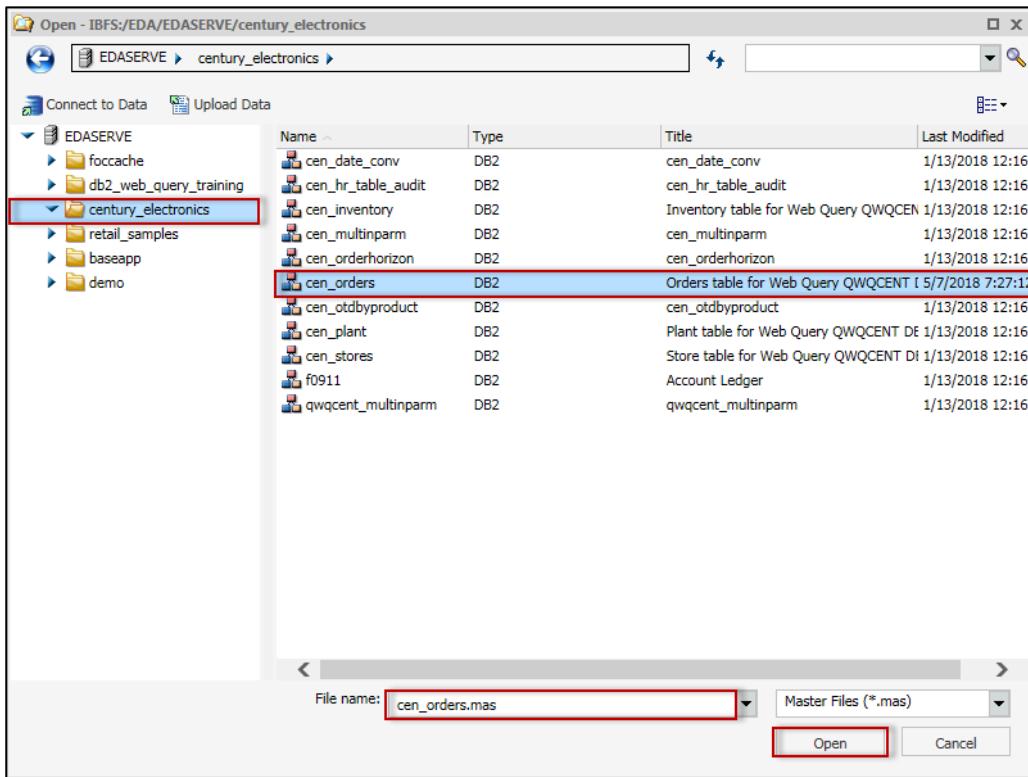
In the next window you'll see a list of application folders that contain the **Century Electronics synonyms**.

**Synonym** is the term that Db2 Web Query uses to describe the files, tables, views, etc. that have been made available for building reports or charts.

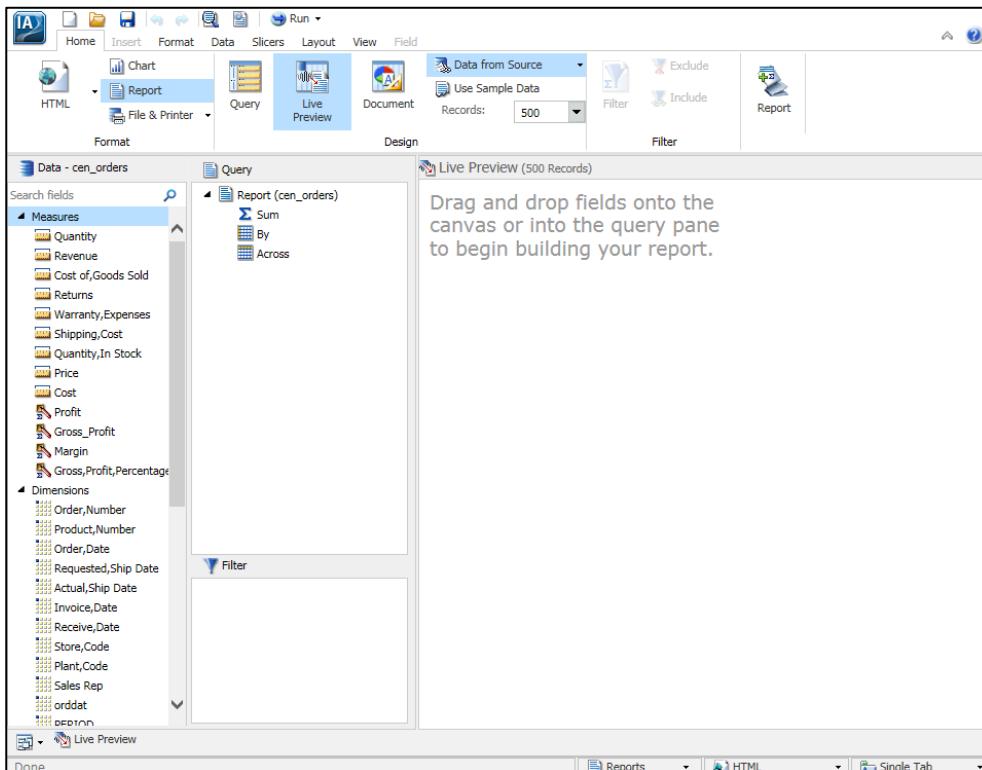
In Db2 Web Query, you will build your reports using these synonyms.

2. Open up the **century\_electronics** application folder by double clicking on it.

3. The synonym we want to use for this new report is **CEN\_ORDERS**. Select **CEN\_ORDERS** synonym from the list of synonyms and click **Open**.



4. The InfoAssist+ report editor is opened in the browser. You can now begin building your new report.



### 1.1.3 Setting your User Options

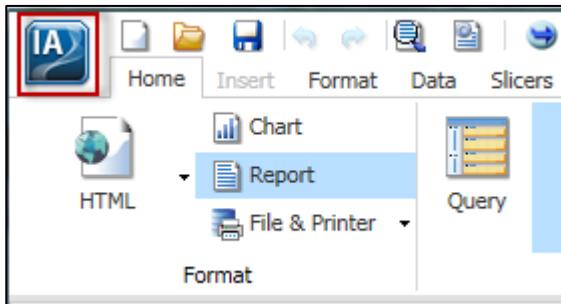
The **User Options panel** allows you to set defaults for your InfoAssist+ environment. For example, you might wish to change the default **Data Panel View** from **Logical** to **List**, reduce the number of rows being sampled for **Live Preview** from 500 to 50, or change the default output type of a new report from **HTML** to **Active Report**.

You can also change these settings within the InfoAssist+ editor session, but the scope of the change will apply only to the particular report being edited.

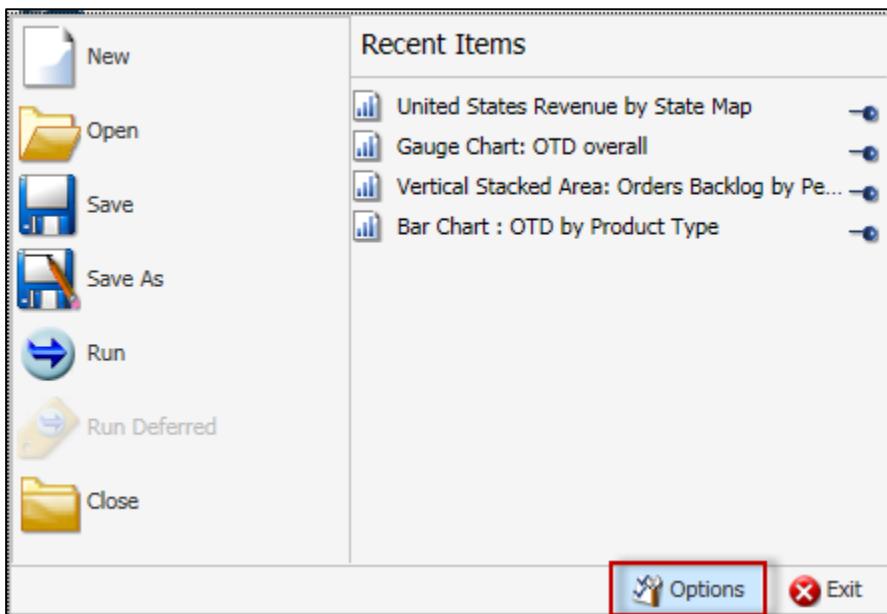
When you change the defaults using the **User Options panel**, the selected defaults are in effect for all new edit sessions.

Let's take a look at how you can change the default User Options.

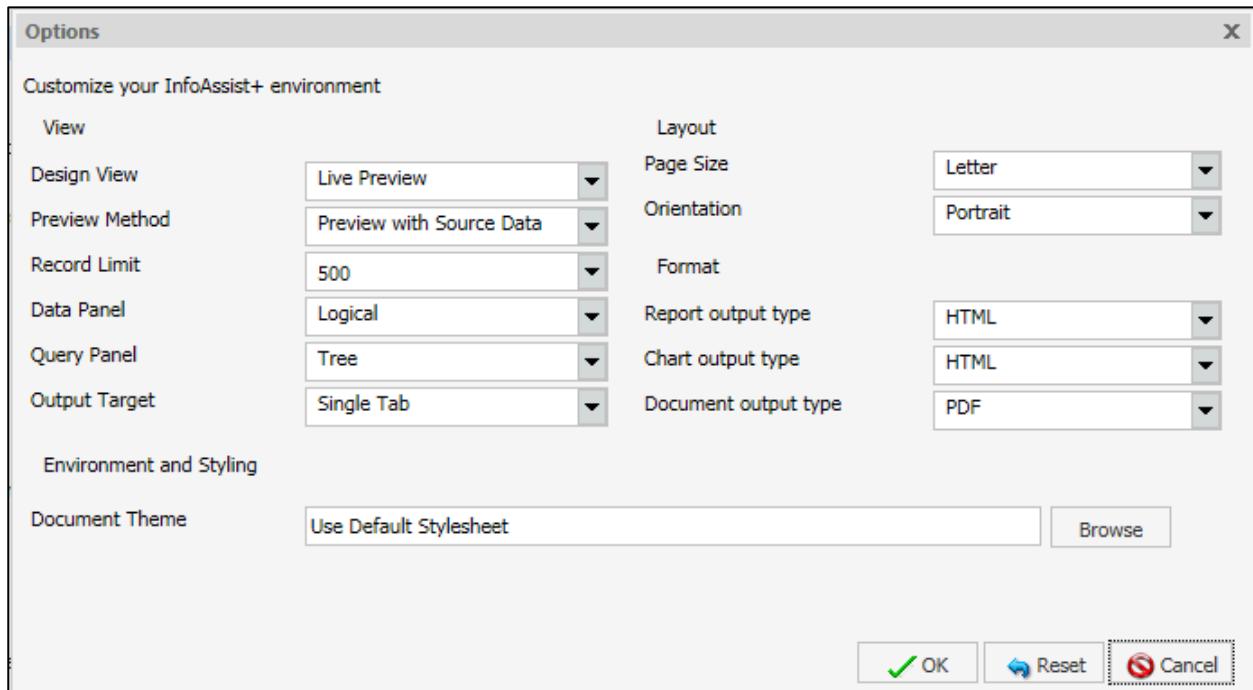
1. Click on the **Main Menu** icon  located in the upper left corner of the InfoAssist+ editor panel.



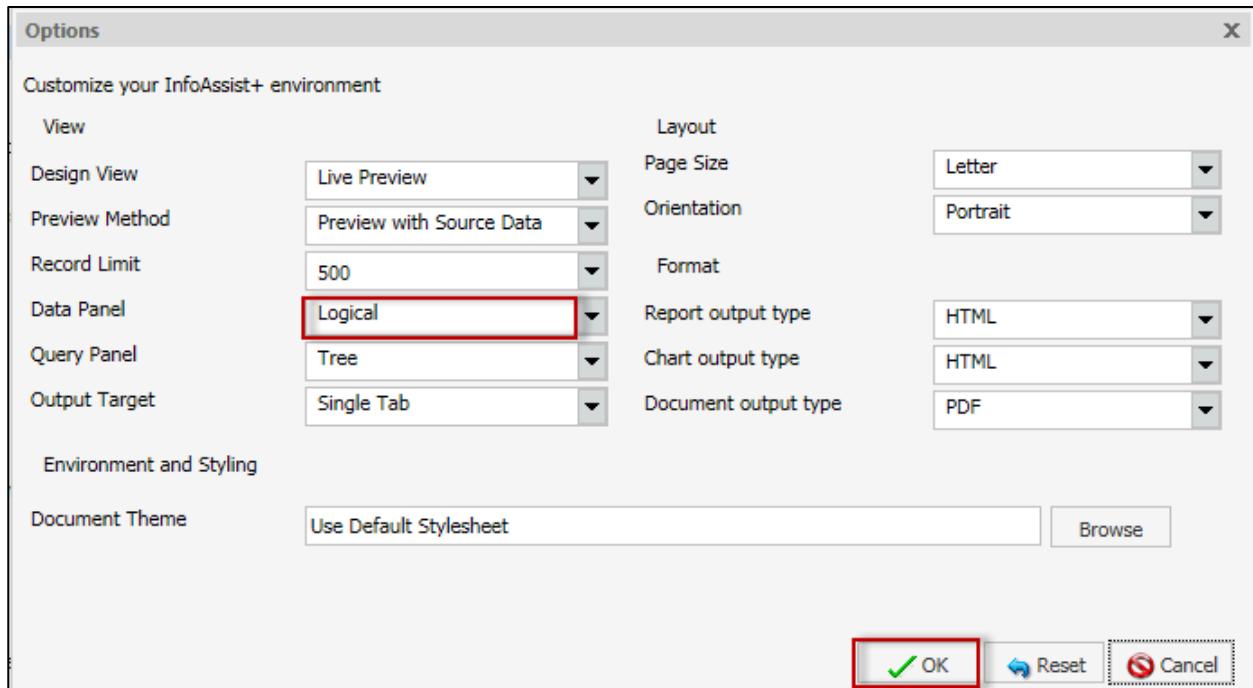
In the **Main Menu** panel that is displayed, click on the **Options** button located in the lower right corner.



The **Options panel** is displayed. The values on this panel can be modified to reflect your user preferences.



On the Data Panel option, if not already selected, choose **Logical** view, and click **OK**.

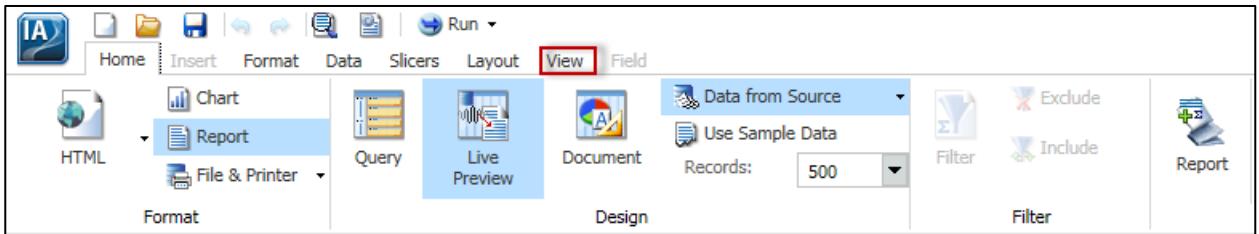


Again, changing the user options lets you set the defaults for your InfoAssist+ environment. You can always change these settings within your InfoAssist+ editor session, but then the scope is just for that particular report.

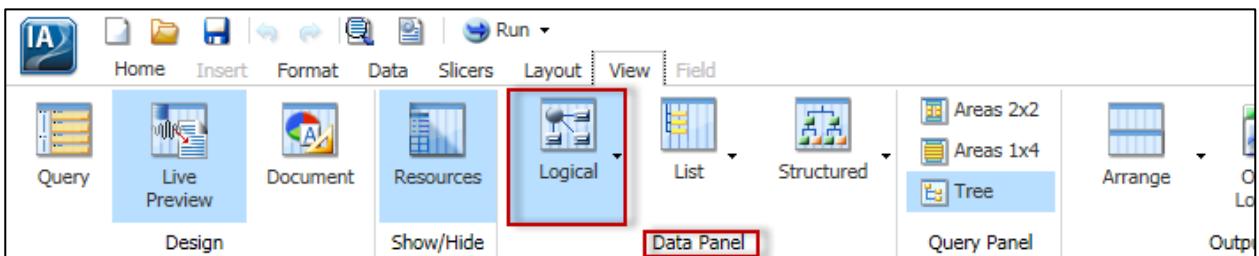
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Let's take a look at how we can change the Data Panel option for just the current InfoAssist+ session.

Click on the **View** tab within InfoAssist:

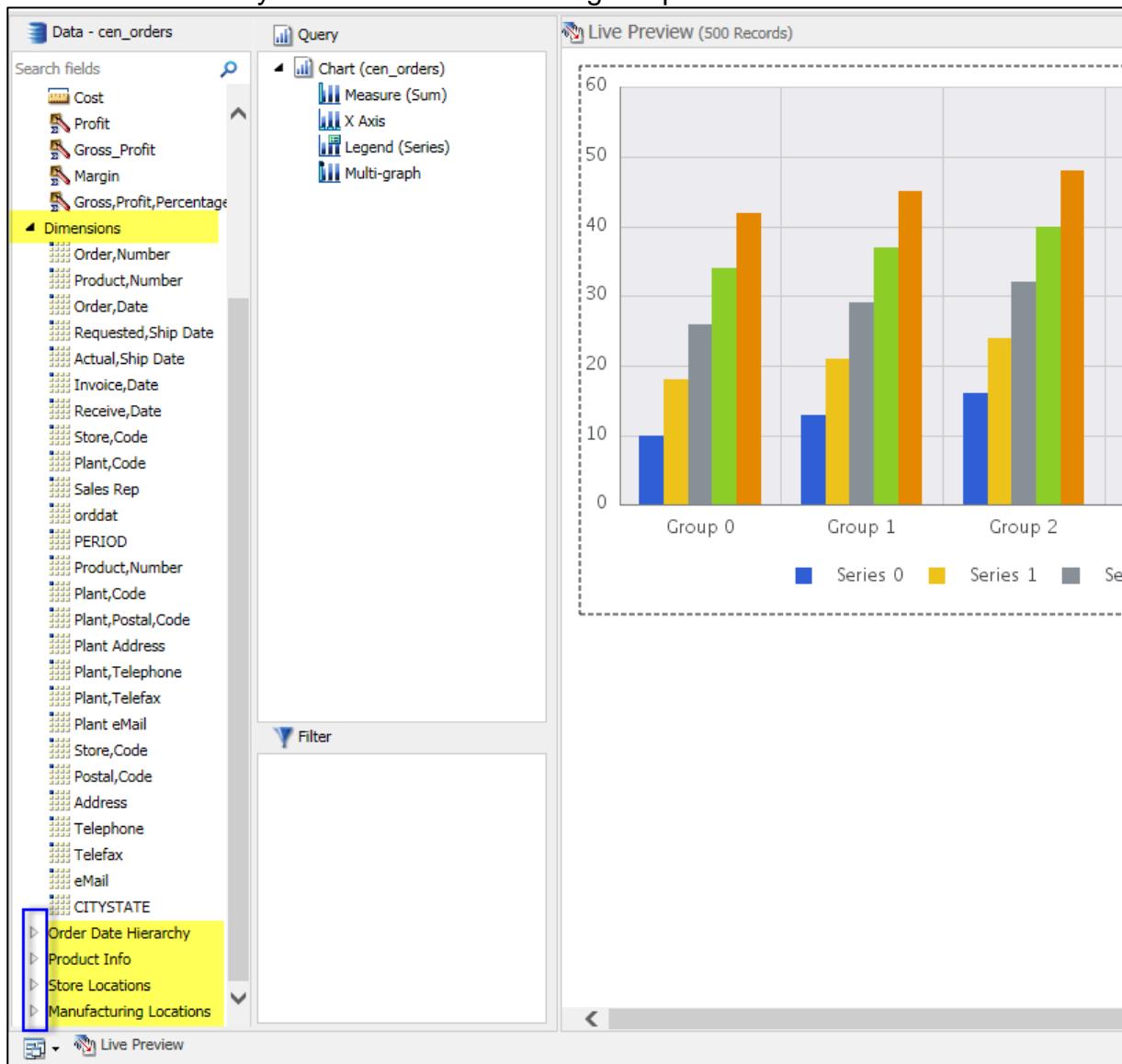


If necessary, expand the **Data Panel** section, and confirm that the **Logical** button icon is selected:



Note that the background of the selected button (**Logical** button, in this case) is highlighted to indicate that it is the currently enabled option. Also note that background colors may be different when using different browsers.

If you scroll up and down in the **Data panel** on the left-hand side, you'll see the columns/fields that you can use when building a report.



Several of the columns are placed inside a dimensional structure. These are marked by the ▶ and ▲ icons in the **Data Panel** tree.

You can expand and collapse the dimension columns using these icons. You can also scroll up and down through the **Data Panel**.

**Note:** As you work through the exercises, you may encounter instructions that ask you to select a column/field that you do not see it in the **Data Panel**. Be sure to use the expand buttons and/or scroll capabilities within the Data panel to look for it!

Continue to the next section to create your first report.

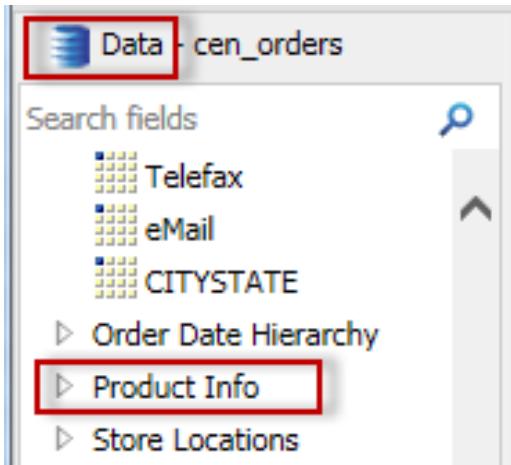
## 1.2 Creating a Summary Report (IA1\_Revenue)

The InfoAssist+ user interface is fairly intuitive. The tab-based *ribbon* style toolbar logically groups all functions and makes it easy to find the options you need.

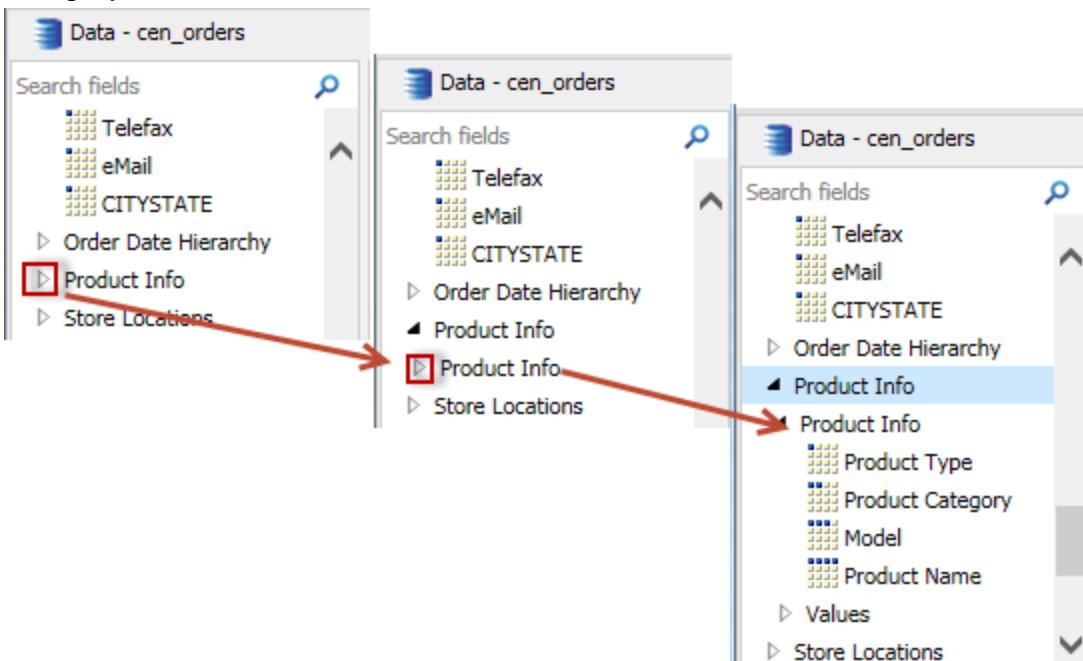
InfoAssist+ has built-in intelligence throughout its interface. Toolbars collapse and expand to fit the screen. The ribbon updates as you click in different areas of a report. Data fields are logically categorized as dimensions and measures. You will see this in action as you work through the exercises.

### 1.2.1 How to Create an Initial Report

Scroll down in the **Data panel** to the **Product Info** section



Expand the Product Info dimension so that you can see Product Type, Product Category, Model and Product Name.



There are three ways that you can add a new field to your report:

1. Double click on the field name in the **Data Panel**
2. Drag the field from the **Data Panel** to the **Live Preview panel**
3. Drag the field from the **Data Panel** to the **Query panel**

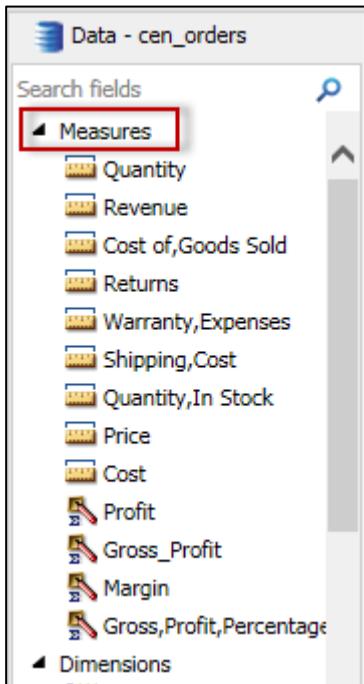
Click on **Product Type** in the **Data panel** and drag-and-drop it to the **by** section of the **Query panel**.

The screenshot shows the Cognos Report Studio interface. On the left, the **Data - cen\_orders** panel lists fields such as Plant eMail, Store,Code, Postal,Code, Address, Telephone, Telefax, eMail, CITYSTATE, Order Date Hierarchy, Product Info, Product Info, Product Type, Product Category, Model, Product Name, Values, and Store Locations. The **Product Type** field is highlighted with a red box. On the right, the **Query** panel shows a report structure with a 'Report (cen\_orders)' node. Under it are 'Sum', 'By', and 'Across' options. The 'By' section is also highlighted with a red box. A red arrow points from the highlighted **Product Type** in the Data panel to the **By** section in the Query panel.

#### Query panel - By section:

- When the **Query panel** is set to **Sum**, the report output will be grouped and ordered by the column(s) placed in the **By** section of the **Query panel**.
- When the **Query panel** is set to **Print**, the report output is only ordered by the column(s) selected.

Scroll up in the **Data panel** until you see the **Measures** heading at the top of the list.

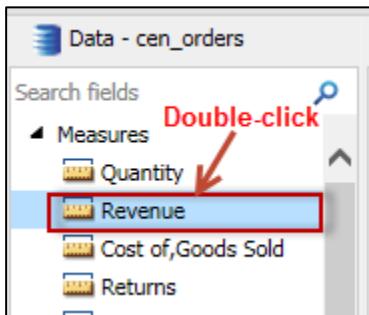


The screenshot shows the 'Data - cen\_orders' panel. At the top, there is a 'Search fields' bar with a magnifying glass icon. Below it, a list of fields is organized into sections: 'Measures' (which is highlighted with a red box) and 'Dimensions'. The 'Measures' section contains the following items: Quantity, Revenue, Cost of, Goods Sold, Returns, Warranty, Expenses, Shipping, Cost, Quantity, In Stock, Price, Cost, Profit, Gross\_Profit, Margin, and Gross\_Profit, Percentage. Each item has a small icon to its left.

Logical view:

When using the **Logical view**, all numeric fields are grouped together under **Measures**

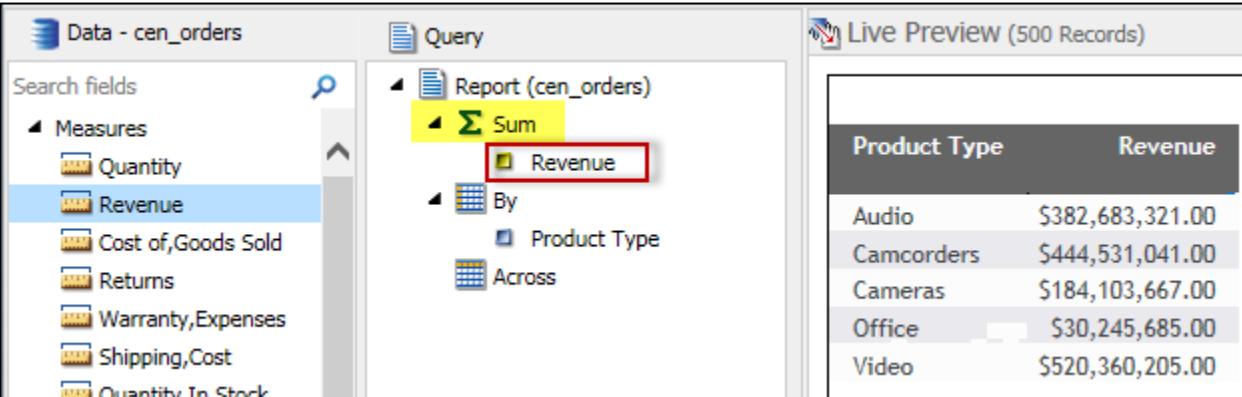
Using the **Data panel**, double-click **Revenue** to add it to your report.



This screenshot is similar to the one above, showing the 'Data - cen\_orders' panel. The 'Measures' section is highlighted with a red box. A red arrow points from the text 'Double-click' to the 'Revenue' item, which is also highlighted with a red box. The other items in the 'Measures' section are: Quantity, Cost of, Goods Sold, Returns, and others.

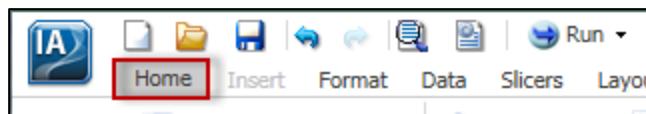
Because the value that was double-clicked (**Revenue**) is a **Measure**, Db2 Web Query will automatically place it into the **Sum** section of the report. Db2 Web Query assumes that any **Measures** double-clicked for use in a report are intended to be summed. While this is the desired use of **Revenue** for this report, summarization of all **Measures** is not always the desired or intended action.

NOTE: If you dragged that field over into the Query panel, and dropped it in the wrong spot, you can always click, hold, and drag it into your intended location. But be aware – if you drag it OVER another field, it will REPLACE that field in the query panel (you get dotted lines hovering over the field to be replaced in that instance)!

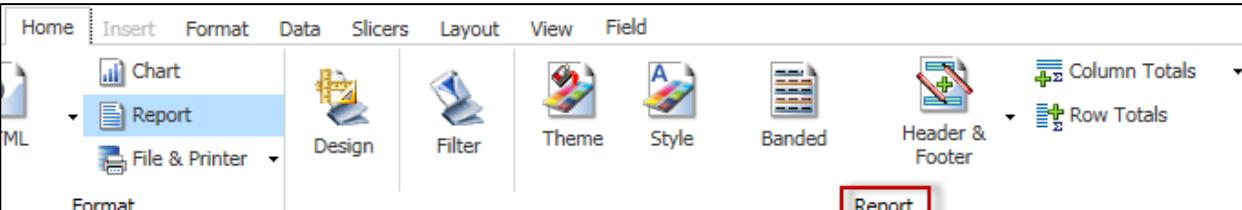
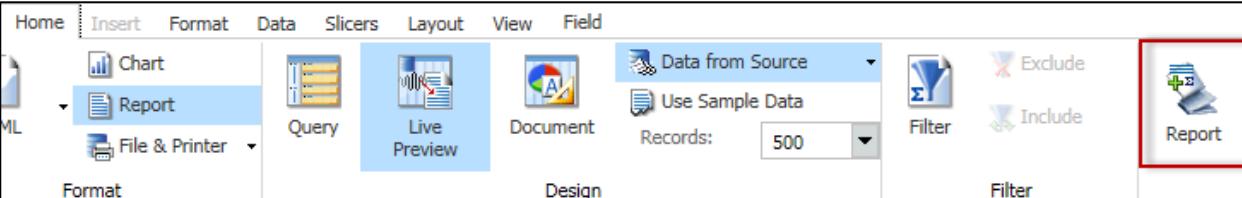


Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00

Next, let's add grand totals for **Revenue** to our report. Click on the **Home** tab.

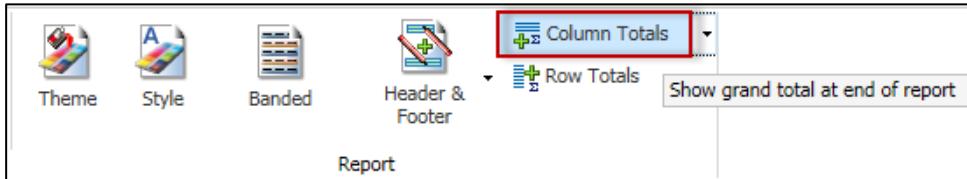


If the **Report** group is not already expanded, click the **Report** icon on the ribbon to expand it and see the **Report** options available.



This is an example showing how the toolbar will collapse or expand based on the width of the screen. After you have opened some of the tabs, such as **Report**, if you then narrow the width of your screen the system will automatically condense some of the tabs on the ribbon so that the ribbon will fit.

