IBM Cognos Forum

Ignite knowledge, ideas, connections

Dynamic Dashboards in Cognos 8

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**IBM Cognos Software Group Services**

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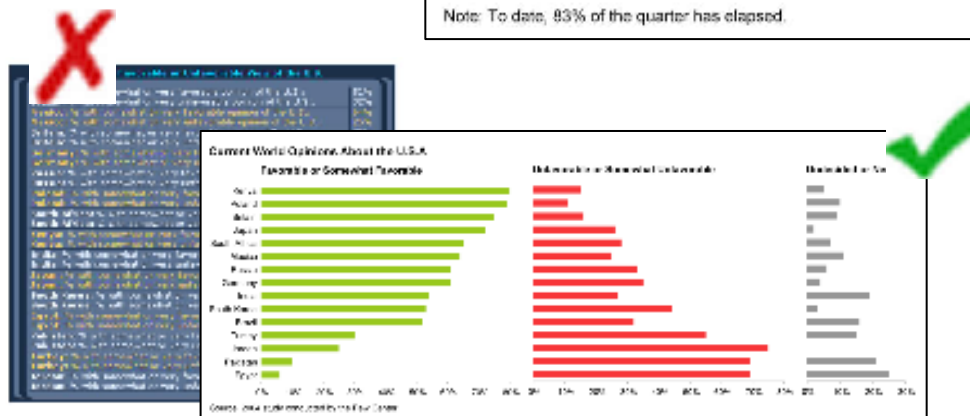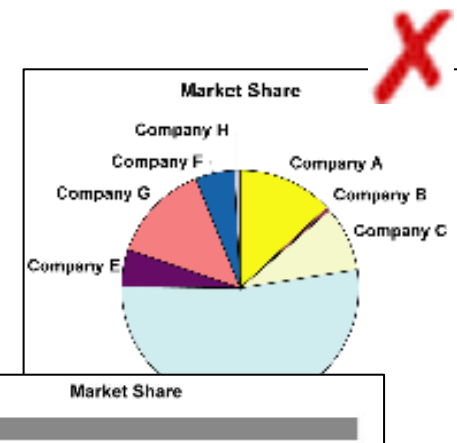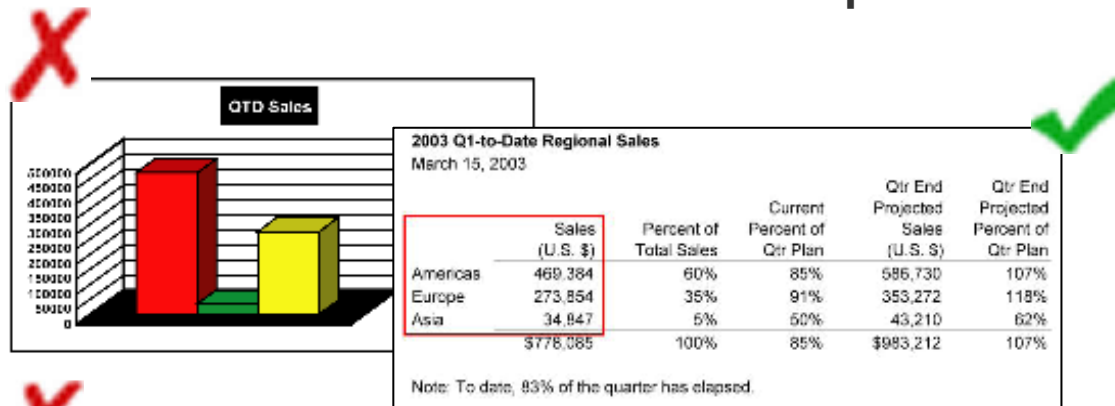
Information Management

Cognos.
software

Agenda

> **A word on Dashboard Design**

> **Dynamic Dashboards within Report Studio < 8.4**

> **Dynamic Dashboards via Cognos Portlets and Global Filters in 8.3**

> **Synchronisation of queries within reports in 8.4**

Dashboard Design

> Remember there are a number of good design principles to take into account when designing Dashboards

- Refer to material from Stephen Few of PerceptualEdge.com
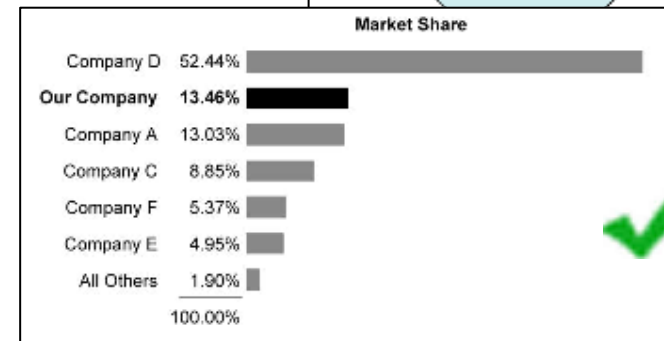
Agenda

> **A word on Dashboard Design**

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> **Synchronisation of queries within reports in 8.4**
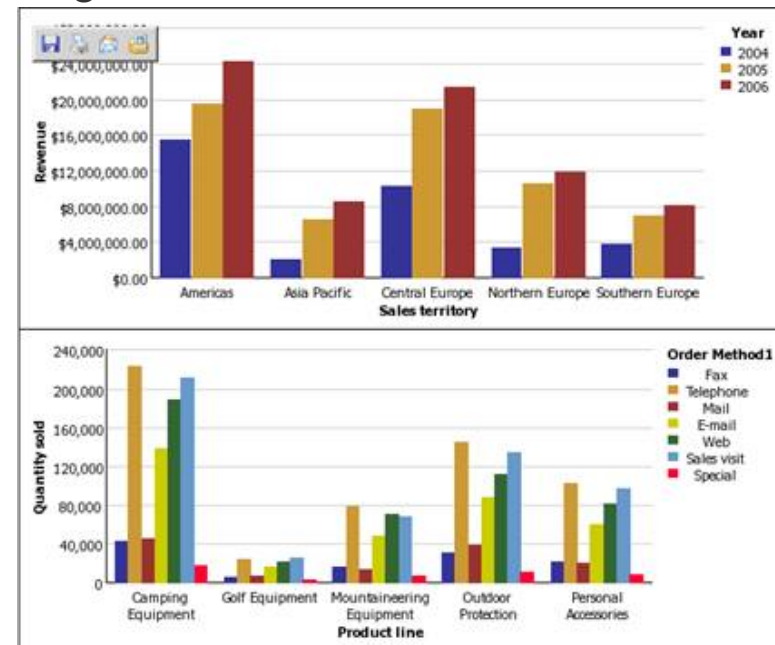
Dynamic Dashboards using Single Reports

> **Original Design Problem:**

- By default, when creating a dashboard application the charts are independent of one another

- Drilling down on one chart the particular data element the user selected to concentrate on for that chart is not used as a filter for the other charts on the dashboard

Dynamic Dashboards using Single Reports

> **> Example:**

- The report below shows a 2 chart dashboard. One of the charts displays Revenue by Year and Region, where the other chart displays Quantity Sold by Order Method and Product

- If the user drills down on the Sales Territory Americas in the first chart, the 2nd chart does not change

Dynamic Dashboards using Single Reports

> **Example:**

- Realistically, in a dynamic dashboard when Americas is drilled down on, the desired behavior is that the 2nd chart would then be updated to show the Quantity sold, by Product Line and Order Method for only for the Sales Territory Americas which was drilled down on from the 1st chart
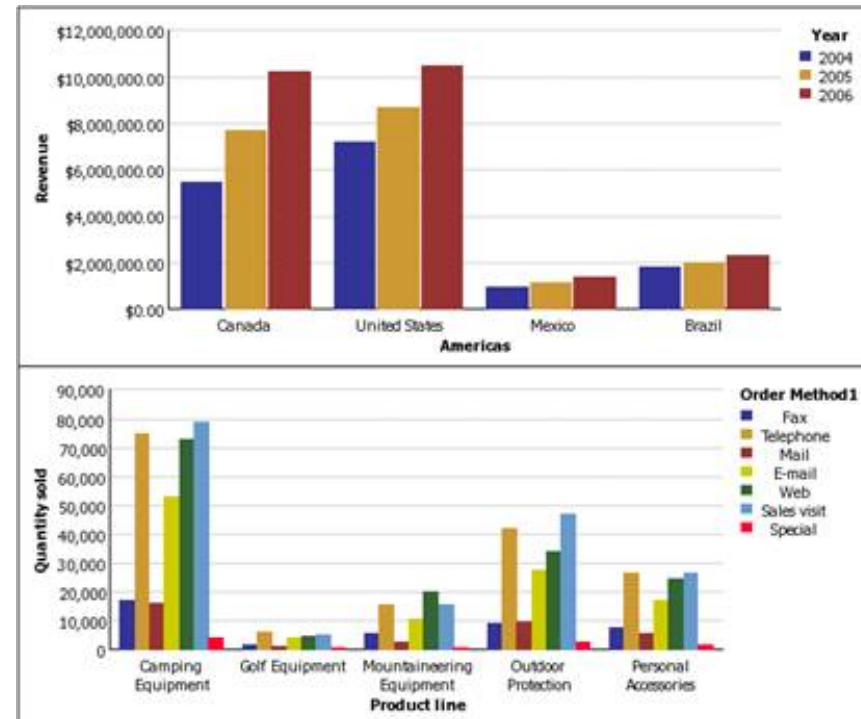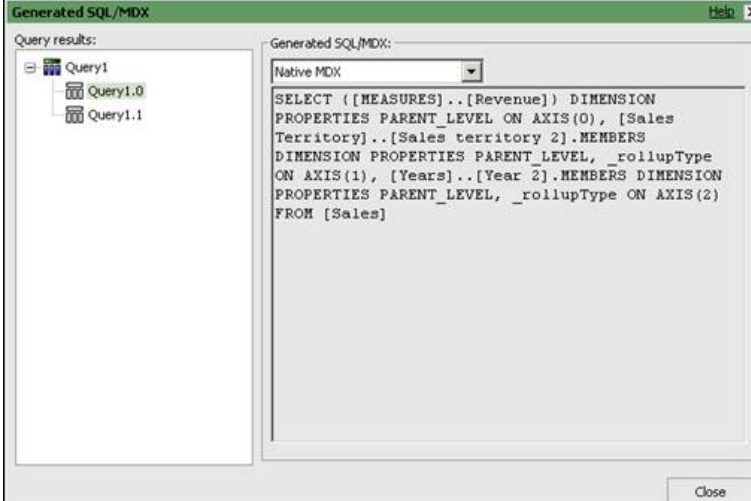
Dynamic Dashboards using Single Reports

> **How do we accomplish this is one report?:**

  • The key requirement for this all to be seamlessly possible is that this all must be done within one Query without creating a master detail relationship or using prompting.

