Business Intelligence Specialist
IBM Cognos Report Studio

Professeur. ***Abdeltif EL BYED***

Département Mathématique et Informatique
Année universitaire: 2016-2017

CONTENTS

CHAPTER 1

INTRODUCTION TO BUSINESS ANALYTICS, AND BUSINESS INTELLIGENCE

Business Intelligence Specialist
IBM Cognos Report Studio

Abdeltif ELBYED
aelbyed@gmail.com

Certification modules

- **B5A58**
  IBM Cognos Report Studio Author Professional Reports Fundamentals (V10.2.2)
- **B5A59**
  IBM Cognos Report Studio Author Professional Reports Advanced (V10.2.2)

2

MEA University www.ibm.biz/meauniversity

Program Benefits

Students

Teachers

Universities

Academic Roadmaps

- Mobile Application Specialist
- Cyber Security Specialist
- Business Analytics Specialist
- Data Management Specialist
- Cloud Computing Specialist

MEA University
www.ibm.biz/meauniversity

BI Specialist Academic Exam – Course B5A58

1. **The Reporting Application (7 questions, 12 %)**
   - IBM Cognos BI Architecture and Tools (Volume 2, Appendix A)
   - Report Studio Basics (unit 1)
   - Different Report Types (list, crosstab, chart, map) (units 1, 2, 4, and 5)
2. **Creating and Formatting Reports (5%)**
   - Grouping (unit 2)
   - Headers and Footers (unit 2)
   - Other Formatting Options (units 4 and 5)
3. **Focusing Reports (10%)**
   - Filtering Data (unit 3)
   - Using Prompts (unit 6)
4. **Adding Value to Reports (10%)**
   - Using Calculations (unit 7)
   - Using Additional Report Building Techniques (unit 8)
5. **Enhancing Reports (7%)**
   - Using Conditional Formatting (unit 9)
   - Using Enhanced Report Layout (unit 12)
6. **Drill-Through Reports (7%)**
   - Set up (units 10 and 11)
   - Definitions (units 10 and 11)

BI Specialist Academic Exam – Course B5A59

7. **Creating Relationships between Queries (15%)**
   - Set Operations (unit 2)
   - Joins (unit 2)
   - Query References (unit 1)
8. **Designing Effective Prompts (12%)**
   - Criteria Specification (unit 4)
   - Filtering and Sorting Data (unit 4)
   - Formatting (unit 4)
9. **Navigating Reports (7%)**
   - Using Bookmarks (unit 3)
   - Using Table of Contents (unit 3)
   - Using Drill-Through Definitions (unit 3)
10. **Interaction with HTML (5%)**
    - Interactive Reports (unit 8)
    - Sending Emails (unit 8)
11. **Report Specification (5%)**
    - Structure (unit 6)
    - Modification (unit 6)
    - Customization (unit 6)
12. **Report Distribution (5%)**
    - Burst Reports (unit 7)
    - Email Bursts (unit 7)
    - IBM Cognos Connection (unit 7)

60 questions - 90 minutes - passing score: 60%

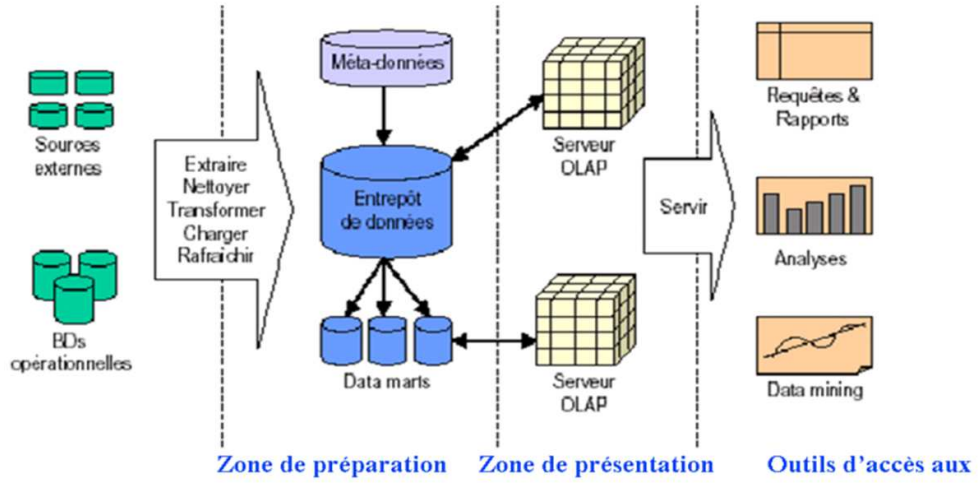
Introduction to Business Analytics, and Business Intelligence

What is Analytics?