8. Click **Column Totals** in the expanded Report ribbon.

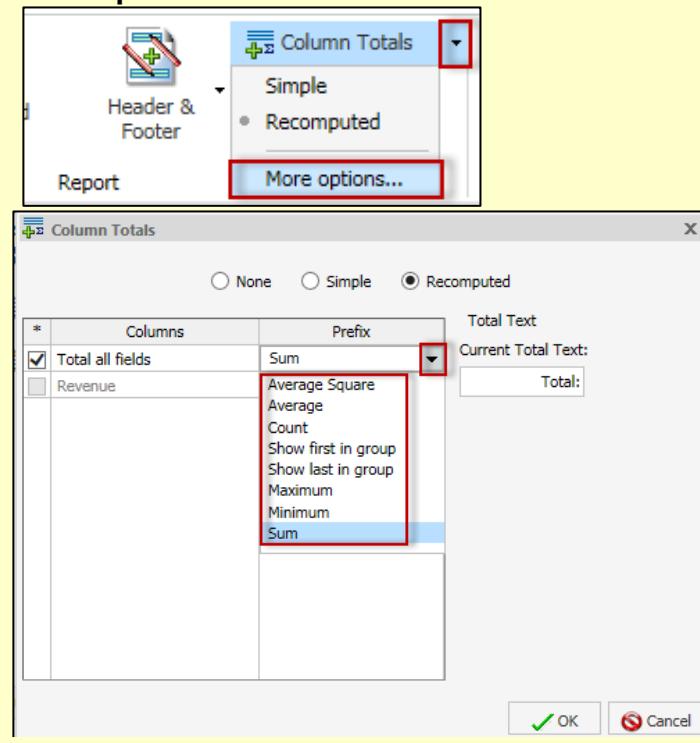


9. Selecting **Column Totals** adds a grand total row to the bottom of the report for all numeric data columns.

Live Preview (500 Records)	
Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>

## Column Totals

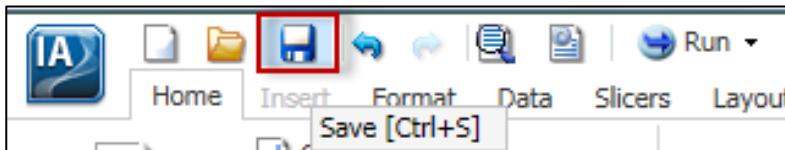
The columns and their TOTAL row calculation (Sum, Avg, etc.) can also be customized by clicking on the down-arrow icon for **Column Totals** and selecting **More options...**



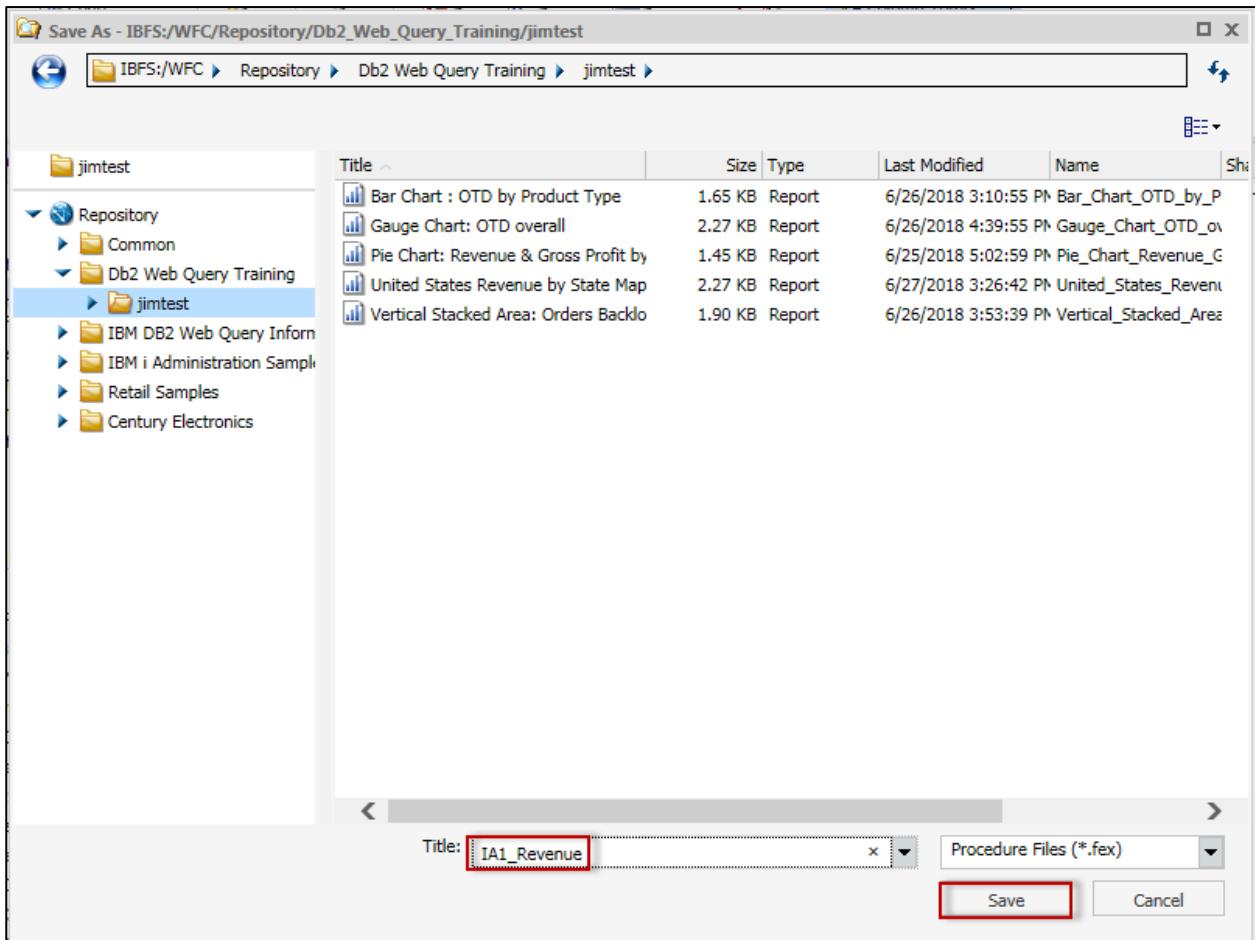
Selecting **Row Totals** would add a grand total column to the right side of the report containing the sum of all the numeric data for each row in the report.

## 1.2.2 How to Save your report

Next, we want to save our report. Click the **Save**  icon at the top of the window

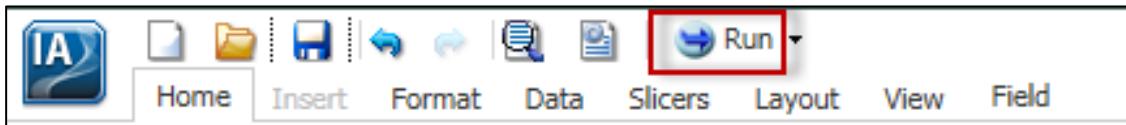


Name the report **IA1\_Revenue** and click **Save**.

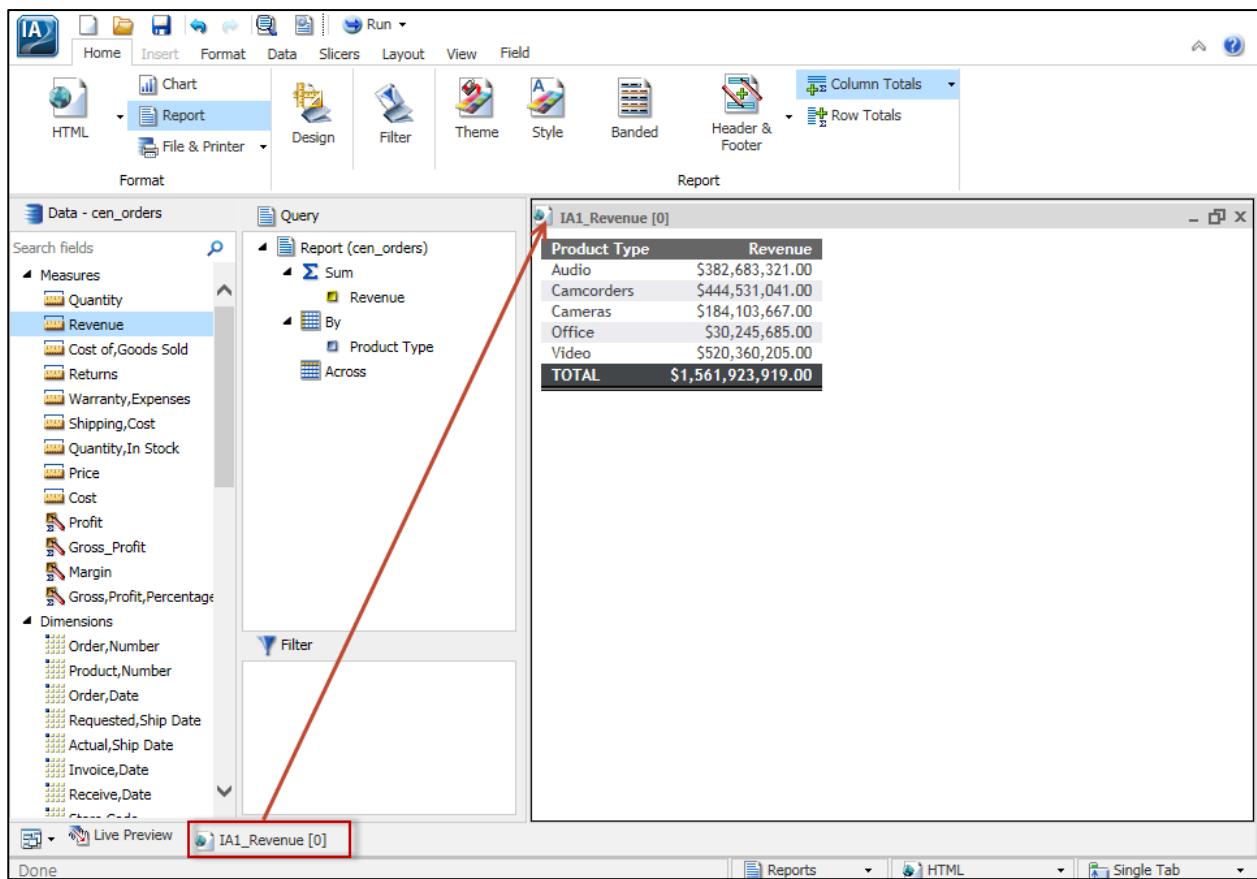


### 1.2.3 How to Run your report

To run a report that is open in InfoAssist+, click the **Run**  button.



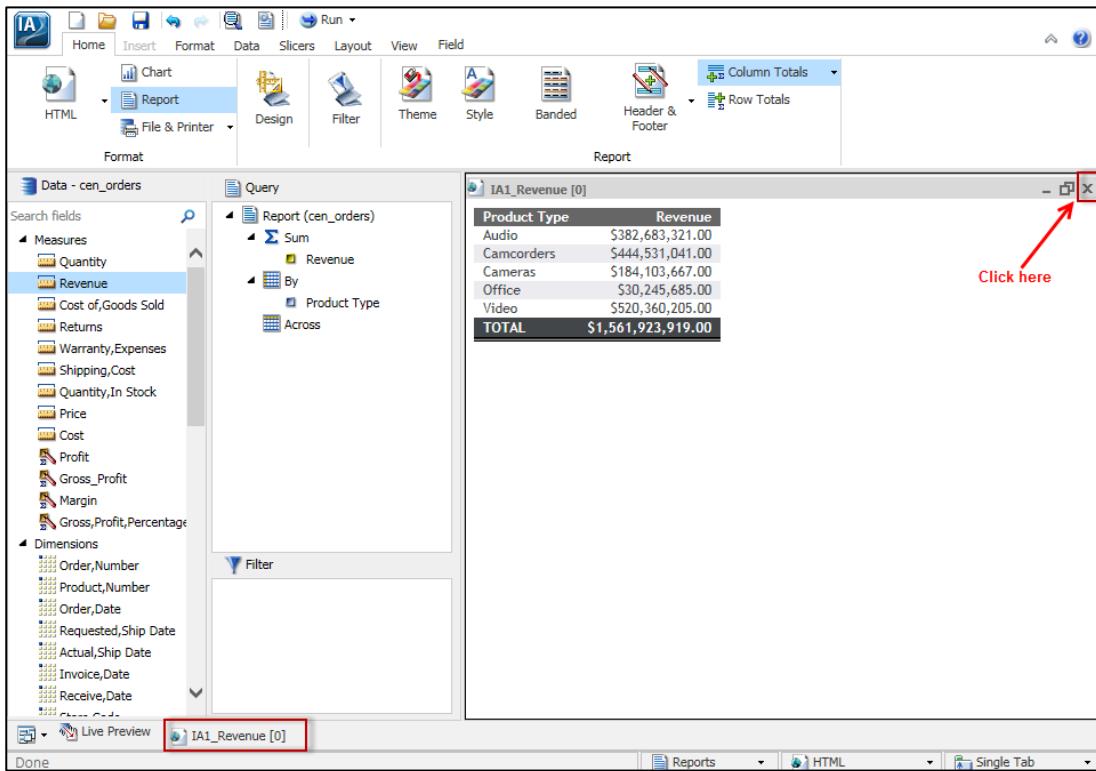
Notice the new tab at the bottom of your screen labeled **IA1\_Revenue(0)**. This tab is called the **Results View** and displays the report's full run results. The **Results View** report looks the same as the **Live Preview** report except that the numbers shown are different. This is because the **Results View** contains the results using **all of your data** instead of only the sample of the first 500 rows of data shown in the **Live Preview** window.



Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>

You can switch between the **Live Preview** and the **Results View** by selecting the appropriate tab at the bottom of the panel.

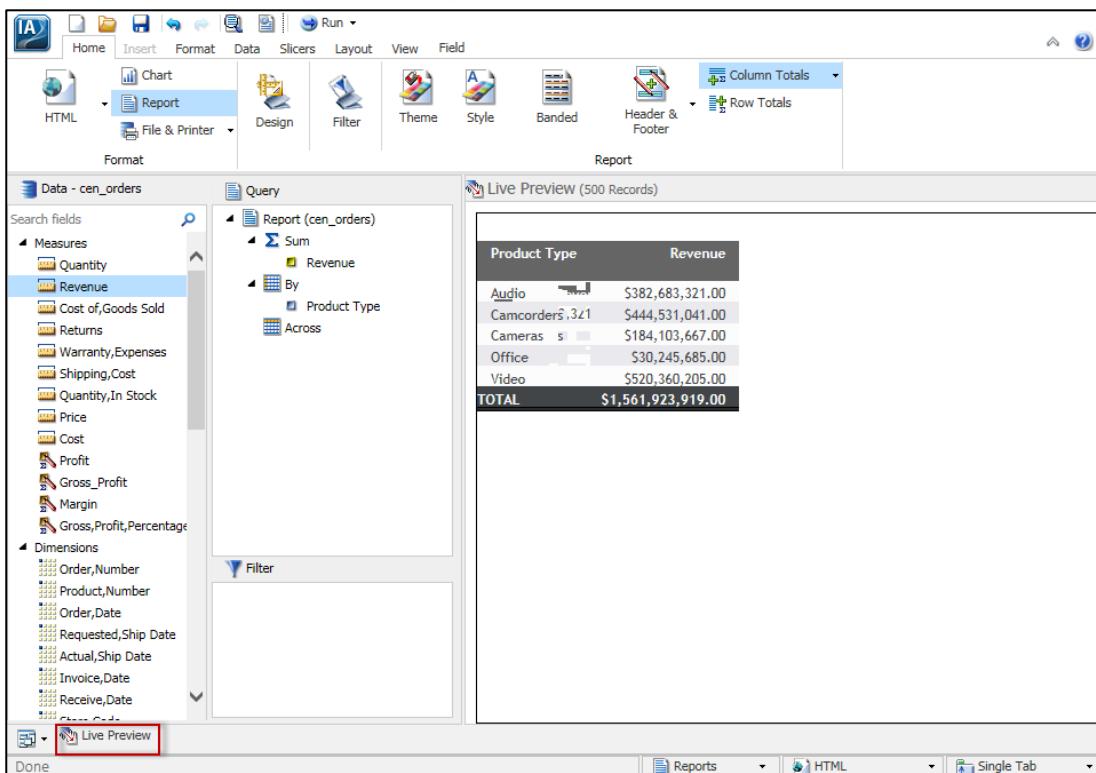
With the **IA1\_Revenue(0)** Results View window selected, close the results panel by clicking on the **x** icon in the upper right-hand corner of the **Results View** window.



The screenshot shows the IBM Cognos BI interface with the 'IA1\_Revenue [0]' Results View window selected. The window displays a table of product types and their revenue. A red arrow points to the close (X) button in the top right corner of the results panel. The 'Live Preview' tab is highlighted at the bottom.

Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>

The **Live Preview** window is again displayed and is now the only open window.



The screenshot shows the IBM Cognos BI interface with the 'Live Preview (500 Records)' window displayed. The window displays a table of product types and their revenue. The 'Live Preview' tab is highlighted at the bottom.

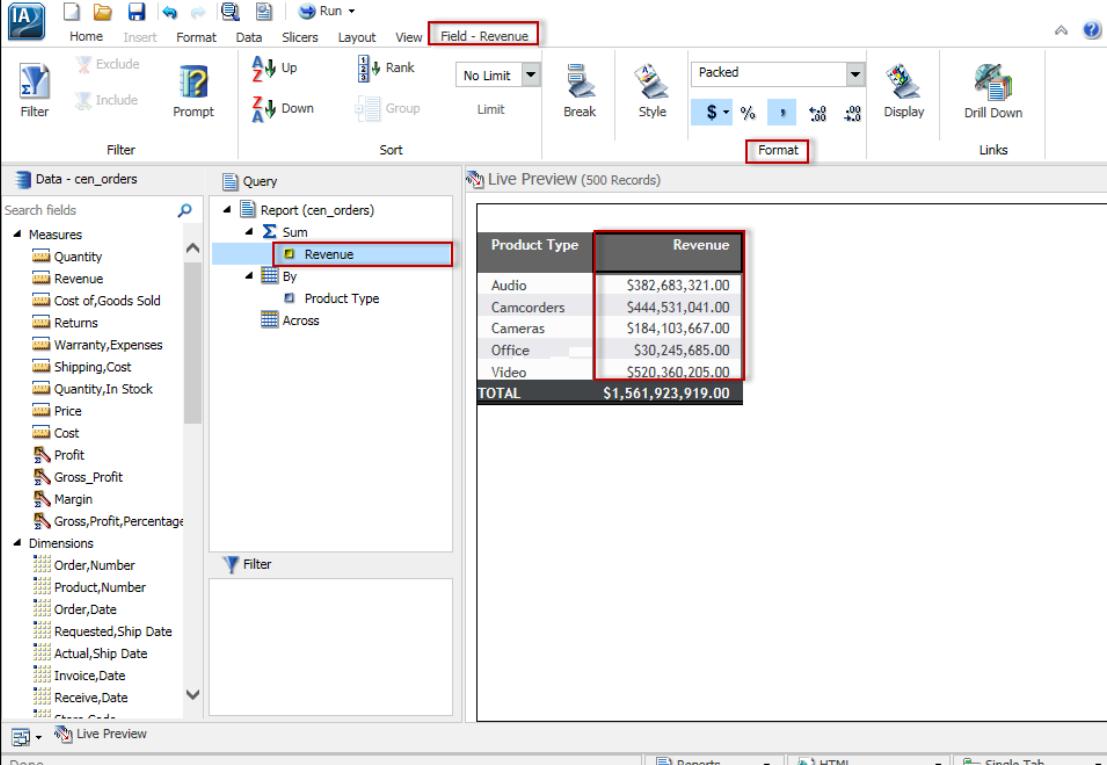
Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>

## 1.2.4 How to Format a Column

To change the format of the **Revenue** column, click the **Revenue** field in the **Query panel**.

This opens the **Field tab** for the **Revenue** column. Note that the tab is labeled **Field – Revenue**.

When you select the **Revenue** field, the ribbon becomes field specific. Some of the groupings may already be expanded depending on the width of your screen. In this screen shot, the **Format section** is already expanded. Depending on the size of your browser window and the resolution of your screen, you may need to click on the **Format** button to expand the **Format section**.



The screenshot shows the Db2 Web Query interface. The ribbon is set to the 'Field - Revenue' tab. The 'Format' section is expanded, showing options for Packed, \$, %, and currency symbols. The 'Live Preview' pane shows a table of product types and their revenue, with the 'Revenue' column highlighted.

Product Type	Revenue
Audio	\$382,683,321.00
Camcorders	\$444,531,041.00
Cameras	\$184,103,667.00
Office	\$30,245,685.00
Video	\$520,360,205.00
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>

The **Field tab** is where you **COULD** set formatting attributes of the **Revenue** field. For instance, you could add a \$ sign and insert commas as the thousand's separator.

However, Db2 Web Query allows you to do this formatting of a field within the synonym, which is what we have done for our example. This lab doesn't cover working with synonyms, but the point is that one could edit the **Revenue** column format in the synonym so that every time **Revenue** is used in a report it already has the desired default format and characteristics. Setting the format in the synonym saves time vs. having to add these format changes in each and every report.

We won't change the format in this report, and we'll leave the meta data format change up to the meta data administrator. Let's continue on.

## 1.2.5 How to Create a Detail Listing

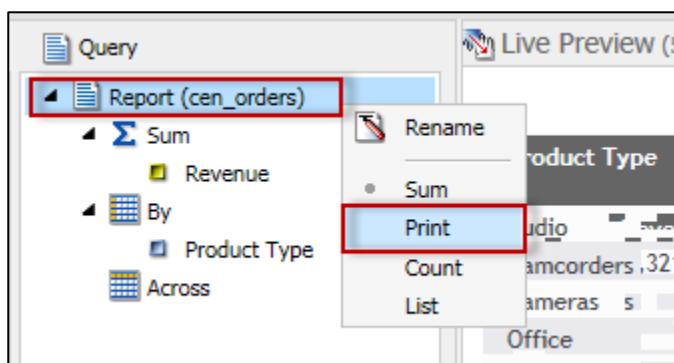
In this section, you will look at the difference between the **Sum** and **Print** options in the **Query panel**.

The **Sum** option is the default and was used to produce our initial summary report. That report was aggregated or summed on the **PRODUCTTYPE** field.

The **Print** option turns off aggregation and produces a detail listing. Each row read from the data file is printed on the report.

Right-click Report (cen\_orders) in the Query panel.

Select **Print**.



The **Print** option creates a detailed report that includes one row for each selected record. The **Sum** option consolidates your records, summing or aggregating numeric fields by your sort column(s).

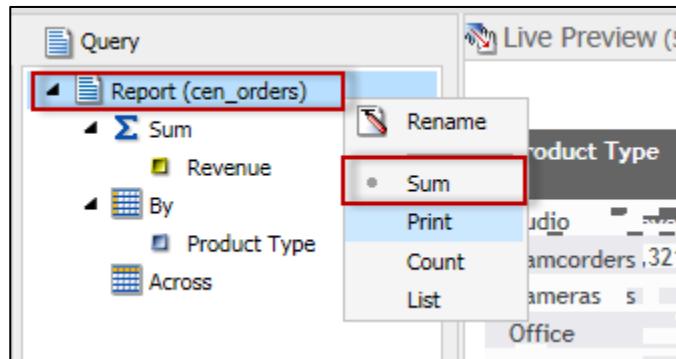
The screenshot shows the 'Query' panel on the left with the 'Print' option selected (highlighted with a red box). The 'Live Preview' window on the right shows a table with two columns: 'Product Type' and 'Revenue'. The 'Revenue' column for the 'Audio' row is highlighted with a red box. The table data is as follows:

Product Type	Revenue
Audio	\$5,187.00
	\$399.00
	\$5,187.00
	\$36,708.00
	\$399.00
	\$399.00
	\$399.00
	\$5,187.00
	\$116,508.00
	\$28,728.00
	\$399.00
	\$419,820.00

Notice that instead of one total record for **Audio** products, the **Print** option displays one line for every individual record in the **Order Detail file**.

For the remainder of this lab, you will be creating summary reports so we will return the report to the **Sum** option.

Return to the summary report by right-clicking **Report (cen\_orders)** and selecting **Sum**.



### 1.2.7 How to Use Aggregation Functions

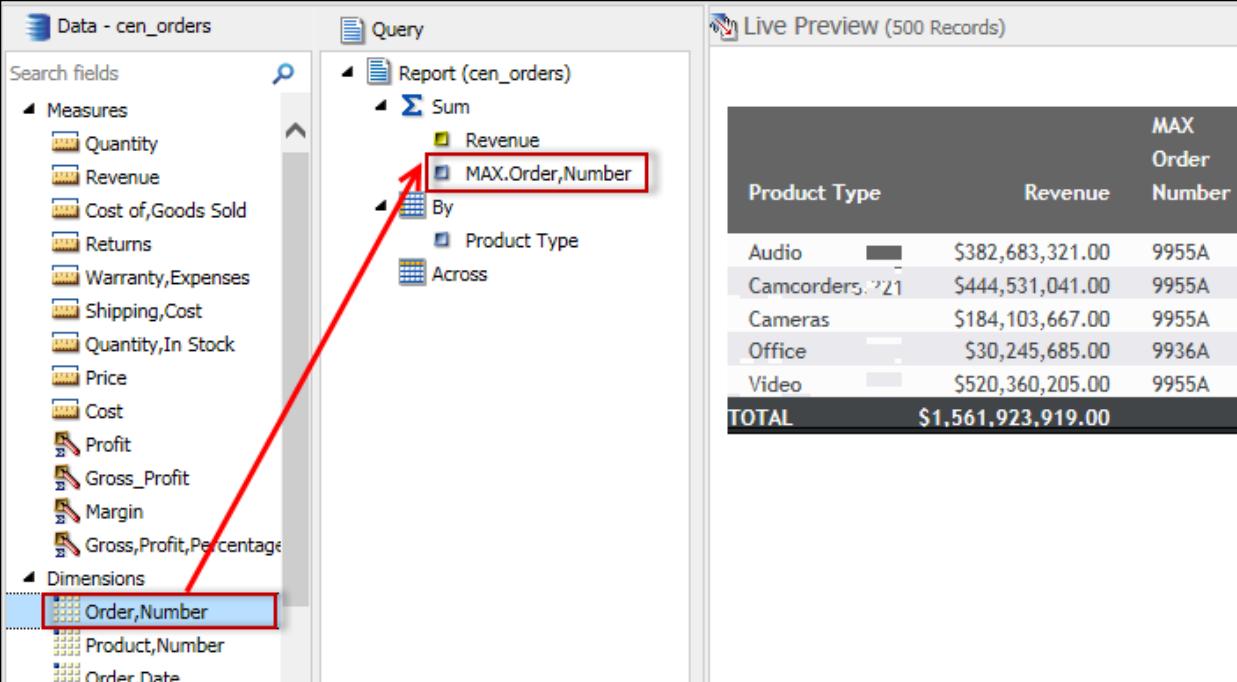
In this section, you will use the aggregation functions to add a count of the number of orders for each product type to your report.

Locate **Order Number** in the **Data panel** and select it with a left-mouse click.

Drag and drop **Order Number** to the **Sum** section of the **Query panel** – placing it just below **Revenue**.

Note that when you do this, the **MAX.** function is automatically added to the **Order Number** column because you are adding a non-numeric column (**Order Number**) to the **Sum** section – and non-numeric columns cannot be summed.

And again, you could instead drag **Order Number** directly onto the **Live Preview** report or double-click **Order Number** to add it to the report.

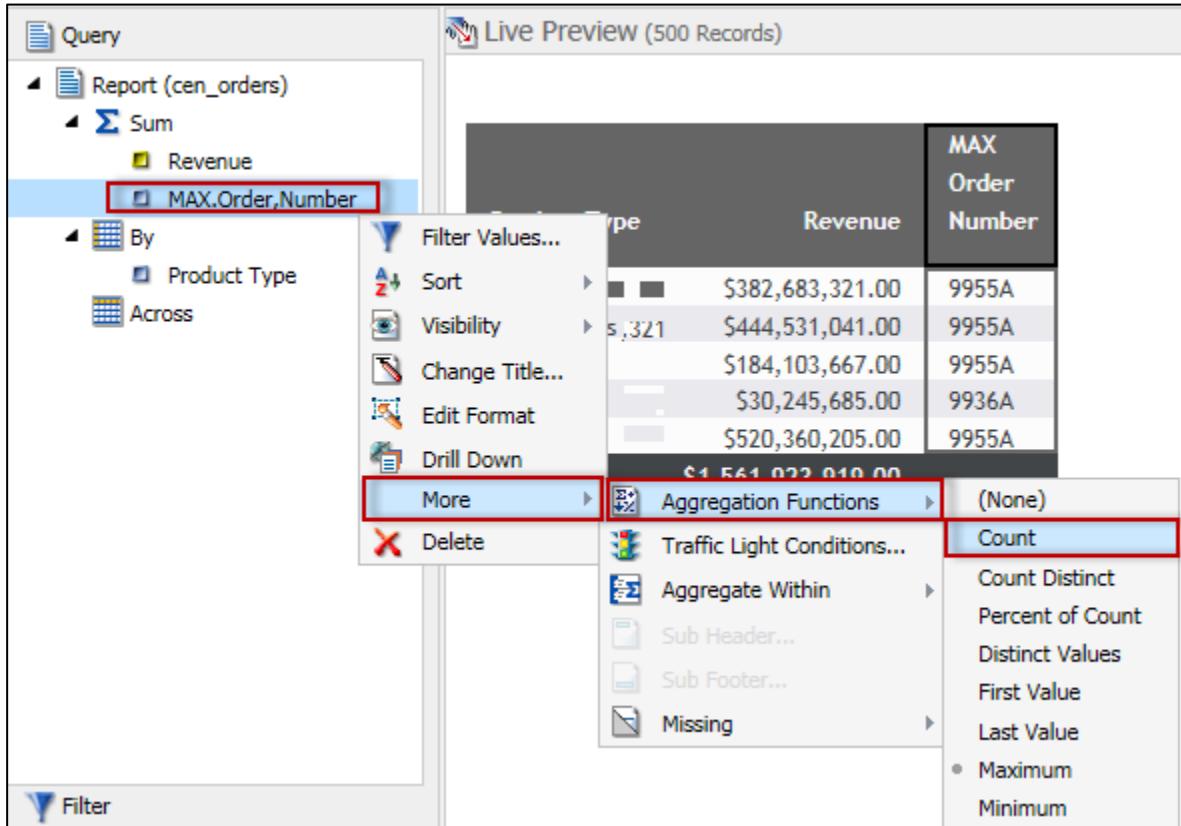


The screenshot shows the Data, Query, and Live Preview panels. In the Data panel, 'Order,Number' is selected. In the Query panel, a report structure is shown with a Sum node containing Revenue and MAX.Order,Number. In the Live Preview panel, a table is displayed with columns Product Type, Revenue, and MAX Order Number, showing data for various product categories.

Product Type	Revenue	MAX Order Number
Audio	\$382,683,321.00	9955A
Camcorders	\$444,531,041.00	9955A
Cameras	\$184,103,667.00	9955A
Office	\$30,245,685.00	9936A
Video	\$520,360,205.00	9955A
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	

We are interested in the **CNT.** (count) of **Order Number**, not its **MAX**. Right-click on **MAX.Order,Number** in the **Query panel** to open its field-specific submenu.

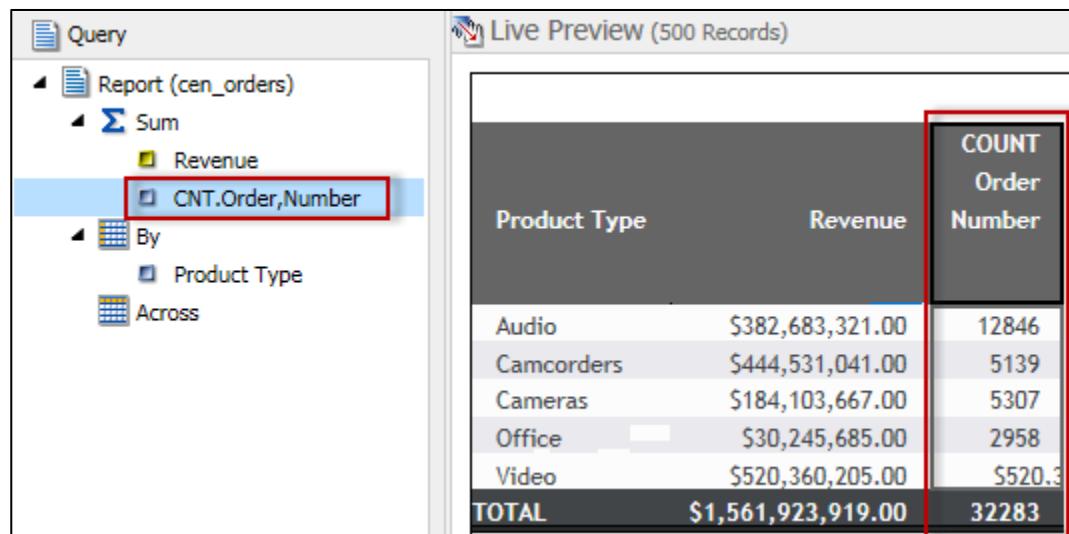
Select More, then Aggregation Functions and then Count.