Dynamic Dashboards using Single Reports

> **How does it work?:**

- **Typical question:** *With all the data items in the report put into a single query, why does the report not filter all charts when drilling down on a single item?*

- **Answer:** While a single query is used to collect all the data items, the report engine determines exactly the minimal set of query items needed to create each chart. If you look at the generated SQL/MDX you'll notice that while there is a single query there are two sub queries 1.0 and 1.1

Dynamic Dashboards using Single Reports

> **How does it work?:**

- While you have all the data items in a single query, Cognos 8 actually looks at what is required for each chart/object and determines what would be required to display the data for that object

- In this case the charts don't display the same data items so Cognos 8 further segments the query to create sub queries that will only use the elements that are displayed on the object

- This streamlining process ensures that more efficient queries can be submitted to the underlying data source

Dynamic Dashboards using Single Reports

> **Tailoring the query behaviour for dynamic objects:**

- Our dash boarding application the linking of these queries is in fact required and we must undertake some changes to make this behavior occur

- In order to create the dynamic report required, we need to link the dimensions from each chart that will participate in the drill up or down

Dynamic Dashboards using Single Reports

> **Tailoring the query behaviour for dynamic objects:**

- Chart 1 displays data for Sales Territory by Year

- Chart 2 displays data for Product Line by Order Method

- In order to make the second chart change with drill actions from the first chart we need to include the dimensions from chart 1, Sales Territory and Year, in the definition of chart 2

- Likewise, the dimensions from the second chart, Product Line and Order method, need to be included in the first chart so that it will also update when a drill action is performed on chart 2
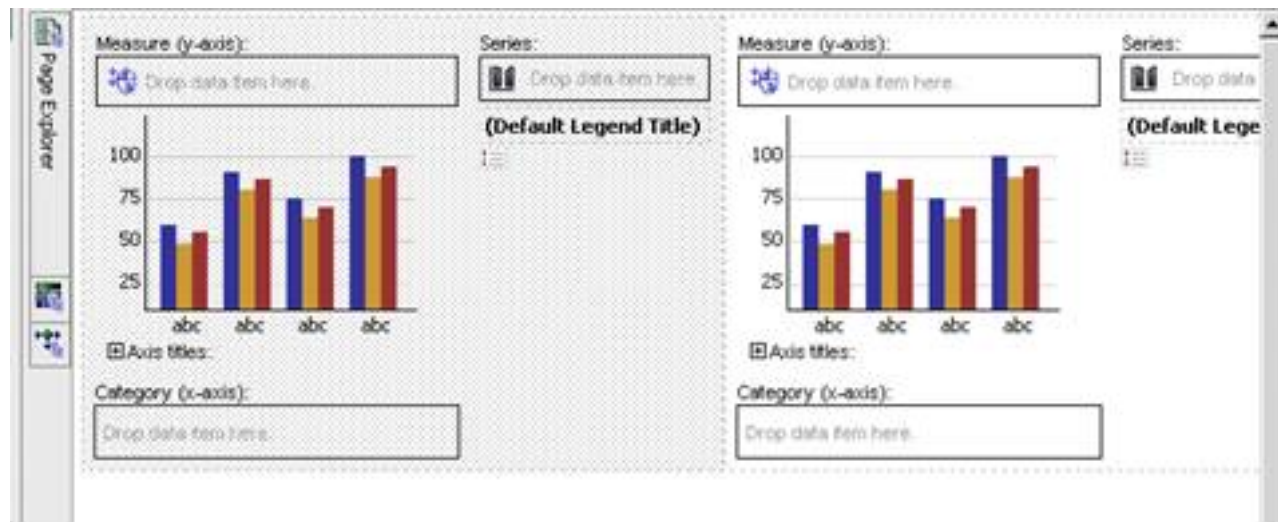
Dynamic Dashboards using Single Reports

> **Tailoring the query behaviour for dynamic objects:**

- Chart 2 displays data for Product Line by Order Method **+ Quantity Sold**

- While the other dimensions are not referenced, the Quantity sold values are actually an aggregation across all the other dimensions as well, including Sales Territory and Year (those dims in Chart 1)

- Rather than pulling the value for Quantity Sold for Product Line and Order Method from the cube we can create the calculation to perform the aggregation on the fly across the other dimensions and thereby include the Sales Territory and Year dimension information in the second chart

- In this way when a user drills down on a particular Sales Territory in the first chart the measure value in the second chart will be recalculated based on the new set of Sales Territories.

Dynamic Dashboards using Single Reports
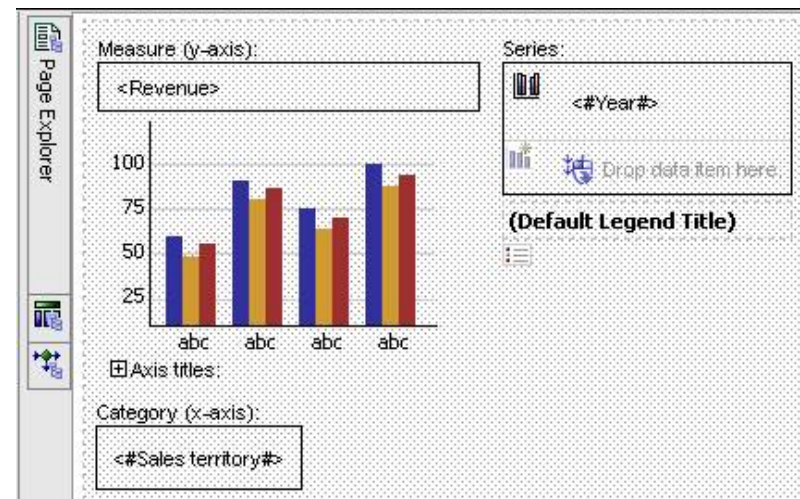
> **Creating the Report:**

- Open Report Studio and when prompted select the Great Outdoors Company package.

- Select a new blank report to use as the report template.

- Drag and Drop 2 separate chart objects from the insertable objects pane onto the report page

Dynamic Dashboards using Single Reports
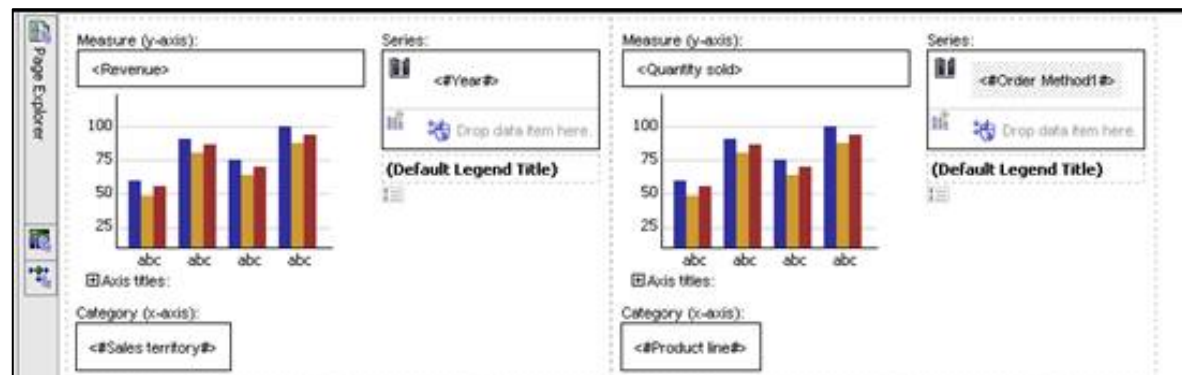
> **Creating the Report:**

- From the Insertable Object pane expand the Years dimension, then the Years hierarchy and drag the Year level onto the Series drop zone for the first chart.

- Next from the Insertable Object pane expand the Sales Territory dimension, then the Sales Territory hierarchy and drag the Sales territory level onto the Category (x-axis) drop zone.

- Finally, drag Revenue from the Measures dimension onto the Measures drop zone (y-axis).

Dynamic Dashboards using Single Reports

> **Creating the Report:**

- Now change the query for the second chart to use Query 1 (the query associated with the first chart object). To do this, select the second chart and in the Data section of the properties pane change the query property from Query 2 to Query 1.

- Now we will add the data items for the second chart. Drag Order Method1 from the Order Method dimension to the series, Product Line from the Products dimension to the Category, and Quantity Sold from the Measures dimension to the Measure. You should now have a report that has 2 charts that resembles diagram 6.

