



DATA WAREHOUSE BASICS

A Software Overview using the
Retail Golf Model with version 9

NOTE: This course material was developed using
Hummingbird version 9 with Windows XP. There will be
navigational differences using version 10 with Windows 7.



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The Retail Golf Model

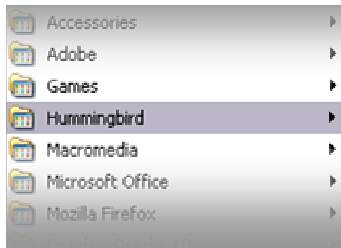
The Data Warehouse software is a Graphical Query Language (GQL) interface developed and maintained by Hummingbird™ used to access, retrieve, and report on database information.



Retail Golf is a collection of views into a training data base, providing:

- A query model and pre-programmed reports depicting retail Sales.
- A query model and pre-programmed reports depicting retail Marketing.
- A safe environment to explore the Tools and Preferences available in all OSU models.

Accessing the Model



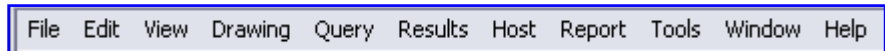
Retail Golf is a training model provided by Hummingbird™. It is accessed through your [Start] button and the 'Programs' selection.

Then choose:

- Hummingbird
- BI Data Models, and
- RetailGolf.

The model will open without prompting for or requiring a username or password. OUS and OSU production models differ in that they require valid usernames and passwords to be entered before any query can be run.

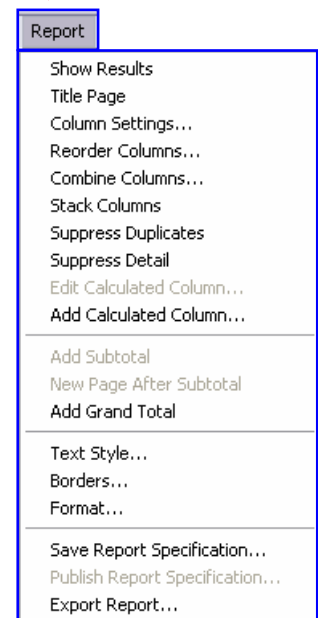
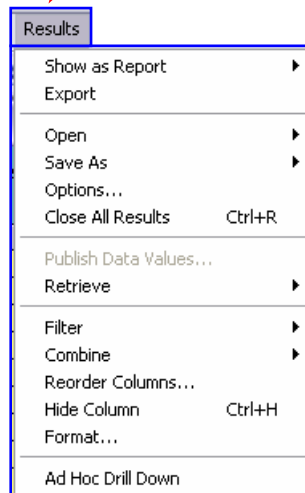
The Model Menus



This menu bar is the primary way to set up a Query, evaluate results and design reports. You may notice there are very few keyboard shortcuts, though there are additional mouse tools that will appear as needed, and can be docked to the side, top, or bottom of the window as you choose.



These are the three primary drop-down menus.




Data Warehouse Queries

There are many styles and purposes for a query. One thing to understand about developing queries, at least from a beginner's point of view, is that it may take running several different queries or tweaking the same query several times before the desired results are obtained.

Exploratory queries are used to understand the data and the relationships between the data enough to develop a query that brings back the data you want to see in a report. Here is an example:

1. We may want to create a count of stores in each country. Along with that, it may be important to see what country codes have been assigned to those countries. Here is the process:

- Select the **MARKETING ROAD MAP** design view.
- Open the **RETAIL LOCATIONS** object.
- Select the **COUNTRY CODE**, **COUNTRY**, and **STORE NAME** attributes.
- Click in the 'Function' box of the **STORE NAME** attribute and select 'Count'.
- Click the [Run Query] button. 

Info	Attribute	Function	Quality	Group	Sort
?	Store Id				
?	Store Name	COUNT			
?	Region Office				
?	Address				
?	City				
?	State				
?	Zip			2	
?	Country				
?	Receivable				
?	Payable				
?	Country Code			1	
?	Area Code				
?	Office Phone				
?	Conversion To US Dollars				

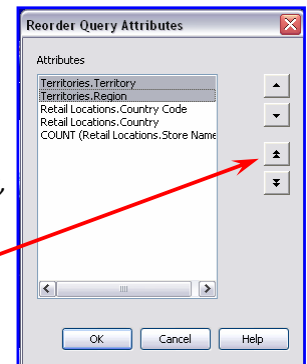
Count an Attribute

The Count Store Name column shows the number of store records found for each country. You can also see the country code used for each country, and it appears that the resulting records are sorted by the country code.

Let's add another layer to these results to find out the relationship between territory, region and country ...

- Close the Results window.
- Close the **RETAIL LOCATIONS** object.
- Open the **TERRITORIES** object.
- Select the **TERRITORY** and **REGION** attributes.
- Click the [Run Query] button.

The new result set only appends the new columns to the end of the first query results, and the records are still sorted by the country code. We need to make changes in the query to get results that show the hierarchy between the attributes ...