The screenshot shows the Cognos Query Studio interface. On the left, the query tree shows a report for 'cen\_orders' with a sum node. Under the sum node, 'Revenue' is selected, and 'MAX.Order,Number' is highlighted with a red box. On the right, the 'Live Preview' shows a table with columns 'Product Type', 'Revenue', and 'MAX Order Number'. A context menu is open over the 'MAX Order Number' column, with 'More' selected. Under 'More', 'Aggregation Functions' is selected, and 'Count' is highlighted with a red box. The 'Live Preview' table data is as follows:

Product Type	Revenue	MAX Order Number
	\$382,683,321.00	9955A
	\$444,531,041.00	9955A
	\$184,103,667.00	9955A
	\$30,245,685.00	9936A
	\$520,360,205.00	9955A
	<b>\$1,561,923,919.00</b>	

The count of the Order Number (CNT.Order,Number) by Product Type is now displayed in the Live Preview.



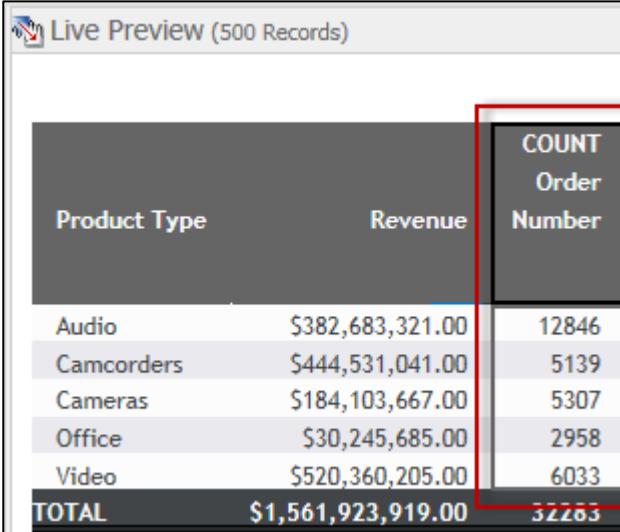
The screenshot shows the Cognos Query Studio interface. On the left, the query tree shows a report for 'cen\_orders' with a sum node. Under the sum node, 'Revenue' is selected, and 'CNT.Order,Number' is highlighted with a red box. On the right, the 'Live Preview' shows a table with columns 'Product Type', 'Revenue', and 'COUNT Order Number'. The 'COUNT Order Number' column is highlighted with a red box. The 'Live Preview' table data is as follows:

Product Type	Revenue	COUNT Order Number
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	55203
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

You decide that you now want to move the **Order Number** field before the **Revenue** field. This next section shows you how to reorder your fields if they aren't in the sequence you want.

Select the **Order Number** field in the Live Preview panel.

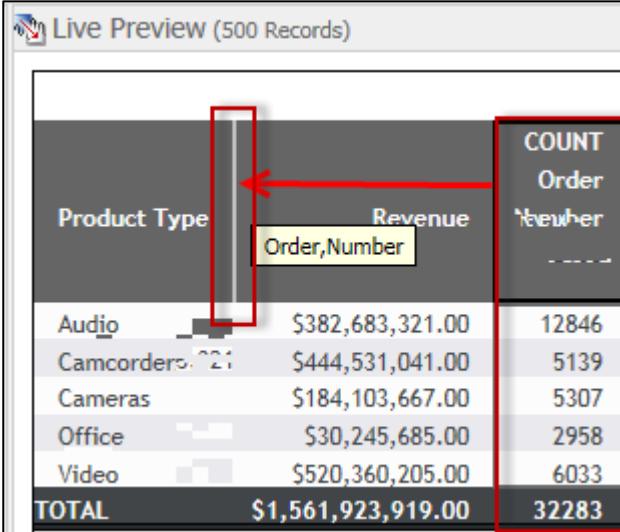
Notice that an outline is drawn around the field and its values.



Product Type	Revenue	COUNT Order Number
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

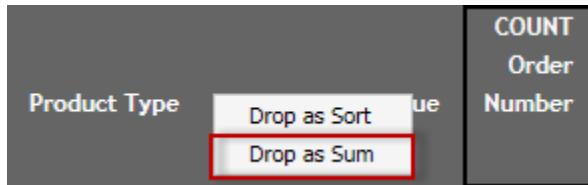
Drag the field to the left of the **Revenue** column.

A vertical bar will appear, indicating where the field will be positioned when you release the mouse button.



Product Type	Revenue	COUNT Order Number
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

Because you positioned the **COUNT Order Number** column between the **By** column **Product Type** and the **Sum** column **Revenue**, an additional menu appears. The options are **Drop as Sort** or **Drop as Sum**.



**Drop as Sort** places the selected column into the **By** section. **Drop as Sum** places the selected column into the **Sum** section.

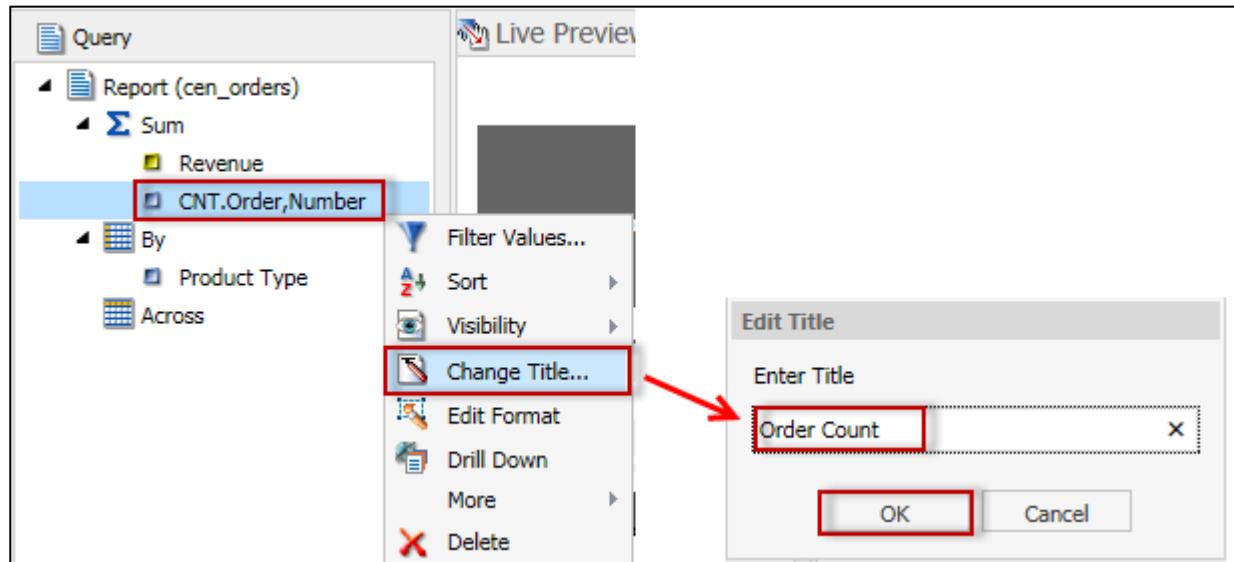
Select **Drop as Sum**.

#### Moving columns

You can also reposition the **Order Number** column by dragging **Order Number** above **Revenue** in the **Query** panel.

To create a new heading in the **Query** panel, right-click **Cnt.OrderNumber** to see the field specific submenu.

Select **Change Title...**, type the new title **Order Count**, then click **OK**.



Run  the report.

IA1_Revenue [0]		
Product Type	Revenue	Order Count
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

You have completed your initial summary report. You will return to this report later.

**Close the IA1\_Revenue(0) run window and return to the **Live Preview** window.**



Click here

IA1_Revenue [0]		
Product Type	Revenue	Order Count
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

Save  your report.

We will continue to use this report as the basis for our next report.

### 1.2.8 How to Use Auto Drill & Analysis

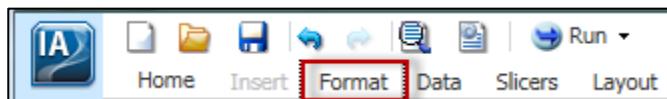
Online analytical processing (OLAP) is best known as the technology that allows a user to *slice and dice* data or drill down into data. Db2 Web Query makes it easy to provide users with a sophisticated drill-down, slice and dice interface.

In order to enable this feature, you must ensure a global setting has been turned on. Its possible that you did this step previously, but to do this, sign on as a Db2 Web Query administrator.

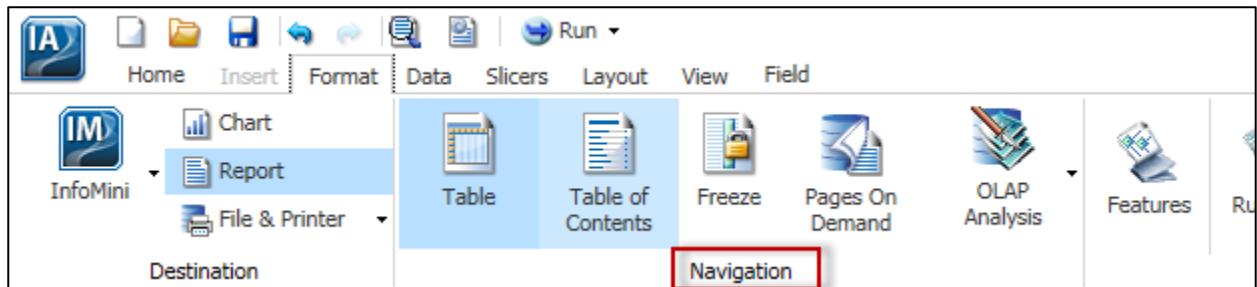
Navigate to the Administrator functions in the upper right-hand corner and select “Administration Console.” A new window should open. Look for OTHER in the left-hand panel and select that. Check the OLAP option if not already checked, and then hit save. Then click Clear Cache at the top of the Admin Console. Sign out and sign back in again.

This is just a brief taste of the powerful OLAP functions. Please see the Db2 Web Query Redbook tutorials for a more comprehensive OLAP tutorial.

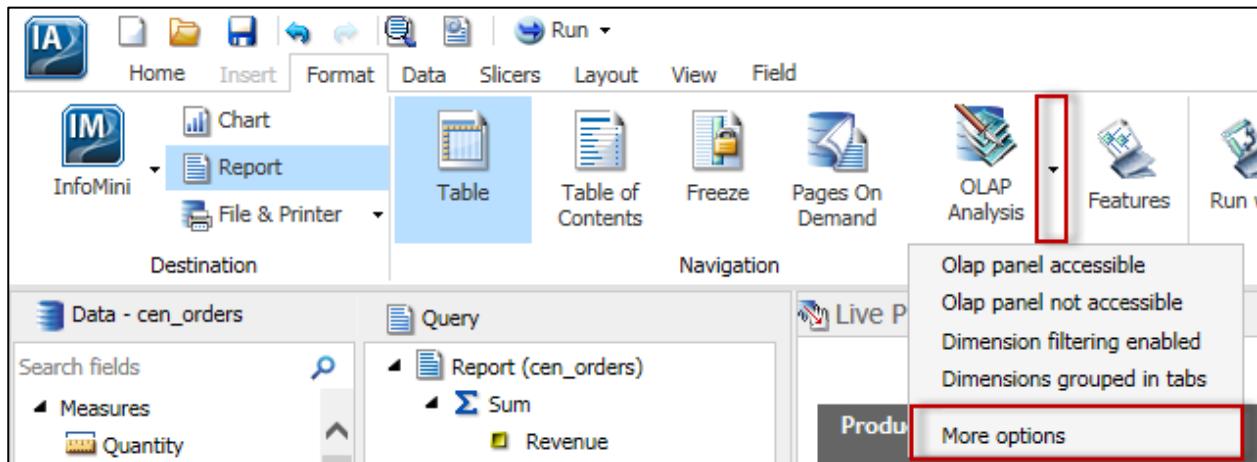
Select the **Format** tab



Expand the **Navigation** group if it is compressed.

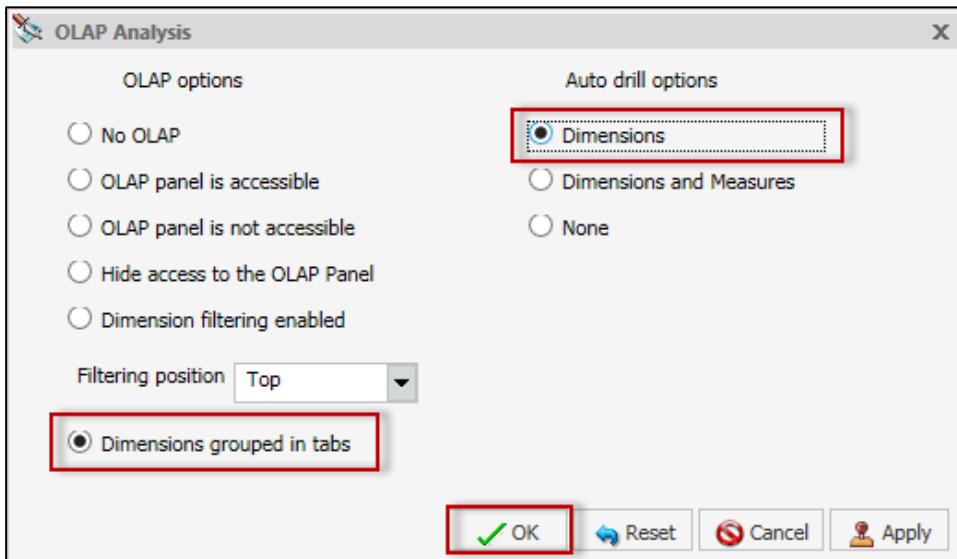


Click the down arrow on the right-hand side of the **Auto Drill & Analysis** button. Select **More options** in the drop-down.





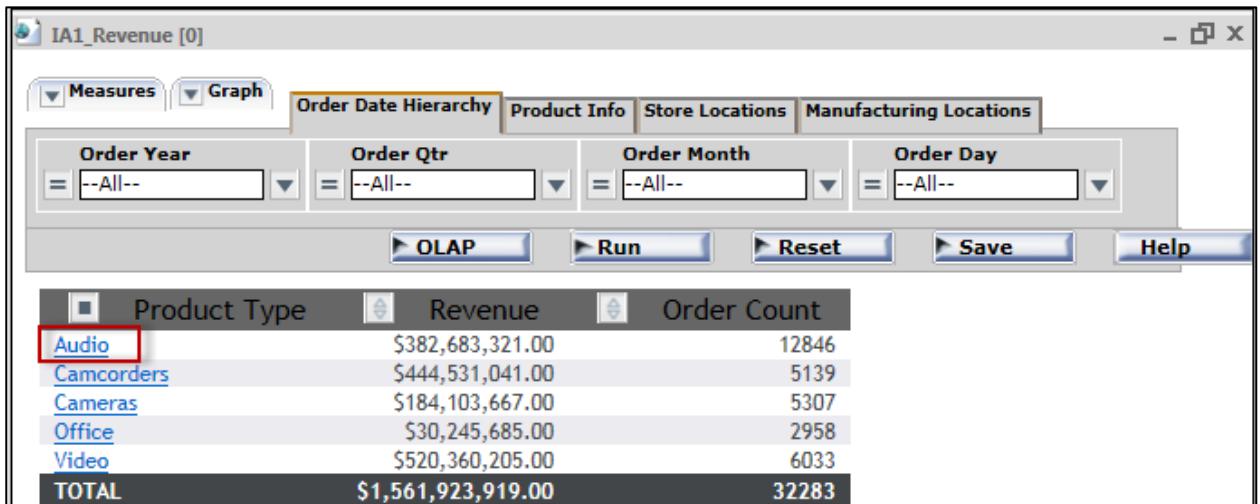
In the Auto Drill and & Analysis panel, select **Dimensions grouped in tabs** under **OLAP options**, and **Dimensions** under the **Auto drill options**. Click **OK**.



Run your report. Note: We will not be saving this OLAP version of our report.

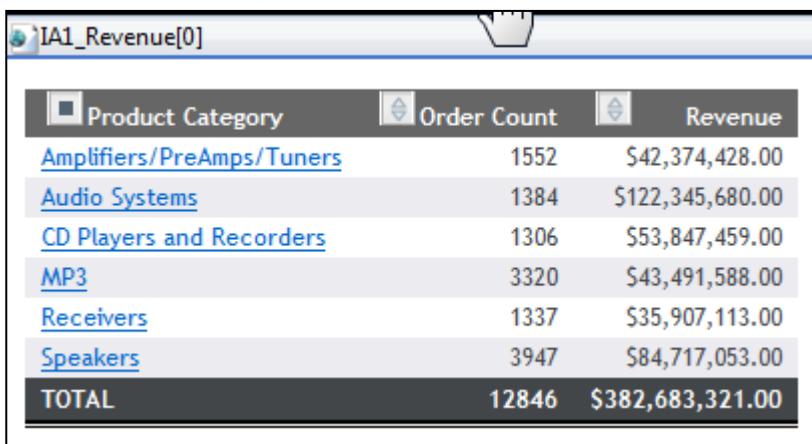
Product Type	Order Count	Revenue
Audio	12846	\$382,683,321.00
Camcorders	5139	\$444,531,041.00
Cameras	5307	\$184,103,667.00
Office	2958	\$30,245,685.00
Video	6033	\$520,360,205.00
<b>TOTAL</b>	<b>32283</b>	<b>\$1,561,923,919.00</b>

The **Product Type** column is automatically highlighted and underlined; this indicates that you can drill down on this column. Click **Audio**.



Product Type	Revenue	Order Count
<a href="#">Audio</a>	\$382,683,321.00	12846
<a href="#">Camcorders</a>	\$444,531,041.00	5139
<a href="#">Cameras</a>	\$184,103,667.00	5307
<a href="#">Office</a>	\$30,245,685.00	2958
<a href="#">Video</a>	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

The Product Category breakdown for Product Type = Audio is shown.



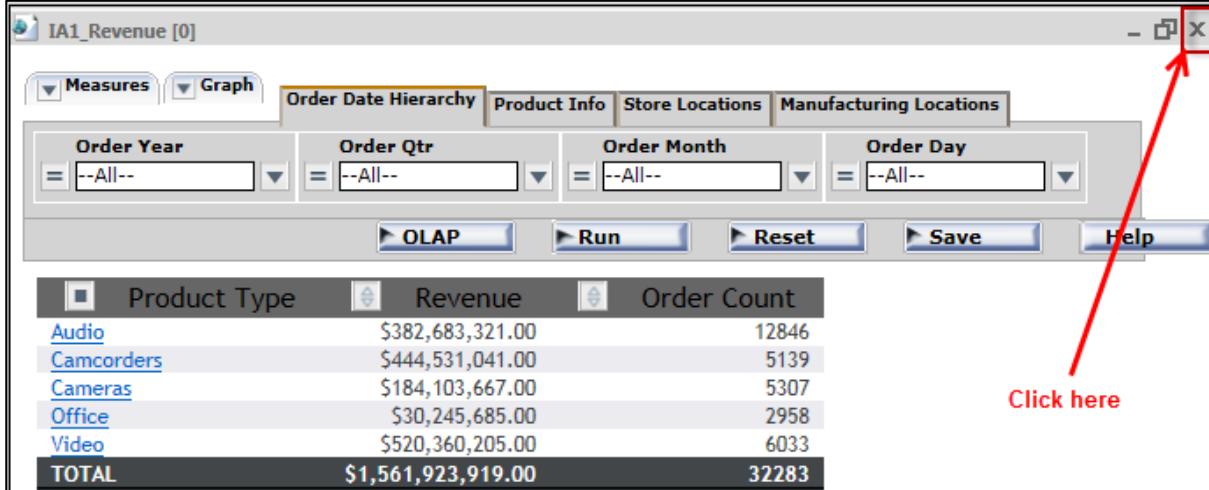
Product Category	Order Count	Revenue
<a href="#">Amplifiers/PreAmps/Tuners</a>	1552	\$42,374,428.00
<a href="#">Audio Systems</a>	1384	\$122,345,680.00
<a href="#">CD Players and Recorders</a>	1306	\$53,847,459.00
<a href="#">MP3</a>	3320	\$43,491,588.00
<a href="#">Receivers</a>	1337	\$35,907,113.00
<a href="#">Speakers</a>	3947	\$84,717,053.00
<b>TOTAL</b>	<b>12846</b>	<b>\$382,683,321.00</b>

How does Db2 Web Query know that **Product Category** is the hierarchy level below **Product Type**? This is another example of the power of a synonyms. In our case, our **CEN\_ORDERS** synonym has this hierarchical structure defined within it. When OLAP is enabled in the report, Db2 Web Query uses the hierarchy information in the synonym to understand that when a **Product Type** is clicked on and drilled into, the next level that should be shown is its **Product Category**.

Auto Drill & Analysis is a feature that you can turn on with any report if you have the OLAP hierarchy information defined enabled in your synonym.

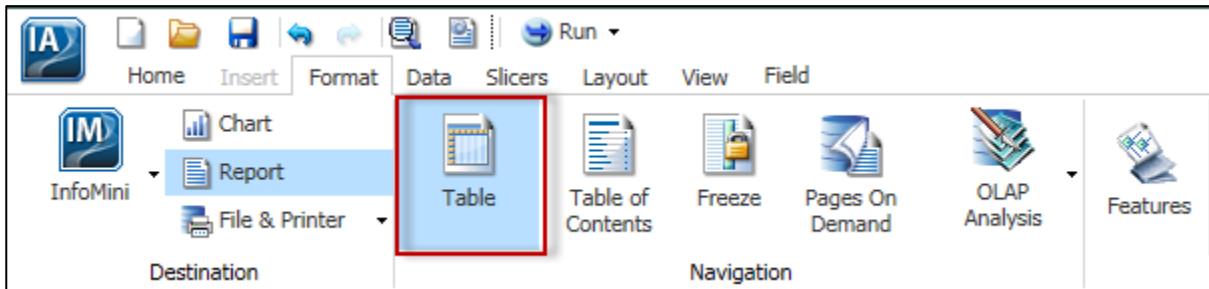
Auto Drill & Analysis has much more power than the simple example you just executed. But for now, let's move onto other report writing features (there are a lot more tutorials in the IBM Redbook or other labs)!

Close the **Results View** window.



Product Type	Revenue	Order Count
Audio	\$382,683,321.00	12846
Camcorders	\$444,531,041.00	5139
Cameras	\$184,103,667.00	5307
Office	\$30,245,685.00	2958
Video	\$520,360,205.00	6033
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>32283</b>

Under the **Navigation** section, turn off **Auto Drill & Analysis** by clicking on the **Table** icon.



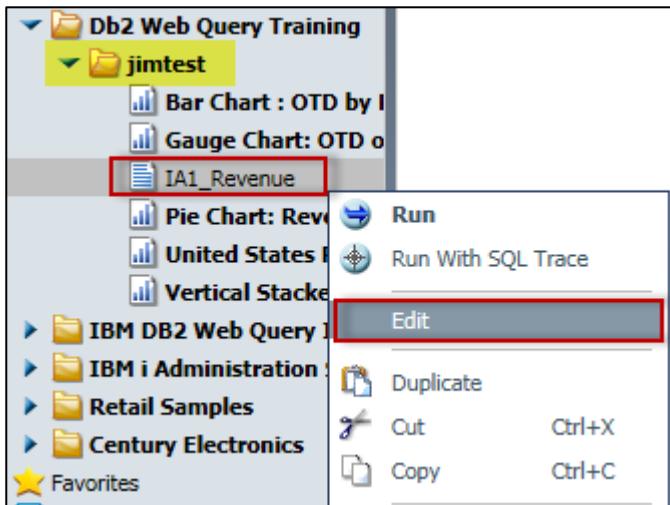
This **IA1\_Revenue** report is the basis for the following **Crosstab** report.

## 1.3 Creating a Cross-Tab Report (IA2\_XTab)

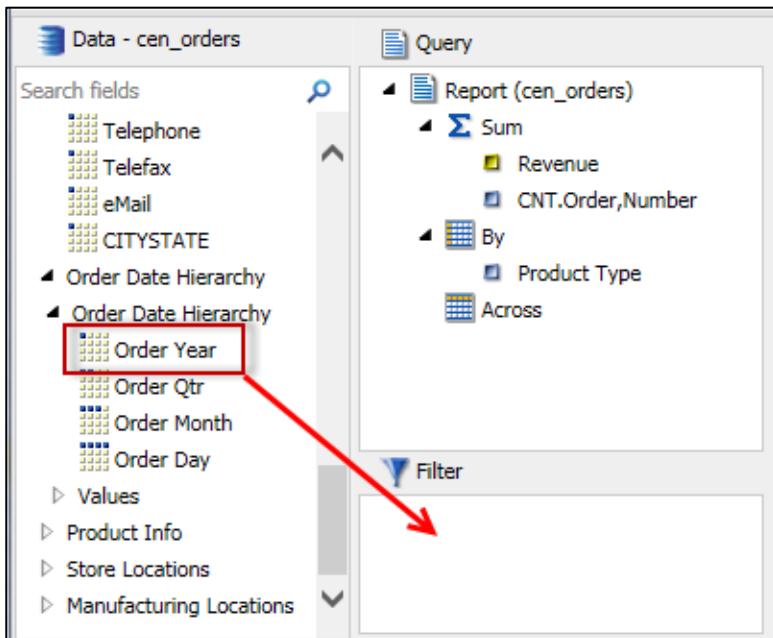
In this section, you will modify the initial report to select only the rows for a particular order date year and display the results in columns under each quarter.

### 1.3.1 Adding a Constant Filter to a Report

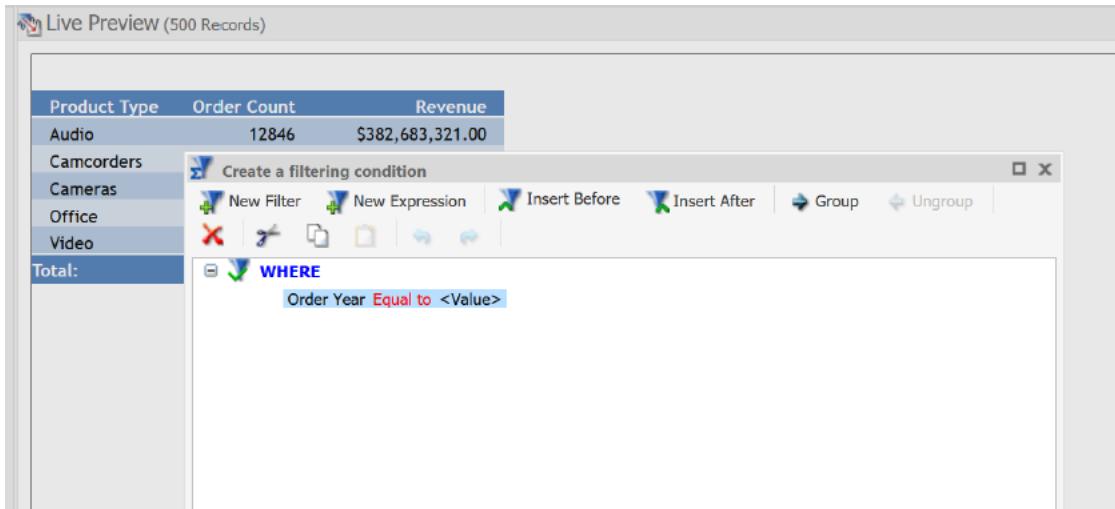
If you closed the InfoAssist+ editor or Db2 Web Query browser window, first log back on and locate the report you just created under your subfolder within the **Db2 Web Query Training** folder. Right-click the report - **IA1\_Revenue** - and select **Edit**.



With the InfoAssist+ editor open to your **IA1\_Revenue** report, expand the **Order Date Hierarchy** in the **Data panel** (twice) and drag **Order Year** to the **Filter panel**.



The **Filter window** will open automatically. There could be some differences in the following navigation based on which browser you're using. For instance, if you only see this screen next:



Live Preview (500 Records)

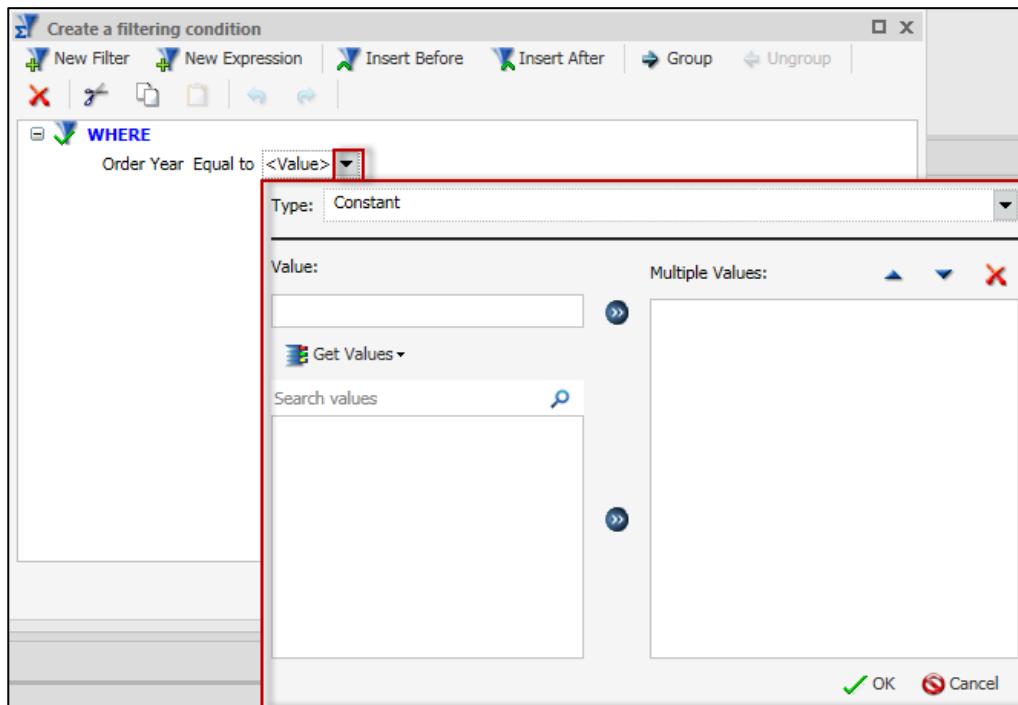
Product Type	Order Count	Revenue
Audio	12846	\$382,683,321.00
Camcorders		
Cameras		
Office		
Video		
Total:		

Create a filtering condition

WHERE

Order Year Equal to <Value>

Then you should double click on the <Value> to get a drop down, then single click on that drop down (wait a few seconds) and the following dialog box will appear. For other browsers, like IE, this dialog box appears by default.



Create a filtering condition

WHERE

Order Year Equal to <Value>

Type: Constant

Value:

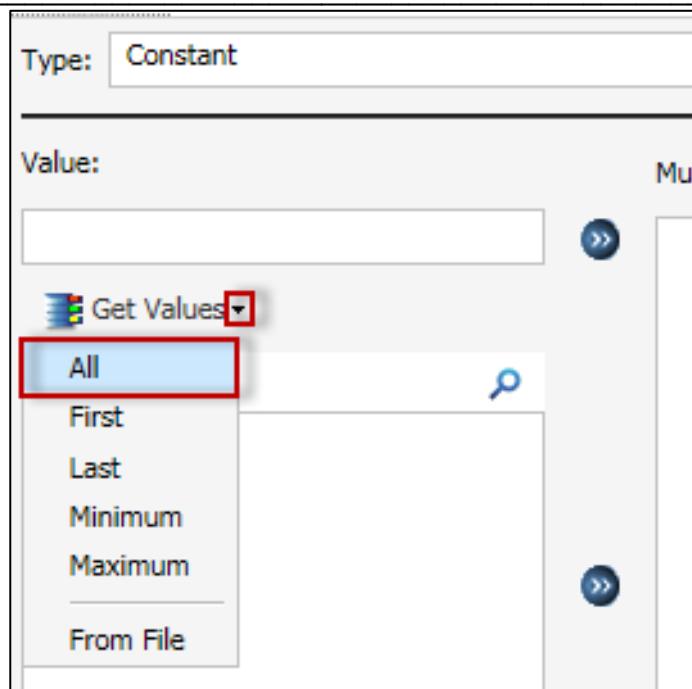
Multiple Values:

Get Values

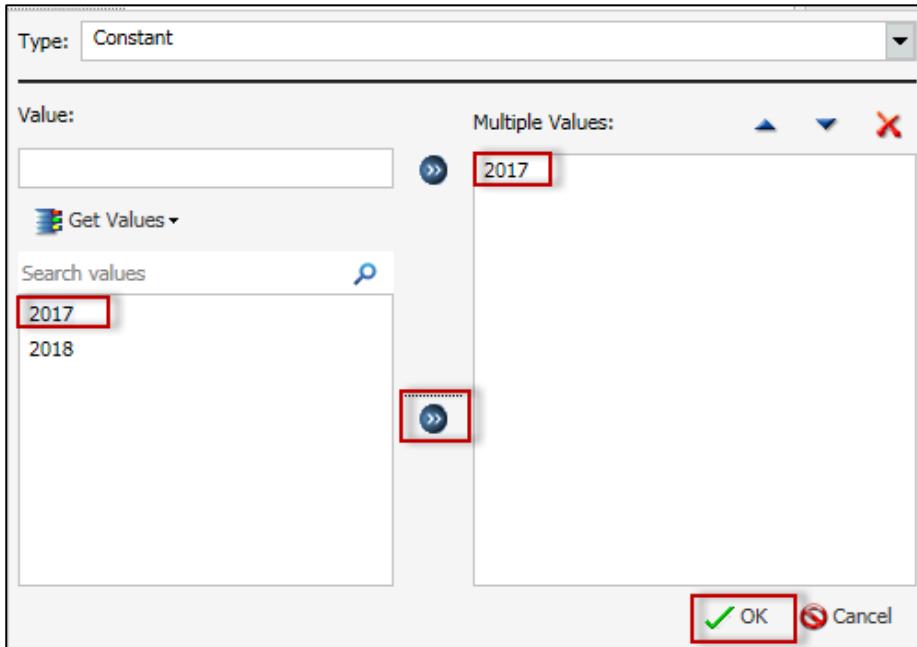
Search values

OK Cancel

Click on the **Get Values** drop down and then **ALL** to bring in the current years from the sample database.

