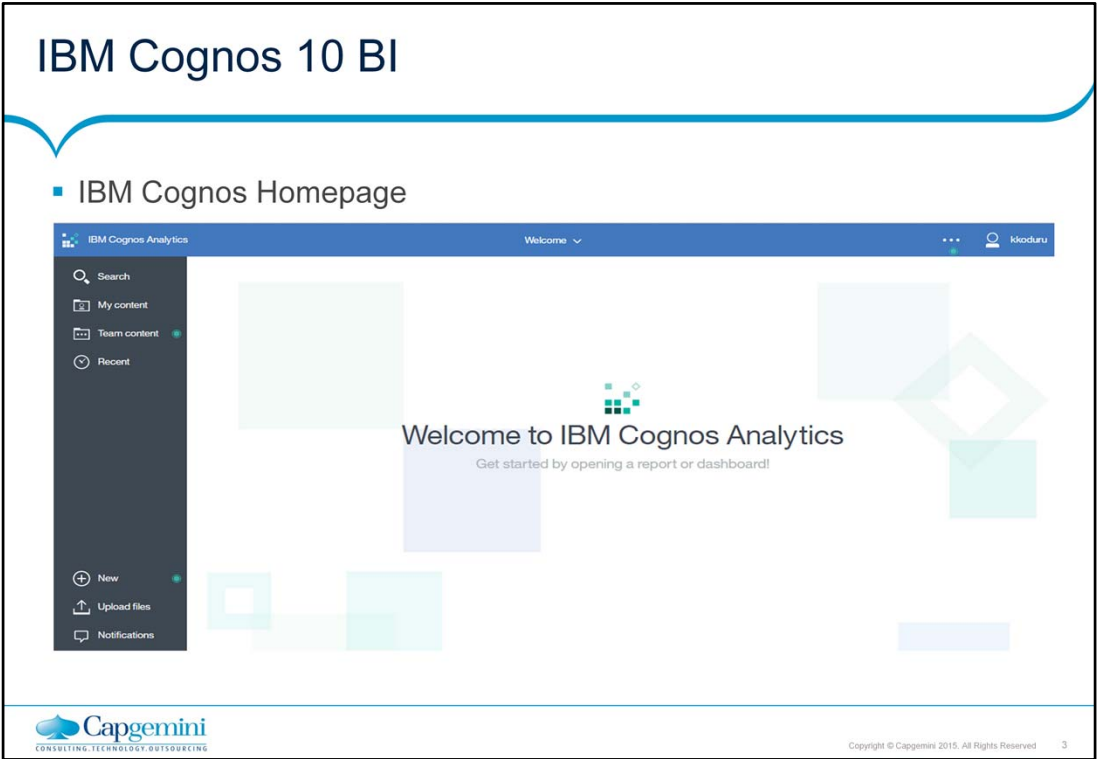


# Cognos 11

Lesson 04: Cognos Analytics

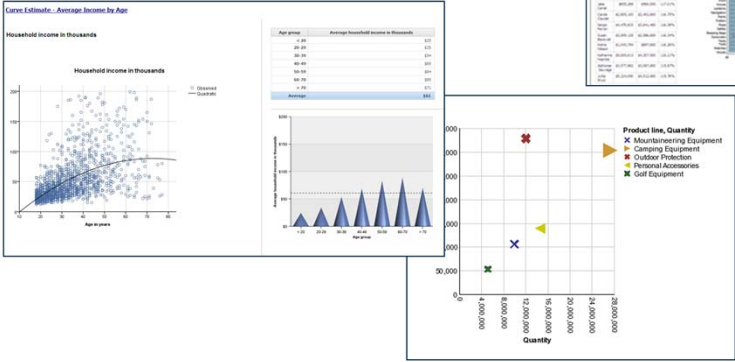
## Module Objectives :