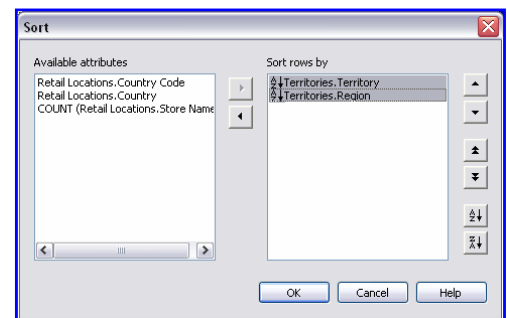


Reorder Columns


- Close the Results window.
- Select 'Query | Reorder Attributes...' from the pull down menu.
- Click and drag from **TERRITORY** to **REGION**.
- Click the double up arrow button.
- Click [OK].

Sort an Attribute

- Select 'Query | Sort...' from the pull down menu.
- Double-click on the **TERRITORY** attribute to make it the primary sort, and then double-click on the **REGION** attribute to make it secondary.
- Click [OK].
- Click the [Run Query] button.



Notice the country code column is no longer sorted and the resulting records are now sorted by territory, which is the first column of the results set.

- Close the Results window.
- Click the [New Query] button. 

2. We may also want to understand what dollars are represented in which attributes, what attributes are summed and what attributes are not, so that we can build a meaningful financial report. We are going to look at dollars for a specific sale – or Order Id. Knowing nothing in advance, here is the process:

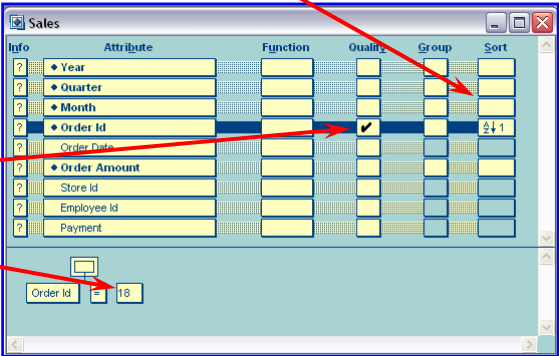
The Sort Shortcut

- Select the **SALES ROAD MAP** design view.
- Open the **STORE** object, select the STORE NAME attribute, and close the **STORE** object.
- Open the **STAFF** object, and select the LAST NAME attribute, and close the **STAFF** object.
- Click on the relationship line between the **STAFF** object and the **SALES** object.
- Open the **SALES** object, and select the following attributes:
YEAR, QUARTER, MONTH, ORDER ID, and ORDER AMOUNT.
- Click the 'Sort' box for the **ORDER ID** attribute.
- Click the [Run Query] button.

A large number of records were returned from the query, which will make evaluation of a single transaction difficult. However, before running this query we may not have known how to reduce to a single transaction. We can qualify for a single Order Id to evaluate all the dollars related to just that one transaction ...

Qualify an Attribute

- Close the Results window.
- Slowly click the 'Sort' box for the ORDER ID attribute two times to turn off the sort – it is not needed when qualifying for a single sale.
- Click on the 'Qualify' box for the ORDER ID attribute.
- Enter "18" in the qualification window.
- Click the [Run Query] button.



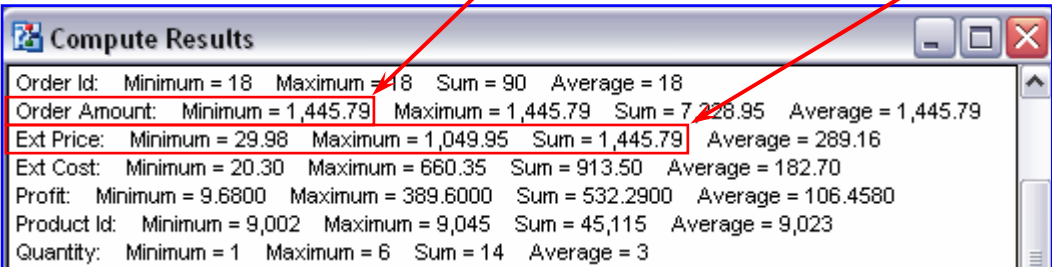
Notice the result set has only one record in it. Let us add the order detail dollar amounts to the results ...

- Close the Results window and close the **SALES** object.
- Open the **SALES DETAIL** object, and select the following attributes:
EXT PRICE, EXT COST, PROFIT, PRODUCT ID, QUANTITY, UNIT PRICE, and UNIT COST.
- Click the [Run Query] button.

In the Sales Detail object, we have multiple records – one record for each line item on the order. While we are in the results set, we can see if the sum of the Ext Price will match the Order Amount ...

Compute Results

- Select 'Results | Filter | Compute' from the pull down menu.
- In the resulting window, you can see that the Order Amount ... is the sum of the Ext(ended) Price.



- Close the Compute Results window and the Results window.
- Click the [New Query] button.