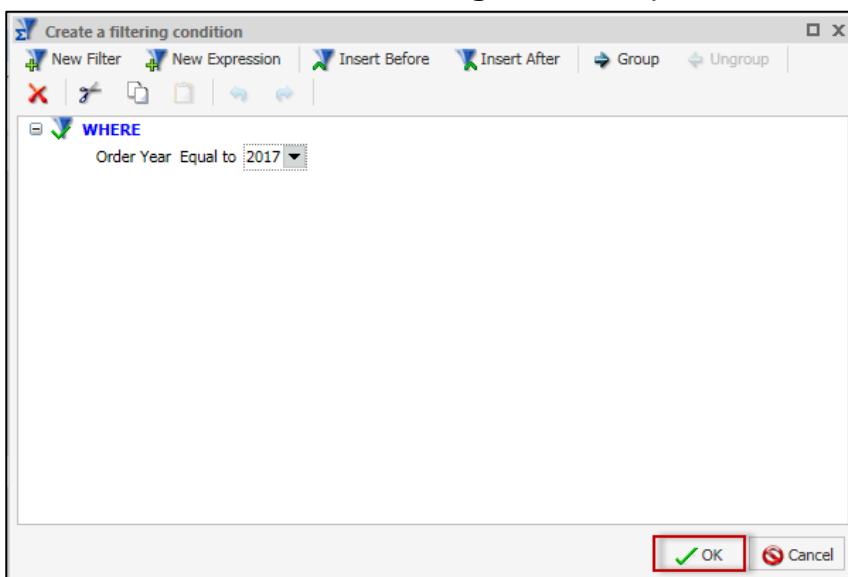


Select the first year from the list and click the double right arrow button  to add the first year value to the **Multiple Values:** filter list. Click **OK**.



NOTE: The sample database used contains 2 years of data. Depending on the version of the sample database is loaded/restored, you may see different years than those shown here. If so, you can either choose to change those dates to match or just use the earlier of the 2 years shown. When you get to the charting lab, however, we will want these 2 years to be the CURRENT YEAR and previous year in order for all of our charts to display correctly.

Click **OK** on the **Create a filtering condition** panel to close it.

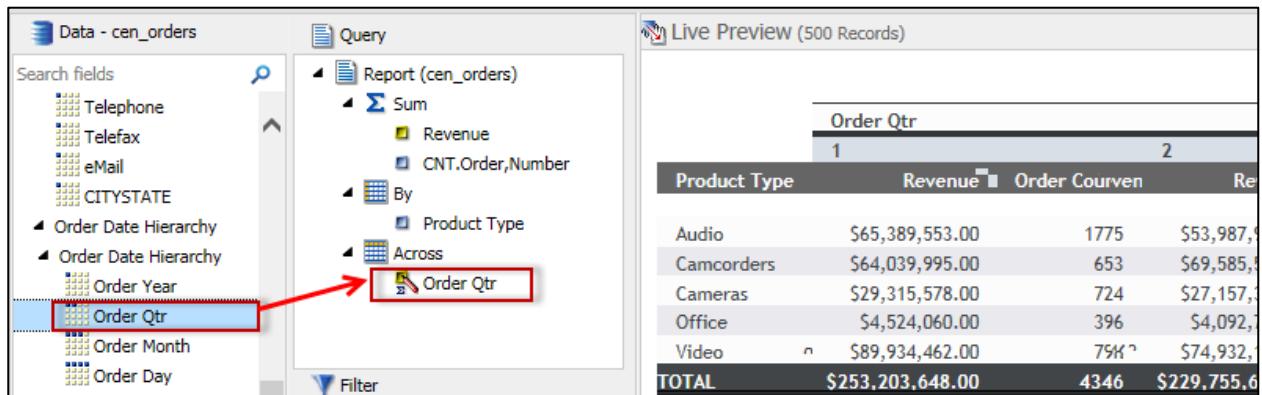


We've added the **Order Year** filter. Next, we will add the cross tab by **Order Quarter**.

### 1.3.2 How to Create a Cross-Tab Report

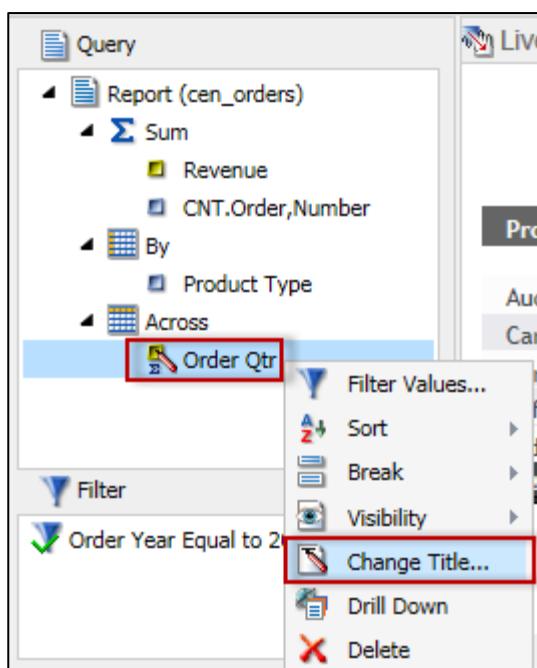
Next you are going to break down annual sales by quarter and display the quarters across the top of the report. In the set up for this lab, **Order Date** was broken down (decomposed) into its date components in the synonym - the columns **Order Year**, **Order Quarter**, **Order Month** and **Order Day** are already available to you and do not have to be created in every report.

Drag **Order Qtr** to the **Across** section of the **Query panel**.

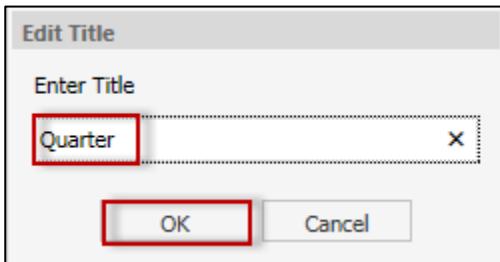


Product Type	Revenue	Order Count	Re
Audio	\$65,389,553.00	1775	\$53,987,9
Camcorders	\$64,039,995.00	653	\$69,585,1
Cameras	\$29,315,578.00	724	\$27,157,1
Office	\$4,524,060.00	396	\$4,092,1
Video	\$89,934,462.00	79K	\$74,932,
<b>TOTAL</b>	<b>\$253,203,648.00</b>	<b>4346</b>	<b>\$229,755.6</b>

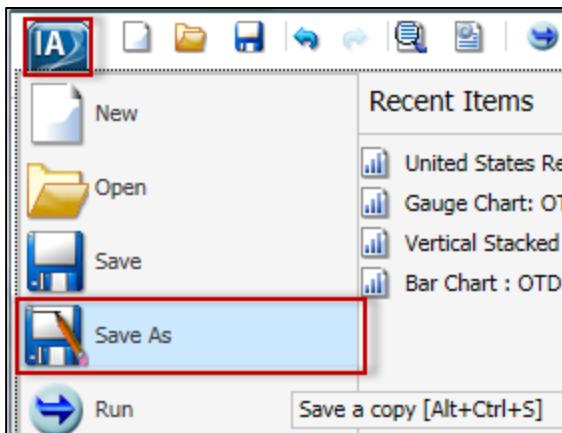
To change the heading, right-click **Order Qtr** in the Query Panel and select **Change Title**



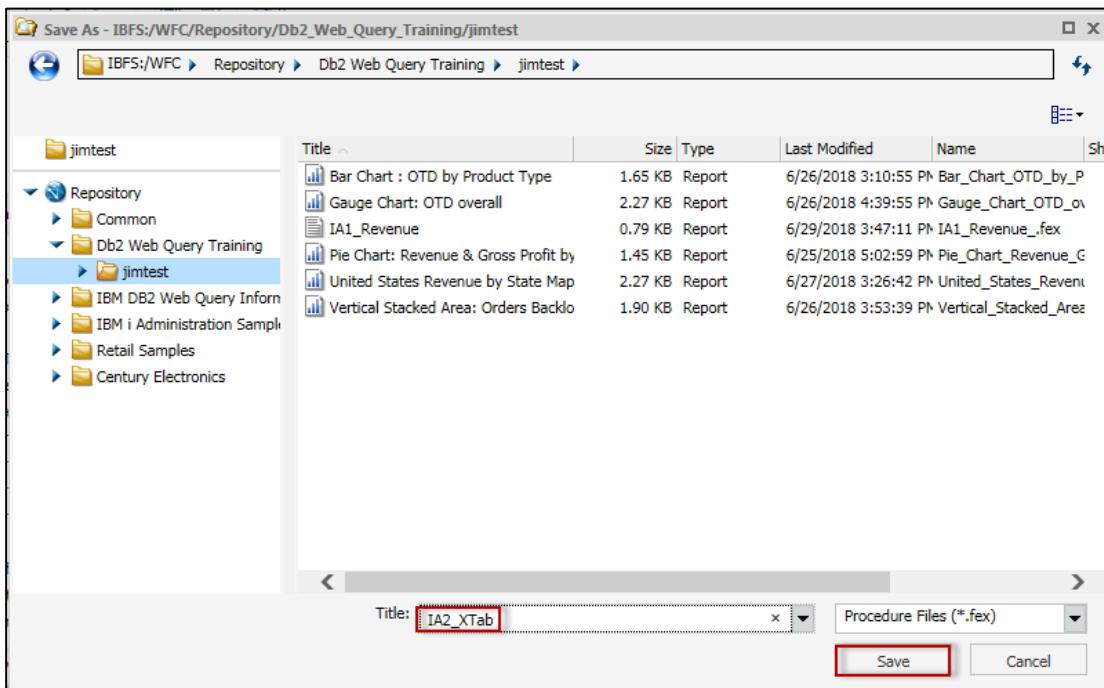
Type **Quarter** as the new column heading and click **OK**



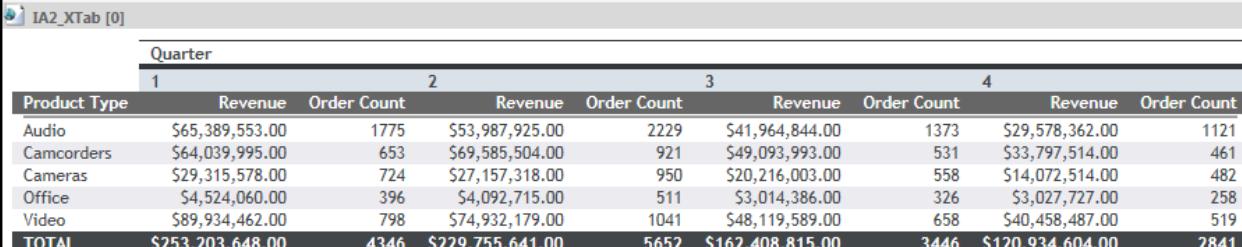
Now let's save this report under a different name. Click the **Main Menu icon** in the upper left corner and then select **Save As**.



Enter the report name **IA2\_XTab** and click **Save**.

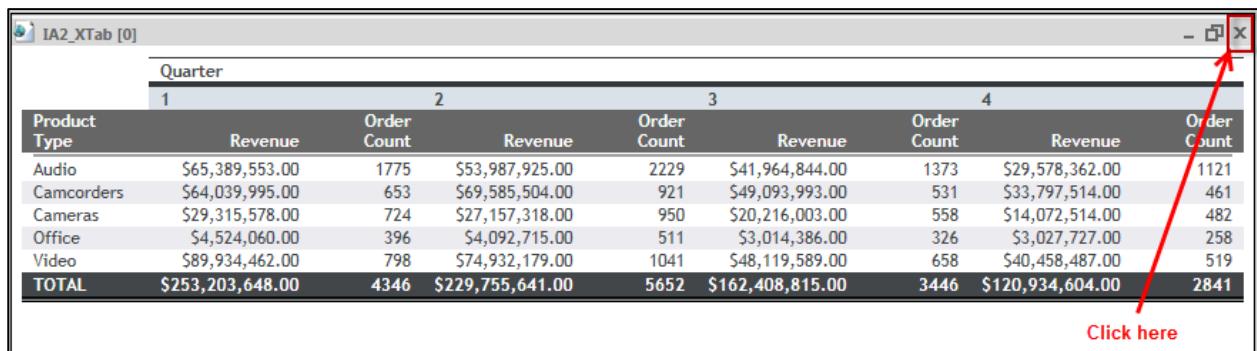


Next, click **Run**  to run the report:

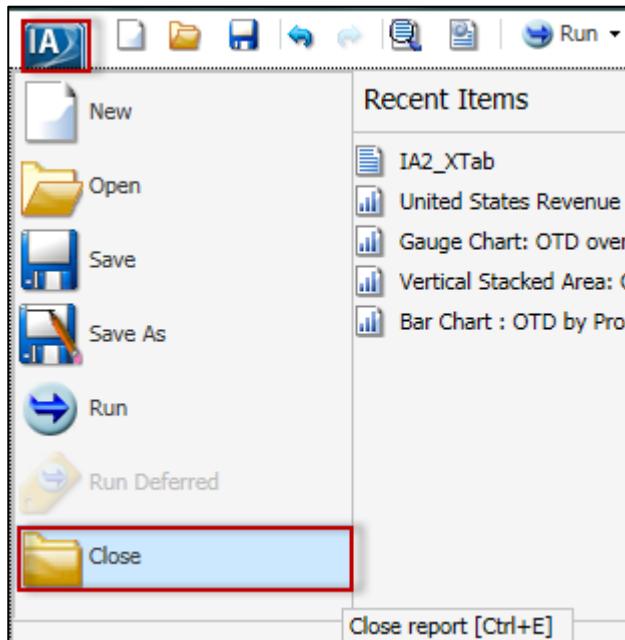


Product Type	Quarter							
	1	2	3					
	Revenue	Order Count						
Audio	\$65,389,553.00	1775	\$53,987,925.00	2229	\$41,964,844.00	1373	\$29,578,362.00	1121
Camcorders	\$64,039,995.00	653	\$69,585,504.00	921	\$49,093,993.00	531	\$33,797,514.00	461
Cameras	\$29,315,578.00	724	\$27,157,318.00	950	\$20,216,003.00	558	\$14,072,514.00	482
Office	\$4,524,060.00	396	\$4,092,715.00	511	\$3,014,386.00	326	\$3,027,727.00	258
Video	\$89,934,462.00	798	\$74,932,179.00	1041	\$48,119,589.00	658	\$40,458,487.00	519
<b>TOTAL</b>	<b>\$253,203,648.00</b>	<b>4346</b>	<b>\$229,755,641.00</b>	<b>5652</b>	<b>\$162,408,815.00</b>	<b>3446</b>	<b>\$120,934,604.00</b>	<b>2841</b>

Close the report **IA2-XTab(0) Results View** window.

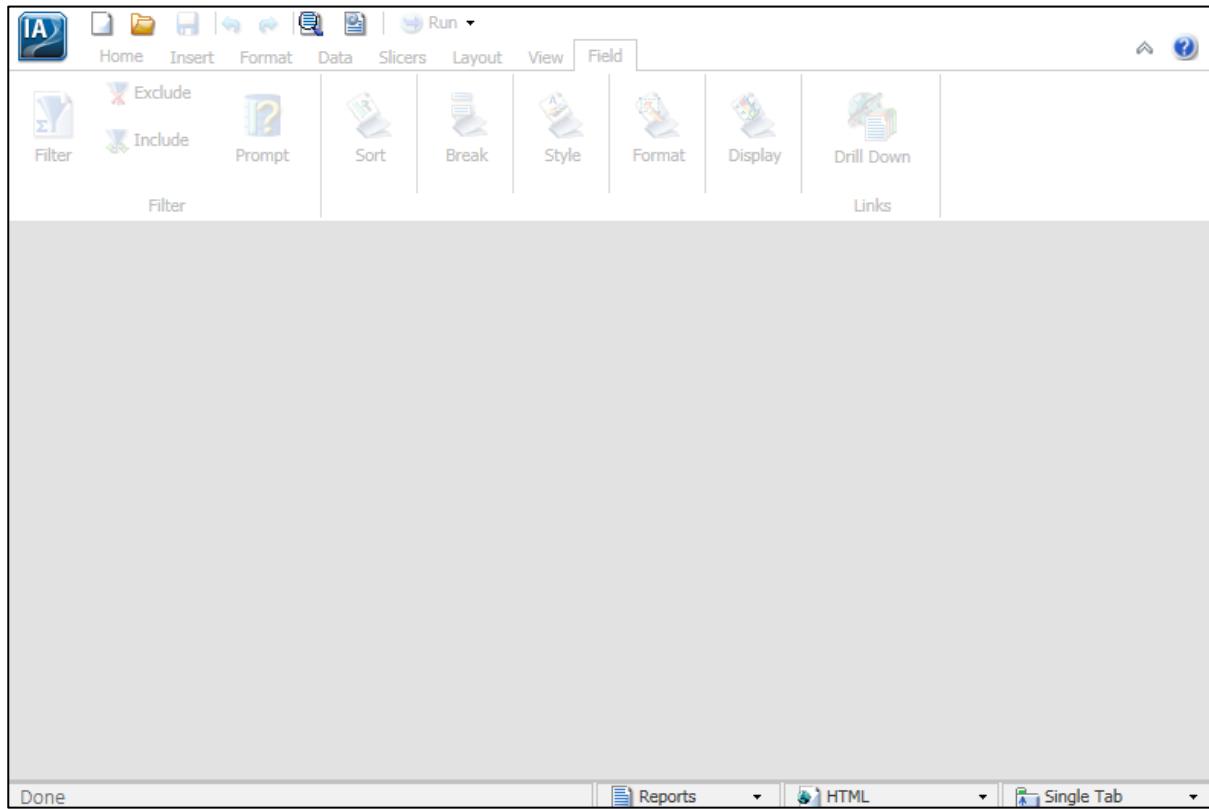


Now we will close the saved report but leave InfoAssist+ editor open. From the **Main Menu** , click on **Close**  to close the **IA2\_XTab** report.



---

The **InfoAssist+** editor window remains open.



Next, we will create a new report starting from this open InfoAssist+ editor window.

## 1.4 Creating a More Complex Report (IA3\_GrossPft)

In this tutorial, you will create a report that will be the basis of the remaining reports for **Section 1**.

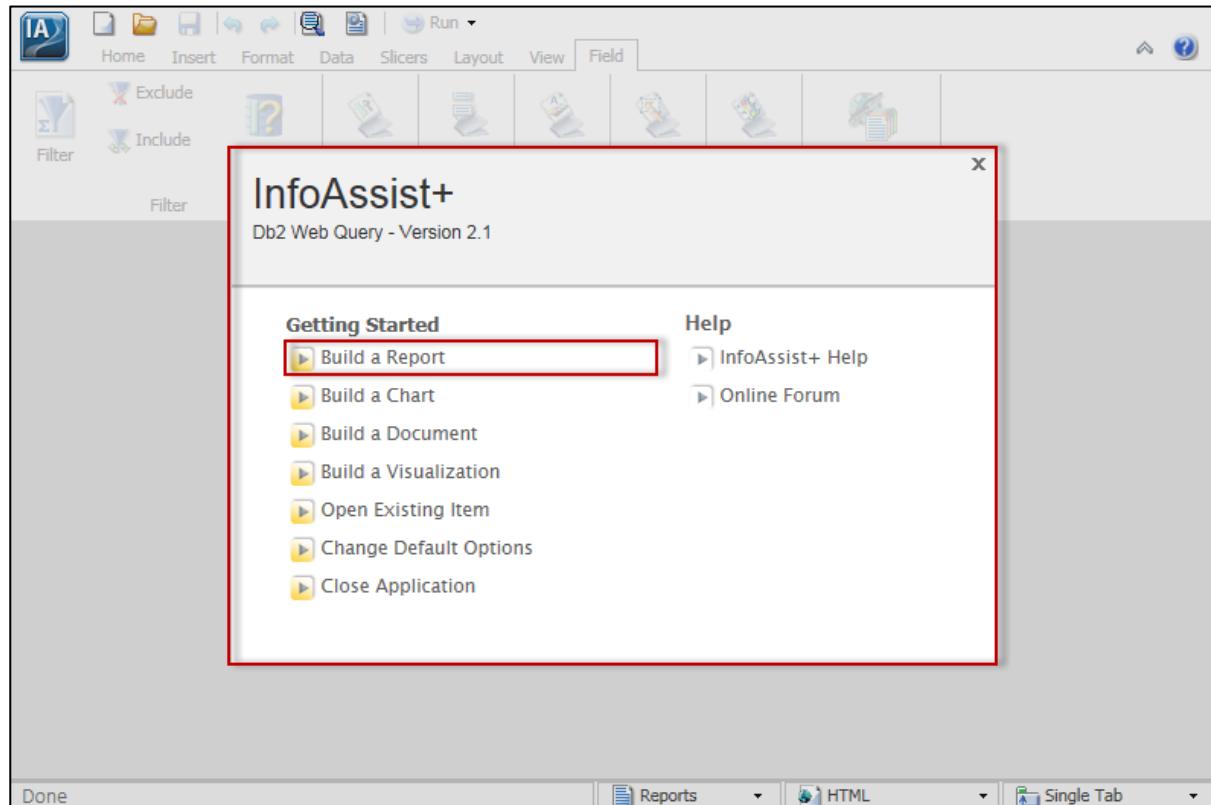
For this report, you will add four columns: **Product Type**, **Product Category**, **Revenue** and **Cost of Goods Sold**. You will also calculate a **Gross Profit** column.

### 1.4.1 How to Create a Report with a Compute field

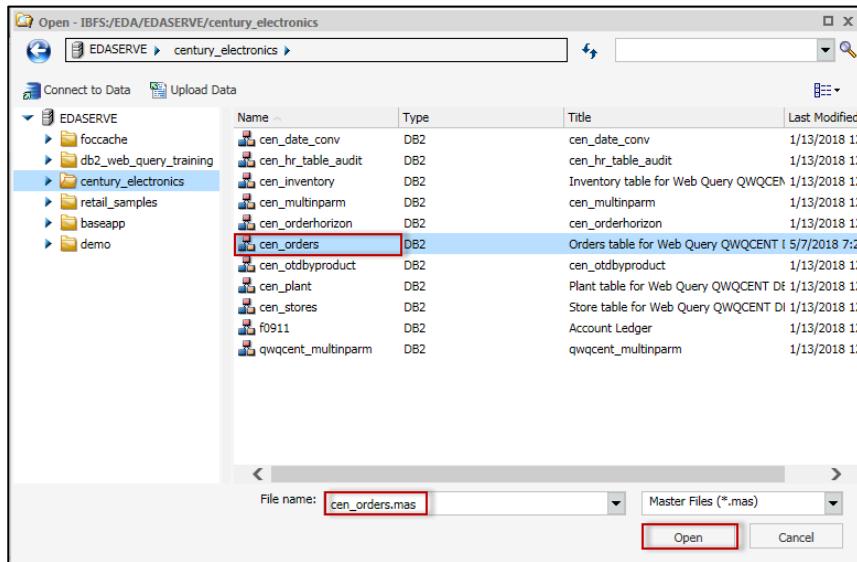
Click the **New Report**  button



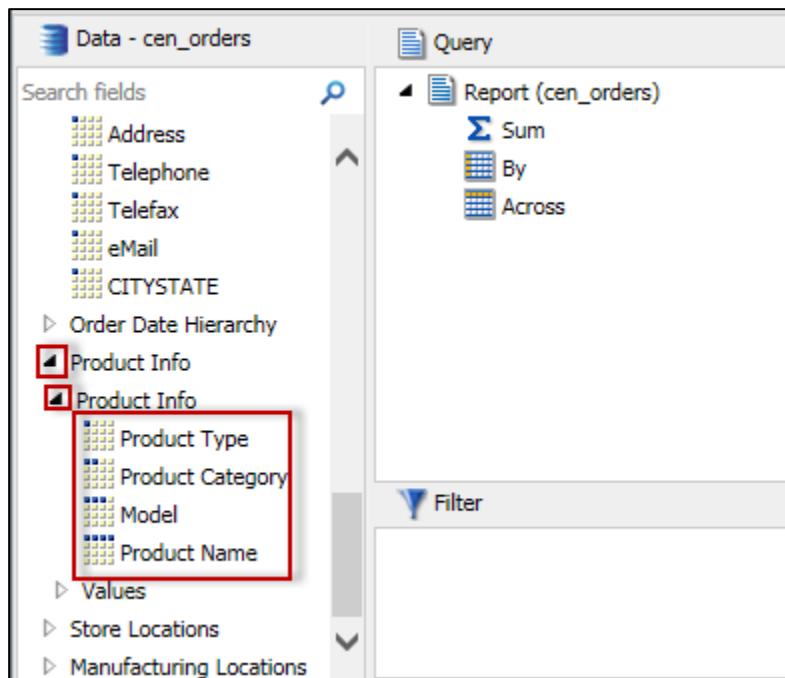
On the InfoAssist+ panel, click **Build a Report**



Select the **cen\_orders** synonym and click **Open**



Expand the **Product\_INFO** hierarchy.

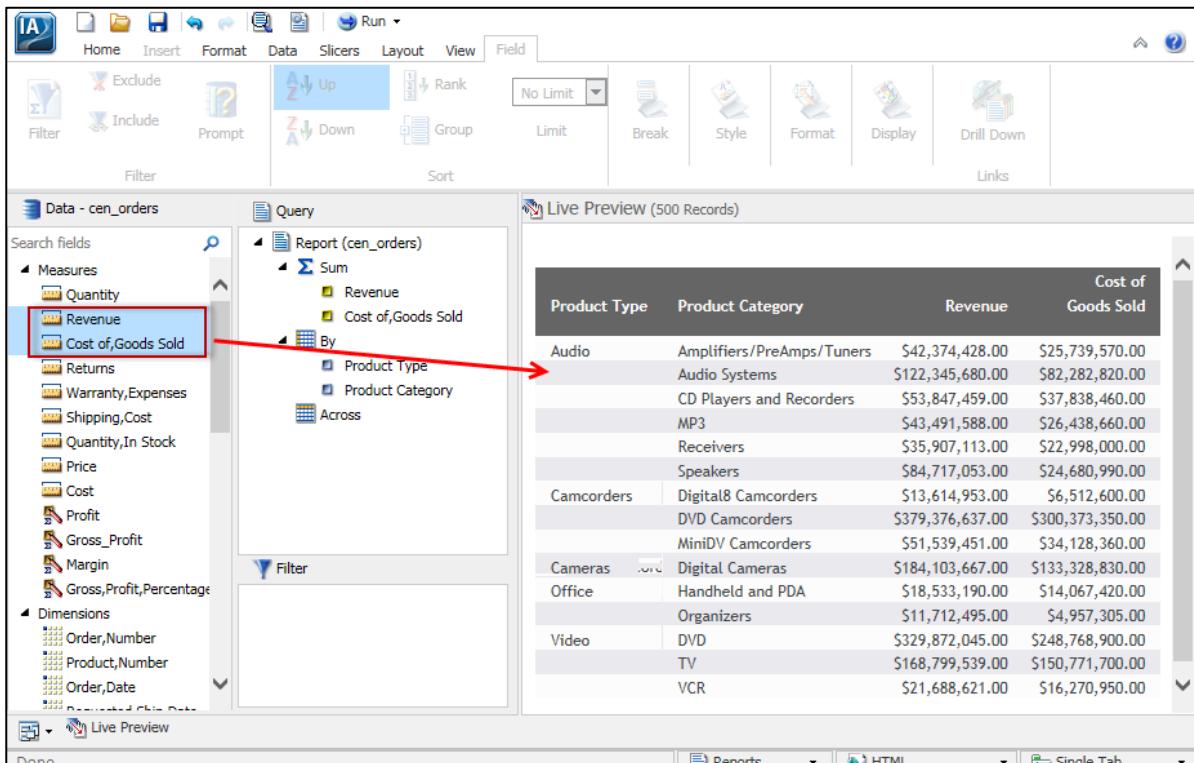


## Adding report columns

You can double click each field required individually or you can select all the fields at once in the desired sequence and drag and drop them on your canvas. Note that the sequence you select the fields is the sequence they will appear in your report.

Click **Product Type**. Then holding down the **Ctrl** key, click **Product Category**. Scroll up into the **Measures** section and, still holding down **Ctrl** key click on **Revenue** and finally **Cost of Goods Sold**. You should now have all four of these columns selected

Now drag and drop these selected fields onto the **Live Preview** window.



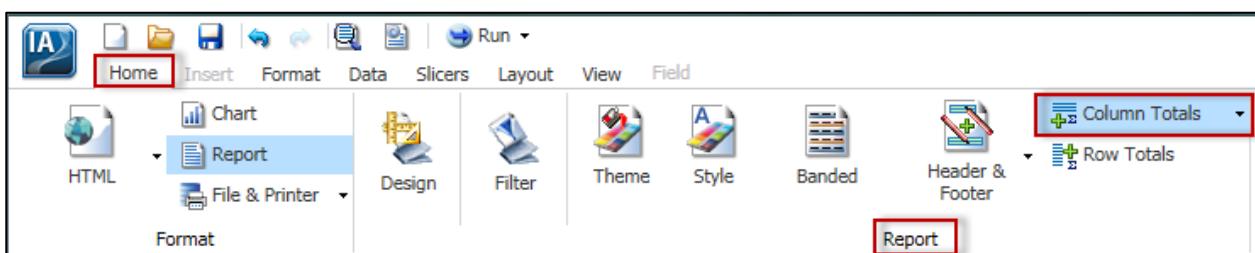
Product Type	Product Category	Revenue	Cost of Goods Sold
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00
	Audio Systems	\$122,345,680.00	\$82,282,820.00
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00
	MP3	\$43,491,588.00	\$26,438,660.00
Camcorders	Receivers	\$35,907,113.00	\$22,998,000.00
	Speakers	\$84,717,053.00	\$24,680,990.00
	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00
Cameras	DVD Camcorders	\$379,376,637.00	\$300,373,350.00
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00
	Digital Cameras	\$184,103,667.00	\$133,328,830.00
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00
	Organizers	\$11,712,495.00	\$4,957,305.00
	DVD	\$329,872,045.00	\$248,768,900.00
Video	TV	\$168,799,539.00	\$150,771,700.00
	VCR	\$21,688,621.00	\$16,270,950.00

Next you can add grand totals to the report.

Click **Home** tab on the toolbar to open the **Home** ribbon.

Expand the **Report** group if required.

Click **Column Totals**.



Now you will add a new calculated field called **Gross\_Profit**.

### Define vs. Compute

There are two types of calculated fields in Db2 Web Query – **Define** fields and **Compute** fields.

When you create a **Define** field, you add the definition of the field to the list of fields within the table. This field is calculated every time a record is read from the data.

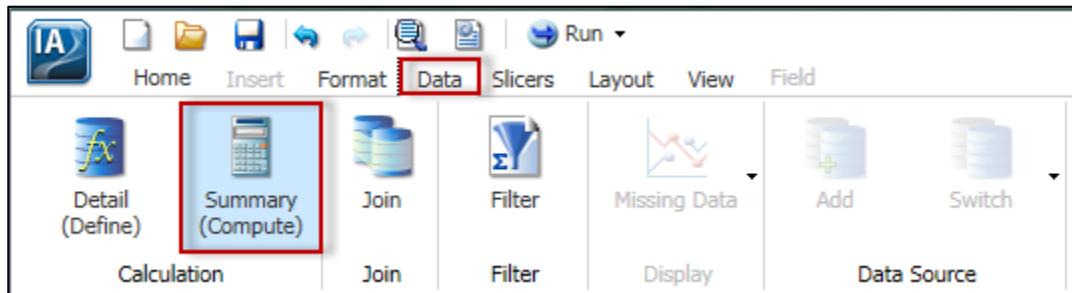
The other option is to create a **Compute** field. In this case, the field is not calculated until after the data is sorted and all aggregation is complete.

**Compute** fields are evaluated just prior to the row being printed onto the report. **Compute** fields are typically required for percentages and variances.