- **Analytics** is using analysis capabilities to:
  - Discover what is happening
  - Determine why is it happening
  - Predict what is likely to happen
  - Prescribe the best action to take

8

Chaîne décisionnelle: BI



9

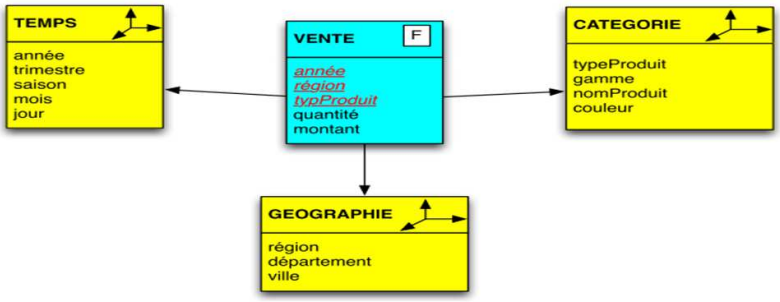
Schéma d'un entrepôt de données

- Niveau logique « ROLAP » :
- 3 grands types de schémas :
  - –schéma en ***étoile*** (star schema)
  - –schéma en ***flocon*** (snowflake schema)
  - –schéma en ***constellation*** (fact constellation)
- Le schéma en étoile est souvent utilisé pour l'implantation physique

10

Schéma en étoile

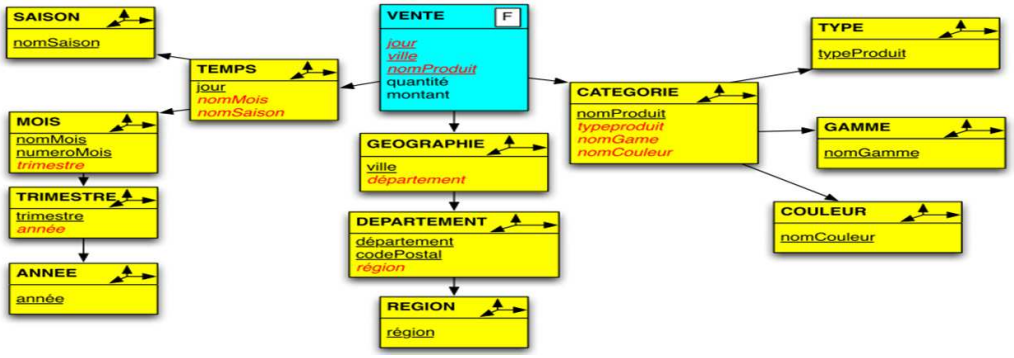
- Structure simple
  - –Une table centrale : la table des faits :
  - –Des table périphériques : les tables de dimensions
- Ex: Vente de médicaments dans des pharmacies



11

Schéma en flocon

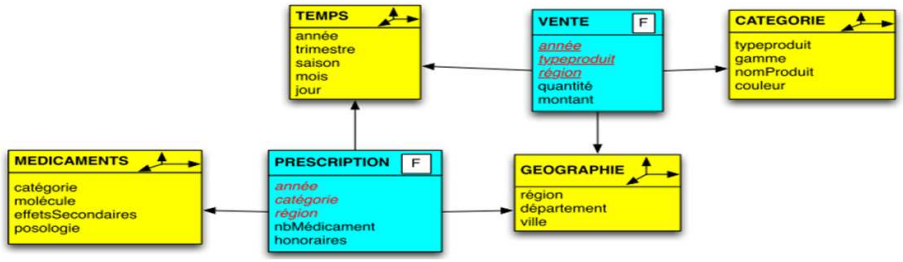
- Un modèle en flocon : une évolution du schéma en étoile avec :
  - –Une décomposition des dimensions du modèle en étoile en sous hiérarchies.
- Ex: Vente de médicaments dans des pharmacies



12

Schéma en constellation

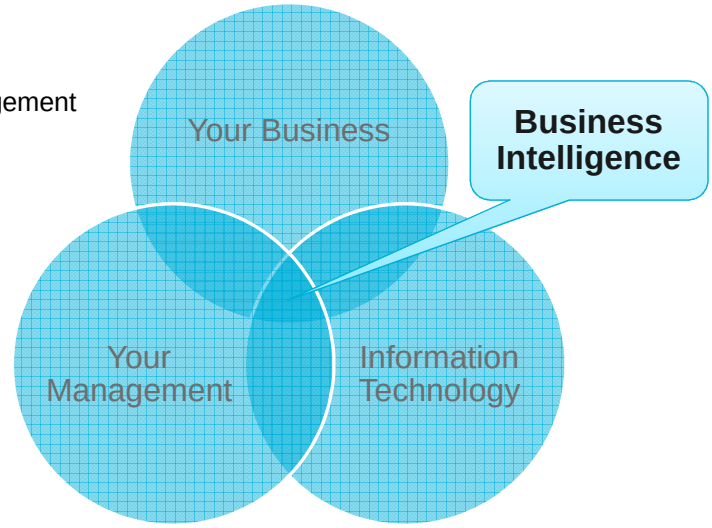
- Un modèle en constellation :
  - Fusionne plusieurs modèles en étoile qui utilisent des dimensions communes.
  - Comprend en conséquence plusieurs faits et des dimensions communes ou non
- Ex : Vente de médicaments dans des pharmacies
  - Une constellation est constituée de 2 schémas en étoile :
    - l'un correspond aux VENTEs effectuées dans les pharmacies et
    - l'autre analyse les PRESCRIPTIONs des médecins
  - les dimensions Temps et Géographie sont partagées par les faits PRESCRIPTION et VENTE.