1. What is Report, Dashboard and Data Module?
2. User Interface & Navigation
3. Objects
4. Creating a Report
5. Report Types
6. Data, toolbox, and navigate areas
7. Design Vs Preview Vs Structure
8. On-Demand Property Pane
9. Visualizations
10. Repeater Report
11. Prompts
12. Report Studio Views
13. Auto Group and Summarize
14. Drill-throughs
15. Master & Details relationship
16. Conditional Formatting
17. Working with Queries
18. Templates
19. Reuse a Layout Object
20. Active Report
21. Data Sets
22. Data Modeling on web
23. Dash boarding
24. Snapshot Dashboard
25. Notification



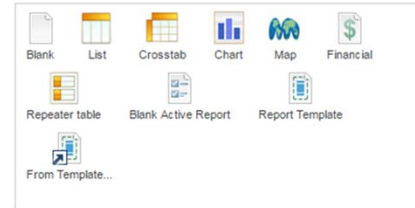
# Report Studio

- What is Report, Dashboard and Data Module?
- A web-based report authoring tool that professional report authors and developers use to build sophisticated, multiple-page, multiple-query reports against multiple databases.



## Report Studio

- Report Studio enables report authors to create, edit, and distribute a wide range of professional reports..
- The different types of reports can be
  - Lists
  - Crosstabs
  - Charts
  - Maps
  - Active Reports
- There can be a mix of the above reports as well having following properties as well
  - Multi-Frame
  - Drill up/down, through
  - Freeform Layout
  - Multi-Page



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Report designing consists of various components

You use different report types to look at data in different ways or to answer different business questions. For example, you create a list report to show your entire customer base, but you create a crosstab report to show which sales representative has the highest sales for each product line. You can create a chart to present data graphically, and use a repeater to create mailing labels.

In Report Studio, you can create the following types of reports:

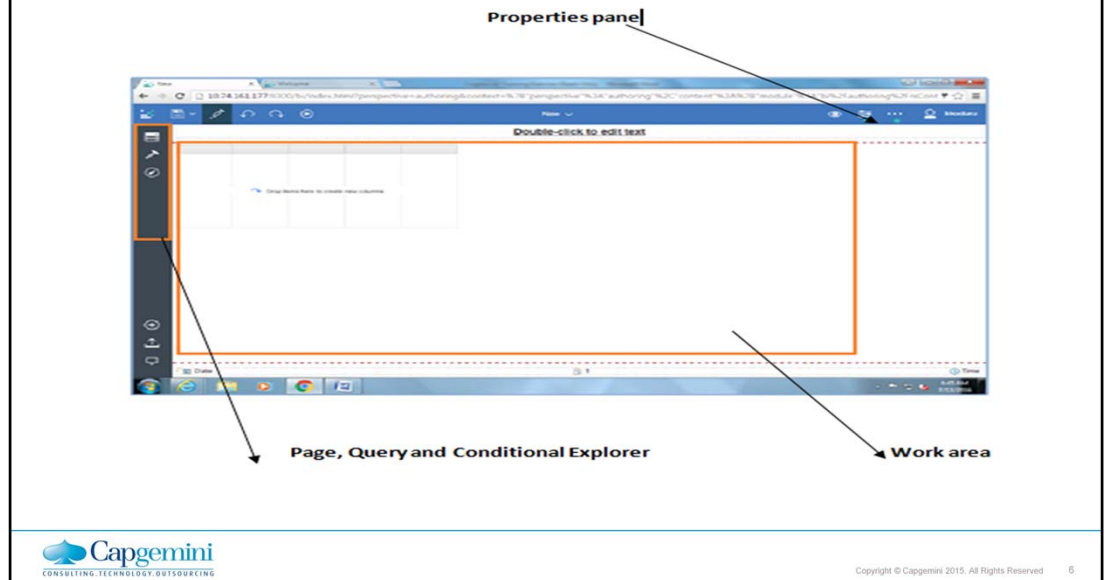
( list , crosstab, chart, map, repeater)

You can also combine one or more of these in a single report.

We would look into detail of all these report studio components in preceding slide.

Cognos 10 has added features which enhances our reporting skills. With the addition of option of multi-frame, multi-page and freeform layout lots of reporting requirements are meet. Drill thru and Drill up/down have enhanced the capabilities of report . We would looking into these thing in the preceding slides.