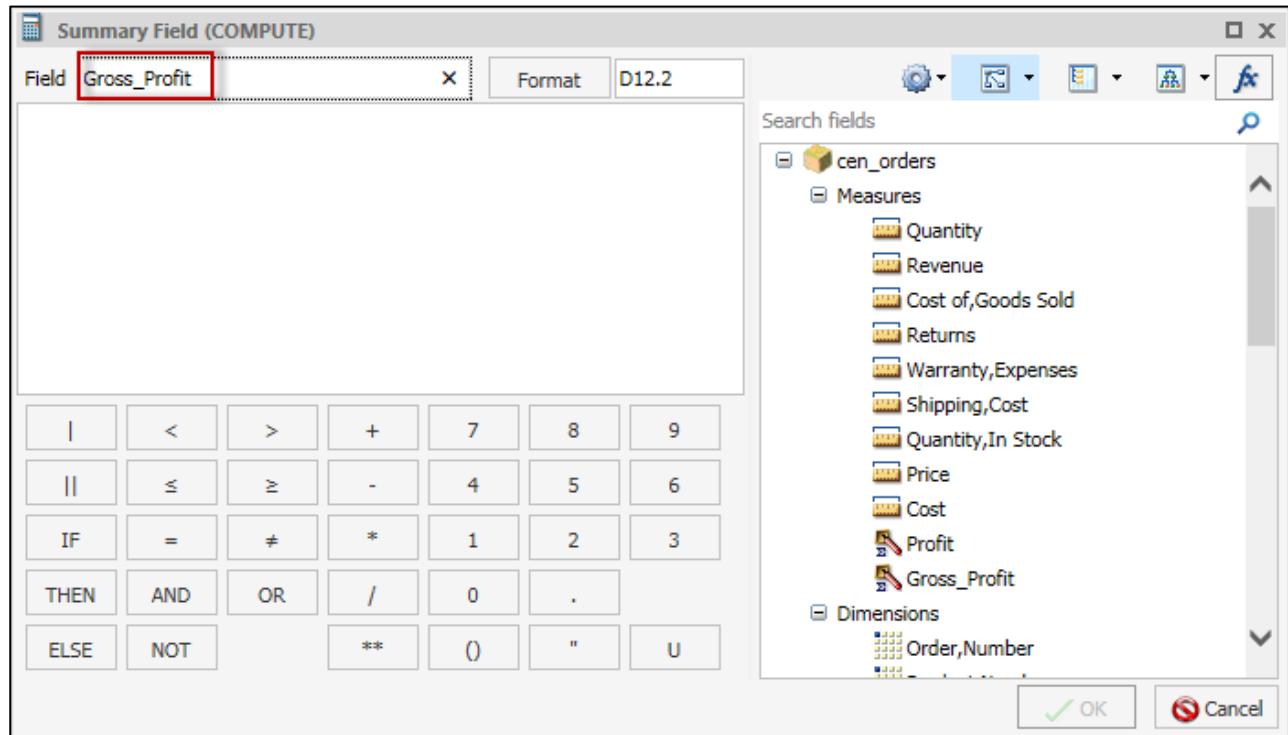
If you want to sort or filter based on a calculated field, then you must create a **Define** field. In most other cases you can create a **Compute** field, which should perform better because you are calculating it based on the number of output records. A **Define** field is calculated for every input record.

Click **Data** on the toolbar to open the Data ribbon.

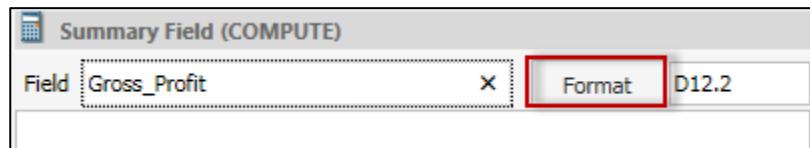
Click **Summary (Compute)**



The Summary Field (COMPUTE) panel is displayed. Type Field name **Gross\_Profit**.

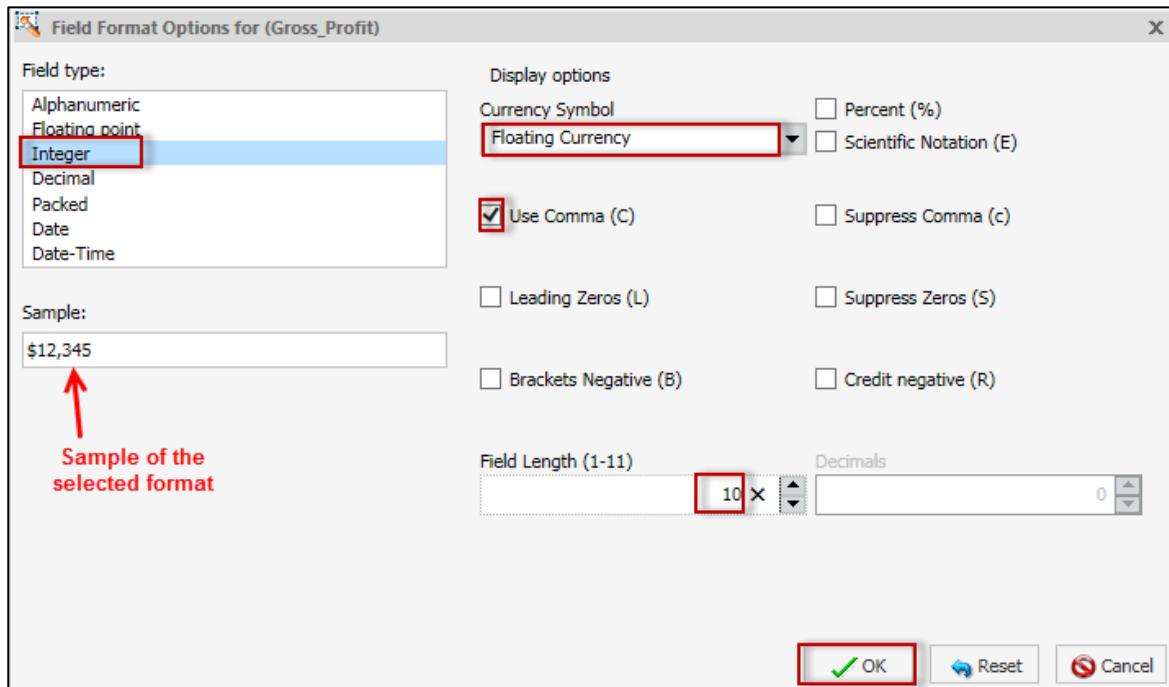


Click the **Format** button.



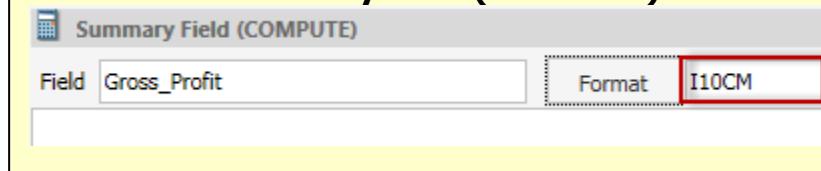
The **Field Format Options** panel is displayed. Using this panel, you can specify additional output formatting for this new Compute value. We want this new field to be integer, up to 10 digits long, commas added as needed and a floating currency symbol of \$.

Select Field type of Integer, Field length (1-11) of 10, select Use Comma (C), and select Floating Currency from the Currency Symbol drop-down. Click OK.



#### Format shortcut

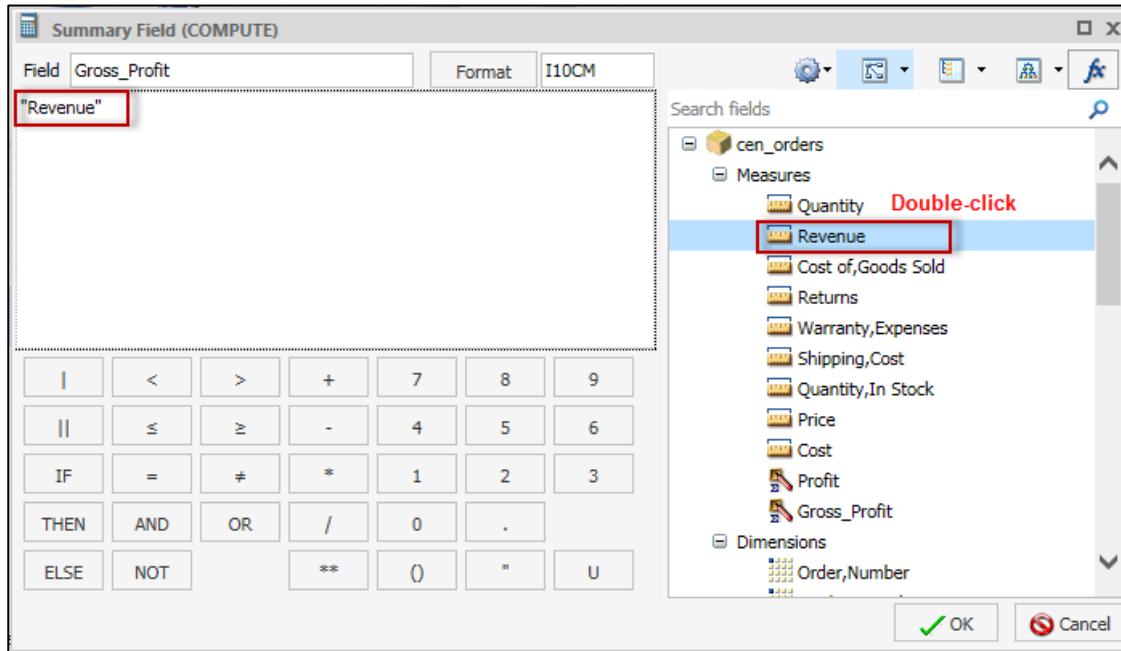
Advanced users can bypass the **Field Format Options** panel and directly enter **I10MC** in the **Summary Field (COMPUTE) Format** text box



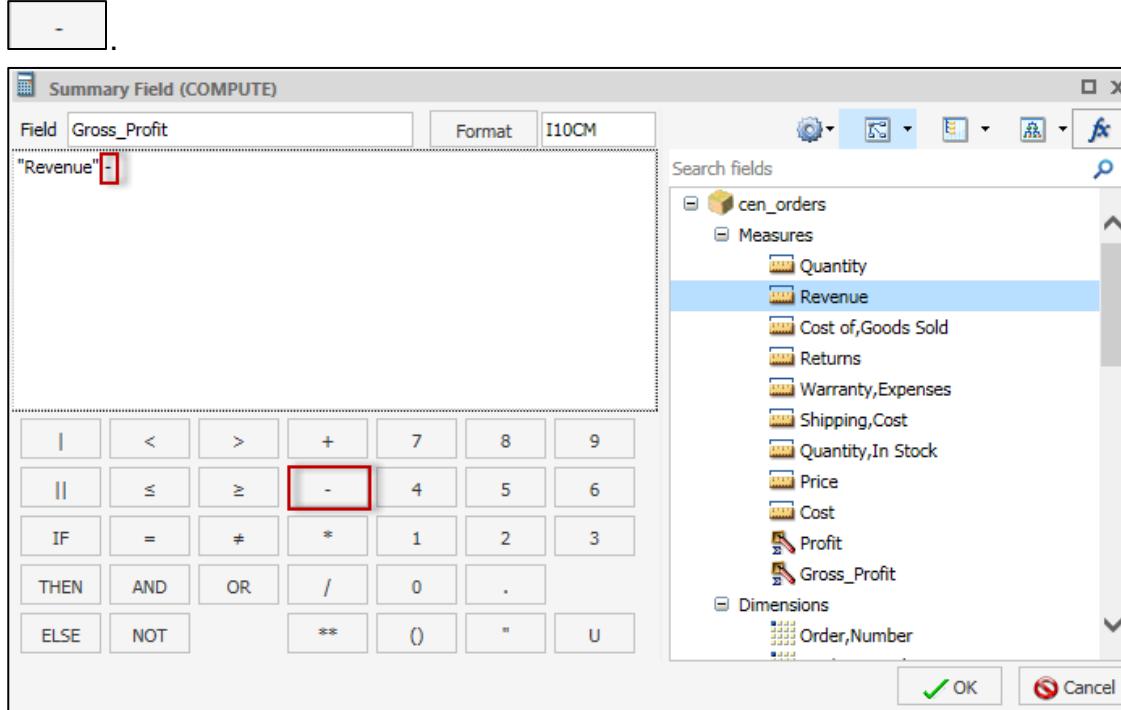
Now we will build the definition of our new **Gross\_Margin** COMPUTE column.

Our calculation for Gross\_Profit will be Revenue – Cost of Goods Sold

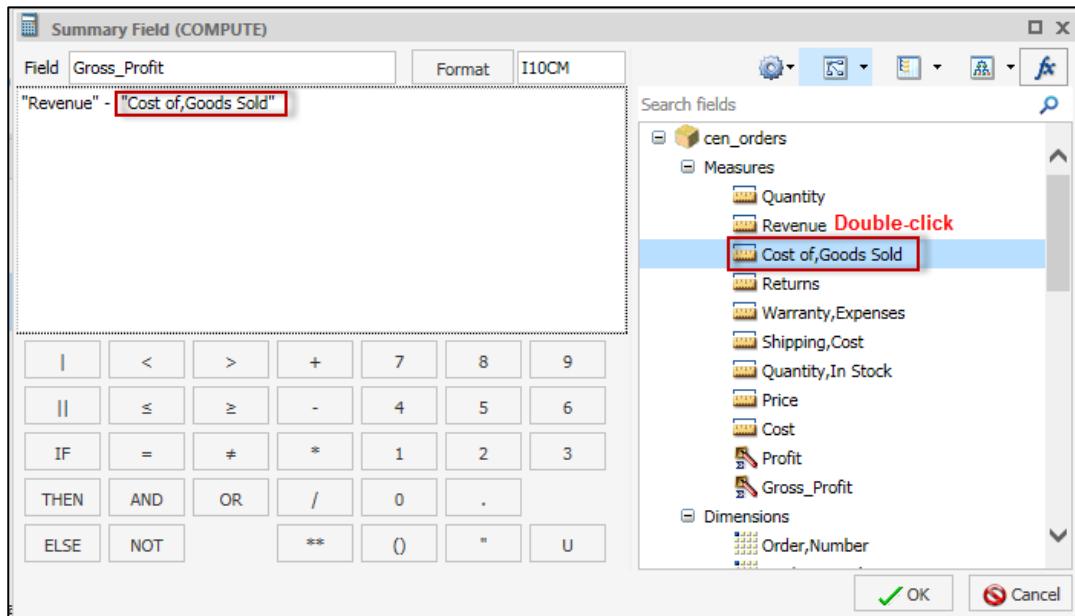
In the field list on the right, double-click on **Revenue**. This places the **Revenue column** (noted as “**Revenue**”) into the formula calculation window



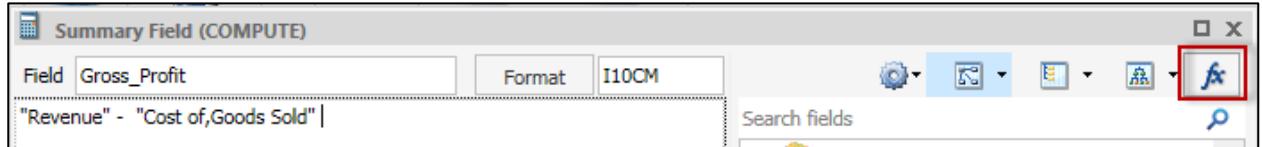
Place your cursor next to “Revenue” in the formula area and click on the **minus button**



Now double-click **Cost of, Goods Sold**. This places the **Cost of Goods Sold** field (field name **COSTOFGOODSSOLD**) into the formula calculation window



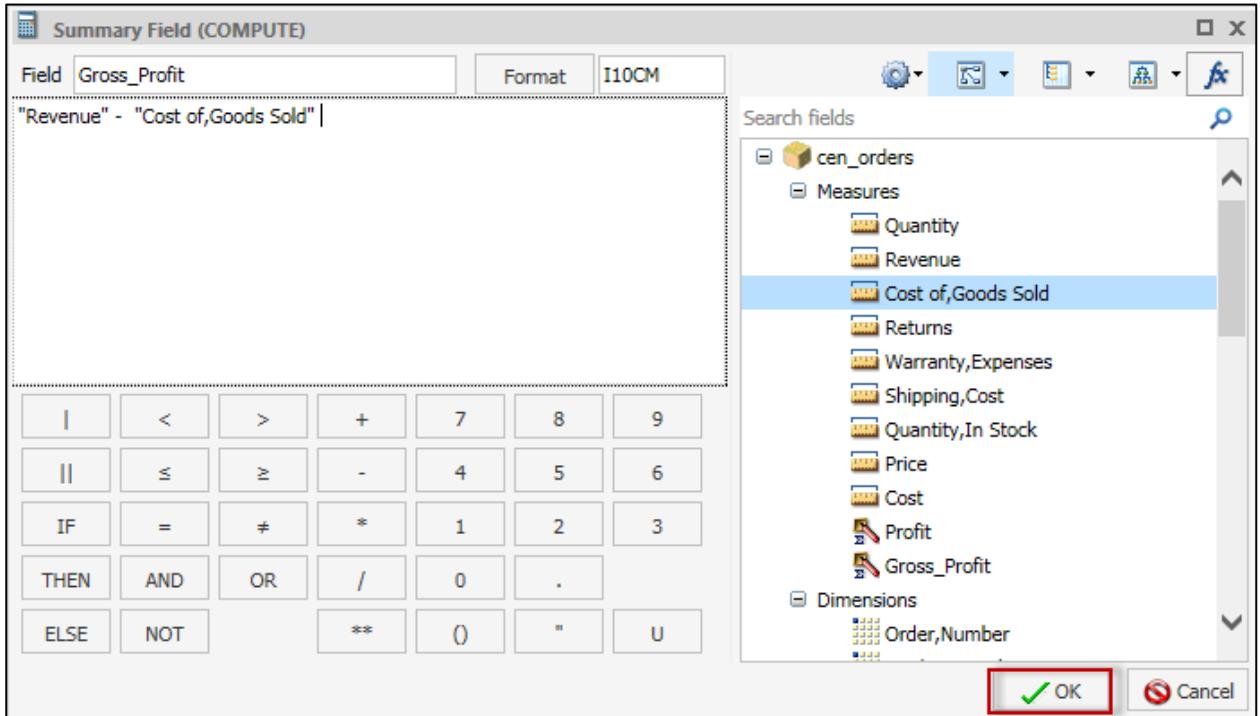
While you are in this wizard, you can click on the function icon  in the upper right corner to see the functions that are available to your calculation.



You can use IF/THEN/ELSE logic as well as manipulate your dates, numbers, or character strings. Selecting a function will prompt you for the required parameters.

We will not be including any functions into this report.

Click **OK** to complete the formula.



Notice that InfoAssist+ automatically added the new Compute field as a column in the report. **Gross\_Profit** has a column heading of the same name. If you want a different column heading, you could right-click on the **Gross\_Profit** field and select **Change Title**.

The interface shows the following components:

- Toolbar:** Home, Insert, Format, Data, Slicers, Layout, View, Field
- Tool Buttons:** Detail (Define), Summary (Compute), Join, Filter, Missing Data, Add, Switch
- Search fields:** Measures (Quantity, Revenue, Cost of, Goods Sold, Returns, Warranty, Expenses, Shipping, Cost, Quantity, In Stock, Price, Cost, Profit, Gross\_Profit), Dimensions (Order, Number)
- Query:** Report (cen\_orders) - Sum (Revenue, Cost of, Goods Sold, Gross\_Profit) - By (Product Type, Product Category, Across) - Filter
- Live Preview (500 Records):** A table showing data with a 'Gross\_Profit' column highlighted with a red box.

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

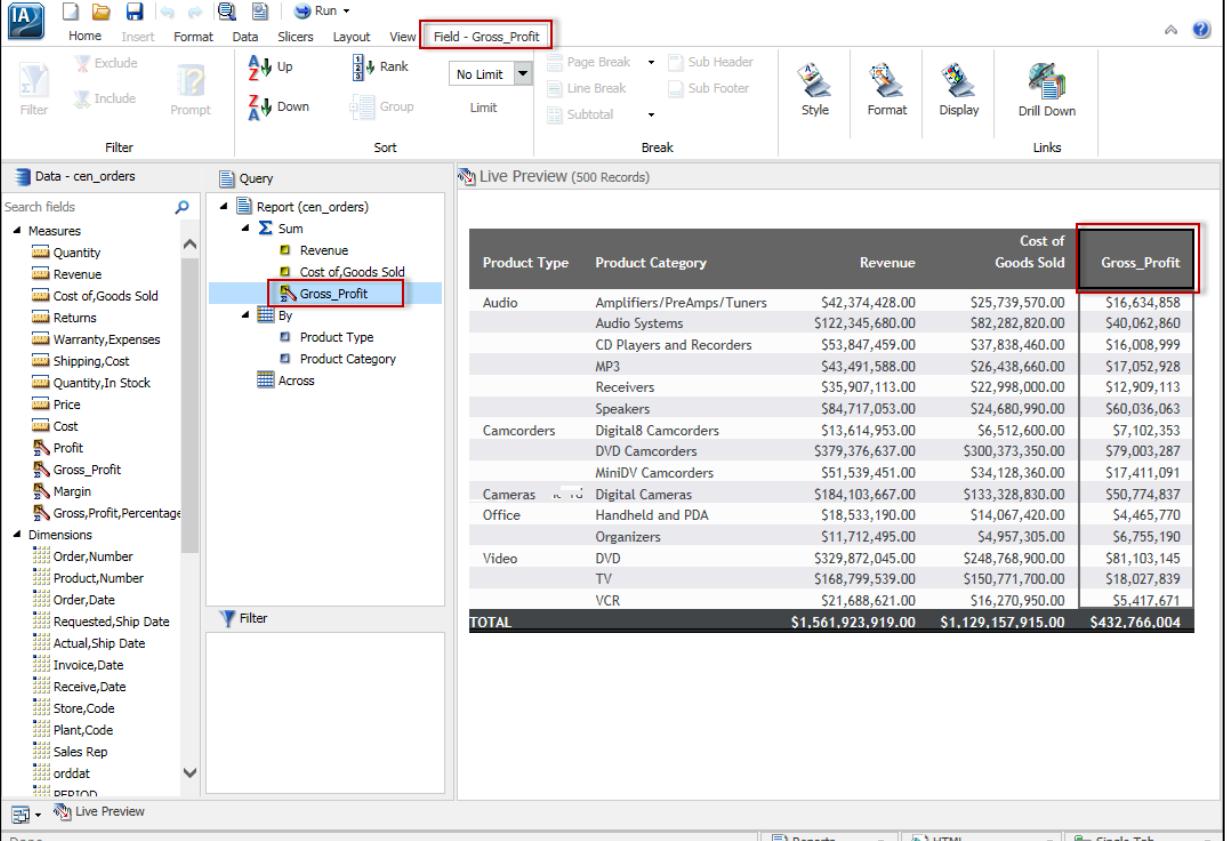
Click the **Save** button and name the report **IA3\_GrossPft**

#### 1.4.2 Using Traffic Lighting (Conditional Styling)

On this same report, we want to highlight Gross Profit to indicate products that generate high or low profits for the company.

Click **Gross Profit** in the **Live Preview** panel.

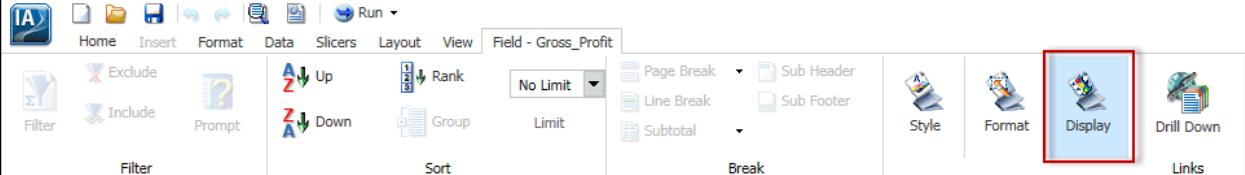
This will update the ribbon toolbar to be specific to activities for the compute field **Gross Profit**.



The screenshot shows the IBM Cognos Analytics interface. On the left, the 'Search fields' pane is open, showing various measures and dimensions. In the center, the 'Query' pane displays a report structure for 'cen\_orders' with a 'Sum' node expanded to show 'Revenue', 'Cost of Goods Sold', and 'Gross\_Profit'. The 'Live Preview' panel on the right shows a table of product data with columns: Product Type, Product Category, Revenue, Cost of Goods Sold, and Gross\_Profit. The 'Gross\_Profit' column is highlighted with a red box. The ribbon toolbar at the top has a 'Field - Gross\_Profit' tab selected, and the 'Display' icon in the ribbon is also highlighted with a red box.

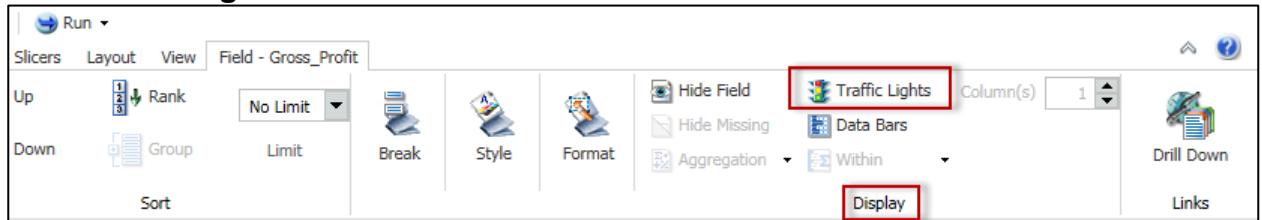
Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766.004</b>

Traffic Lighting or Conditional Styling is located in the **Display** group. Click on **Display** to expand that ribbon group if necessary.



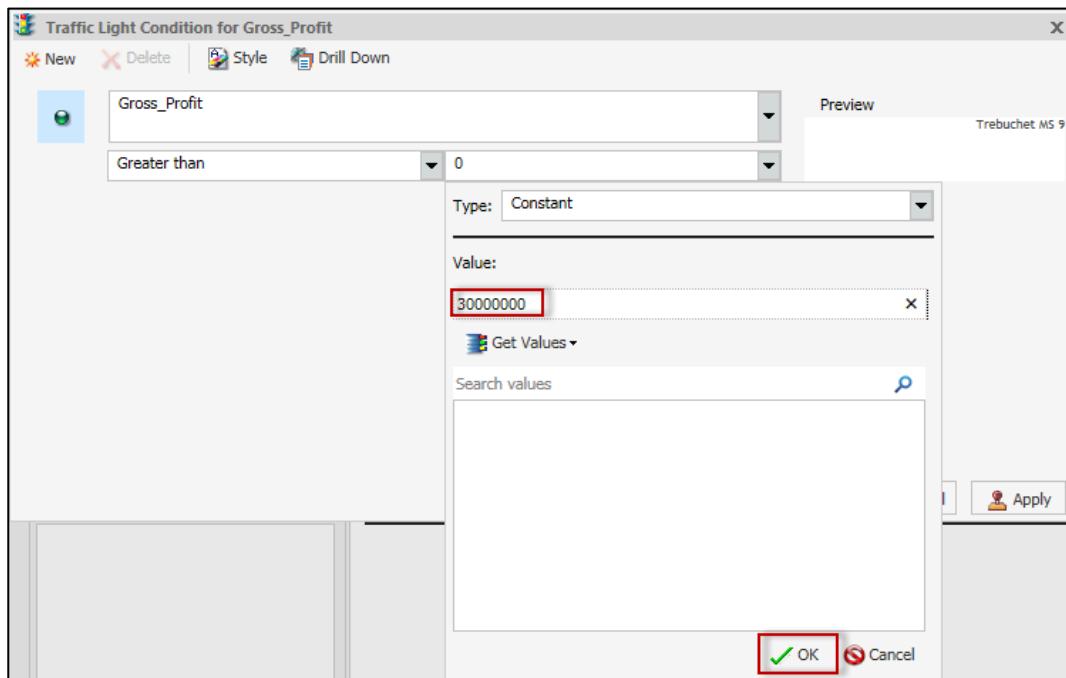
The screenshot shows the ribbon toolbar with the 'Display' group expanded. The 'Display' icon is highlighted with a red box. Other icons in the ribbon include 'Filter', 'Sort', 'Break', 'Style', 'Format', 'Drill Down', and 'Links'.

## Click Traffic Lights.

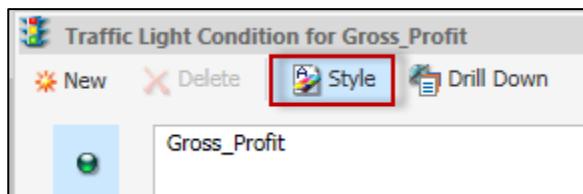


We want to set up traffic lighting so that your field displays with a green background if the Gross Profit for that product category is more than 30 million. If the Gross Profit is less than 15 million the field should be displayed with a red background.

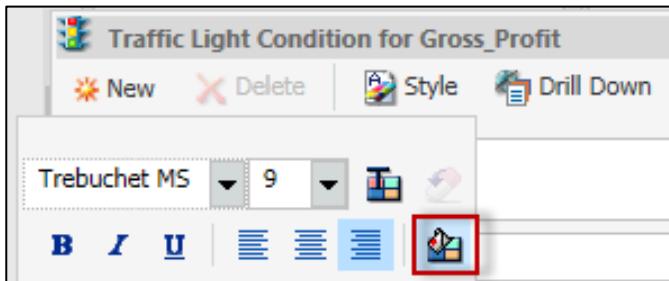
Leave the initial condition as "Greater than", enter **30000000** (30 million) and click **OK**.



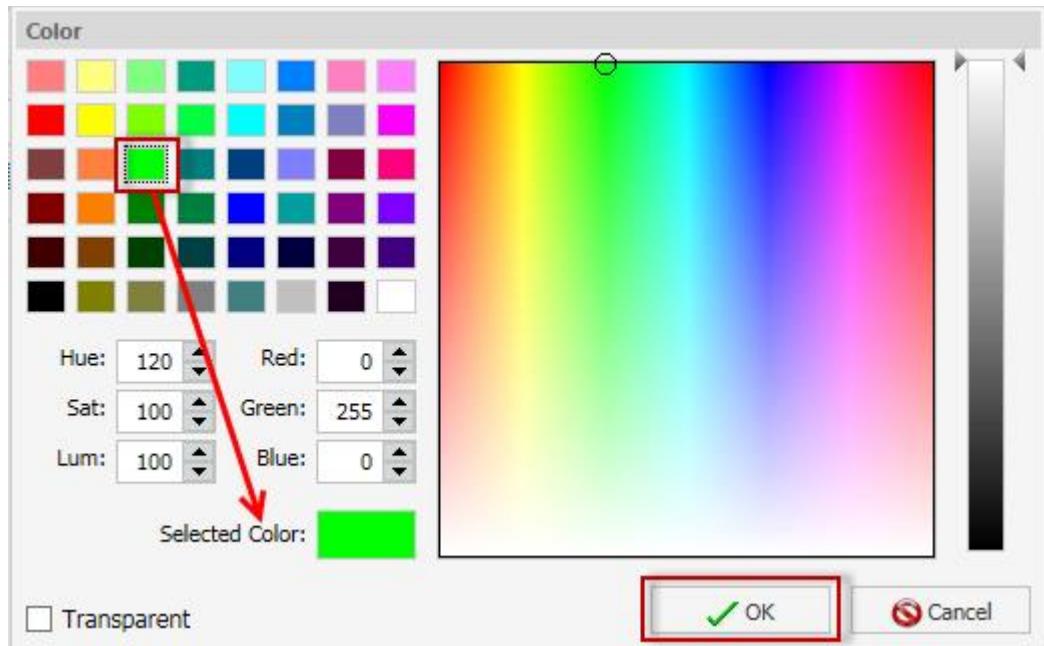
Click on the **Style** button to change the background for when this condition is true.



Click on the **Background Color** button



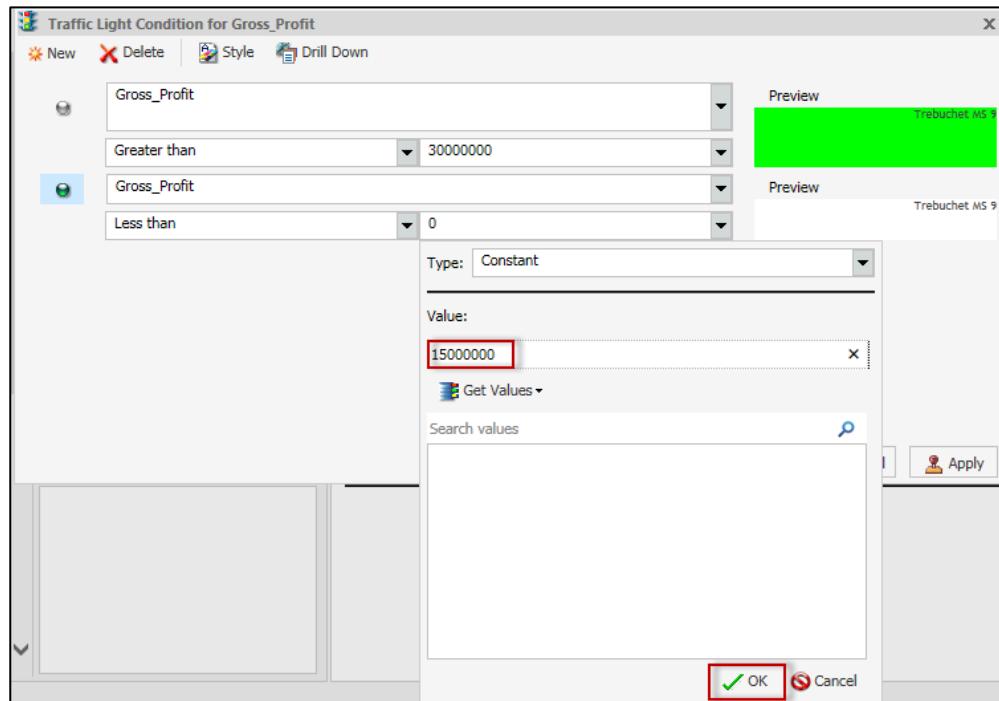
From the Color palette presented, click on a green shade. In the bottom right of the screen you see the Preview of how this style would appear in the report. Click **OK**.