13

Business Analytics or Business Intelligence?

- Different points of views!
- **Business Analytics**
  - Enterprise information
  - Enterprise performance management
  - Data warehousing
  - Analytic applications
  - **Business Intelligence**
  - Business risks
  - …
- **Business Intelligence**
  - Querying
  - Reporting
  - OLAP



CHAPTER 2

IBM COGNOS BI CONFIGURATION

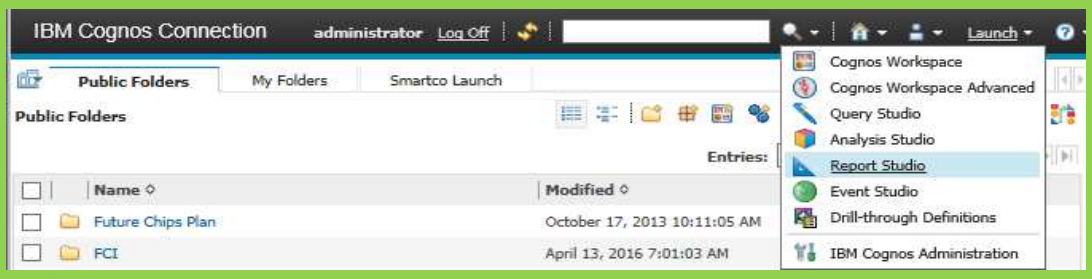
IBM Cognos BI environment

- Use IBM Cognos BI on the **VM**:
  - –Start your internet browser, and then, in the address box, type:
  - –Address: http://localhost:88/ibmcognos
  - –User ID: brettonf
  - –Password: Education1
- Use IBM Cognos BI on the **CLOUD**
  - –Address: ibm.biz/cognosBI
  - –User ID: Administrator
  - –Password: IBMDem0s

15

Report Studio tools

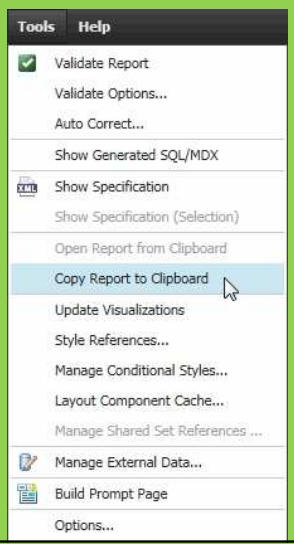
- On the **IBM Cognos software** page, click Launch → **Report Studio** (Fig.)
- In a package page, navigate to **Samples\Models**, and the click **GO Data Warehouse (query).**



16

Export Report project to XML file

- Once finished, send the report specification as XML file
  (Tools > Copy Report to Clipboard)
- Paste in a text editor (e.g. Notepad)
- Save as, for example:
  YourName_HomeworkNo.xml or LabN°…xml



17

CHAPTER 3

B5A58: REPORT STUDIO FUNDAMENTALS

- A) Overview of IBM Cognos BI

1. Introduction to the Reporting Application
2. Create List Reports
3. Focus Reports Using Filters
4. Create Crosstab Reports
5. Present Data Graphically
6. Focus Reports Using Prompts

