Cognos 11

Lesson 03: Query Studio

Module Objectives :

1. What is Query Studio?
2. Package
3. Adding Data to Ad Hoc Reports
4. List Reports
5. Crosstab Reports
6. Display Data Graphically with Charts
7. Custom Groups

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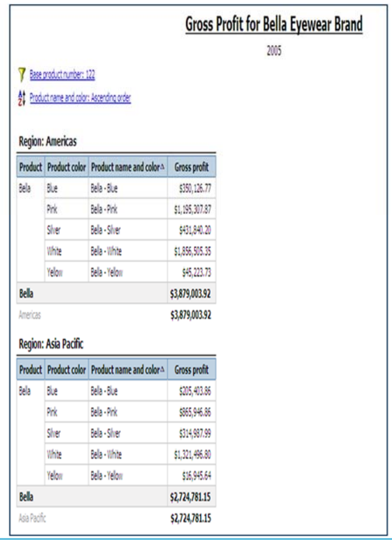
What is Query Studio ?

What is Query Studio?

- A web based tool allowing users to build ad-hoc queries and reports hereby helping in exploring data and facilitate in ad-hoc reporting.
- Key Capabilities
  - Ad-hoc Reporting: Drag-and-drop trusted content, filters, and calculations. Modify and arrange layout, add colors and text.
  - Share findings: User can create his own reports and share them in different formats.
- Benefits
  - Enhances self-service: Easy ad-hoc report creation empower business users
  - Detail insight into data: Quick way for in-place data exploration
  - Reduces IT bottlenecks: Facilitate self-service while leverage information from trusted and properly IT governed content



Gross Profit for Bella Eyewear Brand

2005

Base product number: 122

Product name and color: Ascending order

Region: Americas

Product	Product color	Product name and color	Gross profit
Bella	Blue	Bella - Blue	$350,126.77
	Pink	Bella - Pink	$1,195,307.87
	Silver	Bella - Silver	$431,840.20
	White	Bella - White	$1,856,505.35
	Yellow	Bella - Yellow	$45,223.73
Bella			$3,879,003.92
Americas			$3,879,003.92

Region: Asia Pacific

Product	Product color	Product name and color	Gross profit
Bella	Blue	Bella - Blue	$205,403.86
	Pink	Bella - Pink	$865,946.86
	Silver	Bella - Silver	$314,987.99
	White	Bella - White	$1,321,496.80
	Yellow	Bella - Yellow	$16,945.64
Bella			$2,724,781.15
Asia Pacific			$2,724,781.15

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What is Query Studio ?

- Features:
  - In Query Studio one can create reports having,
    - Lists / Grouped Lists
    - Crosstabs
    - Charts
  - Reports can be formatted and filtered.
  - Sorting and Grouping can be done on the data.
  - Calculations can be added to the existing data.
  - Drill up and Drill down can be done.
  - Lineage information can be obtained for the existing data items.
  - Report can be run and viewed in pdf, csv, xml and excel format.

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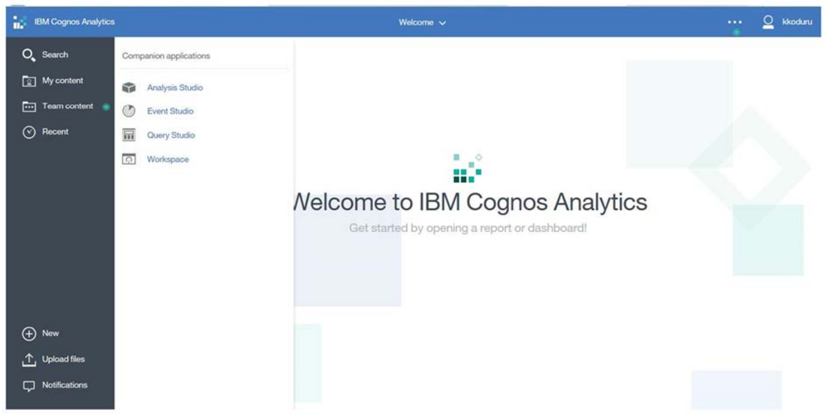
What is Query Studio ?