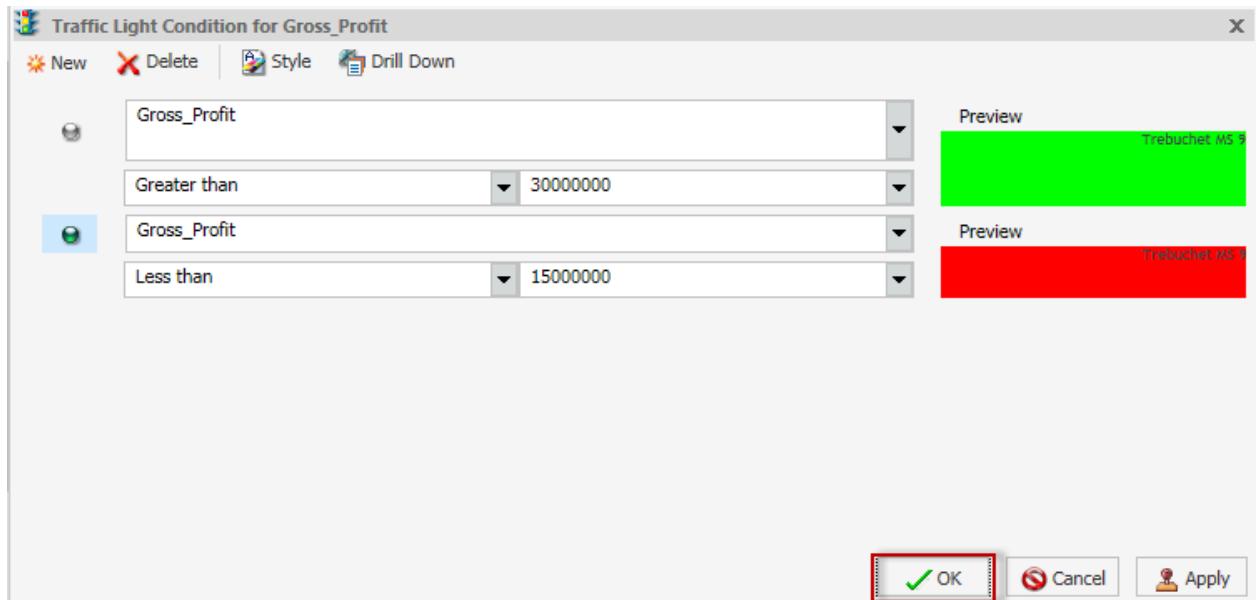
To add a second condition for the field Gross Profit, click the **New** button



Leave the condition of "Less than" and enter a value of **15000000 (15 million)**. Click **OK**.



Using same steps as described above, change the background color for this condition to Red. Click **OK**.



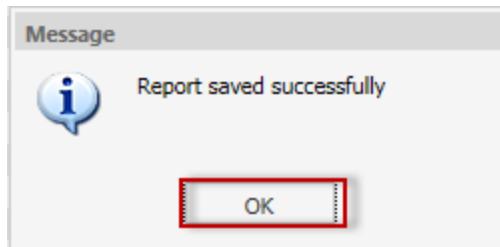
Recall that when you see the report in the Live Preview, you are only looking at the first 500 records. Run  the report to verify that your traffic light conditions are correct

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

### More on traffic lighting

If you wished to highlight **Gross Profit** when it is over/under a percentage of **Revenue** you would need to create a work field containing the percentage value. You could then highlight **Gross Profit** based on the values in the work field.

Save  your report.



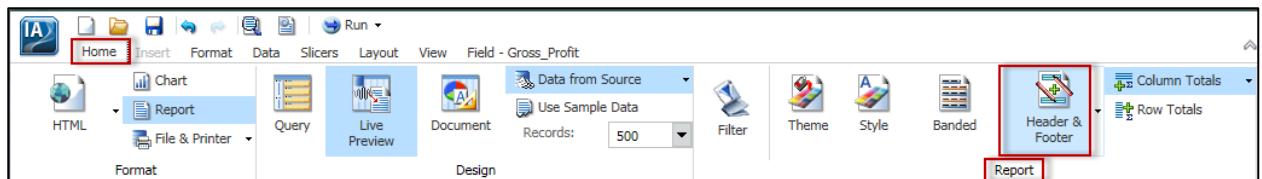
### 1.4.3 Using Variables in Report Headings and Footings

In this section you will enhance the report by adding a header and footer and including date and time system variables.

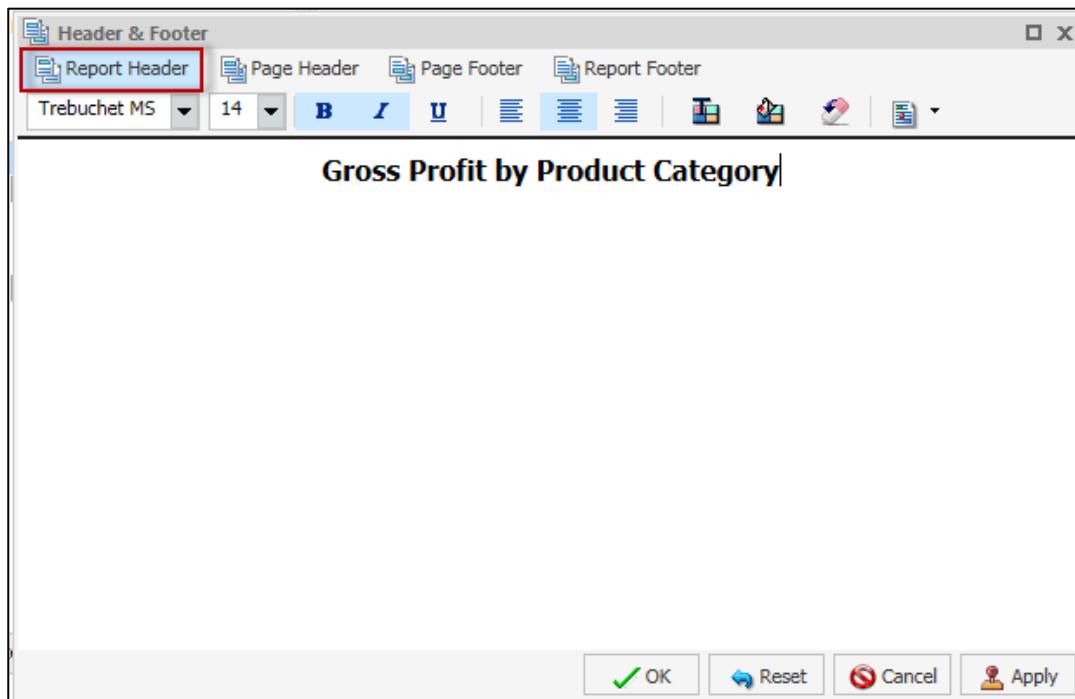
Select the **Home** tab.

Expand the **Report** section if it is compressed.

From the **Report** section, select **Header & Footer**.



The Header & Footer panel is displayed. With Report Header selected, type **Gross Profit by Product Category**.

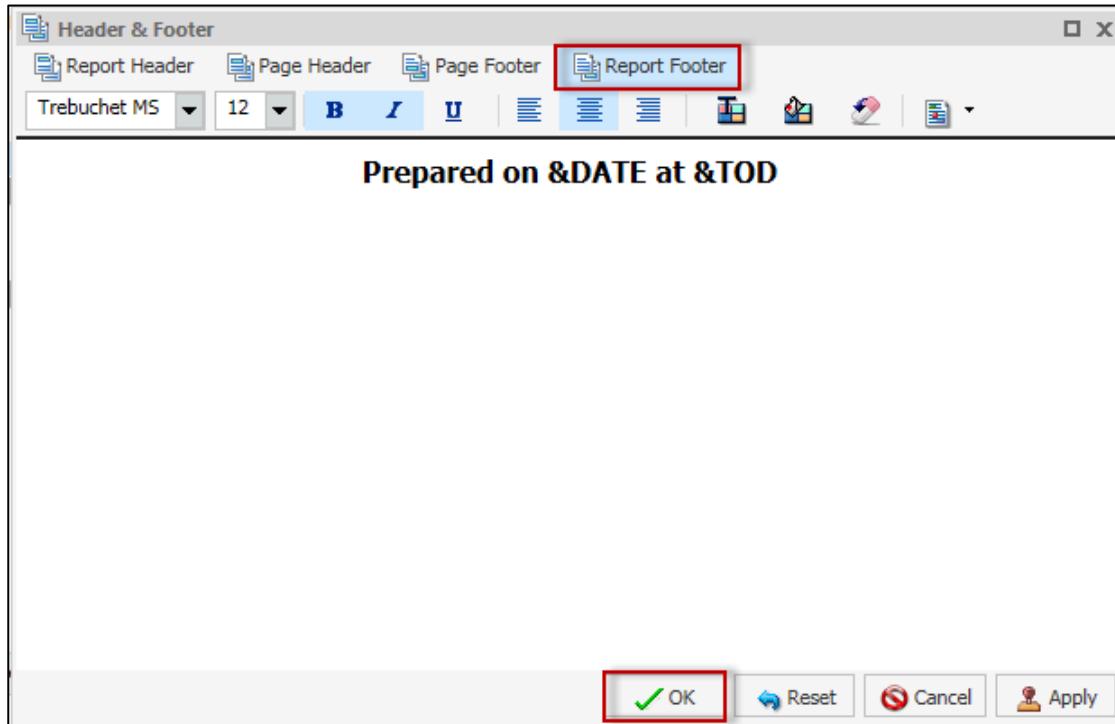


Click Report Footer and type **Prepared on &DATE at &TOD**.

**&DATE** and **&TOD** are system variables you can leverage in your report headings/footers. This will print the date and time of day that the report was produced at the end of the report.

You can find more variations by clicking on the **Insert Preformatted Text**  icon.

Click **OK** to save your Heading & Footing changes



Run  the report.

Gross Profit by Product Category				
Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>
<hr/> <b>Prepared on 07/02/18 at 11.46.38</b>				

Notice the default format for the date is mm/dd/yy. Next you will make this more readable.

---

Close the **Report Results** window and return to the **Live Preview** window.

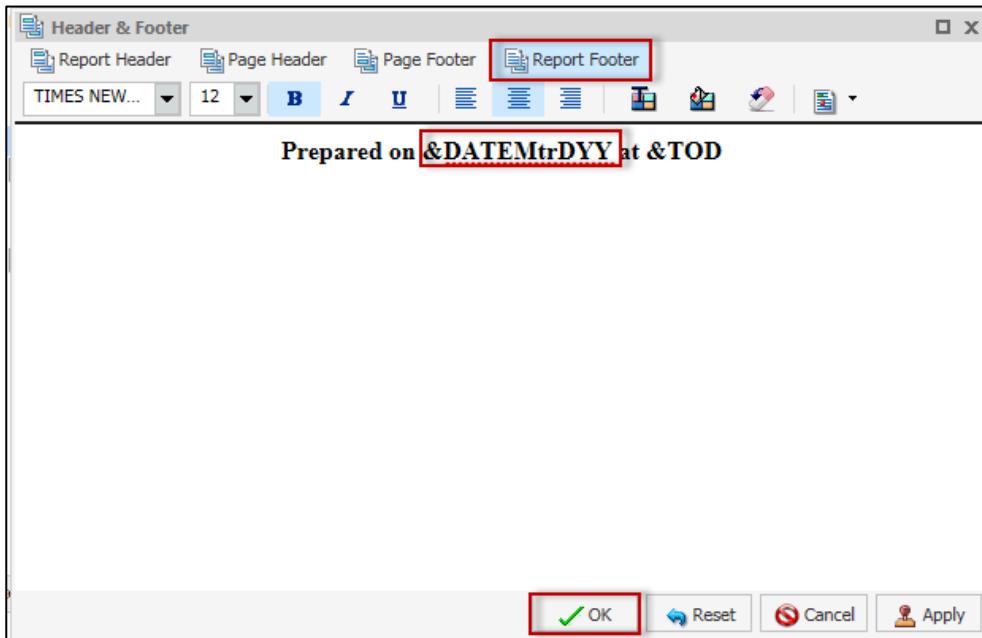
To modify the footer, click **Header & Footer**.

Select **Report Footer**.

When formatting a date with Web Query, **M** stands for the two digit month, **D** for the two digit day, and **Y** for the two digit year or **YY** for the four digit year.

You can use system variables to format the date differently. To add the three character name to the day or month, add the letter **t** after the **M** or **D**. For example, **Mt** would print as Aug or Dec. Adding an **r** after the **t** displays the long form of the name. These rules are explained in the Web Query manual and in the Redbook.

Change **&DATE** to **&DATEMtrDYY** and click **OK** to save the changes.



Save your report. The name of the report is still **IA3\_GrossPft**

Run  the report.

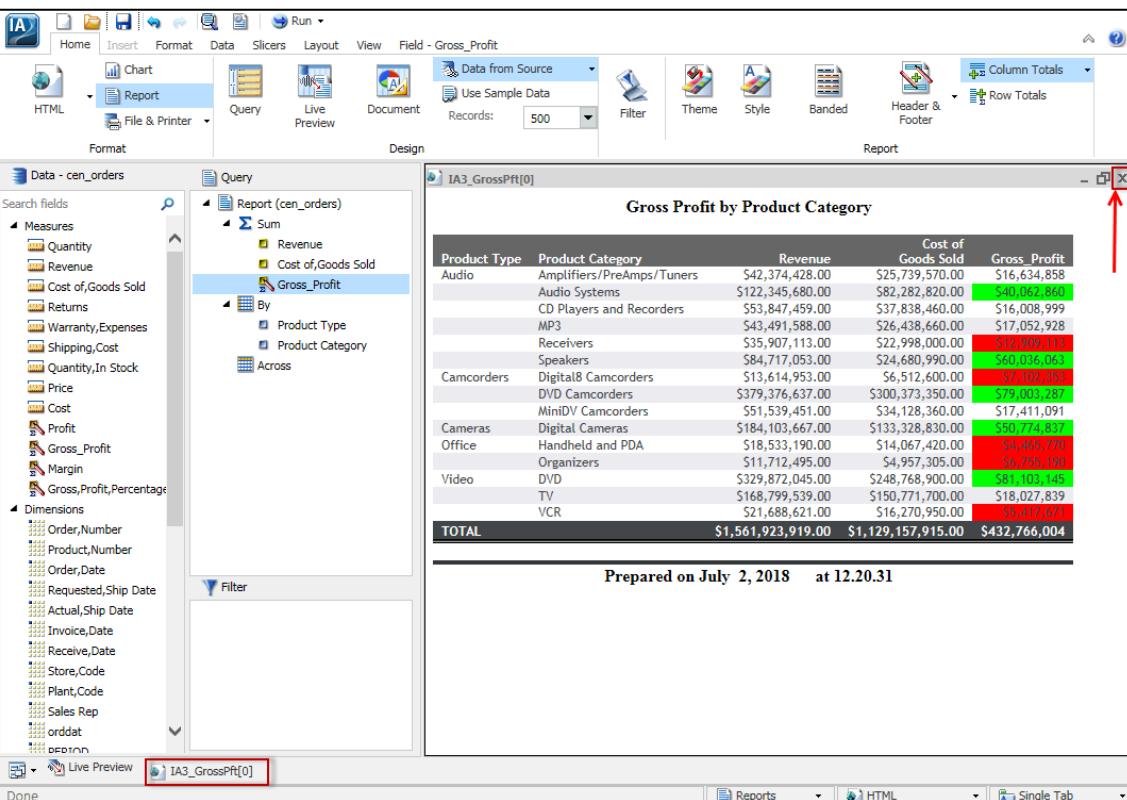
IA3\_GrossPft[0]

**Gross Profit by Product Category**

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>
<hr/> <b>Prepared on July 2, 2018 at 12.20.31</b>				

Note the new date format.

Close your Report Results window by clicking the **Close**  button.



IA3\_GrossPft[0]

**Gross Profit by Product Category**

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>
<hr/> <b>Prepared on July 2, 2018 at 12.20.31</b>				

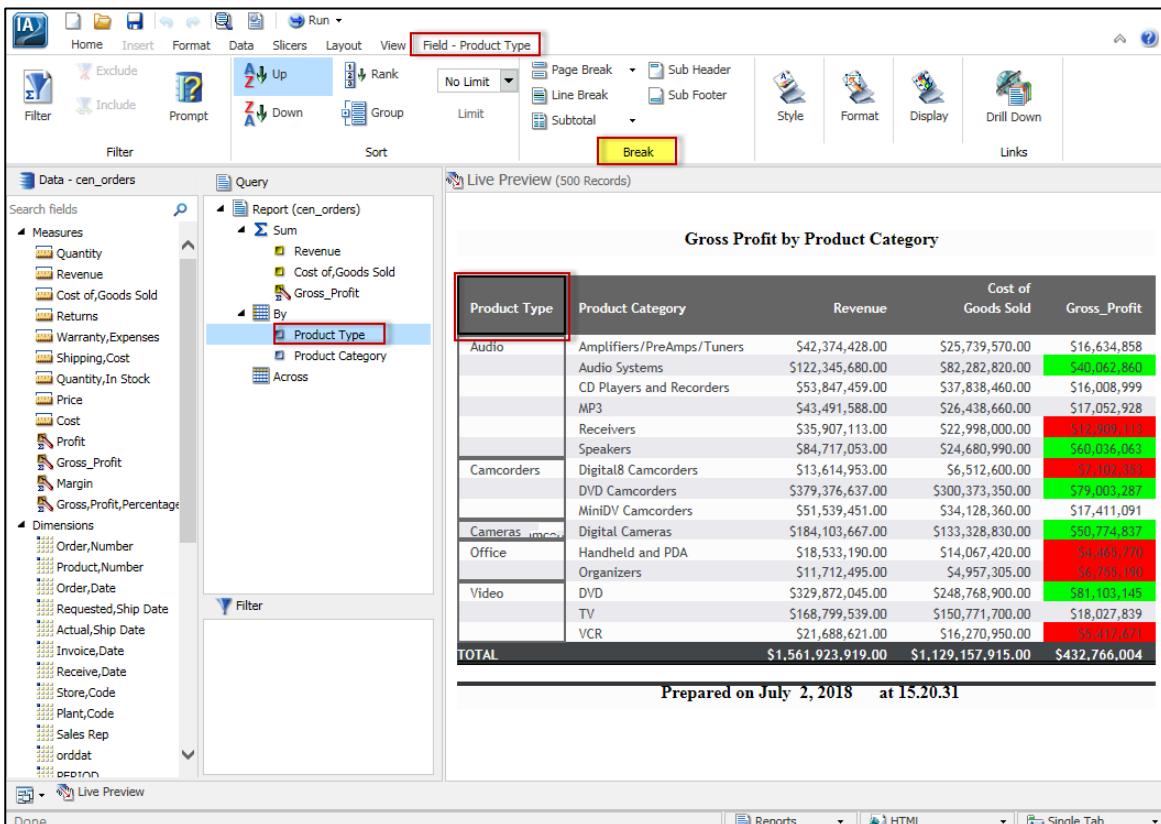
## 2 Additional InfoAssist+ Features

This section investigates different options available with Db2 Web Query and InfoAssist. You will continue working with **IA3\_GrossPft** report as the starting point. Do not save the report changes in this section as you will need **IA3\_GrossPft** later. If you wish to take a break while you are testing the additional functionality, save your work under a new name and come back later and open your saved version.

### 2.1 How to Insert a Line Break

Insert a line break whenever the Product type changes.

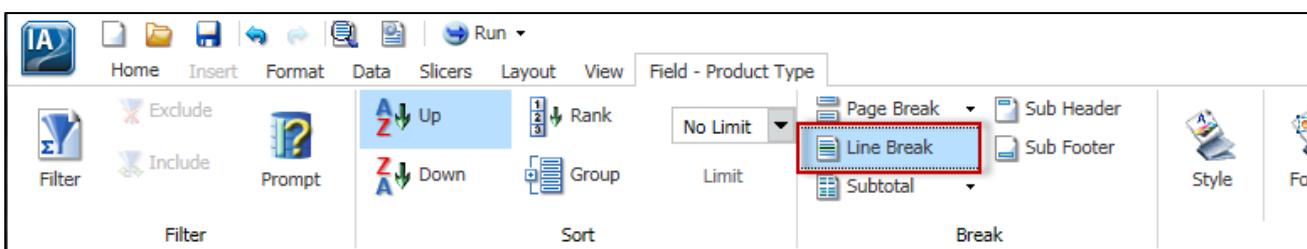
Select **Product Type**. This will open the **Field – Product Type** tab.



Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
Camcorders	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,999,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$39,036,063
	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
Cameras	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
	Office	\$18,533,190.00	\$14,067,420.00	\$4,465,770
	Handheld and PDA	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	Organizers	\$11,561,923,919.00	\$1,129,157,915.00	\$432,766,004
	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>				

Expand the **Break** group in the field specific ribbon if it is compressed.

Select **Line Break**



Note that the report now contains a line break after each **Product Type**.

The screenshot shows the IBM Cognos Report Studio interface. The top menu bar includes Home, Insert, Format, Data, Slicers, Layout, View, and a 'Field - Product Type' dropdown. The 'Field - Product Type' dropdown is open, showing options like 'No Limit', 'Page Break', 'Sub Header', 'Line Break' (which is selected and highlighted in blue), 'Sub Footer', 'Limit', 'Group', 'Sort', 'Break', 'Style', 'Format', 'Display', 'Drill Down', and 'Links'. The left pane shows the 'Data - cen\_orders' source with sections for Measures (Quantity, Revenue, Cost of Goods Sold, Gross Profit) and Dimensions (Order Number, Product Number, Order Date, Requested Ship Date, Actual Ship Date, Invoice Date, Receive Date, Store Code, Plant Code, Sales Rep, ordert, orpart). The 'Query' pane shows a report structure with a Sum node under 'Report (cen\_orders)', which has Revenue, Cost of Goods Sold, and Gross Profit as children. The 'By' node has 'Product Type' and 'Product Category' as children, and 'Across' as a sibling. The 'Live Preview (500 Records)' pane displays the following data:

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit	
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858	
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860	
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999	
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928	
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113	
Camcorders	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063	
	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353	
	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287	
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091	
	Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office		Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
		Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video		DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
		TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671	
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>	

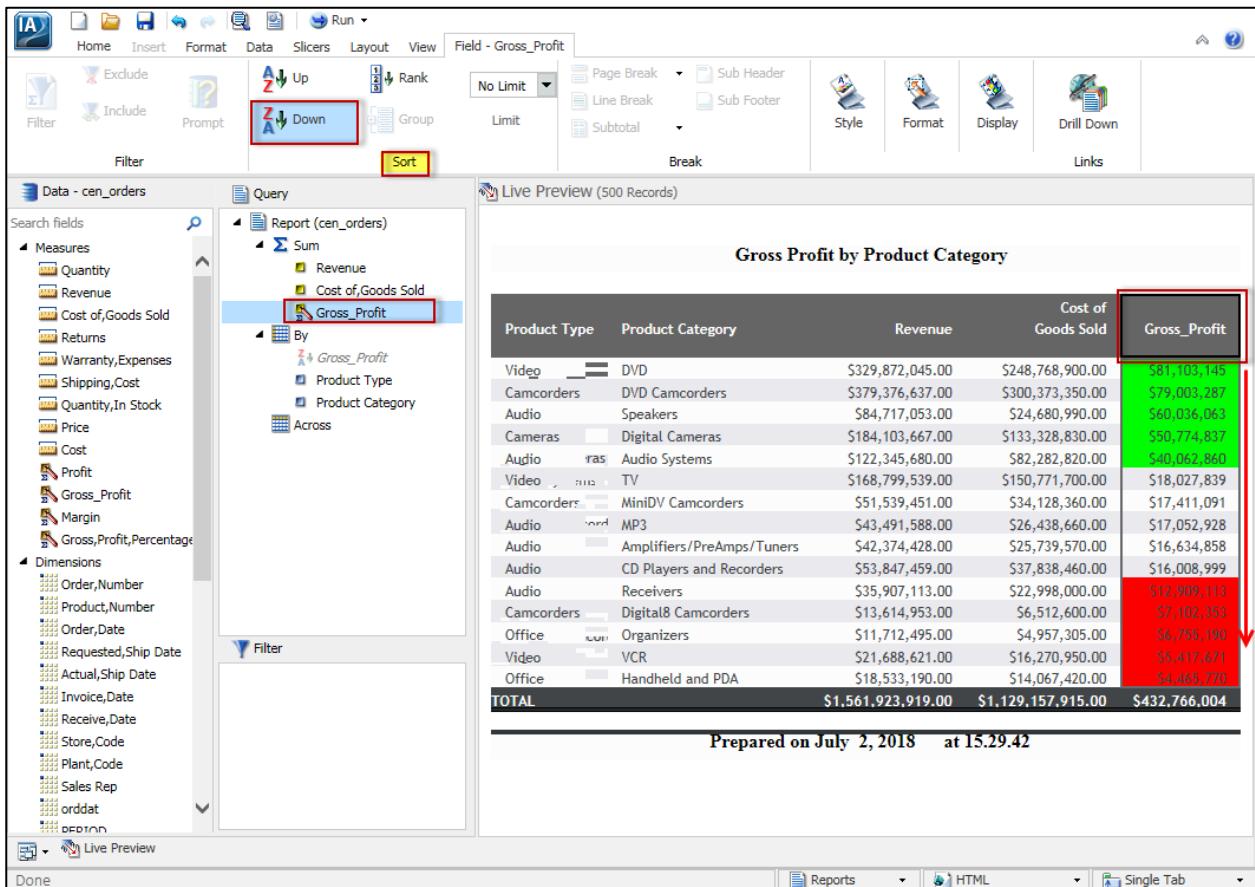
Click **Line Break** again to turn it off.

## 2.2 How to Sort a Sum Field

Assume that you would like this report sorted by **Gross Profit** within **Product Type**. You can do this in a variety of different ways. Here is one method

Click the **Gross Profit** column. This opens up the **Field** specific tab for **Gross Profit**. If the **Sort** group is not open, expand it.

Click on the **Down** button. This sorts the entire report by **Gross Profit** descending.



Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
Camcorders	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
Audio	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Audio	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
Video	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
Camcorders	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
Audio	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
Audio	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
Audio	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
Camcorders	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Office	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
Video	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
Office	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766.04</b>

Look at the **Query panel**. Note that when you made **Gross Profit** a sort column, InfoAssist+ automatically inserted **Gross Profit** as the first **By** column and made it hidden.

Next you want to change the sort orders, making **Product Type** the primary sort column, and then **Gross Profit** within **Product Type**.

In the **Query Panel**, select **Product Type** and drag it above **Gross Profit**.

The Query Panel shows a tree structure. Under 'Report (cen\_orders)', there is a 'Sum' node with 'Revenue', 'Cost of, Goods Sold', and 'Gross\_Profit'. Below 'Sum' is a 'By' section. The 'Gross\_Profit' item is highlighted with a red box and has a red arrow pointing to it from the left. The 'Product Type' item is also highlighted with a red box. Other items in the 'By' section include 'Product Category' and 'Across'.

**Product Type** now appears above **Gross Profit** in the **By** section. You can see in the **Live Preview** window that **Gross Profit** is now sorted in descending order within **Product Type**.

The Live Preview window displays a report titled 'Gross Profit by Product Category'. The data is presented in a table with the following columns: Product Type, Product Category, Revenue, Cost of Goods Sold, and Gross Profit. The table is sorted by Product Type in descending order and by Gross Profit within each Product Type in descending order. Red arrows point to the 'Gross\_Profit' column in the table. The table shows data for various product categories like Audio, Camcorders, Cameras, Office, and Video, with sub-categories like Speakers, Audio Systems, MP3, etc.

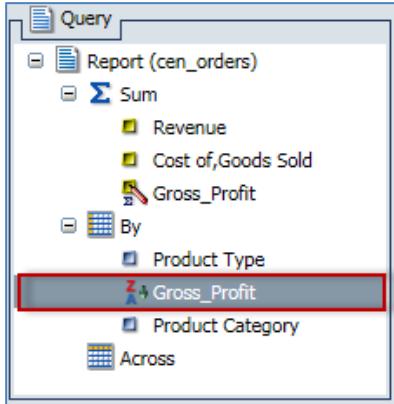
Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
Camcorders	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Cameras	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

Prepared on July 2, 2018 at 15:33:28

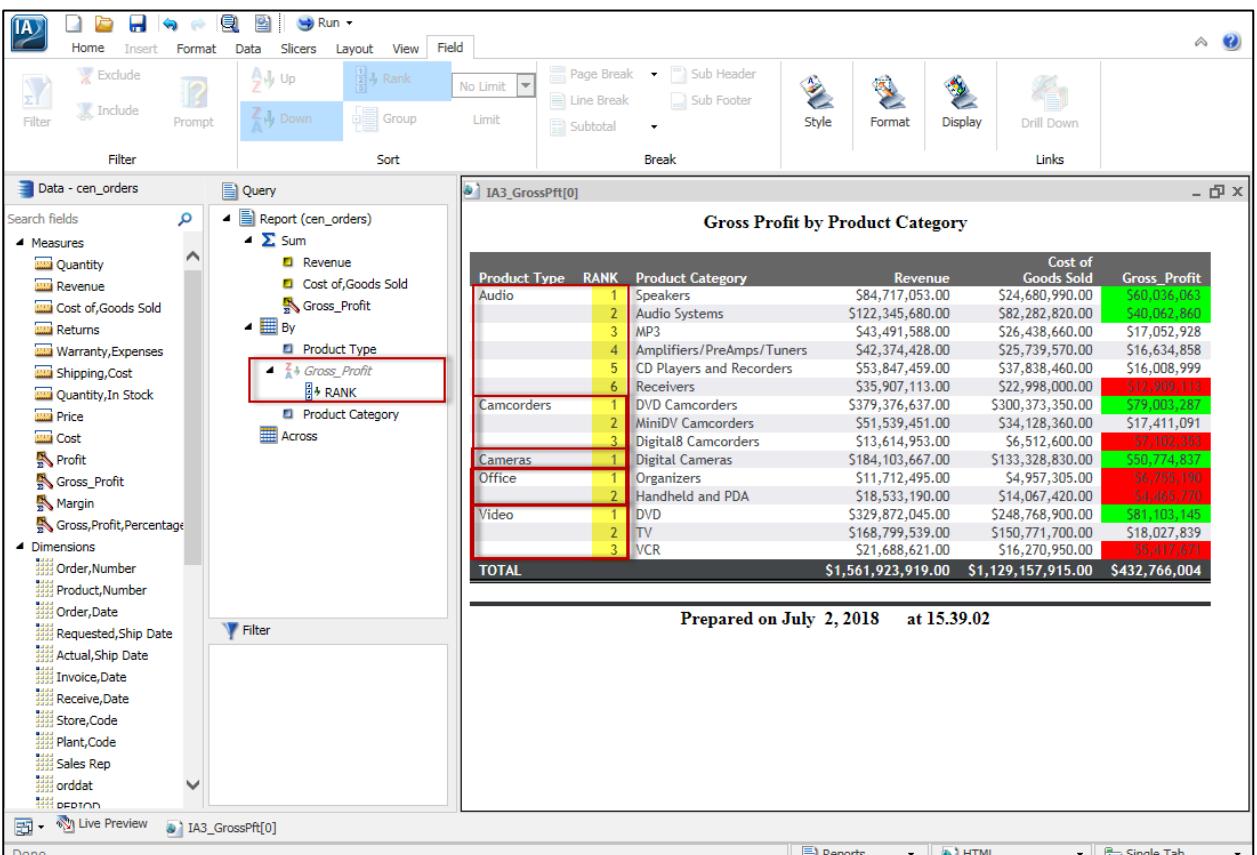
## 2.3 How to Add Ranking Columns

In addition to sorting by Gross Profit you can rank by Gross Profit.

In the **Query panel**, click the **Gross\_Profit** column in the **By** section. This sets the **Field specific tab** to the **Gross\_Profit** field.



Click the **Rank** button in the **Sort** section. The results are now ranked by **Gross Profit** within **Product Type**.



The screenshot shows the IBM Cognos BI environment. On the left, the **Query panel** displays a hierarchical structure of measures and dimensions. In the **By** section, the **Gross\_Profit** field is selected. In the **Sort** section, the **Rank** button is highlighted with a red box. The main pane displays a report titled "IA3\_GrossPft[0]" with the heading "Gross Profit by Product Category". The report table lists products by category, with rows numbered 1 through 6. The "RANK" column is highlighted with a red box. The table includes columns for Product Type, RANK, Product Category, Revenue, Cost of Goods Sold, and Gross\_Profit. The "TOTAL" row shows the sum of all values. The report is prepared on July 2, 2018, at 15:39.02.