## Report Studio (contd...)



Let us understand the User Interface of Report studio (Pop up Object 1.1)

The Report Studio user interface has two panes, an explorer bar, and a work area to help you create reports.

1) Insertable Objects Pane ( Pop up object 1.2 a , 1.2 b and 1.2 c)

The Insertable Objects pane contains objects that you can add to a report. You add objects to a report by dragging them to the work area.

The Insertable Objects pane contains these tabs:

- a) The source tab contains items from the package selected for the report, such as data items and calculations.
- b) The data items tab describes the queries created in the report.
- c) The toolbox tab contains a variety of objects that you can add to the report, such as text and graphics

2) Properties Pane (pop up object 1.6)

The Properties pane lists the properties that you can set for an object in a report. You can obtain additional information about a property by selecting it and clicking F1. For example, you can view the list of objects that uses each property. When you specify a value for a property, press Enter, click another property, or save the report to ensure that the value is saved.

3) Explorer Bar ( Pop up object 1.3 followed by 1.4 and 1.5)

- a) Page explorer button to go to a specific report page or prompt page.
- b) Query explorer button to work with queries You use Query Explorer to create or modify queries and to perform complex tasks, such as defining union joins and writing SQL statements
- c) Condition explorer button to work with variables. You use variables to define conditions in a report.

4) Work Area

The work area is where you design reports.



report studio feel

## Report Studio (contd...)

- A List report displays detailed information in rows and columns.
- The layout options available in a List report are as follows:
  - Headers and footers
    - List header
      - Once for each occurrence of the list
    - Overall header
      - Once for the entire list
    - Group header(s)
    - Group footer(s)
    - Overall footer
    - List footer
    - List Column Body
  - List Column Body

Product Line	Product Type	GROSS_PROFIT
List page header		
Overall		
<Product Line>		
<Product Line>	<Product Type>	
	<Product Type>	<GROSS_PROFIT>
	<Product Type>	
	<Product Type>	<GROSS_PROFIT>
	<Product Type>	
<Product Line>		
<Product Line>		
<Product Line>	<Product Type>	
	<Product Type>	<GROSS_PROFIT>
	<Product Type>	
	<Product Type>	<GROSS_PROFIT>
	<Product Type>	
<Product Line>		
Overall		
List page footer		



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List is the most basic thing of Report studio .

A list report is a report that shows data in rows and columns. Each column shows all the values for a data item in the database or a calculation based on data items in the database.

Lets understand the various list components one by one.

List

A layout object that is used to present query results in a list fashion

List Cell

A cell in a row, you can use for a list header or footer.

List Column

A column in a list. Generally, the column will contain a query item, but it may also contain any number of layout objects. For example, the To column in a statement list may present the address in a table format. If the column only contains a query items, then the column will automatically span the group if the query item is grouped.

List Column Body

The contents of a column in a list report.

List Columns

A set of columns in a list.

List Column Title

The title of a list column.

List Footer

The footer that appears at the end of a list on each page on which the list is rendered. It is useful for presenting page totals.

List Header

The header that appears at the start of a list on each page that the list is rendered. It is useful for presenting carry forward totals.

List Page Footer

The footer that appears at the bottom of every page of a list report. This object is rendered after the list details and other list footers.

List Page Header

The header in the list that will appear on every page rendered. It occurs after the column titles and before the overall group header of the list.

List Row

row in a list.



List Report

# Report Studio (contd...)

- Crosstab Reports
  - Crosstab reports display information in a compact form than a grouped list.
  - Crosstabs are composed of edges
    - Row edge defines the members listed on the left side of the crosstab
    - Column edge defines the members listed at the top of the crosstab
    - Cells contain the measure values
- Edges are composed of the following:
  - Crosstab Node - A collection of Node Members and Nested Nodes
  - Crosstab Node Member – A collection of data items that define members
  - Measures are also valid parts of an edge. Measures are the items that can be counted also called facts, metrics, or key figures.
  - Sales dollars, quantities and inventory levels are all examples of measures.