3. Let's take what we learned so far to build a query that reports the quarterly sales of each USA employee for the year 2002. This is a query we could run each year to determine bonus eligibility, so we will add prompts for the country and year. Here is the process:

- Select the **SALES ROAD MAP** design view, and open the **STORE** object.
- Select the **COUNTRY** and **STORE NAME SHORT** attributes.
- Close the **STORE** object, and open the **STAFF** object.
- Select the **STAFF NAME** and **LAST NAME** attributes, and close the **STAFF** object.
- Click on the relationship line between the **STAFF** object and the **SALES** object.
- Open the **SALES** object, and select the **YEAR**, **QUARTER**, and **MONTH** attributes.
- Close the **SALES** object, and open the **SALES DETAIL** object.
- Select the **EXT PRICE**, **EXT COST**, and **PROFIT** attributes, and close the **SALES DETAIL** object.

We have selected all the attributes that we are going to work with, so let's look at them in one place ...

Show Query Window

- Select 'Query | Show' from the pull down menu, and a Query window will open at the bottom of your design view window.

A query window will open at the bottom of your design view window. Here you can re-organize, qualify, and sort the attributes ...

- Click on the 'Qualify' box for **YEAR** and make it equal to "**2002**".
- Click on the 'Qualify' box for **COUNTRY** and make it equal to "**USA**".
- Deselect the **YEAR** and **COUNTRY** attributes – we do not need to see the data in the results.
- Click the 'Sort' shortcut box for the **STORE NAME SHORT**, **LAST NAME**, and **MONTH** attributes.
- Click the dotted bar for the **STAFF NAME** attribute.
- Select 'Query | Selected Attribute | Move To Top' from the pull down menu.
- Click the [Run Query] button.

We have many records per person that represent each sale the person made. We need to summarize the data ...

Sum an Attribute

- Close the Results window.
- Click in the 'Function' box of the **EXT PRICE** attribute and select 'Sum'.
- Click in the 'Function' box of the **EXT COST** and **PROFIT** attributes and select 'Sum'.
- Click the [Run Query] button.

We still have several records per person, but now they represent the sales each the person made in a particular month. This is something we can take into a report, but we may want to change the country and year ...

Insert a Prompt

- Close the Results window.
- Click in the **YEAR** qualification (where it says 2002), and select 'Edit | Prompts ...'
- Select on the '!1Year' prompt and click the [Insert] button.
- Click in the **COUNTRY** qualification, select 'Edit | Prompts ...', and insert the !Country prompt. *If you do not have a prompt for '!Country', create a new one using Example 12 on page 12.*
- Run the Query and the prompt windows will appear.
- Make **YEAR** equal to "**2002**" and **COUNTRY** equal to "**USA**", and click the [OK] button.

Now that we have put in all this work to develop the query, let's save it so that we can use it again later ...

Save a Query

- Select 'Query | Save ...' and 'Query ...' to get to your save area.
- Enter "**Annual Bonus**", or a descriptive name of your own, in the File name area. The name can be any number of characters, and it will save a .qry file to your directory on your hard drive when you click 'Save'.
- Close the Results window and click the [New Query] button.

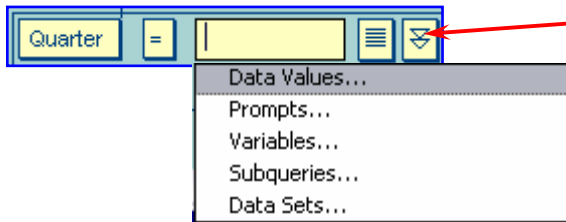
4. Let's modify the last query to report the monthly sales of each employee in a prompted country for a prompted quarter. We will do these modifications using the menu selections rather than the query window. Here is the process:

Open a Query

- Select 'Query | Open ...' and 'Query ...' to get the My Queries area.
- Double click on the 'Annual Bonus' query,

The design view that the query was built in opens, and we want to add a qualification on Quarter in the Sales object. Remember that when we qualify on an attribute, it does not have to be selected...

- Open the **SALES** object, and de-select the QUARTER attribute by clicking on it.
- Click on the 'Qualify' box for the QUARTER attribute.

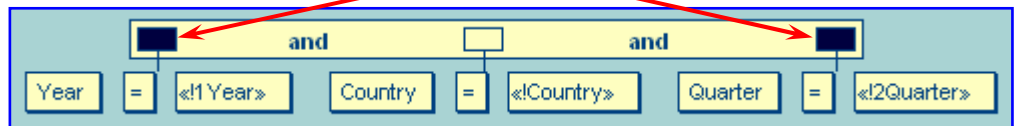


- Click on the [Short Menu] button
- Select 'Prompts ...'
- Select the '!2Quarter' prompt
If you do not have a prompt for '!2Quarter, create a new one using Example 12 on page 12.
- Click the [Insert] button.

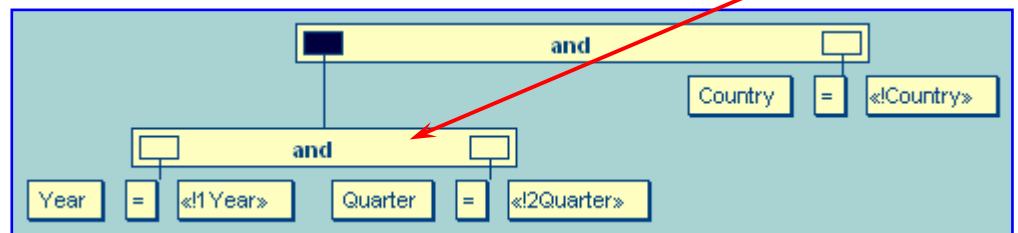
As a Boolean statement gets to be more complex, we may want to organize some components differently for readability...