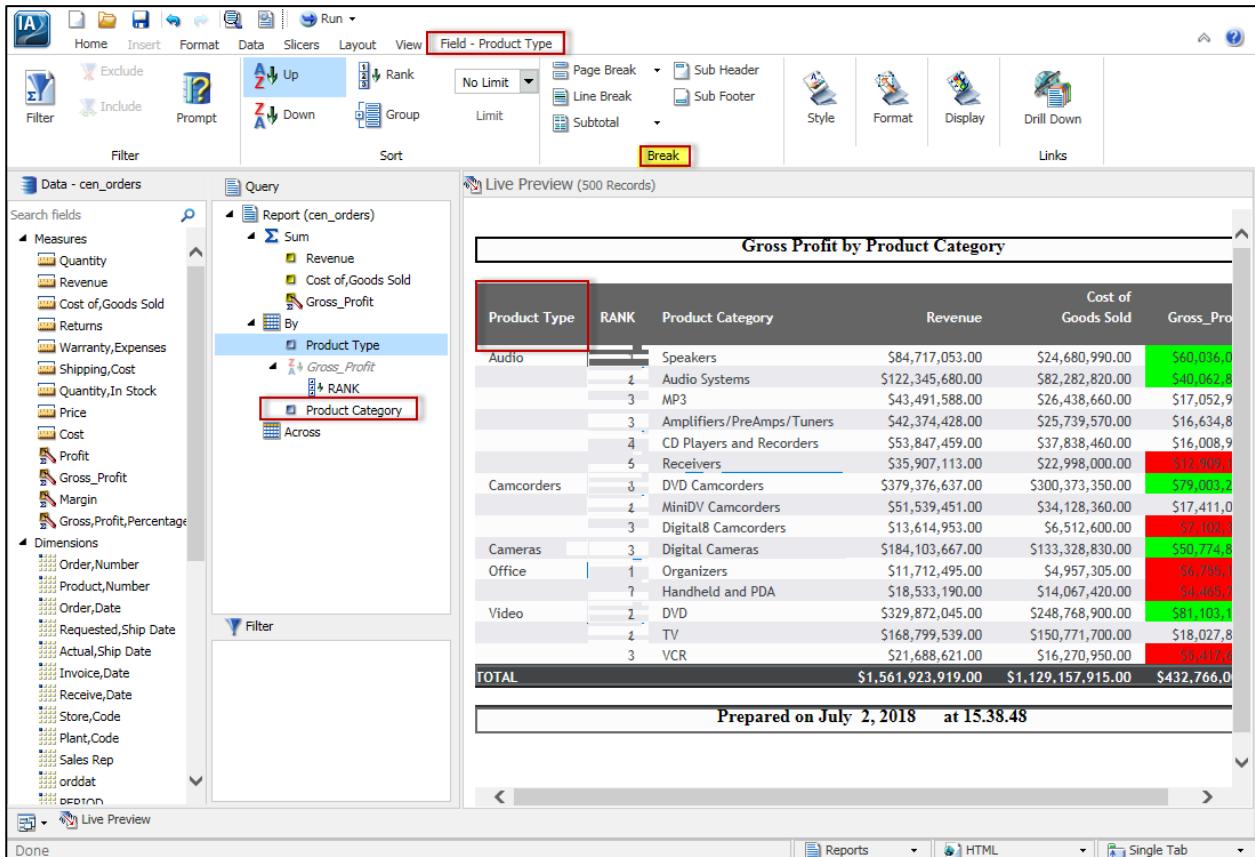
Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>			<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

If you wanted a Top 10 report, you would change the Limit field next to the Ranking to 10.

## 2.4 How to Generate Subtotals

Next add subtotals to the report.

Select **Product Type** from the **Live Preview** window or **Query Panel** view. This action opens the **Field** specific tab for **Product Type**.

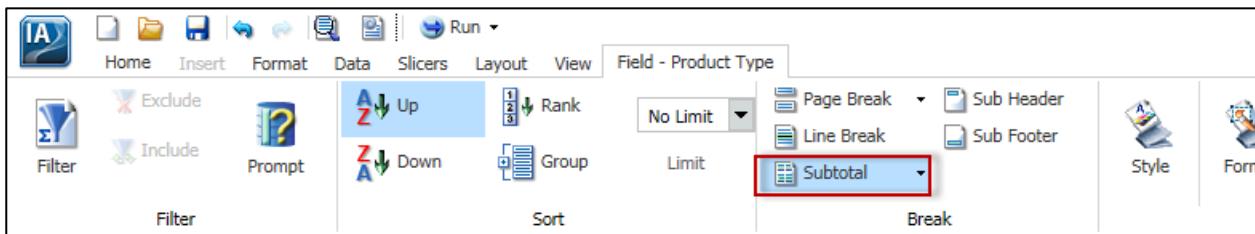


Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
Camcorders	1	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,848
	2	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,919
	3	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,407,113
Cameras	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,007.00
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,071
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Office	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,775,837
	2	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	3	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766.00</b>	

Prepared on July 2, 2018 at 15:38:48

If required, expand the **Break** group.

Click **Subtotal**.



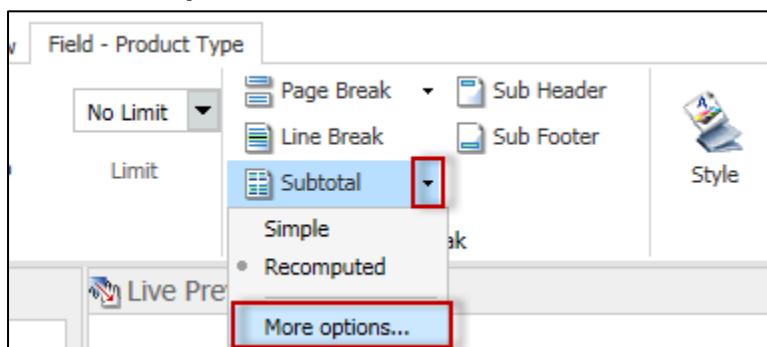
Run  the report.

IA3\_GrossPft[0]

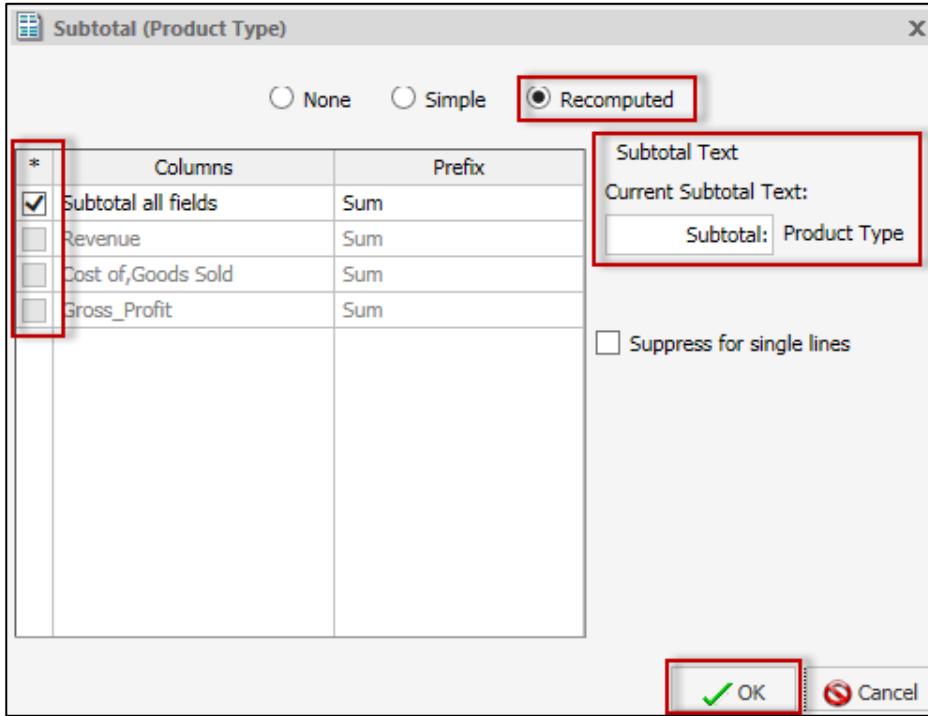
**Gross Profit by Product Category**

Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
<b>Subtotal: Audio</b>			<b>\$382,683,321.00</b>	<b>\$219,978,500.00</b>	<b>\$162,704,821</b>
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
<b>Subtotal: Camcorders</b>			<b>\$444,531,041.00</b>	<b>\$341,014,310.00</b>	<b>\$103,516,731</b>
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
	<b>Subtotal: Cameras</b>			<b>\$184,103,667.00</b>	<b>\$133,328,830.00</b>
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
<b>Subtotal: Office</b>			<b>\$30,245,685.00</b>	<b>\$19,024,725.00</b>	<b>\$11,220,960</b>
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>Subtotal: Video</b>			<b>\$520,360,205.00</b>	<b>\$415,811,550.00</b>	<b>\$104,548,655</b>
<b>TOTAL</b>			<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>
<b>Prepared on July 2, 2018 at 15.46.08</b>					

You can also select which measure columns to subtotal as well as customize the subtotal text. Make sure the **Product Type** column is selected in the **Live Preview** pane (make sure you close the run window and are working back in the **Live Preview** pane). Click on the the small down arrow/triangle icon next to the **Subtotal** button and select **More options**:



The Subtotal dialog window is presented. Make sure the RECOMPUTED radio button is selected. Type “**Subtotal for Product Type:**” in **Current Subtotal text**. Notice that you can select what measure columns are subtotalized by unchecking **Subtotal all fields** and checking any of the individual columns. Before clicking **OK**, make sure **Subtotal all fields** is checked again.



Click **OK**

Run the report.

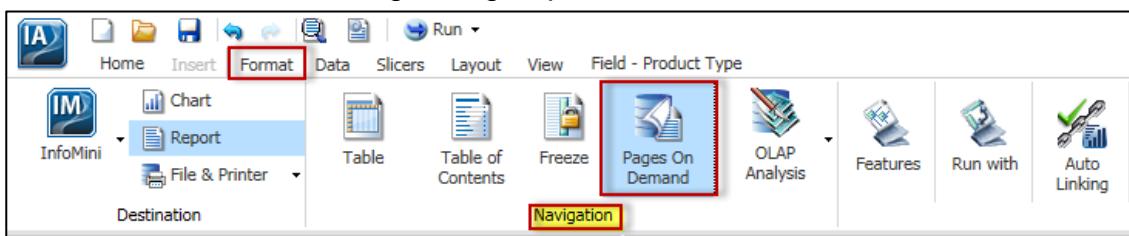
Gross Profit by Product Category					
Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,809,113
Subtotal: Audio			\$382,683,321.00	\$219,978,500.00	\$162,704,821
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Subtotal: Camcorders			\$444,531,041.00	\$341,014,310.00	\$103,516,731
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
	2	Point and Shoot	\$100,000,000.00	\$80,000,000.00	\$20,000,000
Subtotal: Cameras			\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
Subtotal: Office			\$30,245,685.00	\$19,024,725.00	\$11,220,960
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
Subtotal: Video			\$520,360,205.00	\$415,811,550.00	\$104,548,655
TOTAL			\$1,561,923,919.00	\$1,129,157,915.00	\$432,766,004

Prepared on July 2, 2018 at 15.46.08

## 2.5 How to Generate Pages on Demand

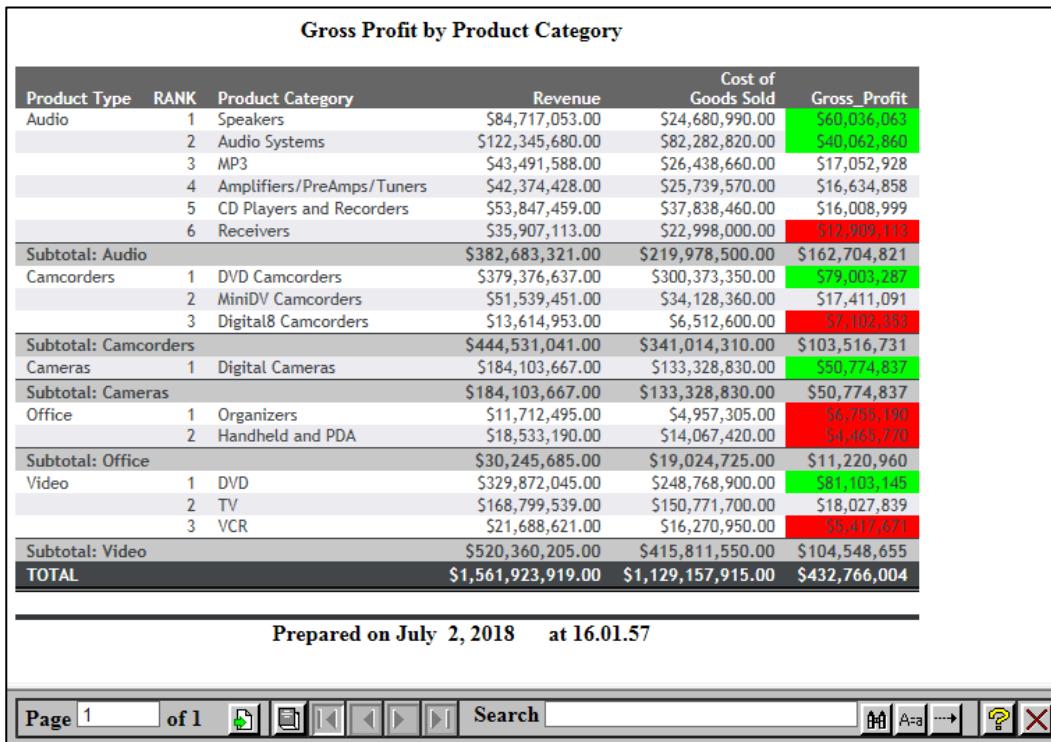
Our sample report is not the best to demonstrate the Pages on Demand feature (because there is not that much data returned), but you will see the options that are available. Imagine that your report is 200 pages long instead of just a single page. When Pages on Demand is activated, Db2 Web Query saves your report on the IBM i and delivers one page of report output at a time to your browser. This not only decreases the amount of time that you wait for your report to be transmitted but it greatly reduces the browser memory requirements. The bulk of your report remains on the IBM i until you request a page or until you close the report. Pages on Demand allows you to jump directly to a specific page or to have the IBM i search for a string of information in the report and return only the page with the first occurrence of the sort string.

Open the Format ribbon and expand **Navigation** if required. Click the **Pages on Demand** button in the Navigation group.



Run  the report.

Note that you can directly enter a page number that you want to jump to, or you can enter a search string to find.



Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
<b>Subtotal: Audio</b>			<b>\$382,683,321.00</b>	<b>\$219,978,500.00</b>	<b>\$162,704,821</b>
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
<b>Subtotal: Camcorders</b>			<b>\$444,531,041.00</b>	<b>\$341,014,310.00</b>	<b>\$103,516,731</b>
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
<b>Subtotal: Cameras</b>			<b>\$184,103,667.00</b>	<b>\$133,328,830.00</b>	<b>\$50,774,837</b>
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
<b>Subtotal: Office</b>			<b>\$30,245,685.00</b>	<b>\$19,024,725.00</b>	<b>\$11,220,960</b>
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>Subtotal: Video</b>			<b>\$520,360,205.00</b>	<b>\$415,811,550.00</b>	<b>\$104,548,655</b>
<b>TOTAL</b>			<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

Prepared on July 2, 2018 at 16.01.57

Page 1 of 1  Search 

Enter **MiniDV** in the **Search panel** and click the **Find** button .

The page containing the first occurrence in the report of **MiniDV** is displayed and that occurrence is underlined.

**Gross Profit by Product Category**

Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
<b>Subtotal: Audio</b>			<b>\$382,683,321.00</b>	<b>\$219,978,500.00</b>	<b>\$162,704,821</b>
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
<b>Subtotal: Camcorders</b>			<b>\$444,531,041.00</b>	<b>\$341,014,310.00</b>	<b>\$103,516,731</b>
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
	<b>Subtotal: Cameras</b>			<b>\$184,103,667.00</b>	<b>\$133,328,830.00</b>
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
<b>Subtotal: Office</b>			<b>\$30,245,685.00</b>	<b>\$19,024,725.00</b>	<b>\$11,220,960</b>
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>Subtotal: Video</b>			<b>\$520,360,205.00</b>	<b>\$415,811,550.00</b>	<b>\$104,548,655</b>
<b>TOTAL</b>			<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

Prepared on July 2, 2018 at 15.55.47

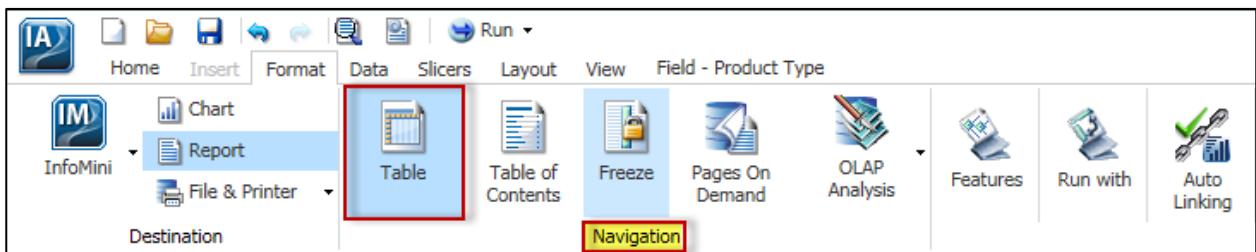
Page 1 of 1     

Close the **Report Results** window.

Click on the **Live Preview** tab at the bottom left to see your **Live Preview** window again.

Let's remove the **Pages on Demand** feature and return to the **Table** navigation type. If the **Navigation** group isn't expanded, expand it now.

Click the **Table** button. This returns your report to the default table output type.

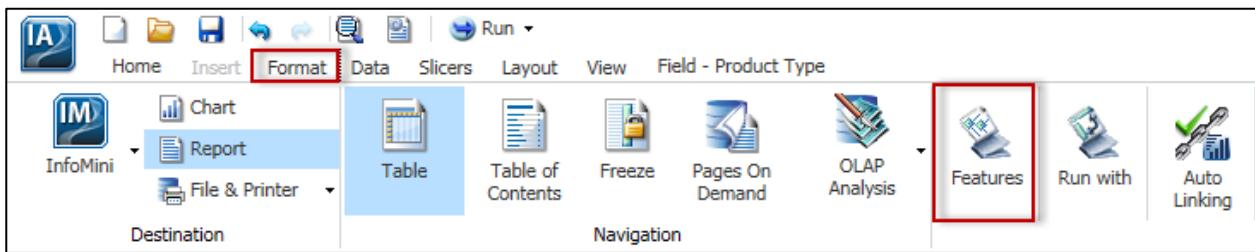


The screenshot shows the InfoBuilder ribbon with the 'Format' tab selected. Below the ribbon, the 'Navigation' group is expanded, showing options like 'Table', 'Table of Contents', 'Freeze', 'Pages On Demand', 'OLAP Analysis', 'Features', 'Run with', and 'Auto Linking'. The 'Table' button is highlighted with a red box.

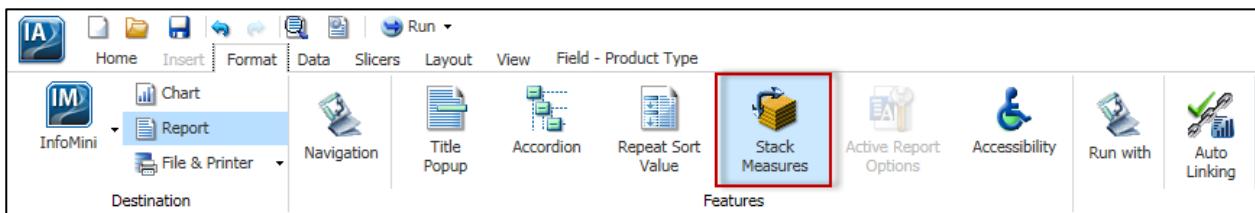
## 2.6 How to Stack Measures

A nice addition to Db2 Web Query with InfoAssist+ is the capability, when designing a report, to request that your numeric fields are stacked on top of one another instead of laid out next to each other across the report. This is especially true when using the **Across** section, since **Across** tends to require a lot of horizontal report space.

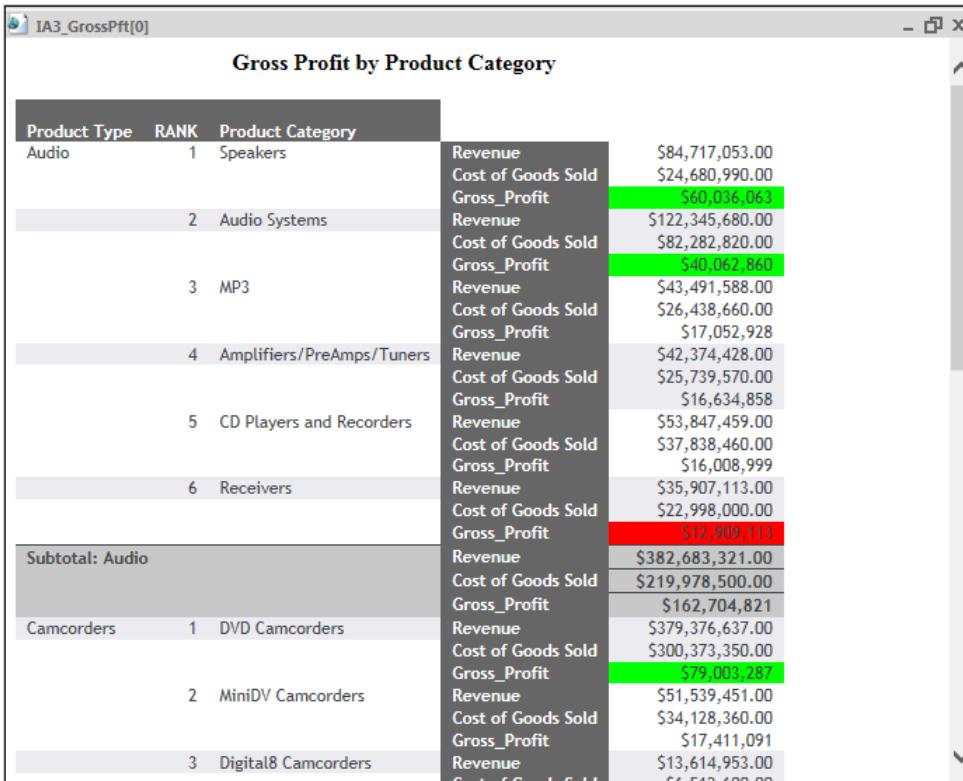
Expand **Features** on the **Format** ribbon.



Click **Stack Measures**



Run  the report.

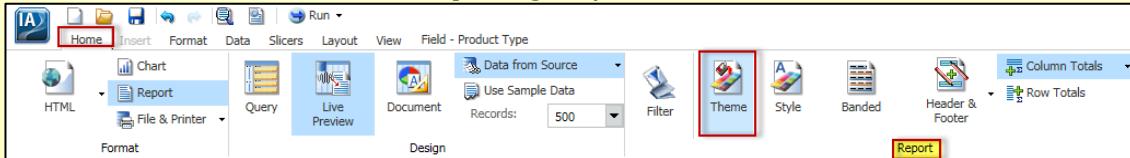


Product Type	RANK	Product Category	
Audio	1	Speakers	Revenue \$84,717,053.00
			Cost of Goods Sold \$24,680,990.00
			Gross_Profit \$60,036,063
	2	Audio Systems	Revenue \$122,345,680.00
			Cost of Goods Sold \$82,282,820.00
			Gross_Profit \$40,062,860
	3	MP3	Revenue \$43,491,588.00
			Cost of Goods Sold \$26,438,660.00
			Gross_Profit \$17,052,928
	4	Amplifiers/PreAmps/Tuners	Revenue \$42,374,428.00
			Cost of Goods Sold \$25,739,570.00
			Gross_Profit \$16,634,858
	5	CD Players and Recorders	Revenue \$53,847,459.00
			Cost of Goods Sold \$37,838,460.00
			Gross_Profit \$16,008,999
	6	Receivers	Revenue \$35,907,113.00
			Cost of Goods Sold \$22,998,000.00
			Gross_Profit \$12,909,113
Subtotal: Audio			Revenue \$382,683,321.00
			Cost of Goods Sold \$219,978,500.00
			Gross_Profit \$162,704,821
Camcorders	1	DVD Camcorders	Revenue \$379,376,637.00
			Cost of Goods Sold \$300,373,350.00
			Gross_Profit \$79,003,287
	2	MiniDV Camcorders	Revenue \$51,539,451.00
			Cost of Goods Sold \$34,128,360.00
			Gross_Profit \$17,411,091
	3	Digital8 Camcorders	Revenue \$13,614,953.00
			Cost of Goods Sold \$4,512,400.00

## Report Themes

In these tutorials, all report output is using the default report theme or template.

There are many other themes for you to choose from. These can be found under the **Home** tab, in the **Report** group under **Theme**.



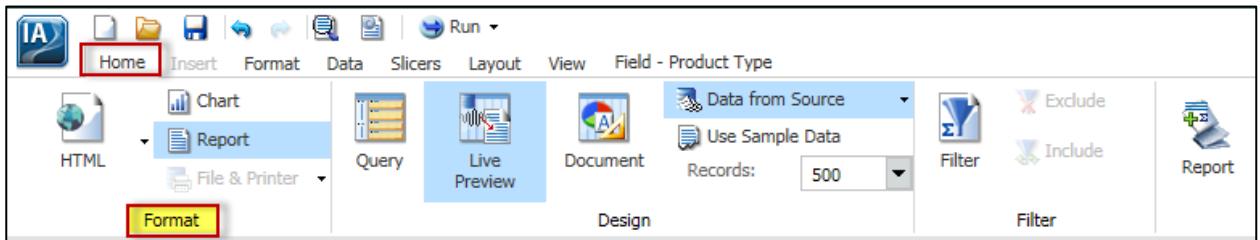
From the **Theme** window select **Template** and you will see all the templates or themes shipped with InfoAssist. For example, you could try using theme **ENocean\_theme.sty** if you wish.

Close your **Report Results** window.

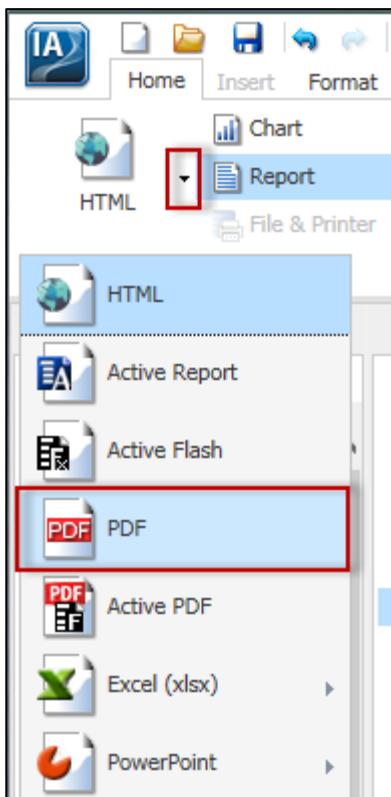
Remove Stack Measures by clicking **Stack Measures** again.

## 2.7 How to Output Reports in PDF

To change your report to PDF, select the **Home** tab.



Expand the **Format** section and select **PDF**



Run  the report. It displays as a pdf document.

Gross Profit Analysis					
Product Type	RANK	Product Category	Revenue	Goods Sold	Gross_Profit
Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
	2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
Subtotal: Audio			\$382,683,321.00	\$219,978,500.00	\$162,704,821
Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
	2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
	3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
Subtotal: Camcorders			\$444,531,041.00	\$341,014,310.00	\$103,516,731
Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
	Subtotal: Cameras		\$184,103,667.00	\$133,328,830.00	\$50,774,837
Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
	2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
Subtotal: Office			\$30,245,685.00	\$19,024,725.00	\$11,220,960
Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
Subtotal: Video			\$520,360,205.00	\$415,811,550.00	\$104,548,655
<b>TOTAL</b>			<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

Prepared on July 2, 2018 at 16.17.56

Close your **Report Results** window.

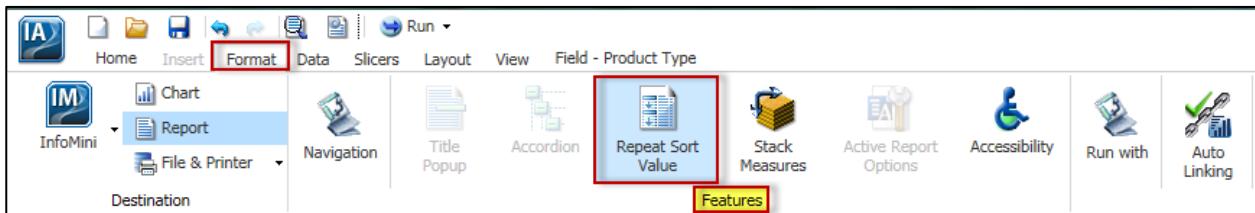
## 2.8 How to Output Reports in Microsoft Excel

There are multiple choices for outputting reports to Excel. A very easy option is to download a report to Excel, complete with formulas, by changing your report **Output Type** to one of the Excel options that use formulas. With this choice, the totals and subtotals, as well as many of the compute fields, are represented as Excel formulas instead of static values. This allows these columns to reflect accurate results even after the user modifies the worksheet.

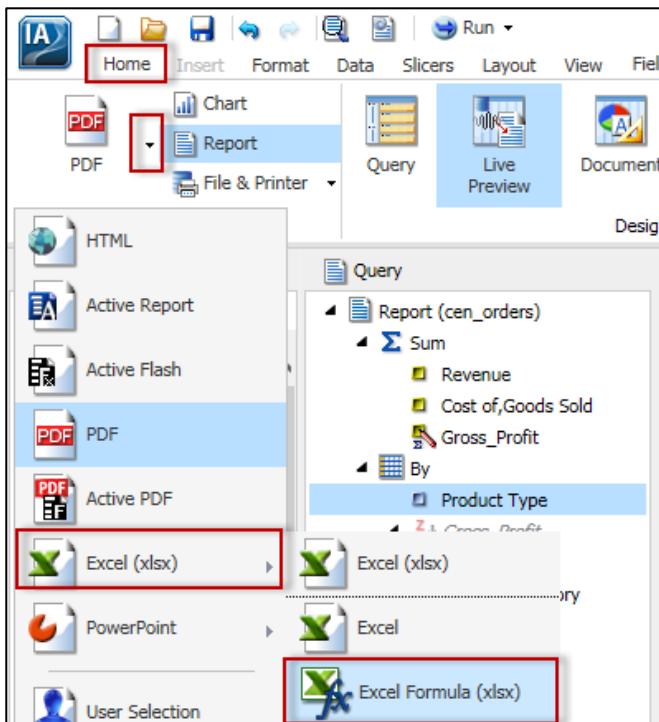
Before selecting Excel as the output format, it is best to ensure that the Product Type values are repeated on every line. By default, InfoAssist+ does not repeat identical *sort by* values for aesthetic reasons. When you send the data to a spreadsheet, you will probably want to fill in every row completely.

You should still be on the Format ribbon, if not select **Format** to open the ribbon, and then expand **Features**.

Select **Repeat Sort Value**.



On the **Home** tab **Format** section, click the drop-down arrow  $\downarrow$  next to the output type shown (.pdf, html, etc.). Then click **Excel (xlsx) > Excel Formula(xlsx)**.



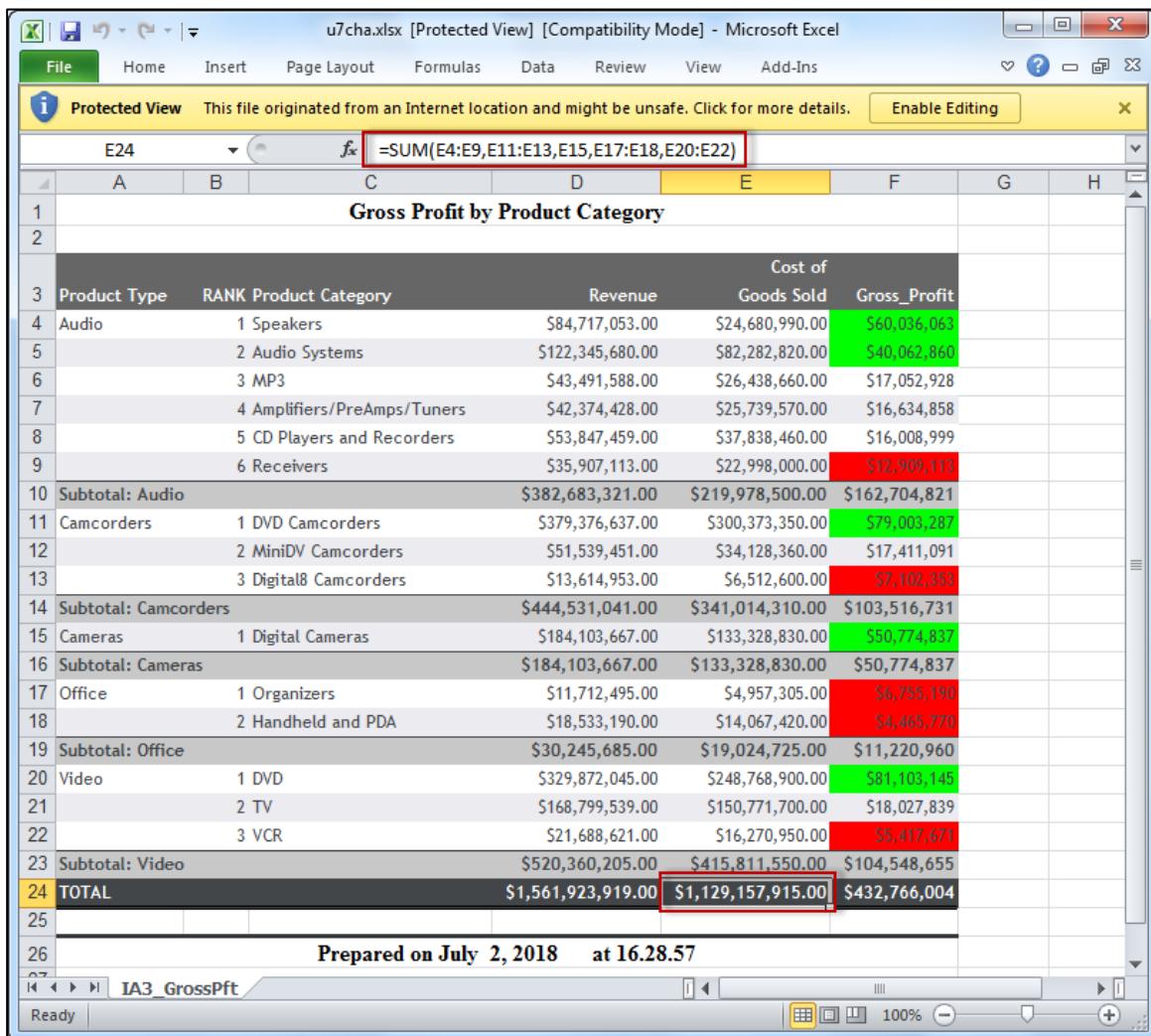
Run  the report.