- User Interface
  - Access the Query Studio tool from the Cognos Analytics web portal.



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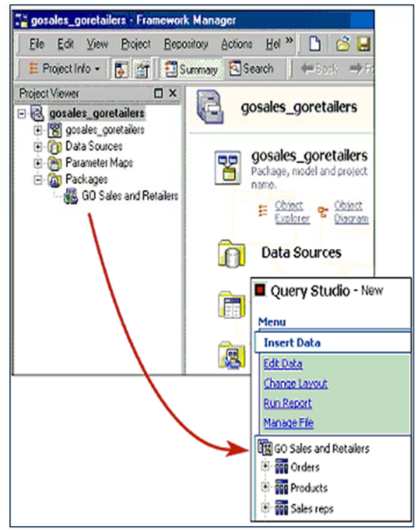
Package - Usage of Package

- Reports that are created in Query Studio are based on “packages” that are published from Cognos 11’s metadata management component, i.e. Framework Manager.
- Packages isolate report authors and users from database complexities.
- This is done by incorporating business rules to define and group the data to be used for business reporting.



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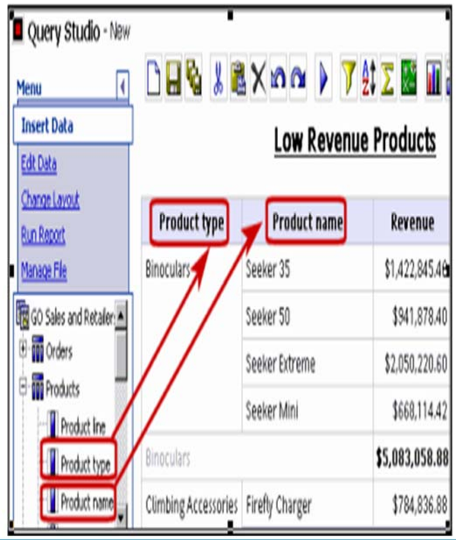
Adding data to Ad Hoc Reports

Business authors can:

- Easily add data to an empty report by “dragging and dropping” the report items from the package.
- Expand the scope of an existing report by inserting additional report items.



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List Reports

- List Reports show columns of information, such as “product lists” or “customer lists”.
- Apply a filter, summary, or calculation to manipulate the data that appears in the report
  - By default, Query Studio:
    - automatically suppresses duplicates
    - summarizes detail values, and
    - generates footer summaries for measures

Units Sold

Product line	Quantity
Personal Accessories	389,908
Mountaineering Equipment	301,958
Golf Equipment	99,400
Camping Equipment	866,234
Outdoor Protection	557,854
Summary	**2,215,354**

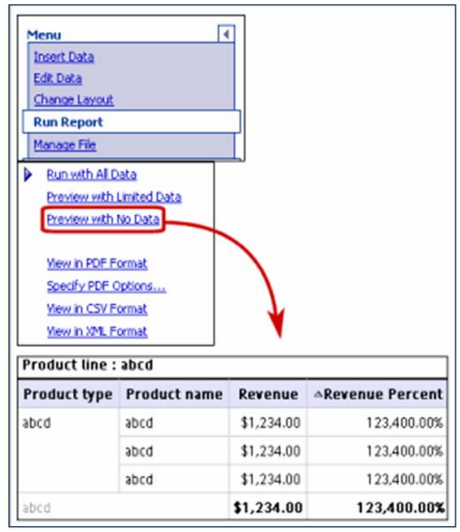
List Reports – Demonstration: Create a List Report

- Steps:
  1. In the Cognos Analytics home page, click the Team Content tab.
  2. Click the GO Sales and Retailers package.
  3. Click the Query Studio link.
  4. Expand Products.
  5. Double-click the Product line item.
  6. Expand Orders.
  7. Double-click the Quantity item.
  8. At the top of the report, click the Title link.
  9. In the Title box, type Units Sold.
  10. Click the Save button on the toolbar
  11. In the Name box, type Units Sold.
  12. Leave the default destination folder as Team Content, and click OK.