Combine Qualifications

- Click on the qualification control boxes for Year and Quarter (using the shift key).



- Select 'Query | Qualification' and 'Combine ...' to combine them on a separate line.



Though this technique is not actually necessary for this query, it becomes important when any two of three or more qualifications require joining with an 'or' rather than an 'and'. The qualifications with an "or" condition must be on a separate line to process correctly – it is like putting parentheses around an algebraic expression.

When you modify a query, it is a good idea to look at the attribute list and sort order to see that the query results will be what you expect them to be...

- Select 'Query | Reorder Attributes' to verify the columns are in the correct sequence.
- Select 'Query | Sort ...' to confirm or correct the sort order of the attributes.
- Run the Query and the prompt windows will appear.
- Make YEAR equal to "2002", QUARTER equal to "Q1" and COUNTRY equal to "USA".
- Click the [OK] button.

We need to save the query with a different name so that we can use it again later. One thing you may want to develop early on is a query naming structure that groups similar queries together alphabetically...

- Select 'Query | Save ...' and 'Query ...' to get to your save area.
- Modify the query name to "Annual Bonus by Quarter", and click the [Save] button.
- Close the Results window and click the [New Query] button.

Data Warehouse Result Sets

Results sets are used for two purposes: evaluating the data for accuracy, and making the data accessible for moving into other applications. *NOTE: Results sets are not printable.*

5. Let's use the results set from the first query we created to explore the tools used in viewing the data for evaluation:

Open & Run a Query

- Select 'Query | Open ...' and 'Query ...' and click on the **Annual Bonus** query.
- Click the [Run] button, enter the prompts, and click the [OK] button.

To evaluate the data efficiently, it may be necessary to resize the column widths or the viewing window...

Changing Dimensions

- **To change a column width**, click on the right edge of the column and drag.
- **To make the window controls visible**, drag the whole window left, narrow the window, and then drag it back to see the first column again.
- **To see more records** in the result set, drag the bottom edge of the window downward.

	Staff Name	Store Name Short
1	Jeremy Leamon	Boston N Summit
2	Jeremy Leamon	Boston N Summit
3	Jeremy Leamon	Boston N Summit

As the attribute list gets longer, it may be easier to view in the 'Form' view...

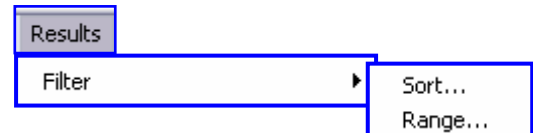
Form View

Attribute	Value
Staff Name	Tara Preocup
Store Name Short	Boston N Summit
Last Name	Preocup
Quarter	Q1
Month	1
SUM End Price	12,756.67
SUM End Cost	6,090.87
SUM Profit	4,695.8000

- Double click on the line number (leftmost column) of the record you want to see.
- Use the scroll bar to navigate records.
- Close the Form view.

NOTE: You can only see one record at a time, you can not access the data, and you can not move the data from the 'Form' view to a report.

Sometimes you may need to reorganize the data in a results set for evaluation. Rather than modify the query, you can apply filters to the selected data...



Filter - Sort

- Select 'Results | Filter' and 'Sort ...' to get the Sort Dialog window.
- Double click on the QUARTER attribute, and click the [OK] button.

Filter - Range

- Select 'Results | Filter' and 'Range ...' to get the Range Filter dialog window.

*NOTE: It is easier to ignore the **Action** radio button and identify the range of data you can identify first.*

- Select the MONTH attribute in the 'Where' area.
- Enter "2" in the **Is > than or =** field.
- Enter "3" in the **Is < than or =** field.
- Click the [OK] button.

*NOTE: If you want to identify only one data value, enter that value into both the **Is > than or =** field and the **Is < than or =** field. Then you can either include or exclude that value from the data set using the **Action** radio button.*

6. Let's look at how to move the results data into another application:

Selecting Data

- To select a single piece of data, click on the data cell. Double click in the data cell and it will open so that you can select only a piece of the data in the cell.
- To select a multiple pieces of data, click on the first data cell and shift-click on the last data cell.
- To select a single record of data, click on the record number in the left most column.
- To select a multiple records of data, click on the first record number and either drag to, or shift-click on, the last record number.
- To select all the data records, click on the record number count.

	Staff Name
511	
1	Jeremy Leamon
2	Jeremy Leamon

Once you have data or records selected, the selection can be copied and pasted into another application using the system clipboard. You can also use the Export tool to move the data...

Export Data

- Select 'Results | Export'.

It is as simple as that! There are only two things to consider: the receiving application must be set up as a preference (see Appendix A of Data Warehousing at OSU), and data can be affected by the receiving software itself, such as text being converted into a numeric value which truncates leading zeroes.