Dynamic Dashboards using Single Reports

> **Creating the Report:**

- When executed, the result should look like the one below
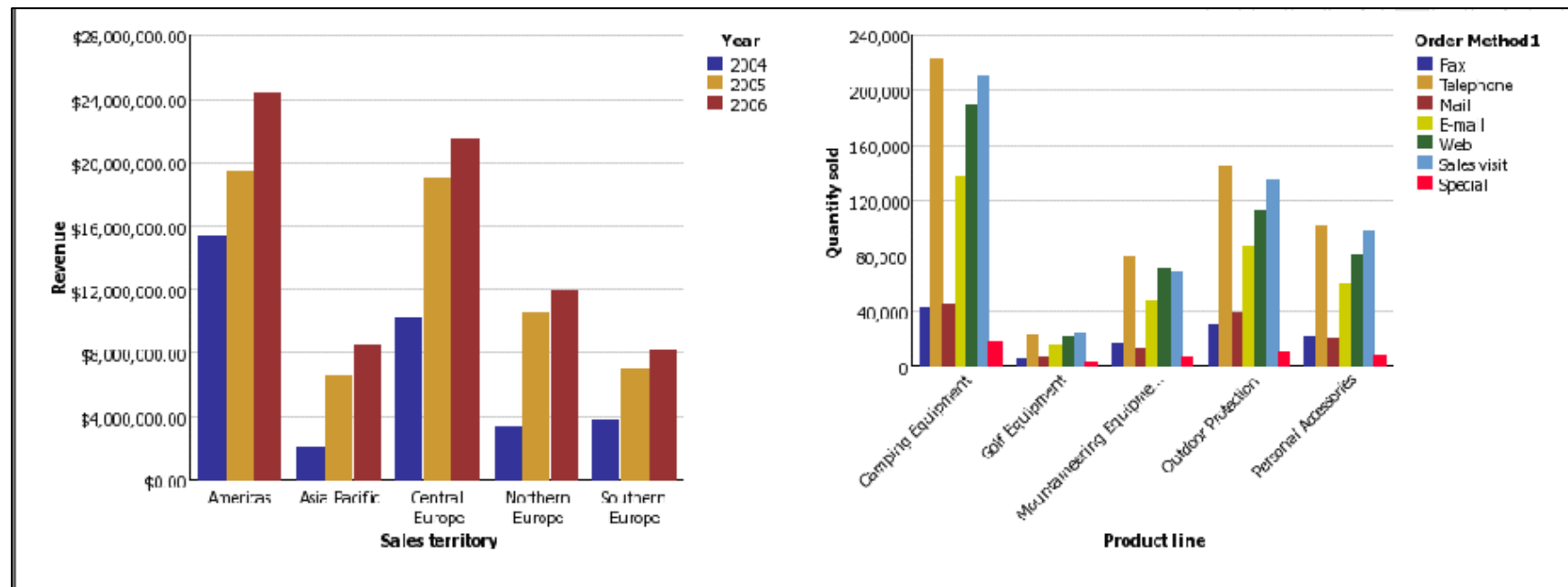
Dynamic Dashboards using Single Reports
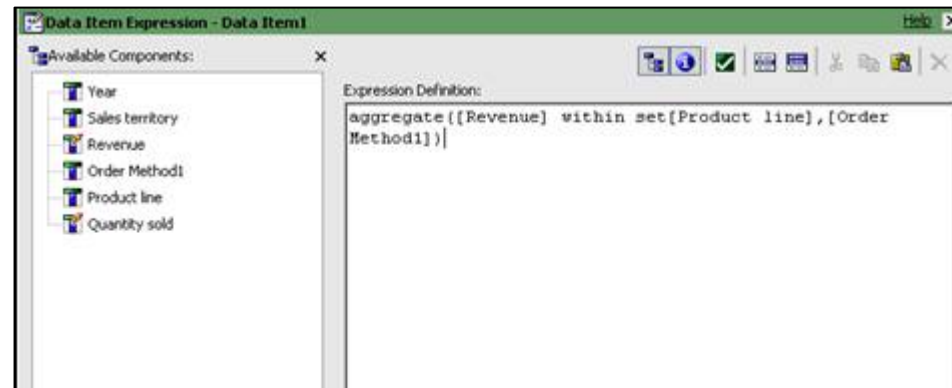
> **Make the Report Drillable:**

- Simply turning on Drill-up and Drill-down behaviour for the report will NOT give us the linked drill behaviour we are looking for

- The difficulty is that while all the data elements exist within one report spec, the Cognos 8 engine splits the main query into sub queries by default

- In order to make the dashboard dynamically drillable the two charts must be linked together

- Calculations can be created to link the drill actions for the two chart objects together

Dynamic Dashboards using Single Reports

> **Steps to make the report drillable:**

- Open the Query Explore fly out window and select Query 1.

- Drag and drop a Data Item object from the insertable objects pane into the data elements pane of the query. A Data Item Expression window should appear.

- Enter the syntax below in the Expression Definition pane for the new data item, where Revenue, Product Line and Order Method1 are all pulled from the Data Items tab of the Insertable Objects pane

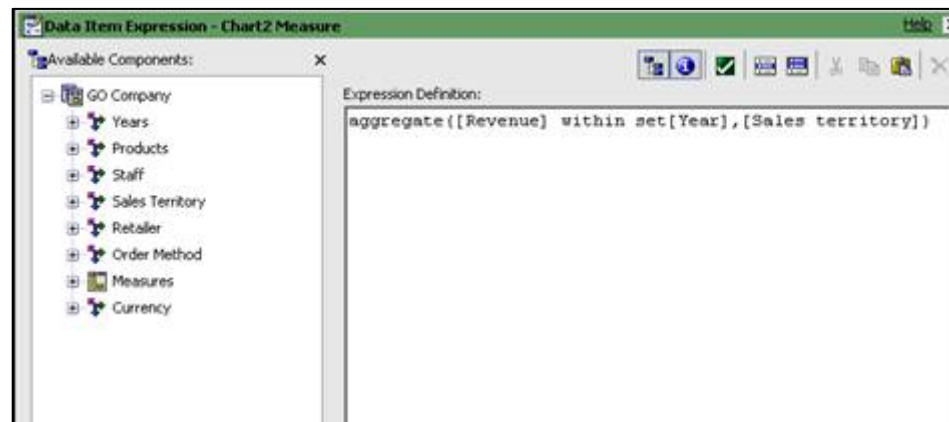aggregate([Revenue] within set[Product line],[Order Method1])

Dynamic Dashboards using Single Reports

> **Steps to make the report drillable:**

- Rename the data item to be Chart1 Measure

- Repeat steps above this time renaming the data item to Chart2 Measure and inserting the following syntax
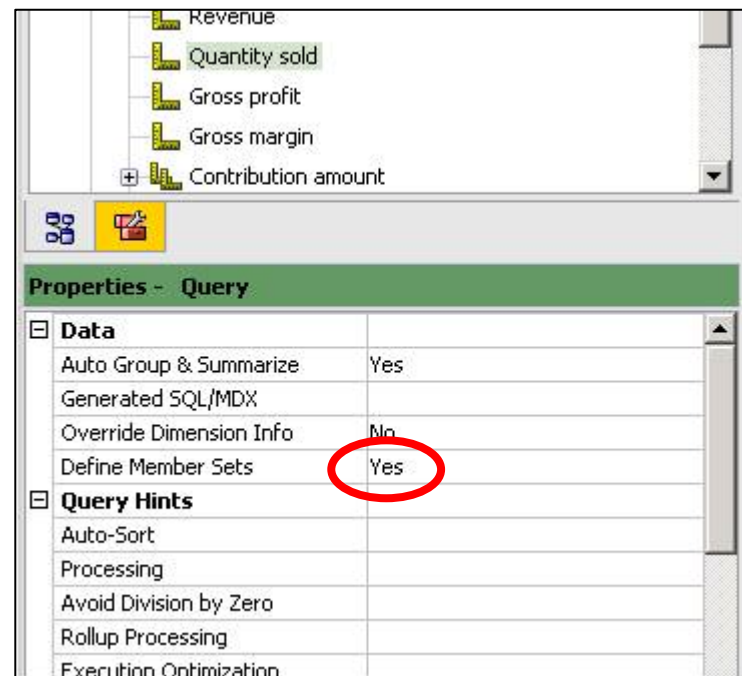
  aggregate([Revenue] within set[Year],[Sales territory])

Dynamic Dashboards using Single Reports

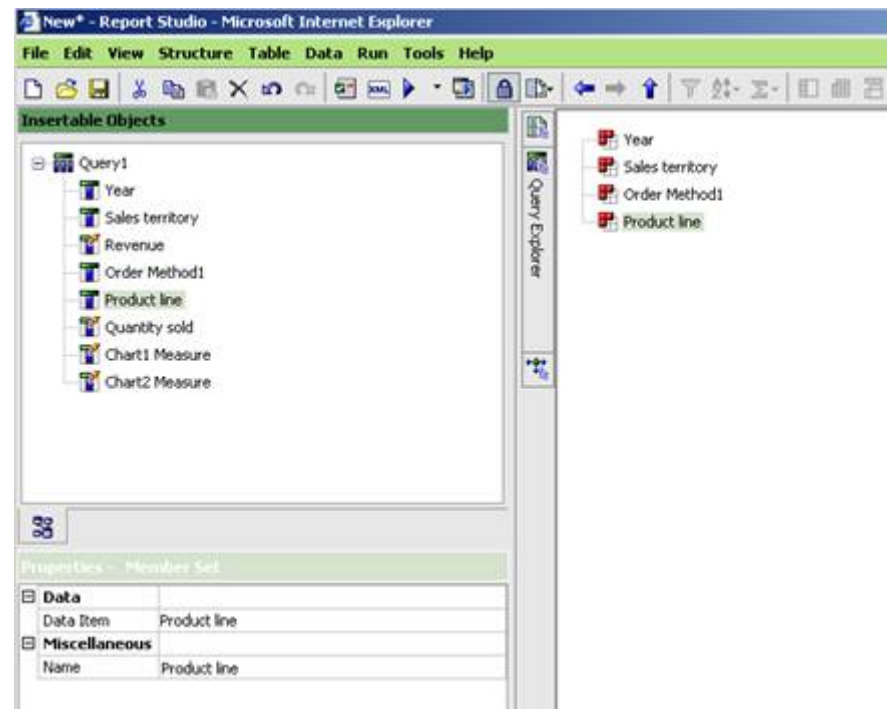> **Steps to make the report drillable:**