List Reports – Demonstration: Run Options

- You can run a report to retrieve any recently updated data from the data source.
- Run Options available are:

✓Run with Prompts
✓Run with All Data
✓Preview Reports with Limited Data
✓Preview Reports with No Data



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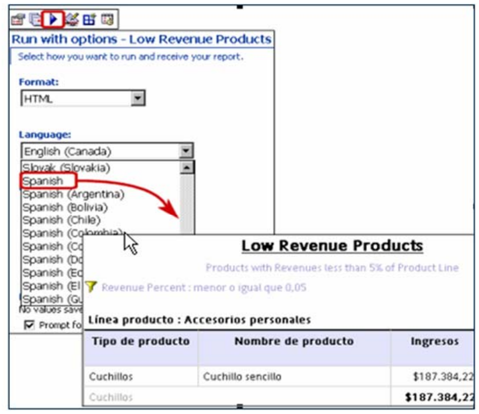
List Reports – Demonstration: Specify Language

- Set the language:
  - on **Run with options** page
  - in the **Report properties**
  - in the **Preferences** section of Cognos Connection.



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Note:
Business authors can set the default language to be used when a report is run. Users have the complete flexibility to automatically personalize reports based on their language preferences.

List Reports – Demonstration: Run Options

1. Open the report that you want in Query Studio.
2. From the Run Report menu, choose how to run the report:
3. To run the report using all data, click Run with All Data.
4. To run the report using limited data, click Preview with Limited Data.
5. Note: If the package that the report is based on contains a design filter, performance is improved.
6. To run the report using no data, click Preview with No Data.

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List Reports – Demonstration: Run Options

Steps

7. To run the report using limited data, click Preview with Limited Data.
8. Note: If the package that the report is based on contains a design filter, performance is improved.
9. To run the report using no data, click Preview with No Data.

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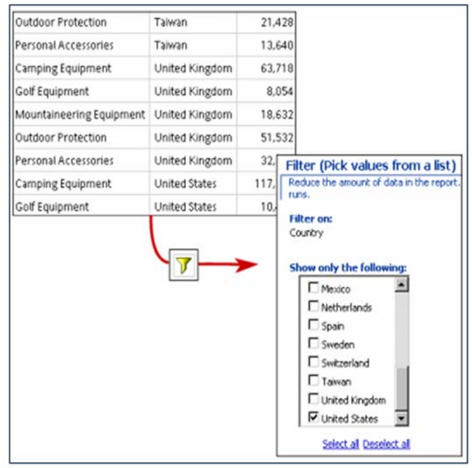
List Reports - Filters

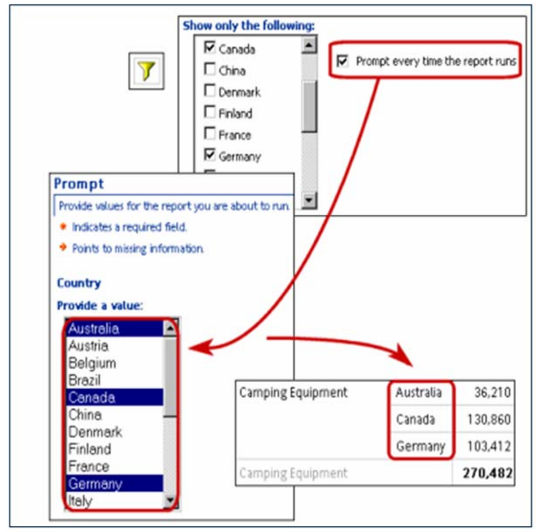
- Filter is used to specify the subset of records that the report retrieves.
- Textual, numeric, or date and time data can be filtered.
- While filtering measures, the filter can be applied to:
  - details
  - summaries in reports that contain summaries