Sometimes it is necessary to select data for sorting purposes that you don't want to export...

Hide Column

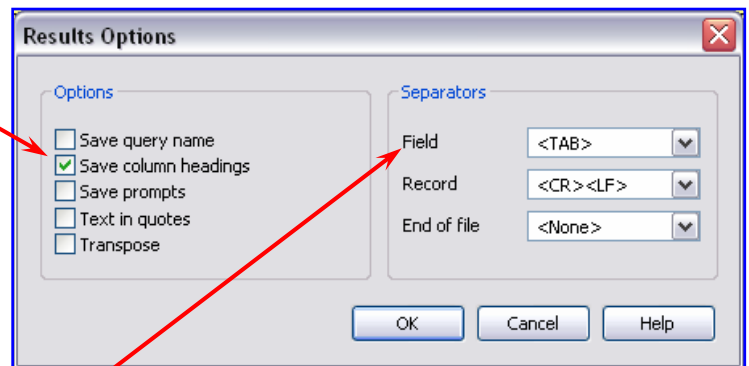
- Click in the heading for the LAST NAME column, and select 'Results | Hide Column'.

Now when the data is exported or copied into another software application, the column will not be present. However, it is possible that information other than the data itself is exported into the other application...

Results Options

- Select 'Results | Options ...' and the Results Options window opens.

In the 'Options' area the 'Save column headings' checkbox should be selected. This will include the attribute name as a column heading in the receiving software. In Microsoft Excel the information will appear in the first record of the document.



In the 'Separators' area the default settings describe a tab delimited file, the standard for Microsoft Office applications. These may be different for other software vendors, so check the manual for the receiving application under File Descriptions.

A third way to get the Data Warehouse information into another software is to save the results file so that it can be opened from within the receiving application...

Save Results

- Select 'Results | Save as... | Results ...', name the results set, and click the [OK] button.

Note that you will be saving the file in your Model's User folder. When you click the save button, two files will be saved: one with an extension of .qrd, and one with an extension of .qrr. *The .qrd file is the text file that you can import into other applications.*

Data Warehouse Reports

7. Let's use the saved query from Example 4 and create a report.

- Select 'Query | Open ...' and 'Query ...' and select **Annual Bonus by Quarter**.
- Click the [Run] button, enter the prompts, and click the [OK] button.
- With the Results set open, Select 'Results | Show as Report | BI Query Standard' from the pull down menu.

Organizing the Data:

The 'Annual Bonus by Quarter' report on your screen contains a column for each attribute. Notice the columns run past the right hand page border, so let's see the different techniques of getting them all in one page...

- Page Setup**
- Select 'File | Print Setup...' from the pull down menu, click 'Landscape' and [OK].
 - Adjust the column width using the right edge of the column as we did before, and be aware of the data and its potential to be wider than the current data set.
- Column Settings**
- Select 'Report | Column Settings...' from the pull down menu, click the LAST NAME column, and set the 'Column width' to zero.
 - If you still have that last pesky column off the page, click the 'Fit All Columns on Page' checkbox. *NOTE: The 'Fit All Columns on Page' function does not adjust the column widths. It merely reduces the page by the percentage necessary to fit all the data on the width of the paper.*
 - Click [OK].

You may notice that the columns are not in the original order. Attributes that were sorted in the query have been moved to the left and the duplications have been suppressed, so let's restore the order...

- Reorder Columns**
- Select 'Report | Reorder Columns...' from the pull down menu.
 - Move STAFF NAME to the top, move LAST NAME up once, and click [OK].
 - Click in the STAFF NAME column.

- Suppress Duplicates**
- Select 'Report | Suppress Duplicates' from the pull down menu.

To create more space on a page, the left most columns can be stacked on top of each other...

- Stack Columns**
- Click in the STAFF NAME column, and **Shift** click in the STORE NAME SHORT column.
 - Select 'Report | Stack Columns...' from the pull down menu.

Formatting the Data:

Notice that the display format for the SUM Profit column has four decimal places...

- Format ...**
- Double click in the SUM PROFIT column and choose the Predefined format you want to display. *Note: 'Scale' reflects the number of decimal places, and there is a 'Hide zero values' checkbox.*
 - Click [OK].

The font choices of size, style, color, and alignment are set with the Text Style dialog window, and the settings are applied only to the selected columns. It is important to hold the 'Alignment' to last, however...

- Text Style ...**
- Click in the left or right margin to select all columns, and select 'Report | Text Style ...'.
 - Change the font attributes you want to change, and notice the 'Align' is set to 'Left'.
 - Click [OK]. *Notice that all the columns are shifted to the left, as all were selected.*
 - Right click in the MONTH column, select 'Text Style ...', align 'Center', and click [OK].
 - Click in the SUM PROFIT column, **Shift** click in the SUM EXT PRICE and SUM EXT COST columns, select 'Report | Text Style ...', align 'Right' and click [OK].

- Once all the formatting is done, we can add some calculations to this report. As calculations are added, they will take on as much formatting of the data around them as possible, so wait until the existing data is looking like you want it before adding something that uses it.

With this much work already in place, we may also want to save the Report...