- Select Query1 from the Query Explorer fly out menu. In the Properties pane under the Data section, change the entry for Define Member Sets from No to Yes

Dynamic Dashboards using Single Reports

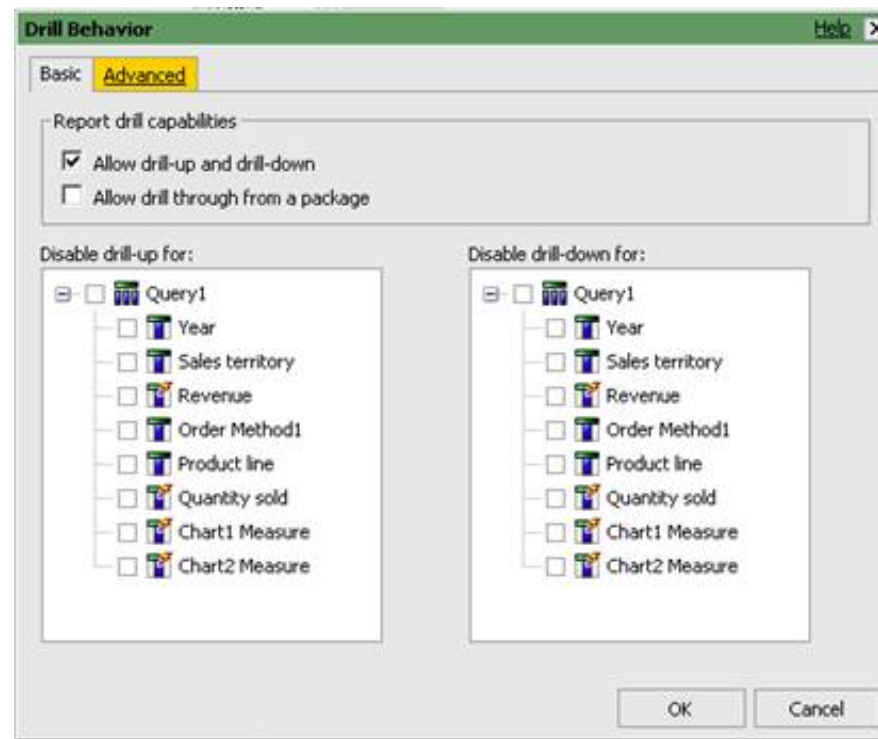> **Steps to make the report drillable:**

- There will now be a new tab in the query view called Member Sets. Select this tab and then drag and drop Year, Sales Territory, Order Method1 and Product Line from the insertable objects pane into the workspace on the right.

Dynamic Dashboards using Single Reports
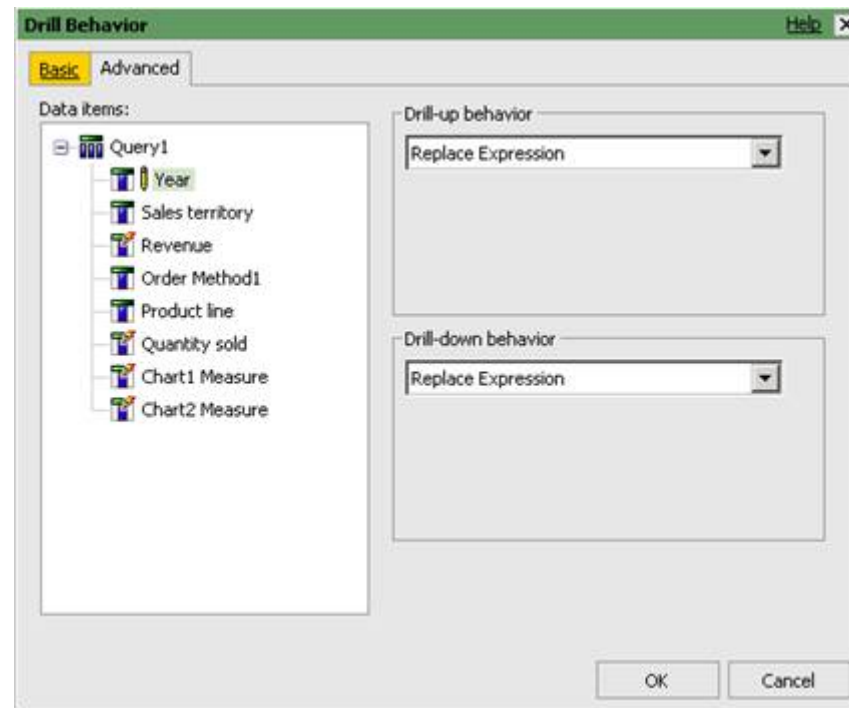
> **Steps to make the report drillable:**

- Turn on the drill behaviour by selecting Drill Behaviour from the Data menu. In the Drill Behaviour dialog box check the "Allow drill-up and drill-down" check box

Dynamic Dashboards using Single Reports

> **Steps to make the report drillable:**

- Select the Advanced tab and highlight the Year data item. Then change the Drill-up and Drill-down behaviour to Replace Expression
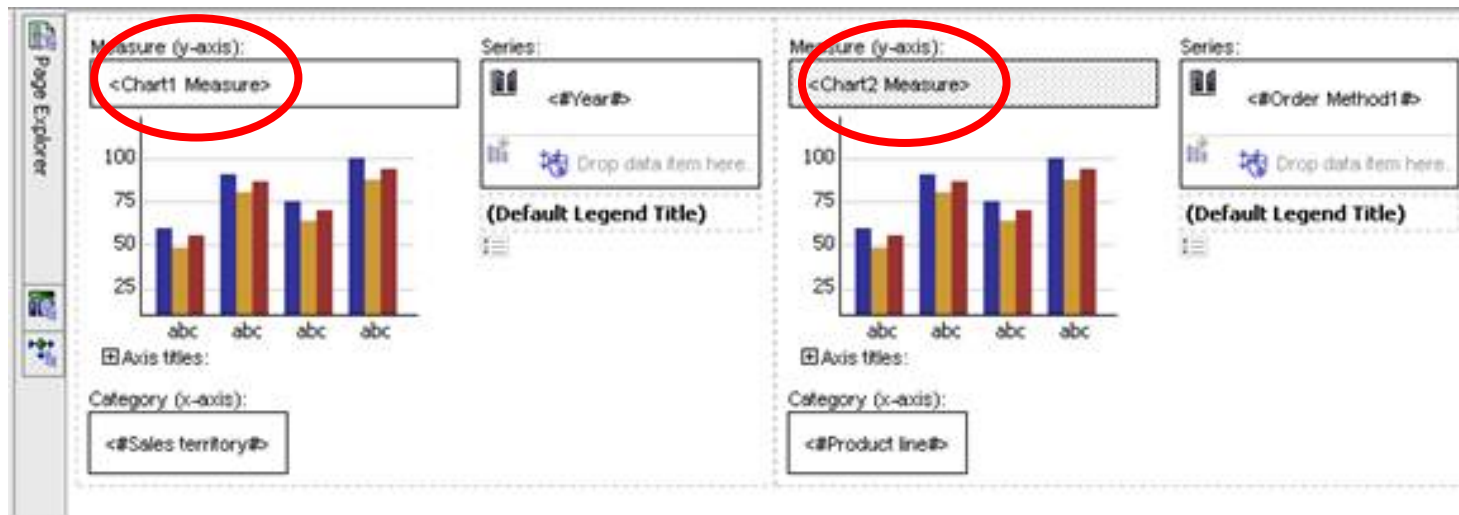
Dynamic Dashboards using Single Reports

> **Steps to make the report drillable:**

- Repeat steps above for the Sales territory, Order Method1, and Product line data items. Then click ok to return to the query definition.