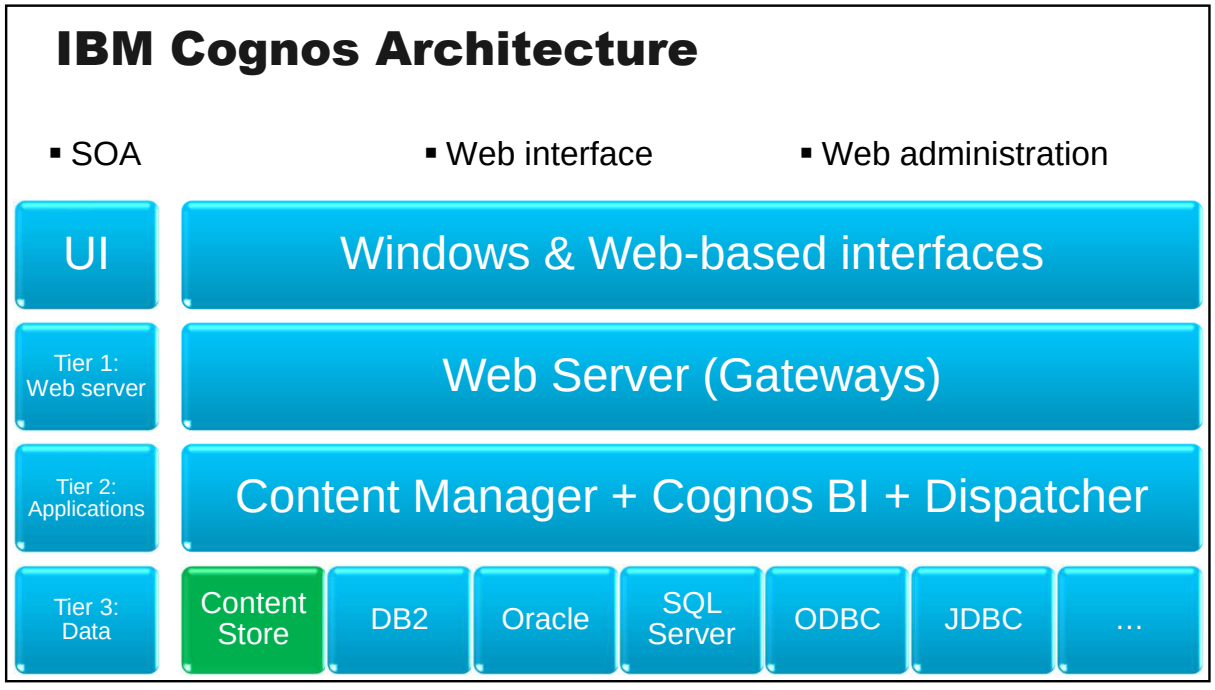
3.1 Cours: Report Studio Fundamentals

IBM Cognos Report Studio Author Professional Reports Fundamentals (V10.2.2)

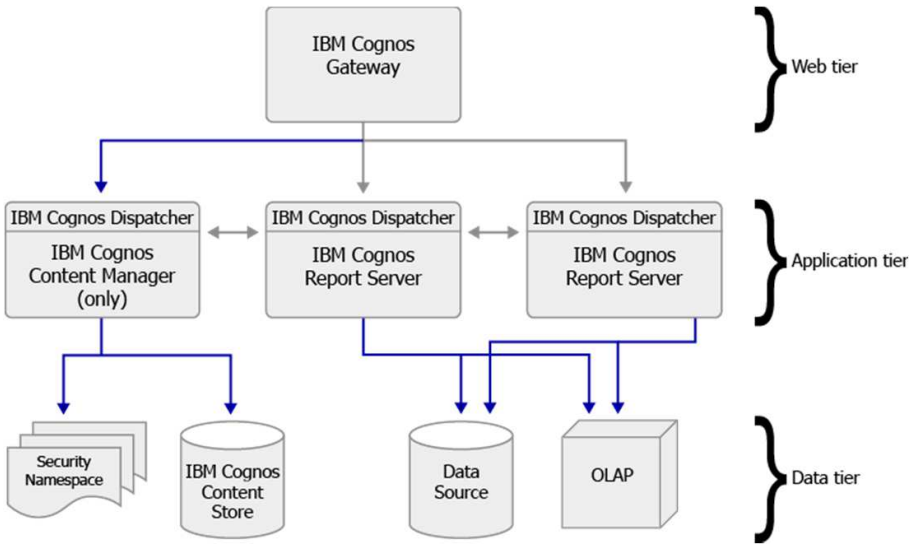
B5A58

Table of Contents - B5A58_V1

A
Overview of Cognos BI



Example IBM Cognos Deployment



Editions of IBM Cognos

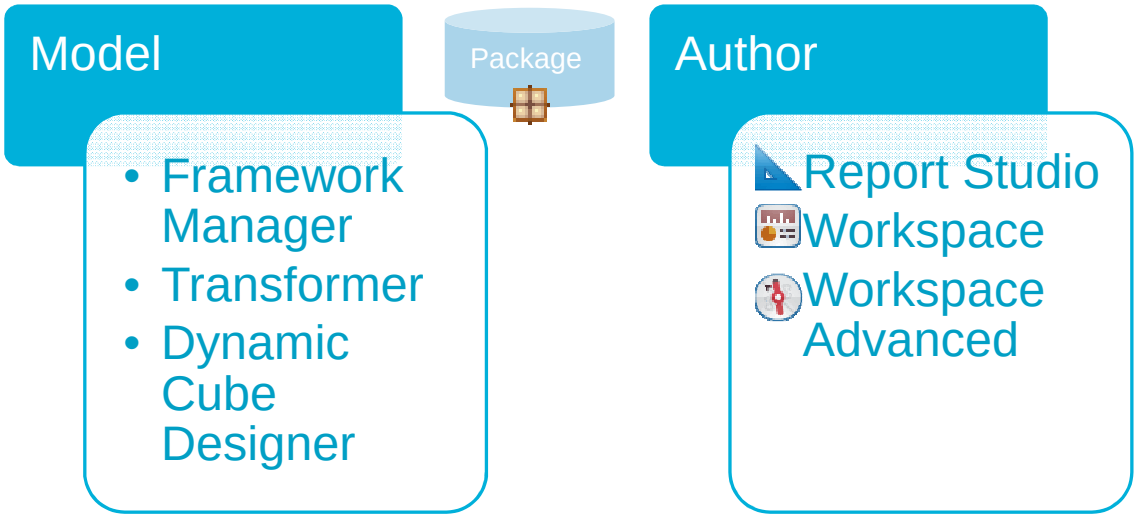
- Cognos Insight
  - data discovery and planning
- Cognos Express
  - add a server to share that insight, and
  - create reports from larger data sets
- Cognos BI Enterprise
  - combine insight with real-time & corporate information, and
  - place insights on scorecards, and
  - interact on mobile devices