Filters:
Filtering Based On Report Details: When you filter on “details”, you filter the values that appear in the detail rows of your report.
Filtering Based On Group Summaries: When you filter on “summaries”, you filter the values in the “footers”. Filtering on summaries eliminates groups from your report.
When filtering on a “numeric report item”, users specify a range of acceptable values (for example, one to five). When filtering on a “non-numeric column”, users specify the particular values that will be returned when the report is run (for example, United States only).
Business authors can also use predefined filters that are included in the published package (model filters). However, they cannot edit these filters in Query Studio. They can only insert or remove them from their report.

List Reports - Specifying Filter Criteria with Prompts

- A “prompt” is used when you want to use different criteria for the same report item each time the report runs.
- Using prompts is faster and easier than repeatedly changing the filter.



Specifying Filter Criteria with Prompts:
Prompts are based on filters. Authors specify the values they want to include in the filter. When the report is run, the contents of the report reflect one or more values selected in the prompt.
In the example shown in the slide, the user must select one or more countries to determine what data they want to see in the report. The user selected Australia, Canada, and Germany, so the resulting report contains data only for those countries.

List Reports – Demonstration: Specifying Filter Criteria with Prompts

- Steps
  1. Open the **Units Sold** report.
  2. Click **Product Line** column.
  3. Click the **Filter** button on the toolbar.
  4. Select the **Prompt every time the report runs** check box.
  5. Click **OK**.
  6. Run the report.

List Reports – Sort

- Sorting organizes your data in ascending or descending:
  - alphabetical order, or
  - numeric order
- For example:
  - You can sort on a column that lists product sales in a descending order in order to rank product sales from the highest to the lowest.
- When sorting grouped data, you can choose to sort the “detail values” or the “summary values” in the footers.

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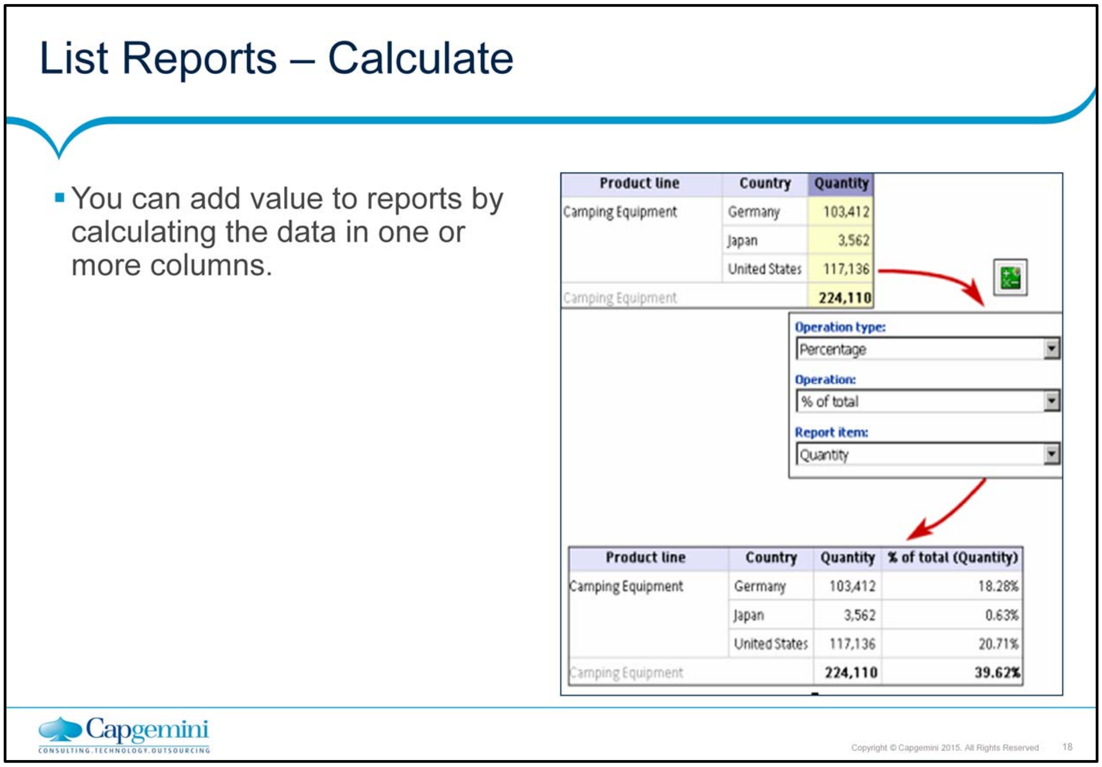