The report is run, excel output is generated and transferred to the desktop, and then you will see this prompt:

Do you want to open or save u7cha.xlsx (5.07 KB) from db2icoe4.rchland.ibm.com? Open Save Cancel

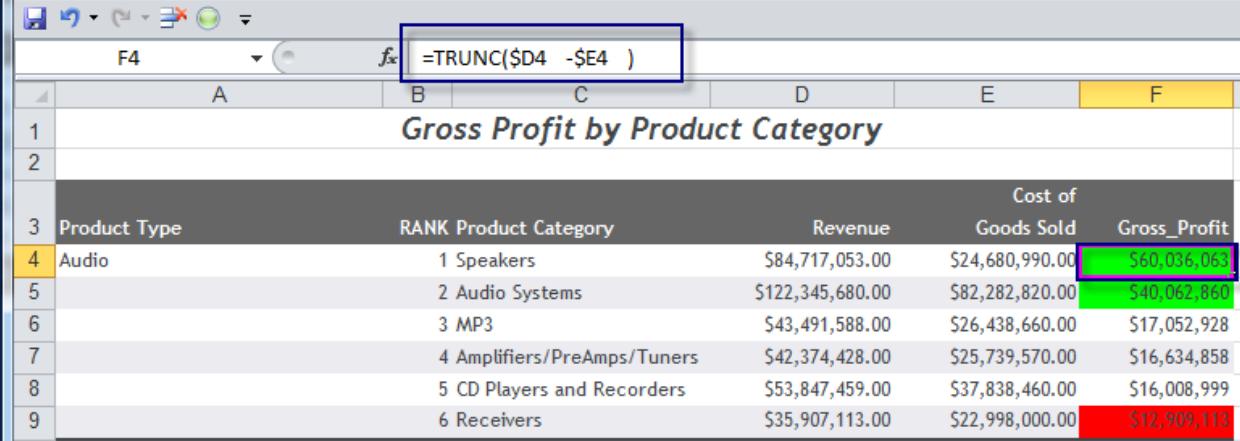
Select Open and the file is opened in Excel. You might need to widen your columns once Excel is populated with the result set to see real numbers vs. the "####" which indicates the data is wider than the column.

Notice the total for **Cost of Goods Sold** in cell **E24**. If you look at the Excel input line, you see that this is represented as a formula as opposed to an actual value of \$1,129,157,915.00. This is a helpful feature for users who want to download reports and then analyze the data and possibly modify some values. Having formulas instead of actual numbers in your report allows field values to be recomputed automatically. If you want to see the constant values downloaded, then choose **Excel (xlsx)** or **Excel** as your output type.



Gross Profit by Product Category						
3	Product Type	RANK	Product Category	Cost of		
				Revenue	Goods Sold	Gross_Profit
4	Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
5		2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
6		3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
7		4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
8		5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
9		6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
10	Subtotal: Audio			\$382,683,321.00	\$219,978,500.00	\$162,704,821
11	Camcorders	1	DVD Camcorders	\$379,376,637.00	\$300,373,350.00	\$79,003,287
12		2	MiniDV Camcorders	\$51,539,451.00	\$34,128,360.00	\$17,411,091
13		3	Digital8 Camcorders	\$13,614,953.00	\$6,512,600.00	\$7,102,353
14	Subtotal: Camcorders			\$444,531,041.00	\$341,014,310.00	\$103,516,731
15	Cameras	1	Digital Cameras	\$184,103,667.00	\$133,328,830.00	\$50,774,837
16	Subtotal: Cameras			\$184,103,667.00	\$133,328,830.00	\$50,774,837
17	Office	1	Organizers	\$11,712,495.00	\$4,957,305.00	\$6,755,190
18		2	Handheld and PDA	\$18,533,190.00	\$14,067,420.00	\$4,465,770
19	Subtotal: Office			\$30,245,685.00	\$19,024,725.00	\$11,220,960
20	Video	1	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
21		2	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
22		3	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
23	Subtotal: Video			\$520,360,205.00	\$415,811,550.00	\$104,548,655
24	TOTAL			\$1,561,923,919.00	\$1,129,157,915.00	\$432,766,004
25						
26	Prepared on July 2, 2018 at 16.28.57					

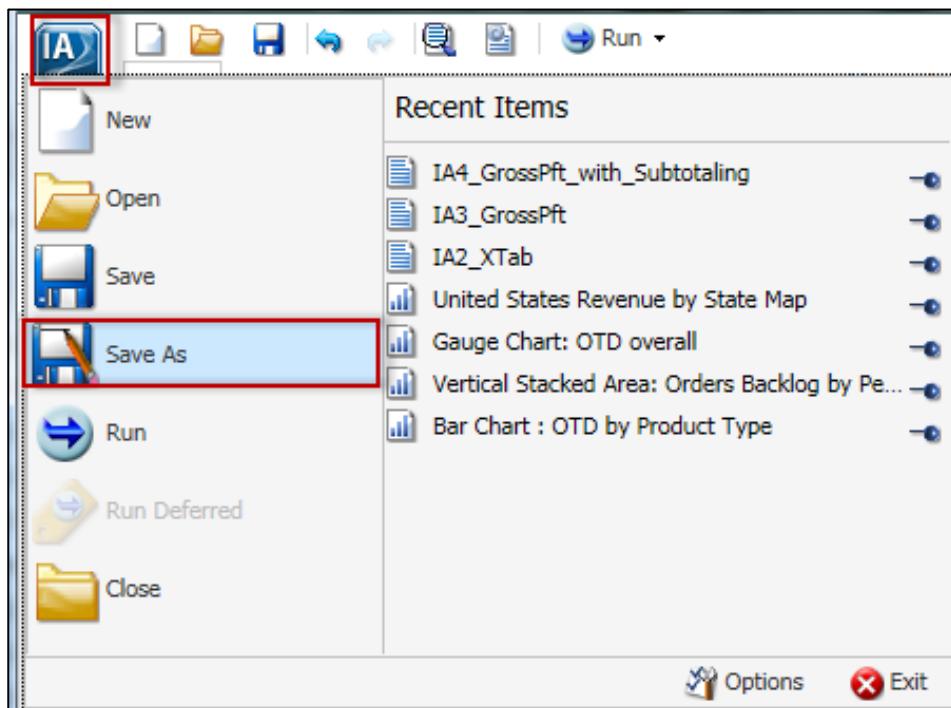
The following image is an example of InfoAssist+ changing a calculated field into an Excel formula. Remember that you created **Gross\_Profit** by specifying **LINETOTAL - COSTOFGOODSSOLD**. Since you chose to do this as a Summary/Compute calculation, Web Query can convert it to an Excel formula. If you had created **Gross\_Profit** as a Detail/Define calculation, it would appear as part of the input record and we would not see the calculation here.



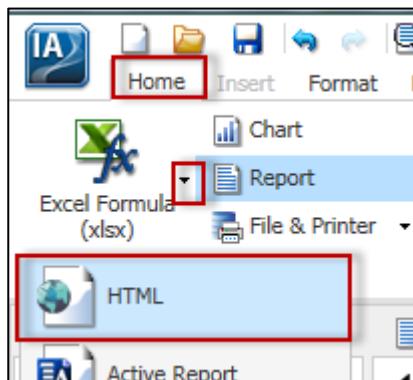
	F4					
			f:	=TRUNC(\$D4 -\$E4 )		
<i>Gross Profit by Product Category</i>						
3	Product Type	RANK	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
4	Audio	1	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
5		2	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
6		3	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
7		4	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
8		5	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
9		6	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113

Close the spreadsheet.

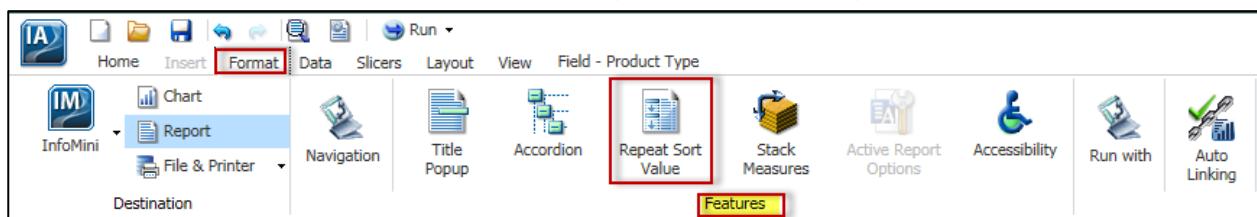
Go back to the **InfoAssist+** editor panel, and **Save As** the report as **IA4\_GrossPft\_with\_Subtotaling**



Change your **Output Format** from **Excel** to **HTML**.



Turn off the **Repeat Sort Values** by clicking on the button again.



## 2.9 How to Create a Table of Contents

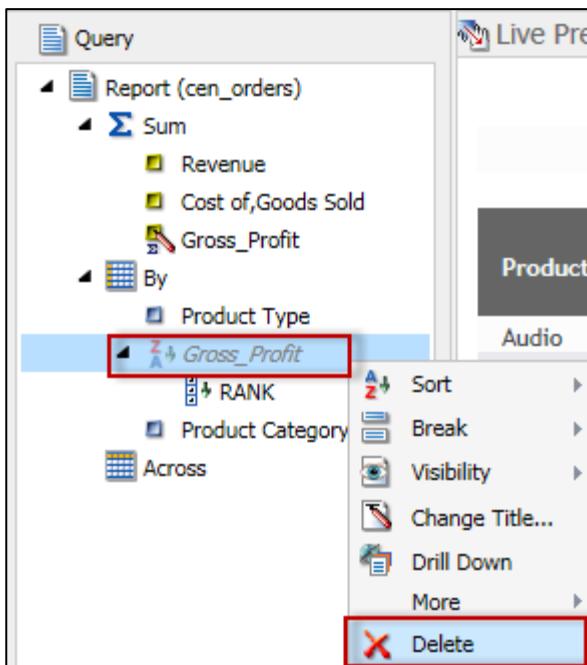
The **Table of Contents** option is activated only when HTML, Active Report, Excel, or PowerPoint **Output Format** is selected.

### Table of Contents and Excel output – multiple worksheets

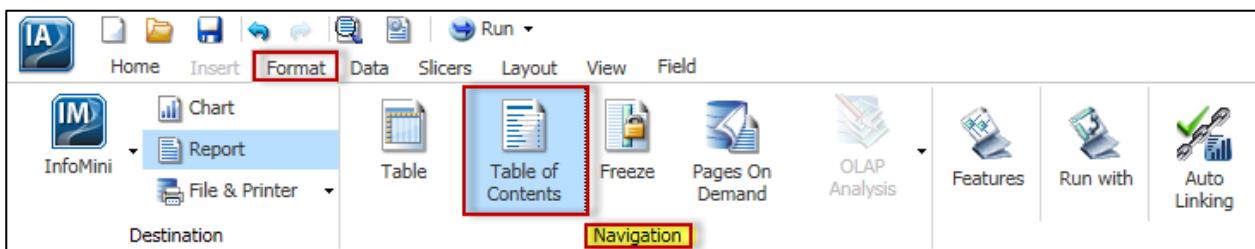
If **Table of Contents** is selected with output to Excel, the resulting report output is placed into a separate worksheet for each of the values in the first **By** column of your report. For example, if **Product Type** is the first By column, each **Product Type** (Audio, Camcorders, etc.) would be on its own worksheet. This is a very easy way to create separate worksheets.

First you will remove the Gross Profit sort and ranking column from this version of the report.

Right-click **Gross\_Profit** under **By** in the **Query Panel** and select **Delete**.

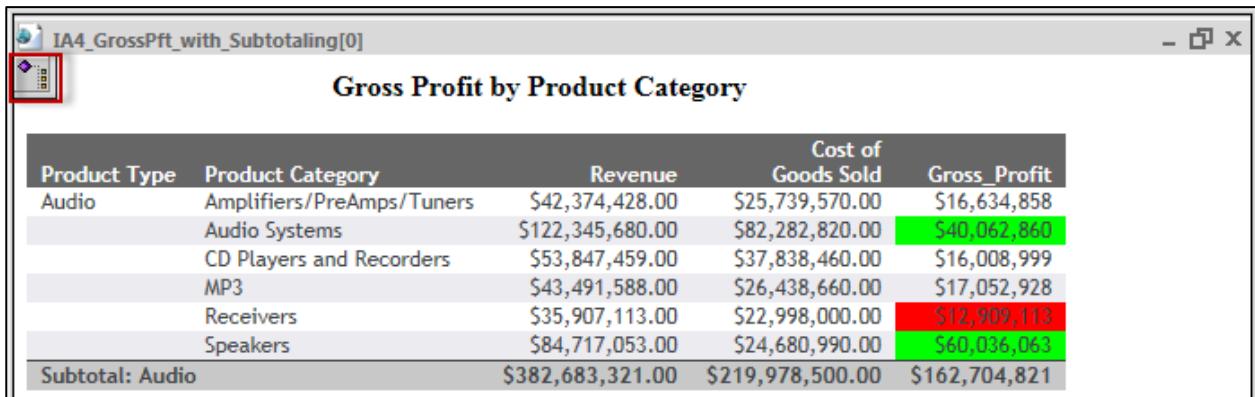


Open the **Format** ribbon, expand the **Navigation** group and select **Table of Contents**.



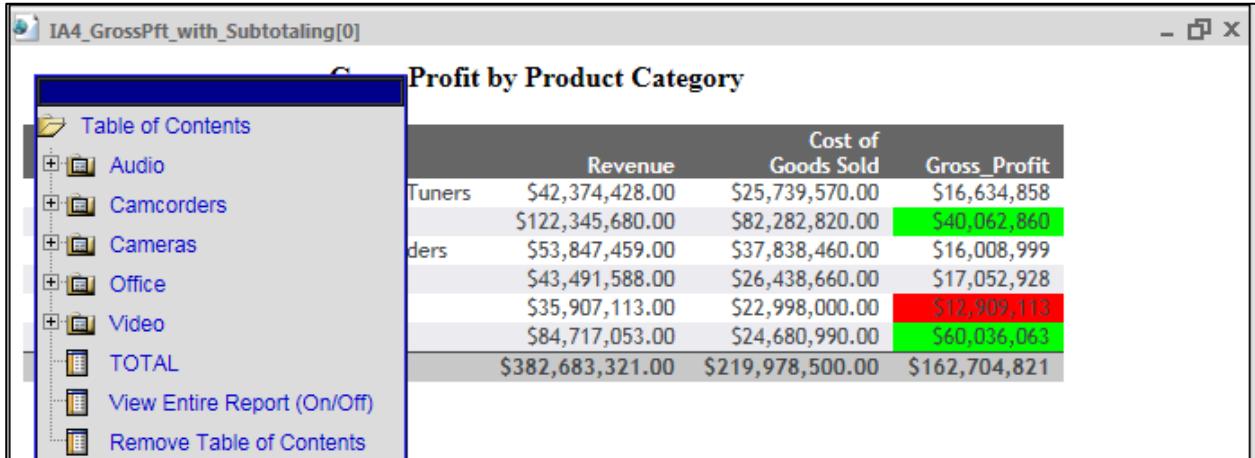
Run  the report.

The small icon  in the top left of your report indicates that a **Table of Contents** is available. Double-click this icon.



Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
Subtotal: Audio		\$382,683,321.00	\$219,978,500.00	\$162,704,821

The Table of Contents opens in a separate window

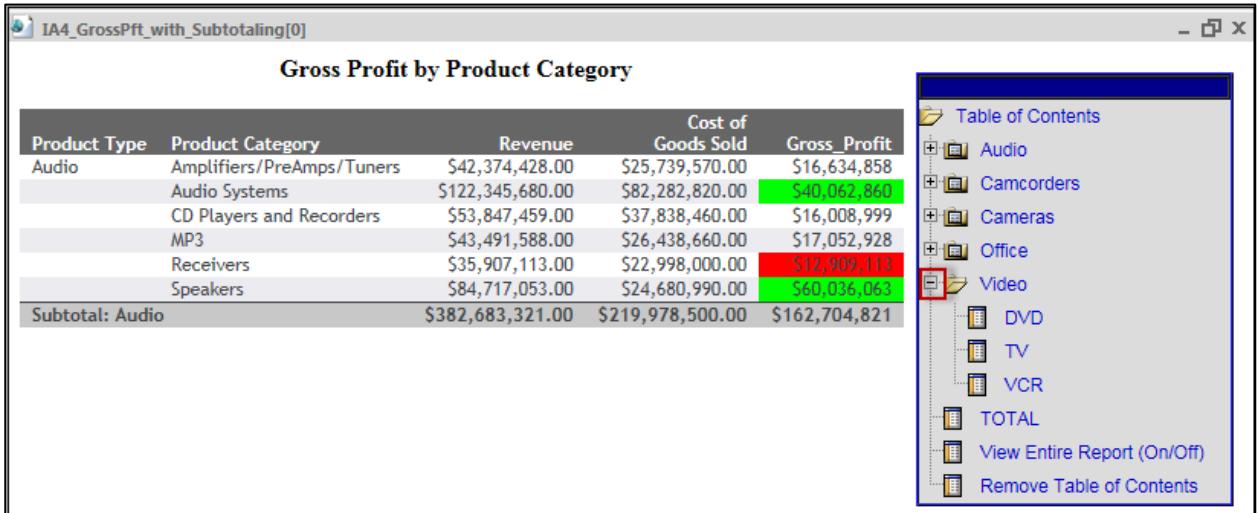


Revenue	Cost of Goods Sold	Gross Profit
\$42,374,428.00	\$25,739,570.00	\$16,634,858
\$122,345,680.00	\$82,282,820.00	\$40,062,860
\$53,847,459.00	\$37,838,460.00	\$16,008,999
\$43,491,588.00	\$26,438,660.00	\$17,052,928
\$35,907,113.00	\$22,998,000.00	\$12,909,113
\$84,717,053.00	\$24,680,990.00	\$60,036,063
\$382,683,321.00	\$219,978,500.00	\$162,704,821

Selecting the table of contents icon opens a menu that enables you to select and display individual values of the sort fields. You can also select options to view the entire report or to remove the table of contents.

Drag your table of contents to an area of the screen that doesn't interfere with your report.

Expand the **Video** section of the table of contents.



**Gross Profit by Product Category**

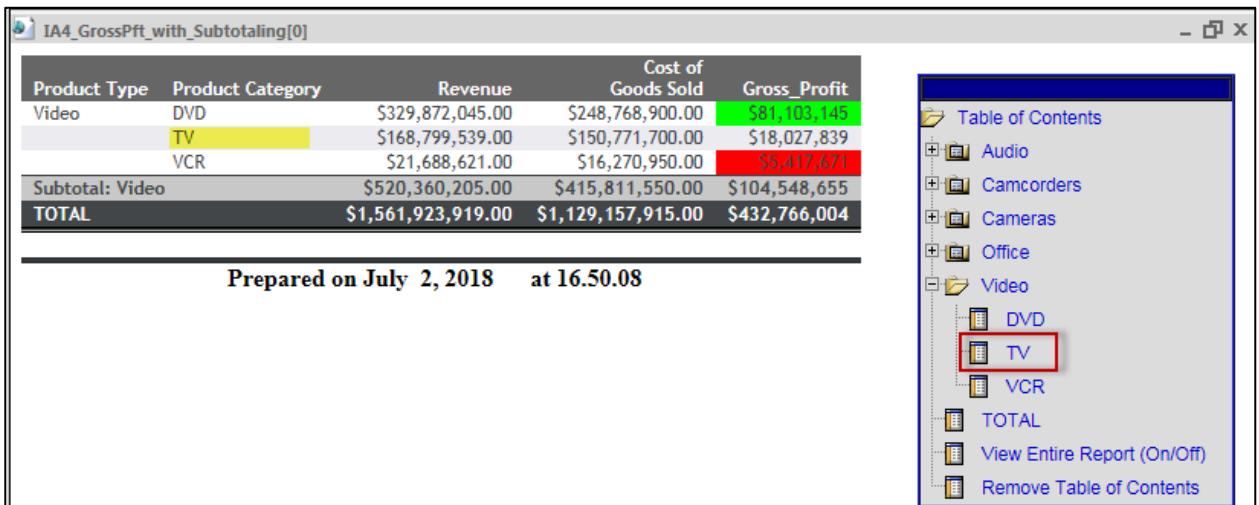
Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
	MP3	\$43,491,588.00	\$26,438,660.00	\$17,052,928
	Receivers	\$35,907,113.00	\$22,998,000.00	\$12,909,113
	Speakers	\$84,717,053.00	\$24,680,990.00	\$60,036,063
<b>Subtotal: Audio</b>	<b>\$382,683,321.00</b>	<b>\$219,978,500.00</b>	<b>\$162,704,821</b>	

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- Audio
- Camcorders
- Cameras
- Office
- Video**
  - DVD
  - TV**
  - VCR
- TOTAL**
- View Entire Report (On/Off)**
- Remove Table of Contents**

Click the **TV** icon.

Note that the **TV** row flashes for a few seconds to draw your attention to it.



**Gross Profit by Product Category**

Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$581,103,145
	<b>TV</b>	\$168,799,539.00	\$150,771,700.00	\$18,027,839
	VCR	\$21,688,621.00	\$16,270,950.00	\$5,417,671
<b>Subtotal: Video</b>	<b>\$520,360,205.00</b>	<b>\$415,811,550.00</b>	<b>\$104,548,655</b>	
<b>TOTAL</b>	<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>	

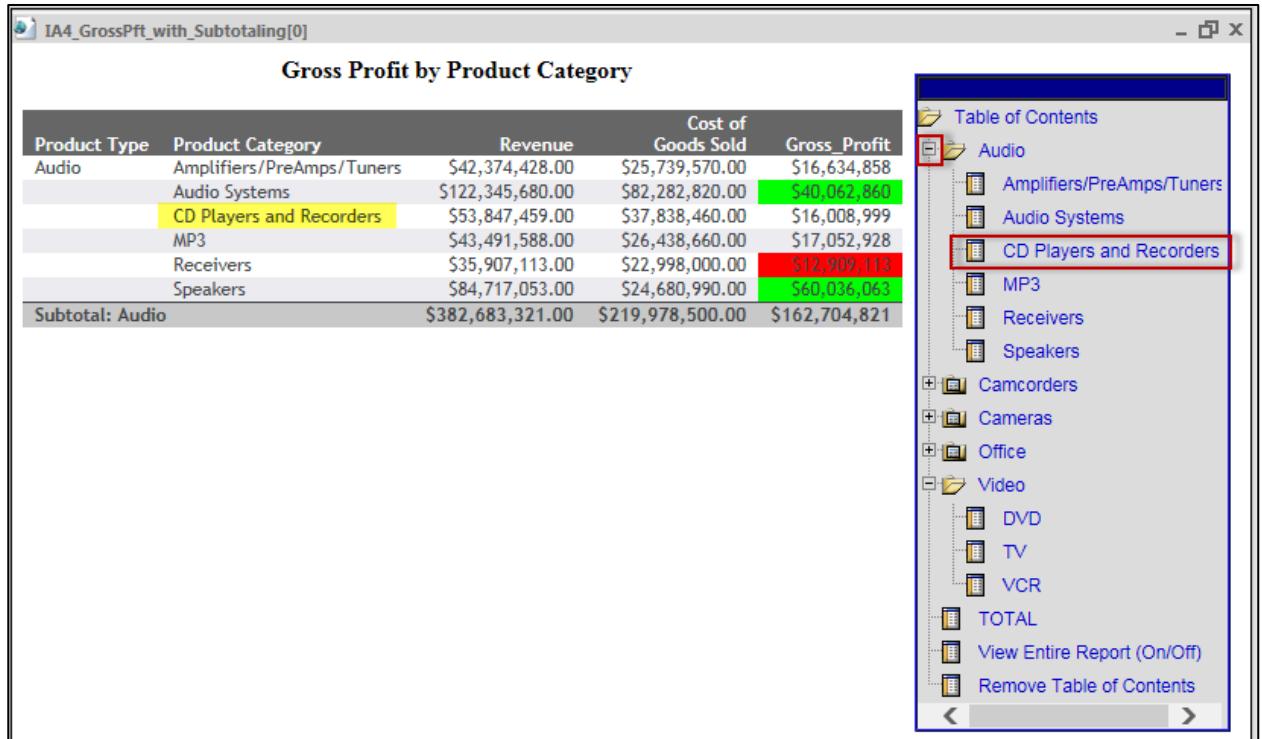
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Table of Contents

- Audio
- Camcorders
- Cameras
- Office
- Video**
  - TV**
  - VCR
- TOTAL**
- View Entire Report (On/Off)**
- Remove Table of Contents**

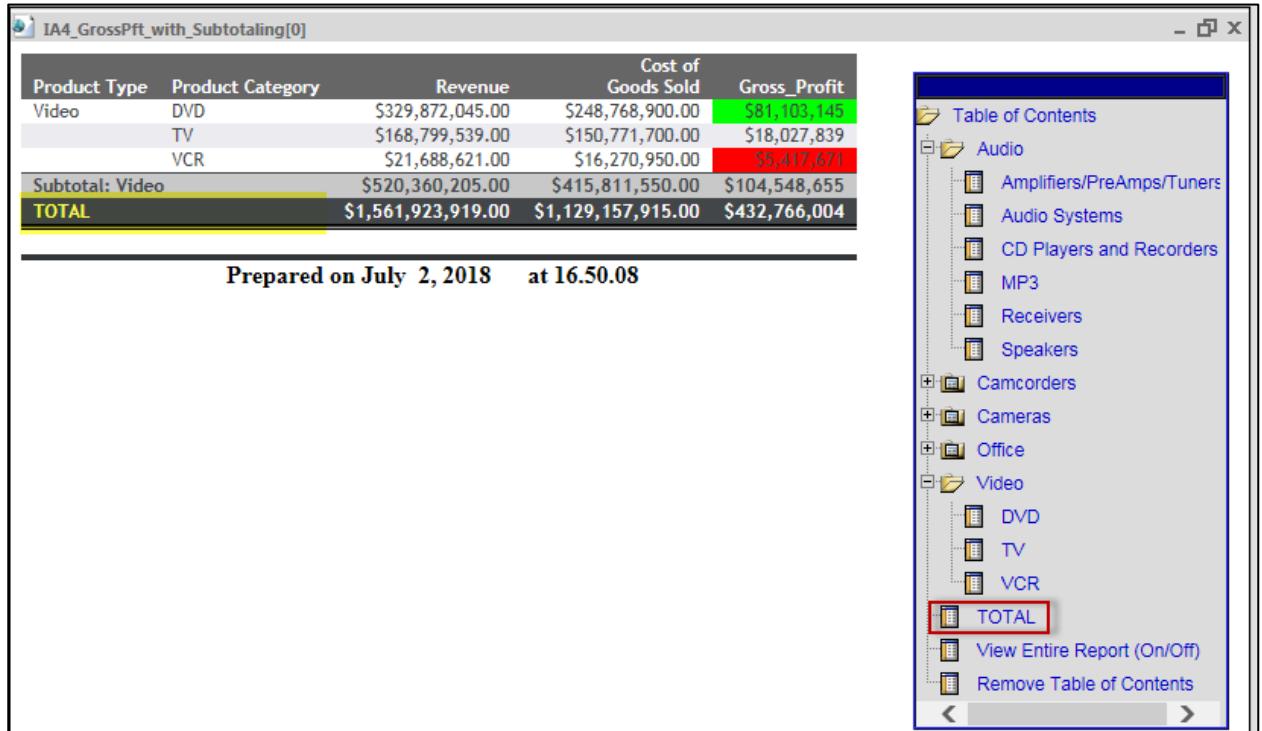
Expand **Audio** and click **CD Players and Recorders**.

Again notice that the **CD Players and Recorders** row flashes for a few seconds to get your attention.



Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Audio	Amplifiers/PreAmps/Tuners	\$42,374,428.00	\$25,739,570.00	\$16,634,858
	Audio Systems	\$122,345,680.00	\$82,282,820.00	\$40,062,860
	CD Players and Recorders	\$53,847,459.00	\$37,838,460.00	\$16,008,999
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Select **TOTAL** to go to the Grand Totals at the end of your report.

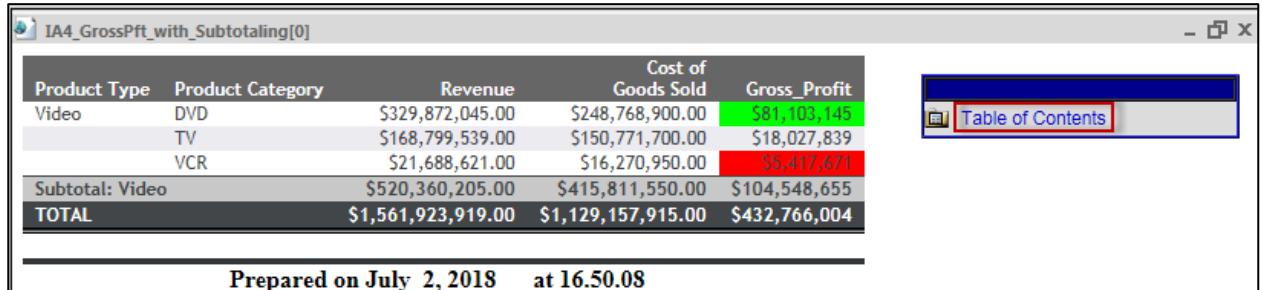


Product Type	Product Category	Revenue	Cost of Goods Sold	Gross_Profit
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
	TV	\$168,799,539.00	\$150,771,700.00	\$18,027,839
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<b>TOTAL</b>		<b>\$1,561,923,919.00</b>	<b>\$1,129,157,915.00</b>	<b>\$432,766,004</b>

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Select the **Table of Contents** heading.

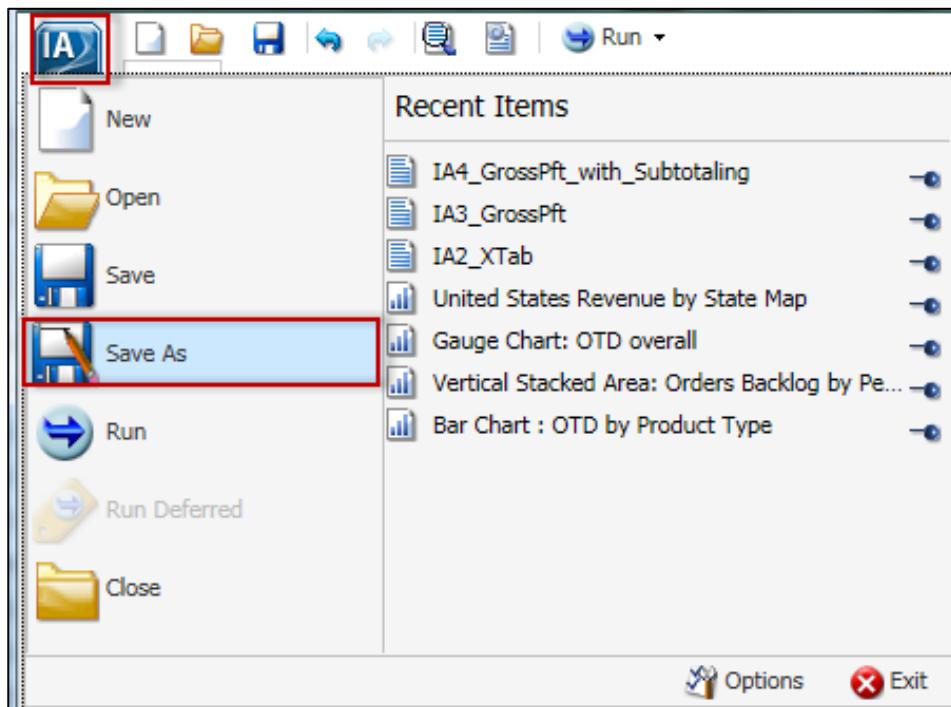
This will minimize the Table of Contents. You can click and expand it when you need it.



Product Type	Product Category	Revenue	Cost of Goods Sold	Gross Profit
Video	DVD	\$329,872,045.00	\$248,768,900.00	\$81,103,145
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**Save As** the report as IA5\_GrossPft\_TOC.



Close InfoAssist+

# 3 Appendix

## 3.1 Setup Notes

The assumption is that your system was set up using the EZ-Install package. Synonyms for QWQCNT are placed into “Century Electronics” app folder, so be sure to add that into the “Db2 Web Query Training” application path. You’ll also need to give each developer access to both the Db2 Web Query Training and Century Electronics –dev and –dba roles.