Download or try from AnalyticsZone.com

- Comparisons (informal)
  - Product Comparison Matrix – IBM Cognos Express and IBM Cognos Business Intelligence (BI)
  - The difference between Cognos Express and Cognos Enterprise

23

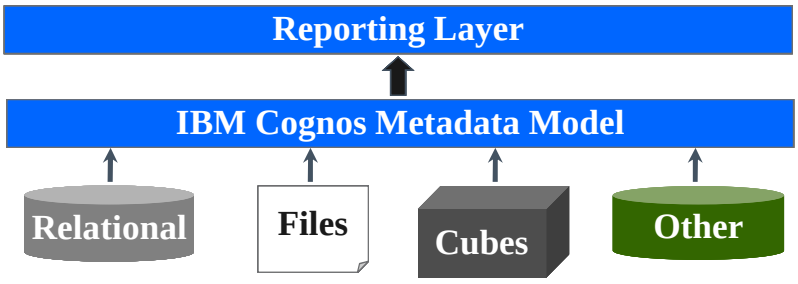
Common Cognos Workflow



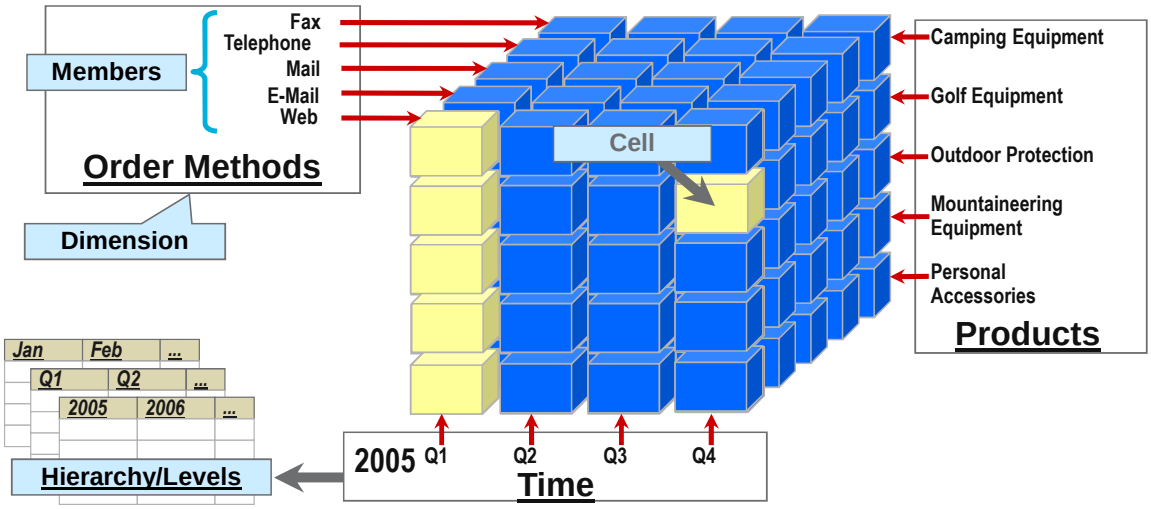
24

The Role of an IBM Cognos Metadata Model

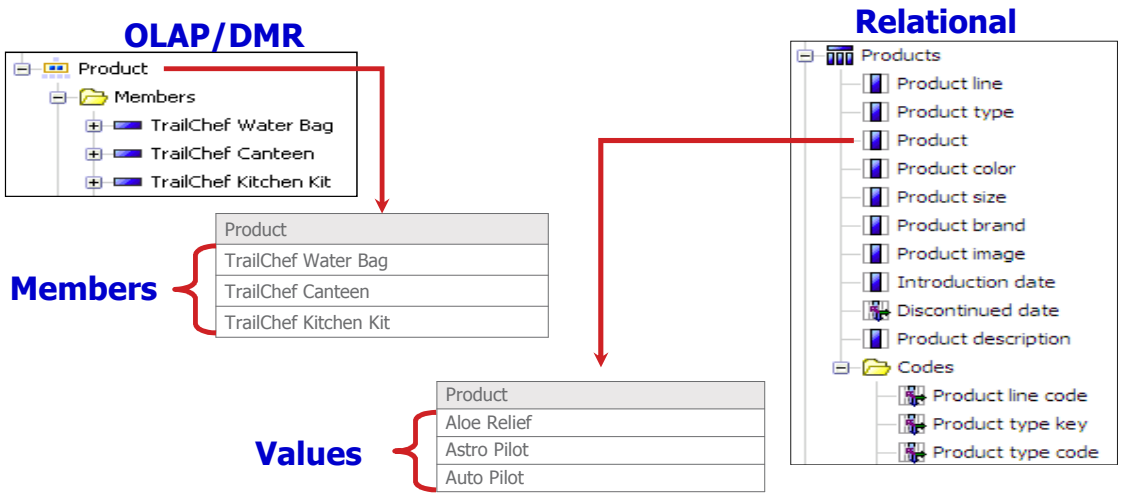
- Metadata model provides a business presentation view of data sources.
- BI users use the model to analyze and report on their data sources.