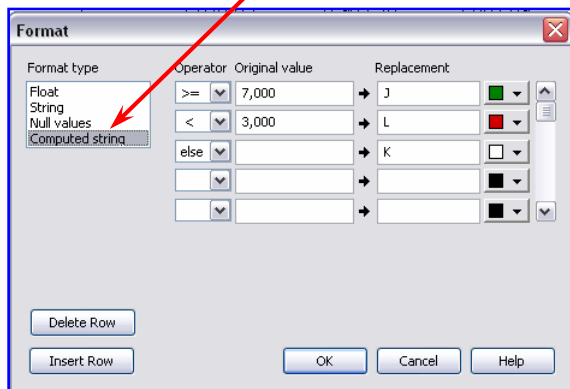
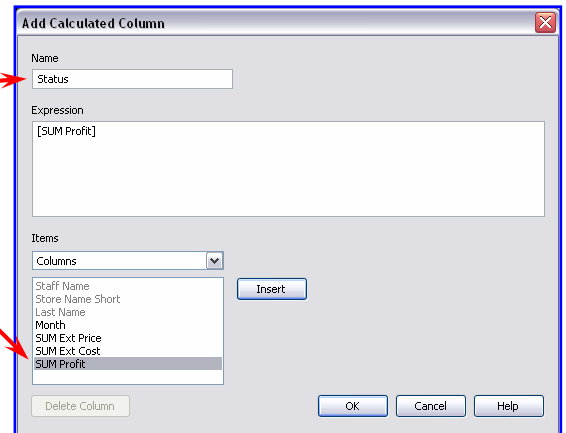
Save Report Specification

- Select 'Report | Save Report Specification...' from the pull down menu, and make sure you are in the 'My Queries' area. If the associated query's name is not already selected, name the report "**Annual Bonus by Quarter**".
- Click on [Save] and [OK] when it asks if you want to save it over the existing file name.

Before we add a subtotal, let's add a Bonus Status column based on their profit margin for the months in the quarter. We are going to copy the existing column and then modify the data based on calculations...

Calculated Column

- Select 'Report | Add Calculated Column...' from the pull down menu.
- Change the 'Name' field to "**Status**".
- Click on SUM PROFIT, click [Insert].
- Click [OK].
- Right click in the new column and select 'Text Style'. Choose Wingdings / 14 / Bold, align Center, and click [OK].
- Double click in the new column.
- Select 'Computed string' in the 'Format type'.



- In the first record, select '>=' for the operator, enter "**7,000**" as the original value, replace with a "**J**", and select the color green.
- In the second record, select '<' for the operator, enter "**3,000**" as the original value, replace with an "**L**", and select the color red.
- In the third record, select 'else' for the operator, there is no original value, replace with a "**K**", select the color white, and click [OK].

It is finally time to add that subtotal...

Add Subtotals

- Click on any person's name and select 'Report | Add Subtotal' from the pull down menu.
- Change the 'SUM' operand in the MONTH column to 'COUNT'.
- Double click left of the characters in the STATUS column and select 'Computed String'.
- Change 7,000 to "**18,000**", 3,000 to "**12,000**", J to "**Bonus**", L to "**Flag**", and click [OK].
- Right click left of the characters in the STATUS column and change Wingdings to Arial.

Adding a grand total is essentially the same process as adding a subtotal...

Add Grand Total

- Select 'Report | Add Grand Total' from the pull down menu, and setup the same as above for subtotals. Change 7,000 to "**600,000**", and 3,000 to "**300,000**" in the 'Status' column.

Save your work again...

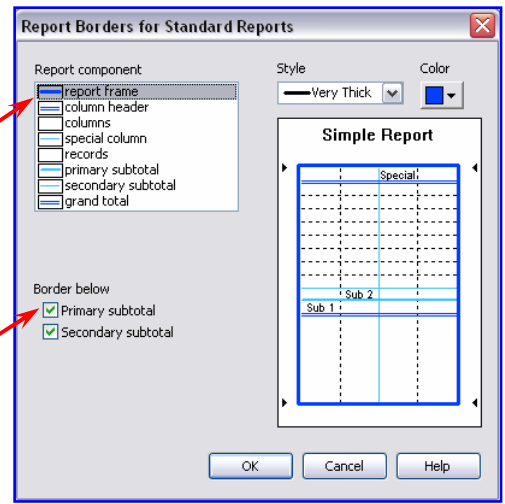
- Select 'Report | Save Report Specification...' from the pull down menu, and save it over the existing file name.

9. Borders, Headings and Ornaments.

The border settings can be set up as a preference (see Appendix A of Data Warehousing at OSU), or modified for each report...

Borders

- Select 'Report | Borders...' from the pull down menu.
- Select each 'Report component' and set the 'Style' and 'Color' that you want. *NOTE: The components that I would leave as 'None' for 'Style' are Columns and Records.*
- Click in the 'Primary subtotal' checkbox to add a line below as well as above the subtotal line.