GROSS_PROFIT		<#CURRENT_YEAR#>	<#CURRENT_YEAR#>
<#Product Line#>	<#Product Type#>	<#1234#>	<#1234#>
<#Product Line#>	<#Product Type#>	<#1234#>	<#1234#>
<#Product Line#>	<#Product Type#>	<#1234#>	<#1234#>
<#Product Line#>	<#Product Type#>	<#1234#>	<#1234#>



What are Cross tab and when do we use them ? (Pop up 3.1)

We use crosstab reports to show information in a more compact form than in a grouped list. For example, create a crosstab report to show total sales by product line generated by each sales representative.

Like list reports, crosstab reports are reports that show data in rows and columns. However, the values at the intersection points of rows and columns show summarized information rather than detailed information.

What are Crosstab Nodes and Crosstab Node Members ?

When you add data items to crosstabs, you create crosstab nodes and crosstab node members. These objects allow you to easily create crosstabs, using drag-and-drop operations.

Crosstabs are dimensional objects that have row edges and column edges. Each edge is composed of a set of crosstab nodes. Each crosstab node contains the following:

- 1) One or more crosstab node members.
- 2) Zero or one nested crosstab node, which contains one or more crosstab node members or nested crosstab nodes.

Each crosstab node member refers to a data item that contains an expression that defines the members that appear in the crosstab. ( Pop up object 3.2)



Cross Tab report



## Report Studio (contd...)

### ■ Charts

- Charts are a visual representation of data which represents trends, tabular numeric data and other functions that cannot be displayed in tabular reports.
- Access information in a report by creating a drill up or down or drill through from elements in a chart.
- Charts can be enhanced by applying informational overlays such as baselines, markers and notes.

### ■ Maps

- Use Map Manager to design your own maps.
- Maps are defined by layers:
  - Region
    - Color code areas on the map to compare values such as World, Country or State
  - Point
    - Color or size to map to compare values for cities, plants, sale districts
  - Display
    - Display additional map details to provide context to the reader such as grids and/or an ocean Maps



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You can use Report Studio to create many chart types, including column, bar, area, and line charts. ( Pop up object 5.1 and follow it with object 5.2)

To create charts, you drag items from the Insertable Objects pane to the following drop zones:

- 1) measures
- 2) columns, bars, lines, areas, or points to represent data series groups, clusters, or stacks to represent categories of related data series (Pop up Object 6.1 followed till 6.12)



Chart Sample



Chart Type

## Report Studio (contd...)

### ■ Filters

- Filter expressions enables to view only the selected information of a report and minimizes processing time by excluding unwanted data.
- The following are the types of filters:
  - Detail filters
  - Summary filters
  - Slicers
    - In a crosstab, a slicer is a filter that is applied to the cells of the crosstab, but not the rows or columns.
    - A slicer is a set of slicer member sets. Each slicer member set is an expression that returns a set of members from the same dimension.
    - Multiple slicer member sets cannot be created against the same dimension.
    - a child member of a report item can be added as a slicer.



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What are filters and what are they used for?

You add a filter expression to focus a report and minimize processing time by excluding unwanted data. For example, you can filter data to show customers who placed purchase orders valued at over one thousand dollars during the past year. When you run the report, you see only the filtered data.

If an expression is used in multiple reports, or by different report authors, ask your modeler to create the expression as a standalone object in the model and include it in the relevant package

What is a Detail Filter?

A set of conditions in a query that narrow the scope of the data returned. A detail filter is applied before aggregation is complete.

What is Summary filter?

A set of conditions in a query that narrow the scope of the data returned. A summary filter is applied after aggregation is complete.

What is a Slicer ? What is used for?

You use slicers to create dimensional filters that reduce the data included in measure rollups. For example, a slicer is a filter that is applied to the cells but not the rows or columns in a crosstab.

A slicer member set is an expression that returns a set of members from the same dimension. You

can create multiple slicer member sets to filter across two or more dimensions. You cannot create

multiple slicer member sets against the same dimension.

You can add a child member of a report item as a slicer.