OLAP Data Structures - Cube



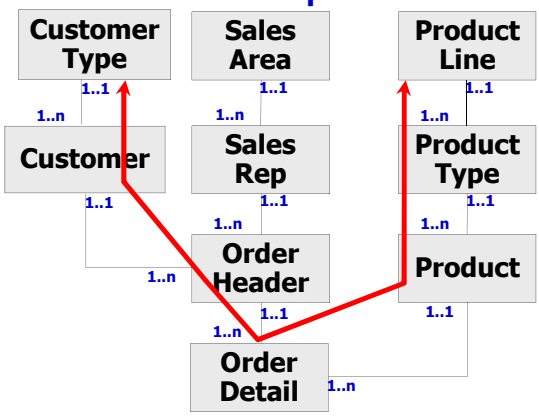
Entities in Different Data Structures



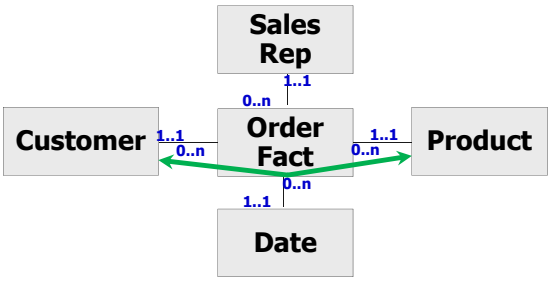
Relational Models: Operational vs. Reporting

- **Requirement:** Show all customer types that bought from a product line.

Relational = Operational



Dimensional = Reporting



Sample Outdoors database, models, and packages

29

Install and use Report Studio Environment

TOC

Sample Databases

Database	Data	Structure
GO Sales (**GOSALES**)	Contains principally sales data	Transactional database
GO Data Warehouse (**GOSALESDW**)	•HR •Sales and marketing •Finance	Reporting database (warehouse)

31

Sample Packages

Package	Type	Source database/cube
Go Data Warehouse (analysis)	DMR	GOSALESDW
Go Sales (analysis)	DMR	GOSALES
Go Data Warehouse (query)	Relational	GOSALESDW
Go Sales (query)	Relational	GOSALES
Sales and Marketing (cube)	OLAP	sales_and_marketing.mdc
Great Outdoor Sales (cube)	OLAP	great_outdoors_sales_en.mdc

32

Browser Configuration

- Control Panel > Internet Options
  - Security > Internet > Custom Level
    - Miscellaneous:
      - Include local directory path when uploading files to a server: Enable
    - Scripting:
      - Allow programmatic clipboard access: Enable
      - Enable XSS filter: Disable
  - Privacy > Popup-up Blocker > uncheck Turn on Pop-up Blocker
  - IE11 (for Administration only): Tools > Compatibility View Settings > Add
- Disable Pop-up Blocker
  - Chrome:
    - chrome://settings/content
    - Pop-ups > Allow all sites to show popups
  - Firefox

33

1 Introduction to the Reporting Application

TOC

What is Report Studio?

- Report Studio:
  - Is a Web-based report authoring tool
  - Lets you creat busnisse intelligence (BI) reports that analyze corporate data according to specific information needs
  - Lets you format, present, and distribute your corporate data using many different methods

35

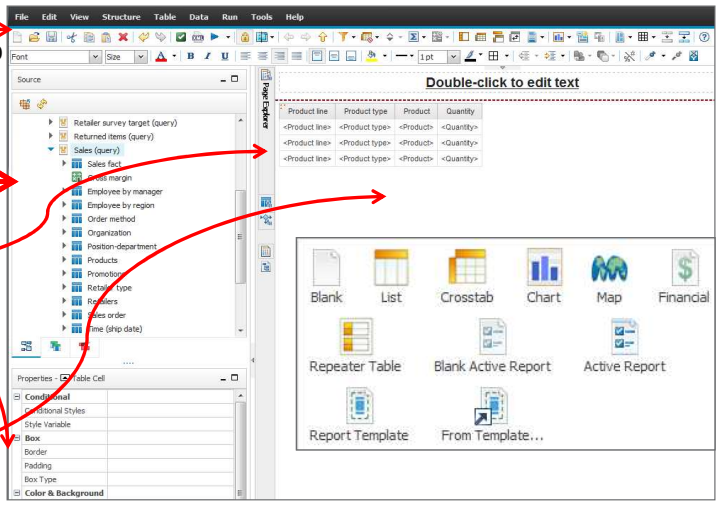
Report Studio

- Web-based report authoring tool
  - Create new: open report studio with a choice from preset templet options. project
  - Open existing: Open a copy of existing report without affecting the original report.
  - New from Templet: navigate to and open a saved template