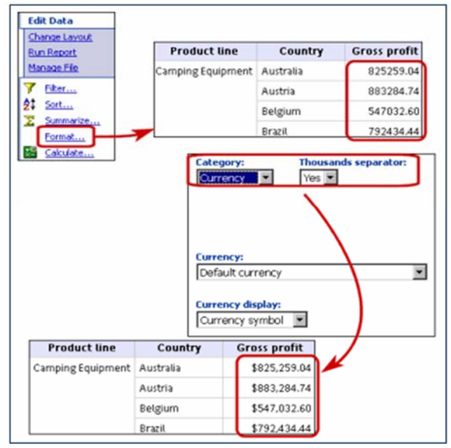
Calculate:
Calculate numeric data by using arithmetic, percentage, or analytic operations.
Calculate strings by:

- specifying the first or last characters of the string,
- concatenating (combining) the selected string with another string, or
- removing the trailing spaces from the string.

Calculate time data by using a variety of methods, such as adding days or months to a selected date.
In the example shown in the slide, we are calculating the percentage that each country’s sales of camping equipment contributed to the total. You can see that the United States represents the largest contributor, at 52.27%.

List Reports – Format

- Predefined formats are used to change the appearance of numbers, dates.
- The various formats used are:
  - Default
  - Number
  - Currency
  - Percentage
  - Scientific
  - Date and Time



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Format:
Default: The “default format” is the format of the report item before any formatting is applied in Query Studio. Use “default format” to remove formatting.
Number: Use the “number format”:

to change the number of decimal places,
to specify whether to use a thousands separator,
to choose different symbols to represent negative numbers, and
to scale large numbers.

Currency: You can choose from many world currencies. Use either the currency symbol or the international code.

For example: The currency symbol for the euro is € and the international code is EUR.

You can also change the number of decimal places, specify whether to use a thousands separator, choose different symbols to represent negative numbers, and to scale large numbers.

Percentage: This format shows a number multiplied by 100, by using two decimal places and a percent sign.

For example: 0.7356 appears as 73.56%.

Scientific: This format shows a number in exponential notation.

For example: The number 224,110 is 2.24110E+05 in scientific notation.

Date and Time: You can choose from a list of date and time formats, including the 12 hour or 24 hour clock.

List Reports – Grouping

- Grouping a report sorts the data, and suppresses duplicate values in the grouped column.

Data Grouped by Row Headings

Product line	Country	Quantity
Camping Equipment	Germany	103,412
	Japan	3,562
	United States	117,136
Camping Equipment		**224,110**
Golf Equipment	Germany	6,410
	Japan	7,158
	United States	10,470

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Grouped List Report:
A simple List Report that contains columns of unique values is easy to understand. However, after you add more columns, you may find that duplicate values appear in your report.

For example: A report contains information about the quantity of units sold, in columns named Product line, Country, and Quantity. Each product line is sold in more than one country, so the same product line value appears in multiple rows in the Product line column.

You group a List Report by product line to:

- suppress duplicate values of the product line report item
- alphabetically sort the product lines
- generate footer summaries for each product line

List Reports – Sections

- Creating sections shows the value of a selected report item as the heading of a section.