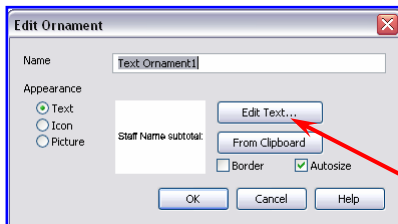


The headings could be more meaningful. Some suggestions are to make the Staff Name become "Name / Store" and SUM Ext Price become 'Net Sales', etc...

Headings

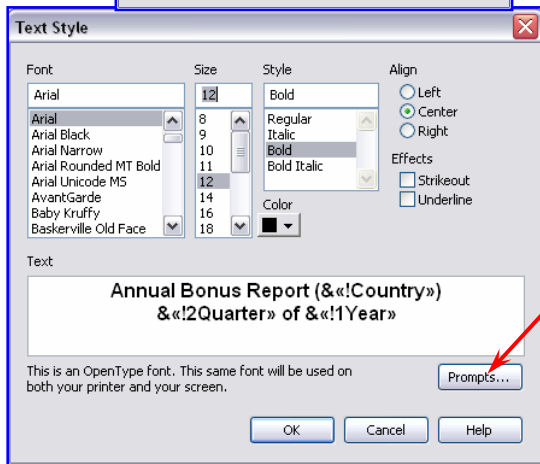
- Double click on a heading to open the Text Style window where you can change the text, font, and style of the headings. *NOTE: Headings can take any value – even duplicated or null values.*

Ornaments



Ornaments are like text blocks in a document – they can be edited and moved within the area in which they were created. They are automatically created in subtotal, header, and footer areas...

- Edit the Subtotal Ornament by activating the subtotal line (click in it) and double click the ornament
- Click the [Edit Text...] button.
- Edit the text, and click each [OK] button.



A difference in this Text Style window is that it has a prompt button...

- Double click on the report title and click [Edit Text].
- Replace 'by Quarter' with "**Report ()**" and click between the open and close parentheses.
- Click the [Prompts...] button.
- Select the '!Country' prompt and click [Insert].
- Move to the right of the string and press **Enter**.
- Add the QUARTER and YEAR prompts and select the font, style, color, and alignment for the title.
- Click [OK].

Ornaments are also created for the create date (in the header) and page number (in the footer), and can be edited and moved within those areas. Ornaments are not automatically created for the Grand Total...

Add an Ornament

- Click in the Grand Total line.
- Locate the 'Drawing' toolbar, and click on the [A] button.
- With the [A] button selected (it will have a white background), move the cursor to the Grand Total line and click & drag diagonally to create a rectangle. When you release the mouse button, the 'Create Ornament' window will open.
- Click [Edit Text], and the Text Style window will open. Edit the text you want for the Grand Total line, and click [OK] for each of the open windows.
- Save your work, then close your report, close your result set, and do a new query.




User Modifications

Each of the OSU Data Warehouse models has a page set aside for the user’s use. The **USER QUERIES** design view is a space where users can create buttons for any query saved at their workstation, whether they are developed by the user or are part of the Administrative reports.

10. The Retail Golf model does not have a user page initially, so if you are working through this handout using the model, you will need to add the page in order to practice creating buttons:



Create a User Page

- In any design view, click on the [Design Mode] button.
- Select ‘Drawing | Windows...’ from the pull down menu, and click in the ‘Name’ area.
- Enter “**User Queries**”, click on the [Insert] button , and click the [Close] button.

A new design view will be added to your model. You can make it look like the other design views in the model by copying the components of another design view, and the easiest one to copy is BI Server Reports...

- Select ‘Window’ from the pull down menu, and click on ‘BI Server Reports’.
- Select ‘Edit | Select All’ from the pull down menu, and then deselect the report and text.
- Select ‘Edit | Copy’, switch back to the new design view and select ‘Edit | Paste’.

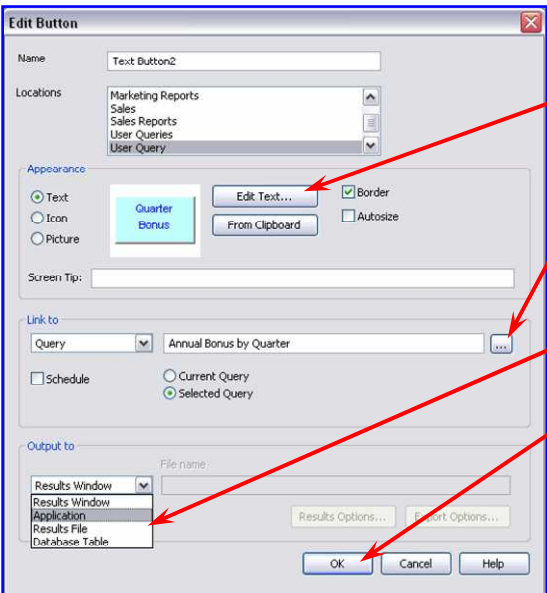
The background and buttons may have shifted some, so some repositioning may be required. You may also want to create a button on each of the design views that will link to the new design view, or you can access it through the ‘Window’ pull down menu. To create a design view button...