36

Explore the environment

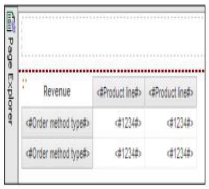
- Ways of launching Report Studio
  - Report Templates
- Explore the environment
  - Toolbar
  - Content Pane
  - Properties Pane
    - Select Ancestor
  - Explorer Bar
    - Page Explorer
    - Query Explorer
    - Conditional Explorer
    - Page Design
    - Page Structure
  - Work Area



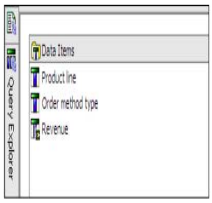
37

Examine the Explorer Bar

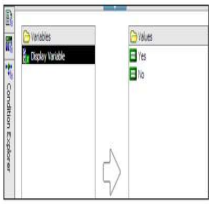
- Page Explorer: used to create and modify report pages, prompt pages and classes.
- Query Explorer: used to crete and modify queries and perform complex tasks, such as defining union, join and/or writing SQL statements
- Conditional Explorer: used to crete and modify variables to define condition that will be used to format the report
- Page Design: view the set of pages of a report
- Page Structure: view the entire contents of a report page in a tree structure



Page Explorer



Query Explorer

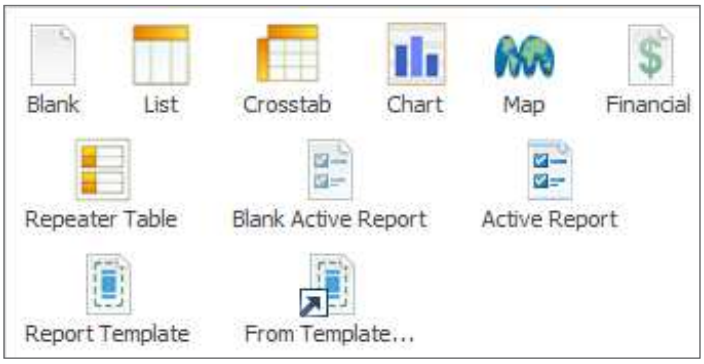


Conditional Explorer

38

Explore Report Templates

- Report Studio contains several report templates to structure your reports.
- Different report templates can be combined on the same page.



39

Generate the report

- To view the results of the designed report, run the report and view it in IBM Cognos Viewer.

Work Area list report object layout

Country	Revenue
<Country>	<Revenue>

Run Report

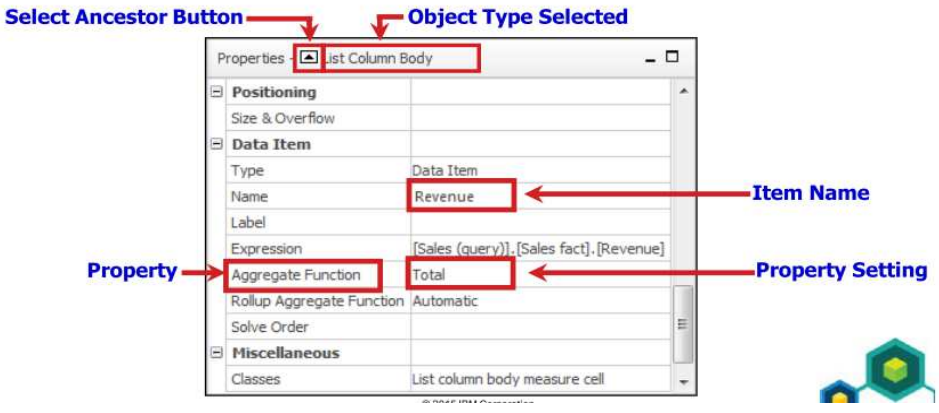
Results in IBM Cognos Viewer

Country	Revenue
Portugal	$34,675,662.43

40

Change the Properties of an Object

- The Properties pane lets you view and change the properties of an item or object in work area.