Data Grouped by Section Headings

Product line : Camping Equipment

Country	Quantity
Germany	103,412
Japan	3,562
United States	117,136
Camping Equipment	**224,110**

Product line : Golf Equipment

Country	Quantity
Germany	6,410
Japan	7,158
United States	10,470
Golf Equipment	**24,038**

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List Reports – Demonstration: Create a Grouped List Report

- Steps:
  1. Open the Units Sold report.
  2. Click the heading of the Quantity column.
  3. Click the Insert Data menu command.
  4. Expand Countries.
  5. Double-click the Country item.
  6. Click the heading of the Country column.
  7. Click the Filter button on the toolbar.

List Reports – Demonstration: Create a Grouped List Report

- Steps:
  8. In the Show only the following box, select Germany, Japan, and United States, and then click OK.
  9. Click the heading of the Product line column.
  10. Click the Group button on the toolbar.
  11. Click the Save as button on the toolbar.
  12. In the Name box, type Grouped Units Sold.
  13. Leave the destination folder as Team Content, and click OK.

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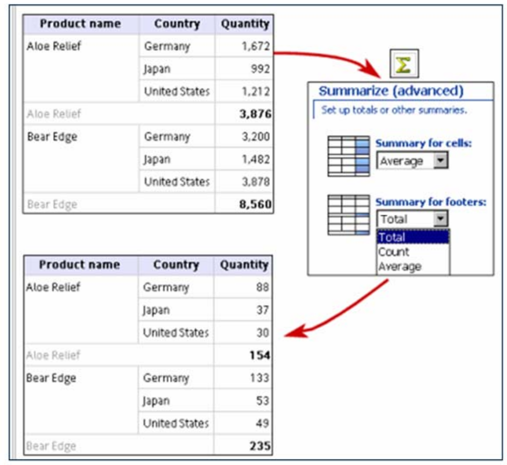
List Reports – Add Summarized Data

- Predefined summaries can be used to calculate the following for the values in individual report items:
  - total
  - count
  - maximum
  - minimum
  - average



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Add Summarized Data:
In the example shown in the slide, we are calculating the average sales of three products in Germany, Japan, and the United States.
In the example, the average order of Aloe Relief in the United States was for 30 units.
The total of these average sales is 154.

Crosstab Reports

- A Crosstab report shows a measure at the intersection of each row and column.

Units Sold

Country: Germany, Japan, United States

Quantity	Germany	Japan	United States	*Summary*
Camping Equipment	103,412	3,562	117,136	**224,110**
Golf Equipment	6,410	7,158	10,470	**24,038**
Mountaineering Equipment	27,584	3,330	34,132	**65,046**
Outdoor Protection	39,006	28,172	68,630	**135,808**
Personal Accessories	43,014	21,984	51,584	**116,582**
Summary	**219,426**	**64,206**	**281,952**	**565,584**

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Crosstab Reports:
A Crosstab report shows a measure at the intersection of each row and column. This is useful for showing more information in a smaller area.
For example: If a report shows Product line as columns, Country as rows, and Quantity as the measure, then the value at the intersection of each column and row shows the quantity of units sold for that Product line and that country.

Crosstab Reports - Demonstration: Create a Crosstab Report

- Steps:
  1. Open the Grouped Units Sold report.
  2. Click the heading of the Country column.
  3. Click the Pivot button on the toolbar.
  4. Note: The values of the Country column are now column headings. The values of the Product line column become row headings. The measure is at the intersection of the two.
  5. Click the Save as button on the toolbar.
  6. In the Name box, type Crosstab Units Sold. Leave the destination folder as Team Content, and click OK

Display Data Graphically with Charts

- Business authors can create a chart to graphically present the information.
- Charts are useful for displaying patterns and trends in data.