- The last step is to replace the existing measures in the charts with the new calculated data items that link the dimensions together. From the Page Explorer fly-out select page1. In both charts highlight the measure revenue and then use the delete key on the keyboard to remove these items. From the Data Items tab of the Insertable Objects pane drag Chart1 Measure into the Measures drop zone for the first chart, and Chart2 Measure into the Measures drop zone for the second chart
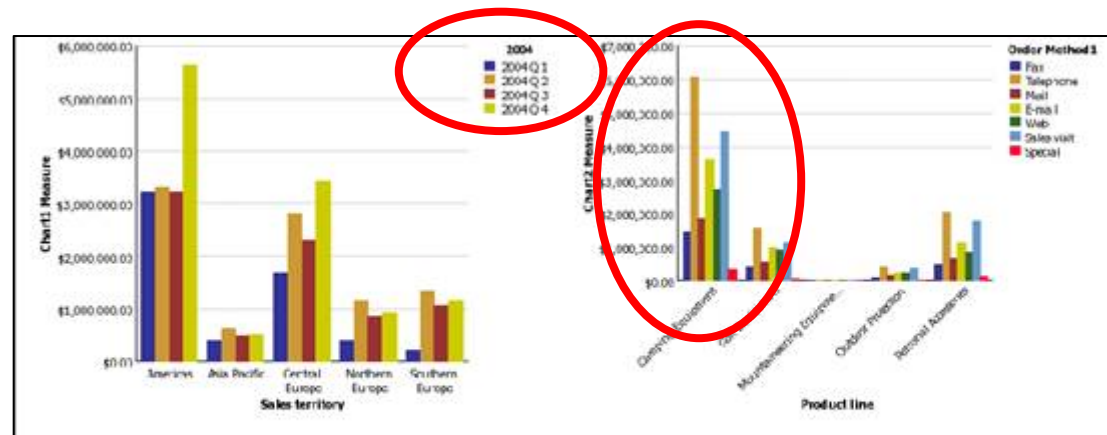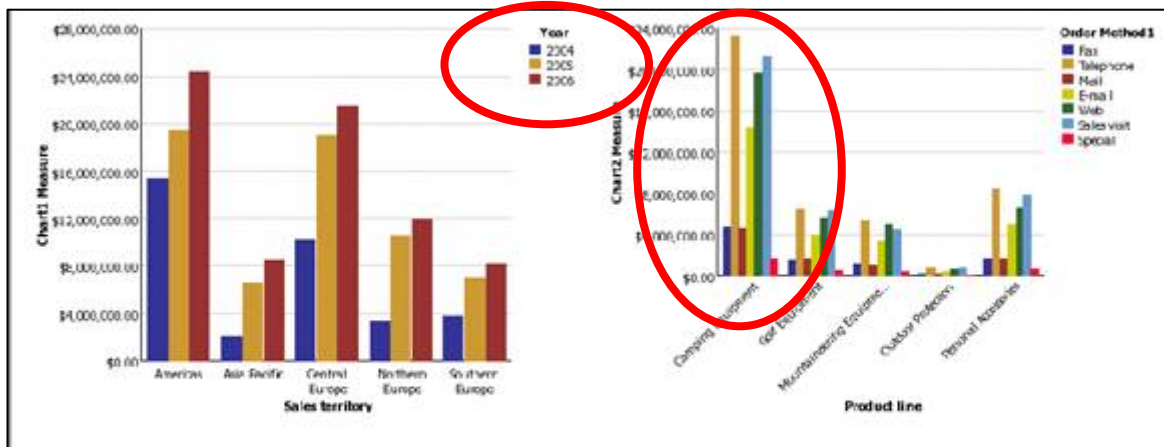
Dynamic Dashboards using Single Reports

> **Steps to make the report drillable:**

- Run the report and notice when you drill down on any Dimension both charts change to reflect the new scope

Dynamic Dashboards using Single Reports

> **The Result: Drilling on Time Dimension is dynamic**

Agenda

> A word on Dashboard Design

> Dynamic Dashboards within Report Studio < 8.4

> **Dynamic Dashboards via Cognos Portlets and Global Filters in 8.3**

> Synchronisation of queries within reports in 8.4

Dynamic Dashboards using Cognos Portlets

> **Original Design Problem:**

- Dynamic objects within single reports can become complex

- Global Filter functionality was added in the 8.3 release:

    - A global filter may be a prompt, a drill up or down action, or report that is based on drilling through content

    - E.g. you can add a prompt control to a portal page to automatically pass the selection to all reports on the page

    - When a prompt answer is changed, all related reports will refresh accordingly

    - When these techniques are used on a tabbed dashboard, the context is passed to all corresponding sections of the dashboard

    - This functionality allows for a single selection to drive a number of reports at once.

IBM Cognos Forum

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

  • We will use a crosstab report examine the behaviours of Global Filtering and Global Drill up and down.

  • Create a folder to store our report

  • Fire up Report Studio and select the Great Outdoors cube package

  • Select to create a 'new crosstab report'

    • Add Product Line level to rows

    • Add Years level to the columns

    • Revenue as the measure

  • Select a crosstab intersection and select the Total aggregation using the aggregate button

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- The result should appear as below

Revenue	<#Year #>	<#Total(Year)#>
<#Product line#>	<#1234#>	<#1234#>
<#Total(Product line)#>	<#1234#>	<#1234#>

- Select the crosstab, and from the Table menu select 'Apply Table Style'. Select 'Accounting 1'.

Revenue	<#Year #>	<#Total(Year)#>
<#Product line#>	<#1234#>	<#1234#>
<#Total(Product line)#>	<#1234#>	<#1234#>

- Go to the query for the crosstab

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Create the Slicer in the report to filter down the data

  [great_outdoors_company].[Sales Territory].[Sales Territory].[Country]->?pCountry?

- Steps to create slicer:

  - From the Insertable Object, select the Toolbox tab, and then insert a Slicer Member Set into the Slicer window.

  - Insert Sales Territory > Sales Territory > Country   (this is the Country level) into the expression window.

  - Append the following syntax at the end of the expression **->**?pCountry?

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Steps to show the value of the selected parameter:

  - Insert a Layout Calculation before the crosstab

  - From the window Available Components, click the Parameters tab located on the bottom of the Report Expression dialog box

  - Drag the pCountry parameter to the Expression Definition. The expression should look like this: ParamDisplayValue('pCountry')
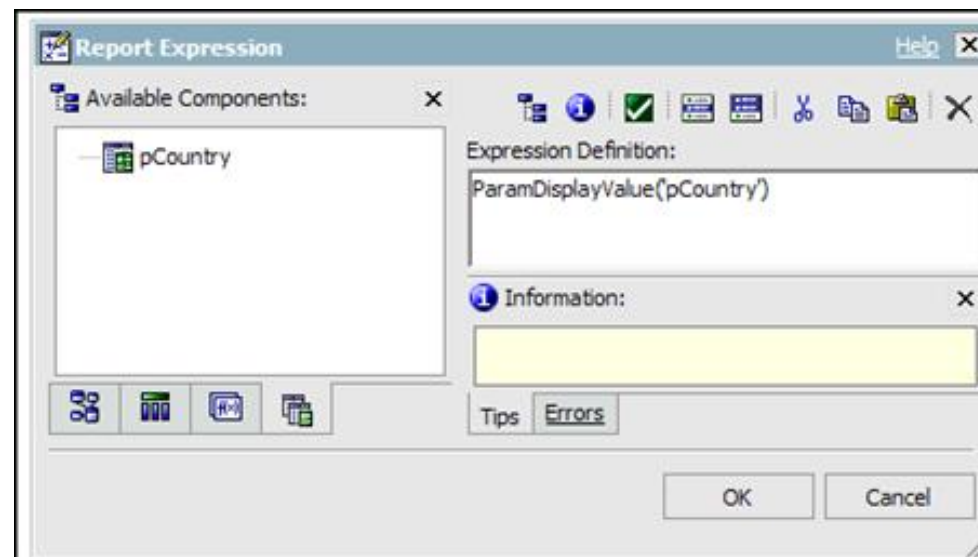
Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Enable Drill behaviour:

  - Select the Data menu and select the Drill Behaviour. Check Allow drill-up and drill-down and then click OK.
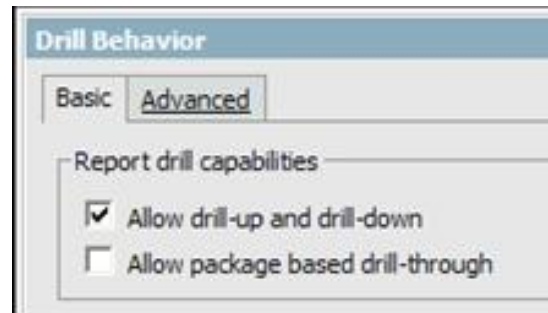
- Set the default parameter value:

  - In order to ensure the report is executed and displayed in the portlet, a default value will need to be set for the previously create pCountry prompt

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default parameter value:

  - Select Prompt Pages and create a new Prompt Page

  - On the prompt page drag a Value Prompt from the Insertable Objects pane onto the page. This will display the Prompt Wizard for the Value Prompt.

  - Click the Use existing parameter option and select pCountry parameter from the drop down list.
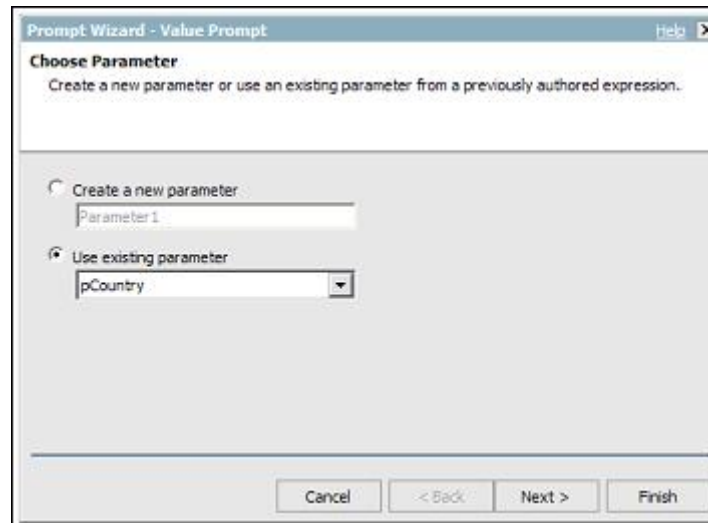
Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default parameter value:

    - On the next Wizard dialog box (Populate control) click the Finish button to create a second query using the Country Level

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default parameter value:

  - Highlight the Value Prompt on the page. In the bottom, left hand Properties pane, select Default Selections and click the ellipses. This will invoke the Default Selection dialog box.

  - Enter the Member Unique name for Canada. For this example the value is [Great_Outdoors_Company].[Sales Territory].[Sales Territory].[Country]->:[PC].[@MEMBER].[4]
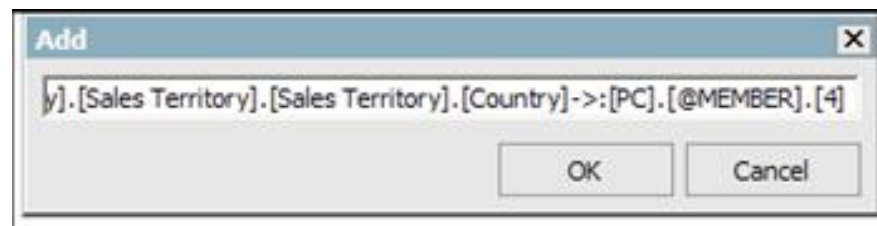

- Run the report and drill down on the rows to make sure that the report runs successfully. Save the report as '3 years Product Summary'.