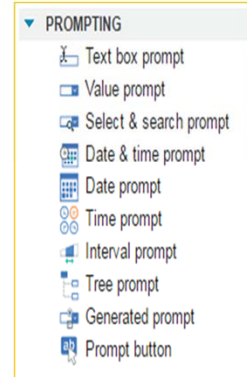
For example, you create a crosstab with Product line as rows, Year as columns, and Revenue as the measure. You drag Sleeping Bags to the Slicer pane. When you run the report, all product lines appear in the crosstab, but a value appears only for the Camping Equipment row because Sleeping Bags is a child of Camping Equipment

## Report Studio (contd...)

### ■ Prompts

- Prompts act as questions for specific areas of business that narrow the result set, making the report more manageable.
- Prompts can come in many styles such as text box prompts, value prompts, search and select prompts, and date prompts.
- The following are the features of prompts:
  - Used for parameters in filters and calculations
  - Optional and required
  - Set Single and multiple values in Prompt properties
  - Multilingual Prompts can be used
  - Report Studio will default prompt type

### ■ Types of Prompts



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You can add prompts to a report to add interactivity for users.

Prompts act as questions that help users to customize the information in a report to suit their own needs.

For example, you create a prompt so that users can select a product type. Only products belonging to the selected product type are retrieved and shown in the report.

Prompts are composed of three interrelated components. Parameters, which are based on parameterized filters, form the questions you want to ask users.

Prompt controls provide the user interface in which the questions are asked. Finally, parameter values provide the answers to the questions.

Report Studio provides several ways to create prompts. You can use the Build Prompt Page tool

build your own prompt and prompt page

create a parameter to produce a prompt

insert prompts directly into the report page

Features of prompts are

- 1) You can use parameters in filters and calculations
- 2) You can set the usage of the prompt that you have created as Optional and required
- 3) You can set Single and multiple values selection in the prompt property
- 4) Multilingual prompts can also be used in the reports
- 5) Report Studio will default prompt type that is set while creating a report.

## Report Studio (contd...)

### Conditional Processing

- Conditional styles enable the user to establish criteria on which Report Studio highlights specified ranges or values.
- Conditional styles can be used with numeric data, text data, and date values.
- Conditional highlighting based on variables
- Conditional text based on multilingual variables
- Conditional Blocks
- Conditional Rendering:
  - Object not rendered based on variable
    - as if the object does not exist (versus exists but transparent or hidden)
  - Useful to hide a column in a list
- Supported on:
  - Block, Text item, List, List column, Crosstab, Chart, Table, Repeater, Repeater Table, Repeater Table Cell, image, hyperlink, hyperlink button, prompts, HTML item, field set, and so on.



Order year	Order method	Revenue
2004	E-mail	\$5,940,051.14
	Fax	\$2,450,419.14
	Mail	\$3,250,330.26
	Sales visit	\$7,786,995.72
	Special	\$536,707.36
	Telephone	\$10,120,169.54
	Web	\$1,705,039.34
		<b>\$34,750,563.50</b>
2005	E-mail	\$9,233,657.40
	Fax	\$3,346,471.10
	Mail	\$1,005,775.00
	Sales visit	\$15,651,452.62
	Special	\$1,776,840.78
	Telephone	\$16,100,478.70
	Web	\$12,540,811.56
		<b>\$42,558,488.56</b>
2006	E-mail	\$1,383,050.12
	Fax	\$3,626,271.46



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You can define conditions to control what users see when they run a report. Conditions can apply to specific items in a report. For example, you can define a conditional style variable to highlight exceptional data, such as product revenue that exceeds your target. Conditions can also apply at the report layout level. Conditional layouts are useful for delivering reports to a multilingual audience. For example, you can have text items, such as titles and cover pages, appear in the same language as the data in the report. You can also use conditional formatting to highlight exceptional data in a report. All conditional processing is based on report variables. There are three types of report variables:

string, boolean, and report language.

What is Conditional Rendering?

You add conditional rendering to specify which objects are rendered when a report is run. This is useful when your report contains sensitive data.