- Switch to the **WELCOME** design view, copy and paste any button, then double click on the new button. In the ‘Link to’ area of the ‘Edit Button’ window, use the drop down arrow at the far right to select the new ‘User Queries’ name, and click [OK]. Position the new button where you want it, and then copy and paste it on each of the design windows.
- Click the [Save] button to save these model changes, and click [Design Mode] again.

11. Let’s create a button that will run the report from Example 7...

Create a Button

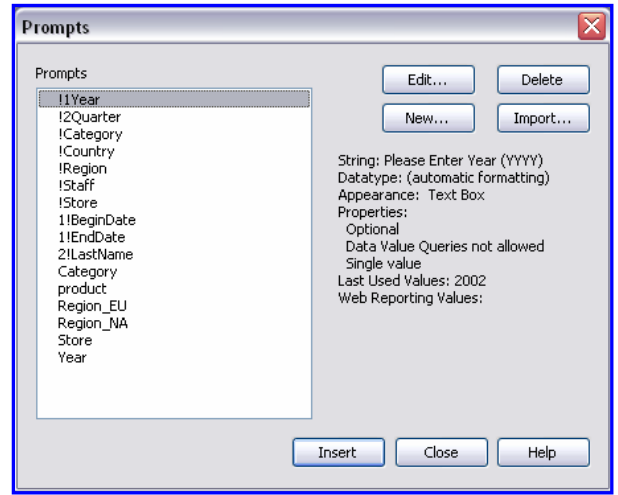
- Click on the [User Queries] button, and click on the [Design Mode] button.
- Click on the [Button] button near the top of the vertical toolbar, and create a new button by clicking and dragging diagonally in a free area of the ‘User Queries’ design window.



- To edit the button, double click on the new button.
- Click on the ‘Edit Text ...’ button, enter “**Quarter Bonus**”, and select the font, style, color, and alignment you want for the for the button name.
- Create the link to the saved Query using the ‘Link to’ browser button.
- Select the **Annual Bonus by Quarter** query.
- In the ‘Output to’ area you can direct the results to another software application if you wish.
- Click [OK] and place button where you want it ... resize if necessary.
- Select ‘File | Save’ from the pull down menu to save the new button in your model.
- To exit design mode, click the [Design Mode] button.

The Retail Golf model does not have all the prompts used in the training examples, so if you are working through this handout using the model, you will need to modify or create prompts to match the exercises.

In the list of prompts you see to the right, the prompts that begin with an “!” will appear in a single dialog box when you run the query. Likewise the two that begin with a “1!” will also appear in a single dialog box. All the other prompts will appear in their own dialog box, so it makes sense to rename and create prompts to group them together.



12. Modify an existing prompt – In the baseline version of the Retail Golf model, there is a “!Year” prompt near the top of the list. What sequences the prompts in the dialog window top to bottom is the sort order of the prompt characters to the right of the “!”. If we want the year to be the first prompt, the name must be changed to move it up in the sort order:

- When the [Qualify] box of the YEAR attribute has been clicked, a qualification window appears at the bottom of the object window.
- Select ‘Edit | Prompts...’ from the pull down menu and click on the ‘!Year’ prompt.
- Click on the [Edit...] button.
- Change the name field to “**!1Year**”, and click the [OK] button.



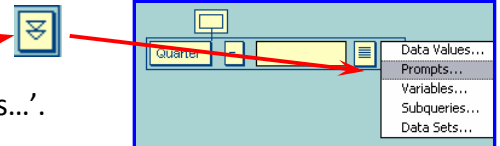
Modify a Prompt

The modified prompt has moved to the top of the list of prompts that begin with an exclamation point...

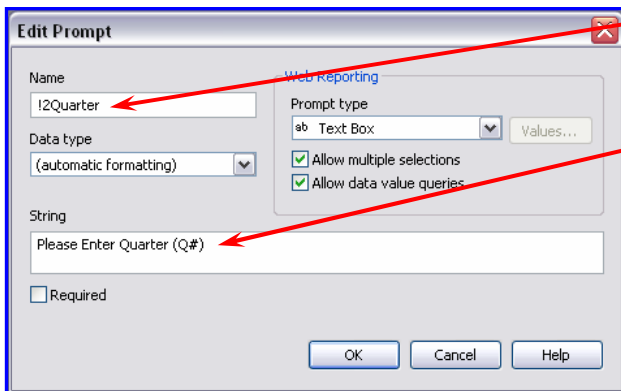
- Now you can [Insert] your modified prompt.

13. Create a prompt – In the baseline version of the Retail Golf model, there is no “!2Quarter” prompt in the list, so we need to create one. There is a short menu that will also take you to the Prompt window:

- Click the [Qualify] box of the QUARTER attribute.
- Click on the [Short Menu] button, and select ‘Prompts...’.
- In the Prompts window, click on the [New...] button.



Create a Prompt



- Enter “**!2Quarter**” in the name field.
We named it !2Quarter so that it will appear in the prompt dialog box just below the !1Year prompt...
- Enter “**Please Enter Quarter (Q#)**” in the string field, and click the [OK] button.
- [Insert] your new prompt, and when you run the query, you will get the Enter Values dialog box below:

- Select ‘File | Save’ from the pull down menu to save the new prompts in your model.