Dynamic Dashboards using Cognos Portlets

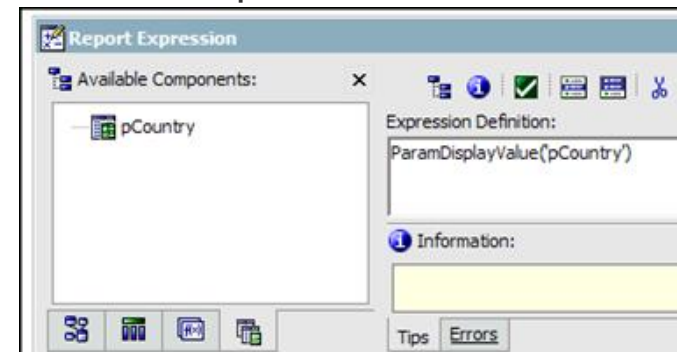> **Setting up a Dynamic Dashboard using Portlets:**

- Create an accompanying Chart report for visual representation of data

  - Create a new report using the Chart data container

  - Select Stacked column chart

  - Use Year Level for Category, Products level for the Series, and Revenue for default measure
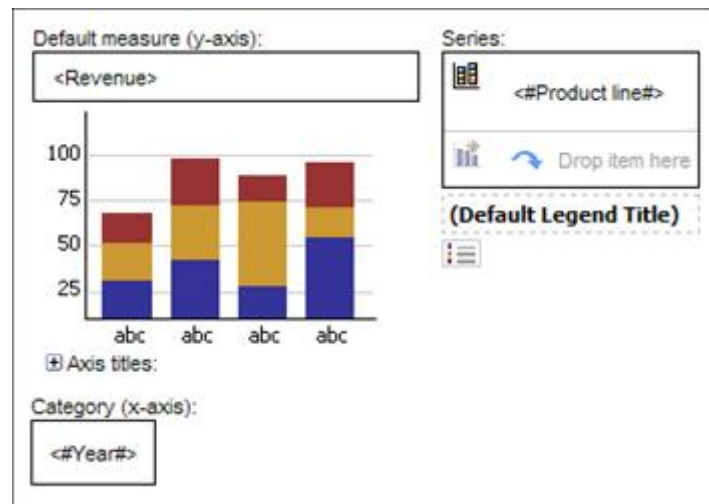
Dynamic Dashboards using Cognos Portlets

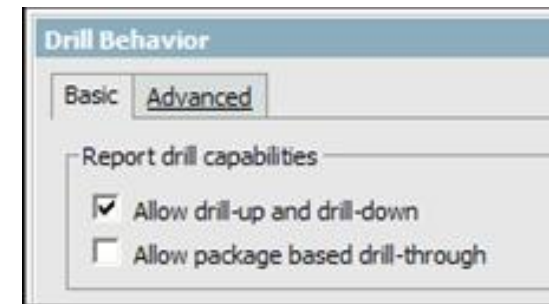> **Setting up a Dynamic Dashboard using Portlets:**

- Creating and displaying the Dynamic Chart Slicer

  - Go to the Chart query

  - Insert a Slicer Member set into the Slicer window

  - Insert the Country level into the expression window

  - Append to the expression ensuring the parameter name matches the name used in the previously created crosstab report: -> ?pCountry?

  - Return to the report page, drag in a block object before the chart, and insert a layout calculation into the block

  - Within the Report Expression dialog box, select the parameters tab, and drag in the pCountry parameter

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Enable Drill behaviour

    - Select the Data menu and select Drill behaviour

    - Check 'Allow drill-up and drill-down'

- Set the default prompt value

    - This is to ensure the pCountry parameter is satisfied on first run and the report is executed and displayed in the portlet

    - Add a prompt page to the Chart report

    - Go to the new prompt page and add a value prompt to it from the insertable objects pane

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default prompt value

  - Select 'Use existing parameter' option and select pCountry parameter name from the drop down list

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default prompt value

 - Click next, then click the Finish button to create the second query using the Country level

  - To add the default value, navigate back to the prompt page and the value prompt, and add the MUN for Canada to the default selection

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Set the default prompt value

    - To add the default value, navigate back to the prompt page and the value prompt, and add the MUN for Canada to the default selection

Add	✕
y].[Sales Territory].[Sales Territory].[Country]->:[PC].[@MEMBER].[4]	
	OK Cancel
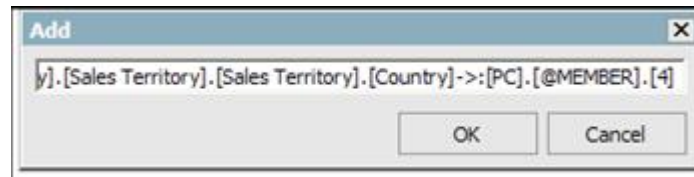
    - Run the report and drill down on the chart to make sure that the report runs correctly. Save the report as '3 Years Product Summary Chart'.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Create a Prompt Report

    - This report will provide the mechanism that drives the prompts in the previously created crosstab and chart report

    - Create a new report using the blank Report Studio template

    - From the toolbox, insert a Value Prompt object into the report page (not prompt page)

    - Create a new parameter named pCountry and click next. This name must match the parameter name used in the reports we created earlier.
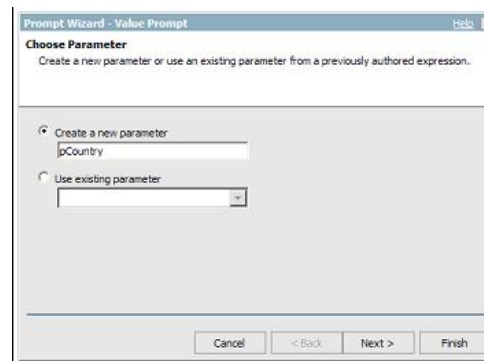
Dynamic Dashboards using Cognos Portlets

> **>** **Setting up a Dynamic Dashboard using Portlets:**

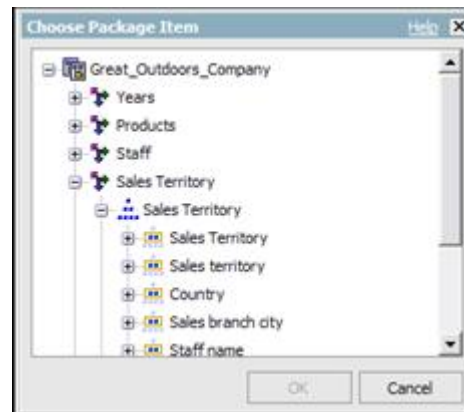- Create a Prompt Report

  - On the create filter wizard page, uncheck the Create a parameterised filter checkbox, and click next to Continue

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Create a Prompt Report

  - Within the Prompt Wizard, on the populate control, click the ellipses beside "Value to Use" field. From the tree select Great Outdoors Company > Sales Territory > Sales Territory > Country (level) and click ok.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Create a Prompt Report

  - Click ok to return to the prompt wizard.
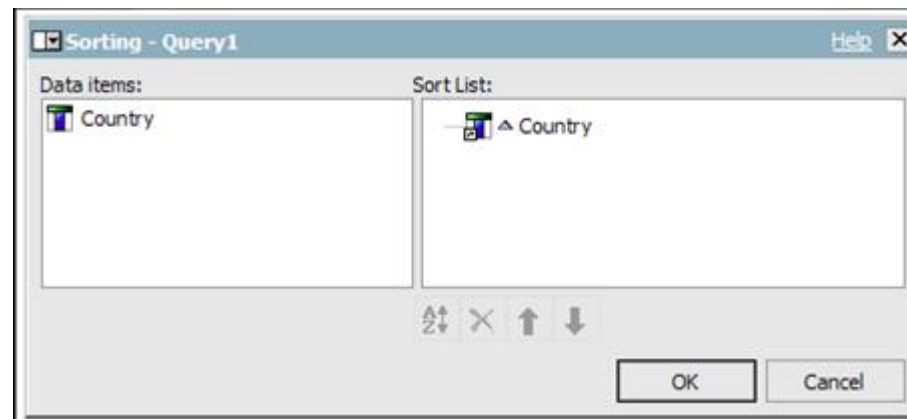
Dynamic Dashboards using Cognos Portlets

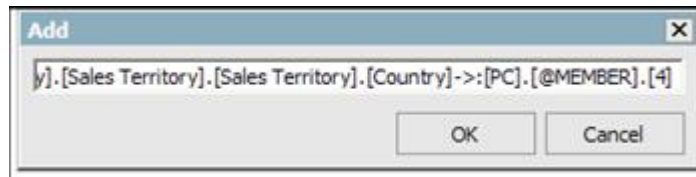> **Setting up a Dynamic Dashboard using Portlets:**

- Set Sorting and Default values on the Prompt Report

  - Select the Value Prompt on the report page

  - In the properties pane, select Auto-submit and change to Yes

  - In the properties pane, locate the Sorting property and click the ellipses to change the value

  - In the Data Items window, drag Country to the sort list window and click ok

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Add a default value for the prompt

  - Select the value prompt, and in the properties pane select Default Selections and add the MUN for Canada

  - Run the report to ensure the report executes correctly. Save the report as 'Country Prompt'.
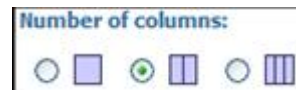
Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Creating the Portal Page with three Cognos Viewer portlets