Conditional rendering is not the same as showing or hiding objects. When you hide an object, the object exists but is transparent. If an object is not rendered, it is not in the report.

You can apply this conditioning on the listed items.

## Drill Through

- Report Analytics allows you to drill through from one report to another report that contains related information.
- To create a drill through, you must have a Parent (Source) report and a Target (Child) report.

Product line	Product type	Product	Quantity	Revenue
Outdoor Protection	First Aid	Compact Relief Kit_ 86110	103,614	2,185,093.15
		Deluxe Family Relief Kit_ 97110	97,832	3,565,729.55
		Aloe Relief_ 99110	86,252	395,183.66
		Calamine Relief_ 98110	66,173	397,038
		Insect Bite Relief_ 100110	99,236	592,168.62
	Insect Repellents	BugShield Sprav_ 87110	452,785	2,591,959.73
		BugShield Natural_ 86110	693,976	4,033,742.88
		BugShield Lotion Lite_ 88110	196,043	1,318,858.03
		BugShield Lotion_ 89110	415,018	2,836,564.5
		BugShield Extreme_ 90110	1,549,858	10,266,321.03
	Sunscreens	Sun Shelter Stick_ 92110	479,779	2,341,039.45
		Sun Blocker_ 91110	385,091	1,883,217.95
		Sun Shelter 15_ 93110	560,592	2,707,808.49
		Sun Shield_ 95110	538,293	3,134,909.4
		Sun Shelter 30_ 94110	1,124,118	5,302,177.45

Product line	Product type	Product	Introduction date
Outdoor Protection	First Aid	Compact Relief Kit_ 96110	15 Feb 1995 00:00:00

### SC, VCR

Examples of bullet point items:  
 Examine how to change properties.  
 Modify a document.  
 Distribute your findings.

Ensure that slide titles are not the same for more than 2 slides in a row. The second occurrence of the same slide title must include **(cont'd)**.

### Standard Classroom

First level bullet standards: all sentences are bulleted, even standalone sentences.

Sentences should be full sentences complete with punctuation.

Second level bullet standards: items do not have to be complete sentences, however end punctuation should be consistent among all second level items on the same slide.

### Virtual Classroom Recording

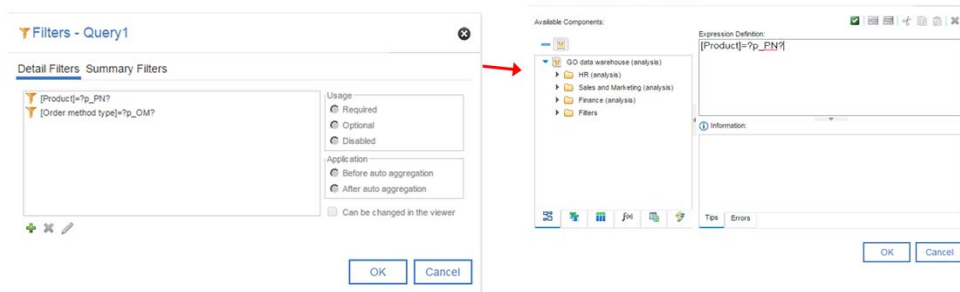
Bullet points do not have to be complete sentences for VCR. If bullet points are not complete sentences, do not capitalize the first word and do not add end punctuation.

### Recommended VC Script:

<Topic discussion of your choice. Less than 5 minutes of discussion per slide is highly recommended.>

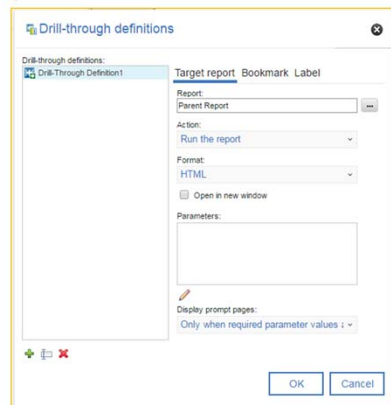
## Drill Through – Target Report

- First create the Target report.
- In the Target report, create a filter with a parameter that relates to a column in the Source report.