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Display Data Graphically with Charts - Chart Types

Purpose	Chart type
Show contributions of parts to a whole	pie clustered configuration 100% stacked configuration
Show trends in time or contrast values across different categories	line area bar column
Compare groups of related information against actual values	clustered configuration stacked configuration radar 3D
Compare different kinds of quantitative information	column line

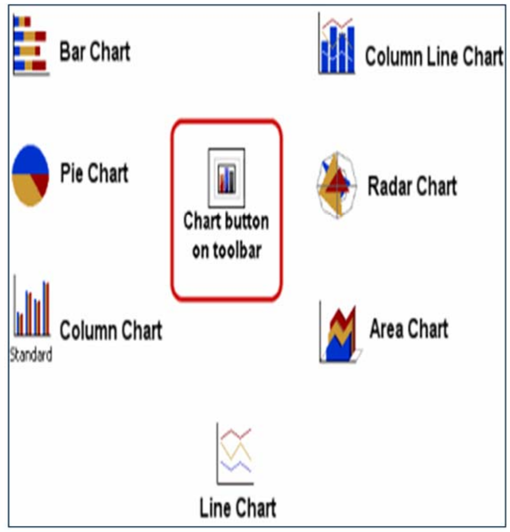

Chart Types:
Charts are used to graphically present the information. A report requires at least “one measure” and “one non-measure” to produce a chart.

Measures are quantitative data, such as figures for sales, costs, and quantities.

Non-measures are qualitative data, such as names, addresses, and countries.

The maximum number of non-measures is two. You can plot any number of measures in a report.
However, a chart that has more than four or five measures is difficult to understand.

Data Graphically with Charts - Chart Types

- Steps
  1. Open the Units Sold report.
  2. Click the Chart button on the toolbar.
  3. In the Chart type box, click Pie.
  4. Click 100% Stacked.
  5. Select the Show the values on the chart check box.
  6. In Show the following in the report, click Chart only, and then click OK
  7. Click the save as button on the toolbar.
  8. In the Name box, type Units Sold Pie.
  9. Leave the destination folder as Team Content, and then click OK.

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Custom Groups

- Custom Groups are created to produce a new report item containing values that are meaningful to you.
- Use Custom Groups to convert a list of numeric results into broader categories.

  For example: Break down sales results into Low, Medium, and High.

Product line	Country	Country (Custom)	Quantity
Camping Equipment	Germany	Others	103,412
	Japan	Others	3,562
	United States	North America	117,136
Camping Equipment			**224,110**
Golf Equipment	Germany	Others	6,410
	Japan	Others	7,158
	United States	North America	10,470
Golf Equipment			**24,038**
Mountaineering Equipment	Germany	Others	27,584
	Japan	Others	3,330
	United States	North America	34,132

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Custom Groups -Demonstration: Create a Custom Group

- Steps:
  1. Open the Grouped Units Sold report.
  2. Click the heading of the Country column.
  3. From the Edit Data menu, click Define Custom Groups.
  4. In the New group name box, type North America.
  5. Click the down arrow link to add it to the Custom groups box.
  6. In the Available values box, click Canada.

Custom Groups -Demonstration: Create a Custom Group

- Steps:
  7. Click the left arrow link to add it to the Custom group values box. This creates a new custom group named Others that includes all values that do not belong to the custom group North America.
  8. Click Insert. A new column Country (Custom) is displayed, containing the value North America.
  9. Click the Save as button on the toolbar.
  10. In the Name box, type Custom Group Example.
  11. Leave the destination folder as Team Content, and click OK.

Lab Workout

- Do the following tasks:
  - Create a Simple List Report.
  - Create a Grouped List Report.
  - Create a Cross tab Report.
  - Create a Chart.
  - Create Custom Groups.

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Summary
In this lesson, you have learnt,
to create simple list and cross tab report
to group data and create sections
to filter data using prompts
to create charts
to create custom groups
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Review – Questions

- Question 1: A ___ report shows a measure at the intersection of each row and column.
  - Option 1: List
  - Option 2: Chart
  - Option 3: Crosstab
- Question 2: Using prompts is faster and easier than repeatedly changing the filter
  - True / False

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Review – Questions

- Question 3: ___ is used to convert a list of numeric results into broader categories.

Q & A

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Thank You

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Next Review Due	14-July-2017

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