    - Navigate to the folder where you have created the above reports

    - Create a new page using the New Page button

    - Name the page Global Filtering, then click Next

   - Select two columns for the Dashboard layout

    - Make the left column 20% width, and the right column 80% width

    - Click Add… below the left column to add a new portlet

    - Select Cognos content to expose the Cognos Content portlets

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Creating the Portal Page with three Cognos Viewer portlets

  - Check the box to select the Cognos Viewer portlet and then the right arrow to add it to the selected entries. Click ok.
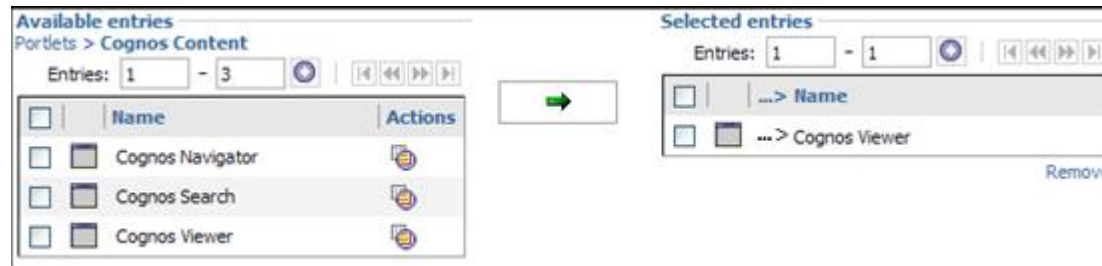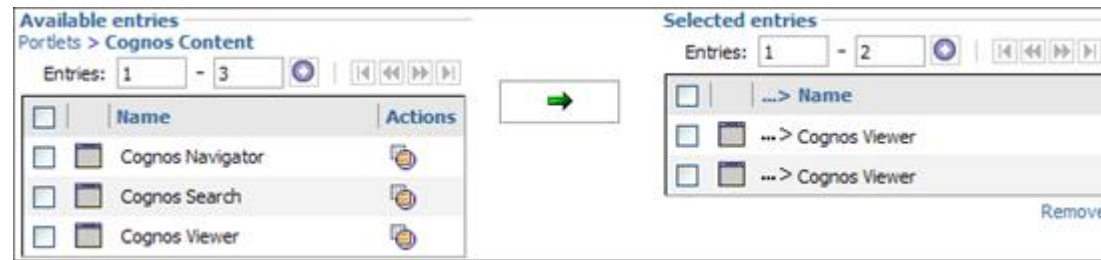

  - On Set columns and layout page, click Add.. below the right column

  - Click Cognos content to expose the Cognos Content portlets

  - Check the box to select the Cognos Viewer portlet and then the right arrow to add it to the selected entries. Repeat this to add a second Cognos viewer.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Creating the Portal Page with three Cognos Viewer portlets


- On Set column and layout page, click Next to go to the next page

- Type Global Filtering for the title, then next

- Check both boxes, Add page to portal and View Page, then click finish

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Creating the Portal Page with three Cognos Viewer portlets

  - The completed page should resemble the following image
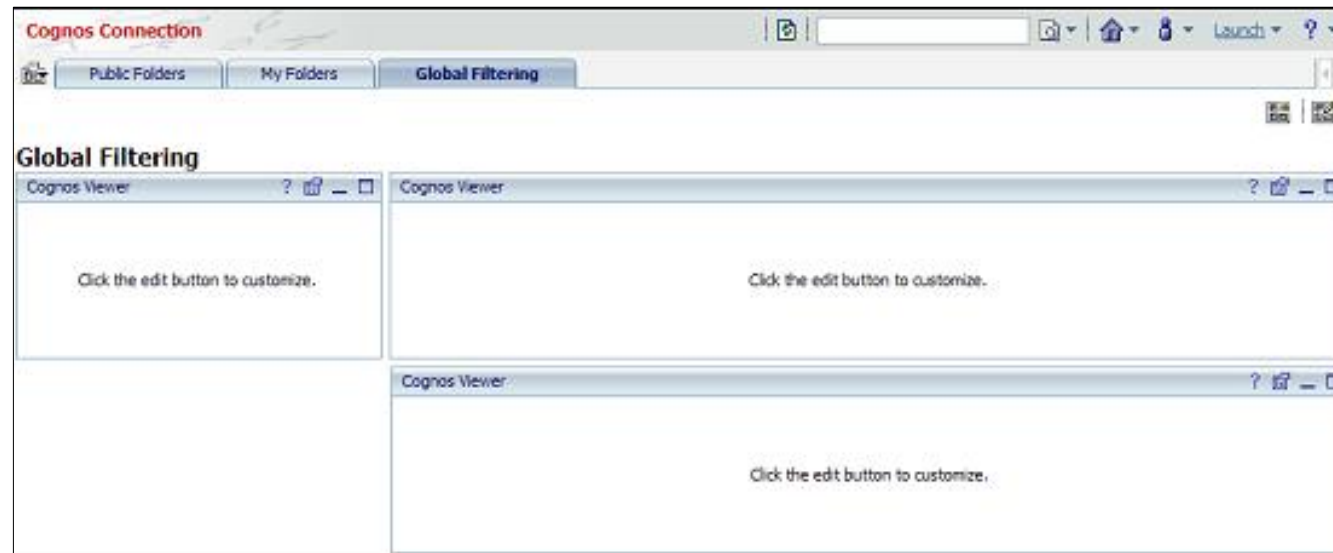
Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

    - Click the properties icon of the left portlet to edit its properties

    - Navigate to and select the Country prompt report constructed earlier

    - In the property window, under the Entry section, click Edit properties to open the Advanced Properties Editor to change the Portlet Communication options between the portlets
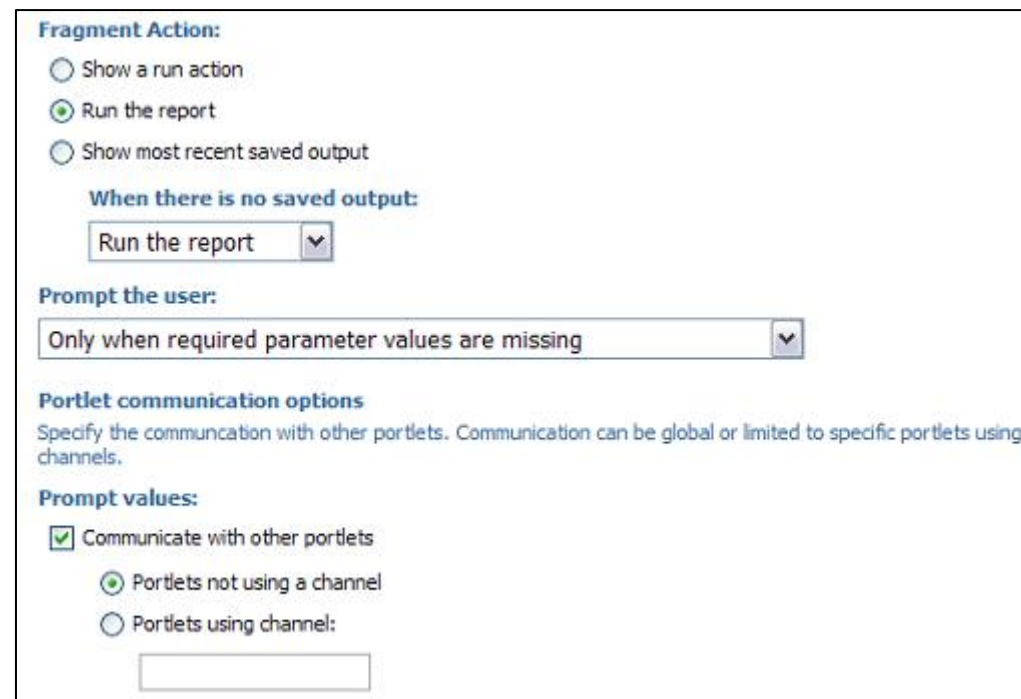
        Entry:
        Public Folders > Great_Outdoors_Company > Global Filters > Country Prompt Edit Properties
        Select an entry...   Clear

    - Set the Fragmentation Action to Run the report

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

  - Under Portlet Communication, ensure the checkbox to communicate with other Portlets is checked and leave the default selection at Portlets not using a channel, click ok when done

Fragment Action:
- ○ Show a run action
- ◉ Run the report
- ○ Show most recent saved output

  When there is no saved output:
  [Run the report ▾]

Prompt the user:
[Only when required parameter values are missing ▾]

Portlet communication options
Specify the communcation with other portlets. Communication can be global or limited to specific portlets using channels.