## Drill Through – Source Report

- Next, create the Source report with a drill through.
- The Source report will provide a column that will drill through to the Target report.



### SC, VCR

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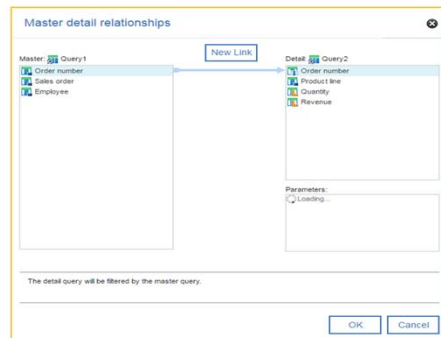
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### *Recommended VC Script:*

<Topic discussion of your choice. Less than 5 minutes of discussion per slide is highly recommended.>

## Master Details report

- Report Analytics allows you to summary and detail level information in the same report
- For example, to create a Master detail you must have a summary and detail list reports and we need to define the relationship b/w two lists.



Employee	Sales order	Order number	Product line	Quantity	Revenue
Aert Meyer	Sales order	100001	Camping Equipment	256	8,624.64
		100001	Personal Accessories	92	9,411.6
		100001			
Aert Meyer	Sales order	100002	Outdoor Protection	422	2,532
		100002	Personal Accessories	498	56,296.44
		100002			
Aert Meyer	Sales order	100003	Outdoor Protection	4,359	27,546.84
		100003	Personal Accessories	107	13,708.51
		100003			
Aert Meyer	Sales order	100004	Camping Equipment	1,033	228,447.45
		100004			
		100004			
Aert Meyer	Sales order	100005	Golf Equipment	26	32,878.04
		100005	Personal Accessories	635	38,359.08
		100005			
Aert Meyer	Sales order	100006	Outdoor Protection	3,771	19,061.13
		100006	Personal Accessories	199	15,954.57
		100006			



### SC, VCR

Examples of bullet point items:  
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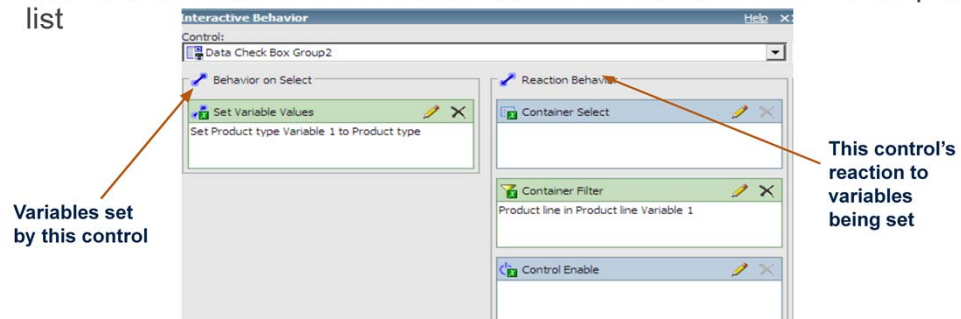
## Report Studio (contd...)

- Cognos Active Reports
  - IBM Cognos Active Reports are interactive, intuitive, stand-alone reports with the ability to be highly formatted.
  - An Active Reports profile in Report Studio allows developers to create these sophisticated report applications.
- Key Capabilities
  - Richer set of controls for experienced Professional Report Authors to build interactive
  - dashboards for the business
  - Saved MHT applications allow for fast consumption and offline consumption
  - Schedule and burst applications to broad and diverse users
- Benefits
  - Improved time-to-decision through a more interactive and richer user experience
  - Improved user satisfaction through performance improvements gained through a saved MHT output
  - Improved productivity by being able to work while not being physically "connected" to reporting application




## Report Studio (contd...)

- Interactive Behavior
- Left side - Does this control set a variable value?
- Right side - Does this control react to a variable being set? (usually by another control)
- To see both sides of a connection select the controls from the drop down list




Q & A



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Thank You

Review Date	14-July-2016
Version	1.0
Next Review Due	14-July-2017



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