Prompt values:
- ☑ Communicate with other portlets
  - ◉ Portlets not using a channel
  - ○ Portlets using channel:
    [   ]
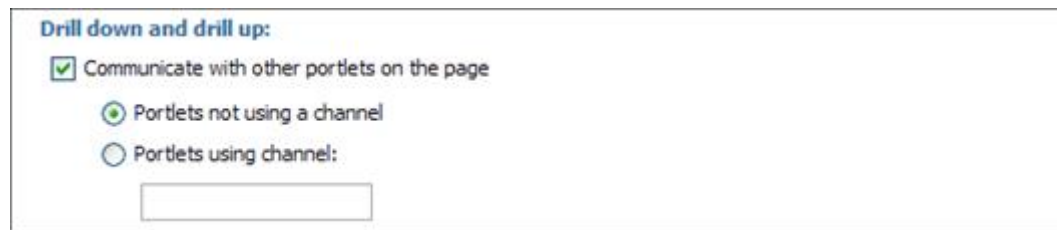
Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

  - Click the properties icon of the top right portlet to edit its properties

  - Select the 3 Year Product Summary report (crosstab)

  - In the Property window, under the Entry section, click Edit Properties to open the Advanced Properties Editor to change the Portlet communication options between the portlets. Set them as follows.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

  - Set the Drill down and drill up box to Communicate with other portlets and leave the default selection for Portlets not using a channel

    Drill down and drill up:
    ☑ Communicate with other portlets on the page
    ⦿ Portlets not using a channel
    ◯ Portlets using channel:

  - Click ok when done, and click ok again to return to the portal page.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

  - Finally we will add the Chart report to the Portal page

  - Click the Properties icon of the bottom right Portlet

  - Select the Chart report as the entry for this Portlet

  - In the Property window, under the Entry section, click Edit Properties to open the Advanced Properties Editor to change the Portlet communication options between the portlets. Set them as follows.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Adding reports to the Portal Page

  - Set the Drill down and drill up box to Communicate with other portlets and leave the default selection for Portlets not using a channel

    Drill down and drill up:
    - ☑ Communicate with other portlets on the page
      - ◉ Portlets not using a channel
      - ◯ Portlets using channel:

  - Click ok when done to return to the Set the Property page, then click ok again to return to the Portal page.

Dynamic Dashboards using Cognos Portlets

> **Setting up a Dynamic Dashboard using Portlets:**

- Test the Portal Page

  - Test the Prompting Mechanism:

    - Click Mexico in the prompt list box on the Country Prompt portlet. The value will be passed to the other portlets and each report will be filtered by Mexico.

  - Test the Drill Behaviour:

    - Click the Year 2006 on the 3 Year Product Summary report. This action will cause each report (3 Year Product Summary and 3 Year Product Contribution) to drill down on the 2006 member displaying the quarters of 2006.

Agenda

> **A word on Dashboard Design**

> **Dynamic Dashboards within Report Studio < 8.4**

> **Dynamic Dashboards via Cognos Portlets and Global Filters in 8.3**

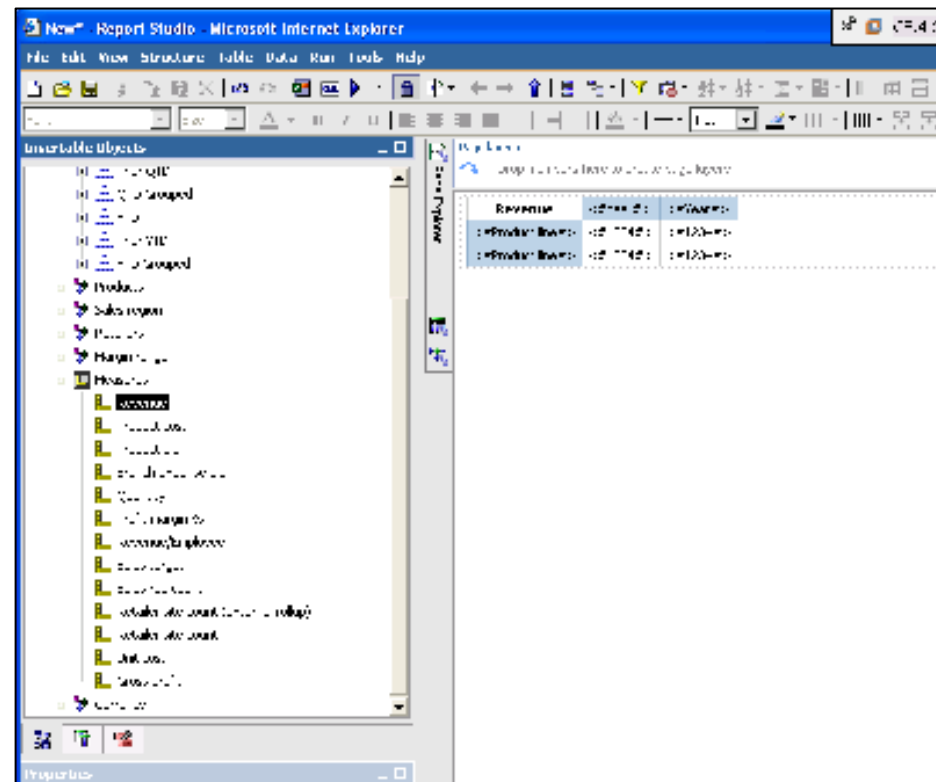> **Synchronisation of queries within reports in 8.4**

Agenda

> A word on Dashboard Design

> Dynamic Dashboards within Report Studio < 8.4

> Dynamic Dashboards via Cognos Portlets and Global Filters in 8.3

> **Synchronisation of queries within reports in 8.4**

Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

- Create a new report in Report Studio using the Great Outdoors Sales cube

- Use the blank template. From the toolbox add in a new Table, 2 columns wide and one row in depth. 50% widths for both columns

- Drag in a Crosstab into column one

- From the Great Outdoors Sales sample cube, take the following:

  - Year level as columns from the Years hierarchy and dimension

  - Product Line level as rows from the Products hierarchy in the Products dimension

  - Take Revenue and add it as the default measure

Synchronisation of queries within reports in 8.4

> **The result should appear as below**

Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

- Go to the Query viewer and copy and paste the query

- Return to the page view, and copy and past the crosstab into the right column of the table

- Select the right crosstab, and using the ancestry arrow point it to the second query that resulted from the query copy and paste

- Go to the Data menu, select Drill behaviour, and click the checkbox to enable Drill behaviour
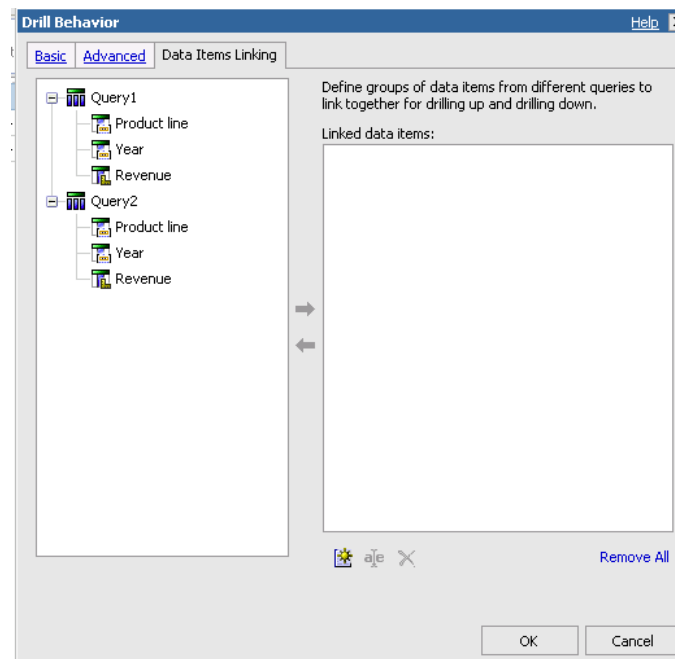
- Run the report

Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

- Notice how the two crosstab columns are not synchronised

Cognos Viewer									About

| Revenue	2004 Q 1	2004 Q 2	2004 Q 3	2004 Q 4	Revenue	2004	2005	2006	2007
Camping Equipment	81,929,179	80,046,862	88,193,534	82,816,763	Camping Equipment	332,986,338	402,757,573	500,382,423	352,910,330
Mountaineering Equipment					Mountaineering Equipment		107,099,660	161,039,823	141,520,650
Personal Accessories	92,911,009	95,895,545	99,403,111	103,437,429	Personal Accessories	391,647,094	456,323,356	594,009,408	443,693,450
Outdoor Protection	8,977,551	8,738,525	9,269,980	9,179,464	Outdoor Protection	36,165,521	25,008,574	10,349,176	4,471,025
Golf Equipment	37,886,966	37,462,453	38,883,691	39,320,741	Golf Equipment	153,553,851	168,006,427	230,110,271	174,740,819

Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

  - Return to Report Studio, and go to the Data menu, select Drill Behaviour, and go to the Data Items Linking tab. This is where the relationships between query items is specified.

Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

- Select Year from Query 1, then click the blue arrow to add it to the Linked Data Items pane

- Repeat the above step using Year from Query 2.
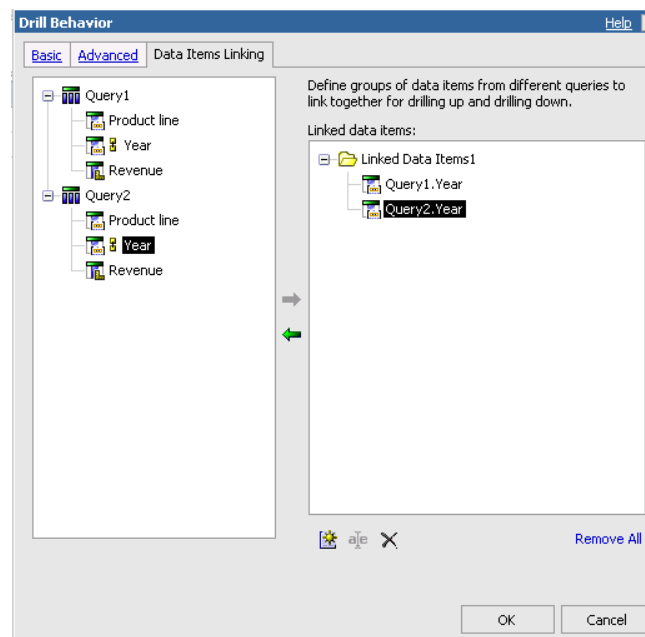
Synchronisation of queries within reports in 8.4

> **8.4 allows you to link groups of data items from different queries in a report so that when you drill up or down on one query, data items in the other query also drill up or down**

- Click ok and run the report. Drill down on 2006 in the left crosstab. You will notice that both crosstabs are synchronised.

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