41

Lab 1.1: create a simple report

Country	City	Last name	First name	Position name	Revenue
Switzerland	Genève	Bruno	Fausta	Level 3 Sales Representative	$79,955,838.92
Switzerland	Genève	Giordano	Fiorenza	Level 3 Sales Representative	$72,784,594.30
Switzerland	Genève	Chambers	Warren	Level 3 Sales Representative	$62,843,459.76
Finland	Kuopio	Lindholm	Helena	Level 3 Sales Representative	$59,799,153.93
Korea	Seoul	Kim	Chang-ho	Level 3 Sales Representative	$59,422,592.32
United States	Los Angeles	Laurel	Charles	Level 3 Sales Representative	$59,406,874.73
Switzerland	Genève	Bichot	Lotta	Level 3 Sales Representative	$54,436,904.60
Netherlands	Amsterdam	Jansen-Velasquez	Belinda	Level 3 Sales Representative	$52,822,234.19
Switzerland	Genève	Schulz	Warner	Level 2 Sales Representative	$52,147,739.64
Switzerland	Genève	Benoit	Nathalie	Level 2 Sales Representative	$51,943,906.21
France	Paris	Jauvin	Étienne	Level 2 Sales Representative	$51,130,992.71
China	Shanghai	Meng	Fei	Level 3 Sales Representative	$51,005,700.69
Switzerland	Genève	Didier	Marlene	Level 2 Sales Representative	$50,876,374.10
Switzerland	Genève	Ruiz	Abram	Level 2 Sales Representative	$50,339,838.94

Results:
You created a list report and added the necessary items from the model as required by the sales executives. You sorted the data in descending order and formatted the revenue in American dollars.

42

Lab 1.1: create a simple report

- Task1: open Report Studio and choose a **list report ty**pe.
- Task 2: Add items to the list.
  - –On the Source tab, chose: Sales and Marketing(query) → Sales(query) to add all items to the list report object.
  - –Country, City, Last name, First name, Position name from **Employee by region** query subject.
  - –Revenue from **Sales fact** query subject.
- Task 3: View the data items in the query.
- Task 4: remove a column from the report.
- Task 5: format and sort the data, and run the report.
  - –Sorted the date in descending order and formatted the revenue in American dollars.

43

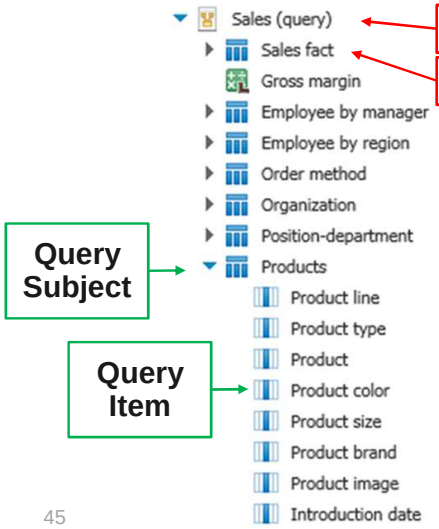
Dimensionally-Modeled Relational and dimensionally Data sources

- In Report Studio, reports using Dimensionally-modeled relational (DMR) and dimensional data sources, enable to drill down to a detailed level.
- Dimensionally-Modelled Relational (DMR) models extend dimensional capabilities to relational data sources
- Allow drill-down and drill-up in hierarchies

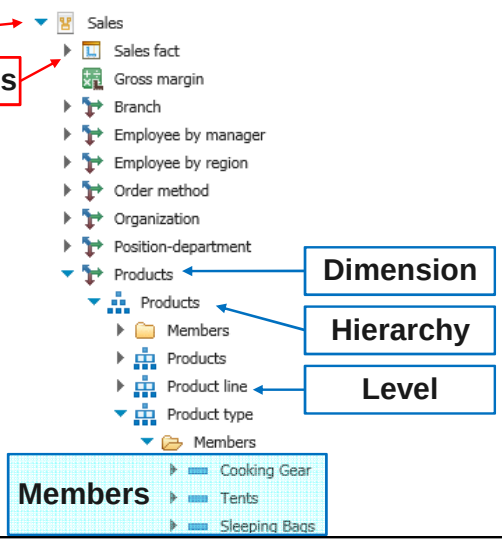
44

Relational vs. Dimensional/DMR Sources

GO Data Warehouse (query)



GO Data Warehouse (analysis)



45

Lab 1.2: create a Report from a DMR Data sources

Create a Report from a DMR Data sources

2011	Canada	Star Dome	Quantity
Q1 2011	Canada	Star Dome	621
Q2 2011	Canada	Star Dome	531
Q3 2011	Canada	Star Dome	586
Q4 2011	Canada	Star Dome	665

Results:
You have explored a dimensionally-modeled relational data source in Report Studio. You created a report that demonstrated how you can drill down to a lower level of detail in the data source.

46

Lab 1.2: create a Report from a DMR Data sources

- Task 1: Explore a DMR in Report Studio
  - Package: Samples/Models/GO Data Warehouse (analysis).
  - Expand the Sales and Marketing (analysis)→Sales
- Task 2: add items to the list report object
  - Time dimension →Time hierarchy →Year level→ Members→2011
  - Retailers dimension → Retailers hierarchy →Region level→ Members→Americas→Canada
  - Products dimension → Products hierarchy → Product line level→ Members→Camping Equipment→ Tents→ Start Dome
  - Sales Fact → Quantity measure
- Task 3: allow drill-up and drill-down on the report.
  - From the Data menu →Drill Behavior select Allow drill-up and drill-down check box

47

Summary of Module 1

- At the end of this module, you should be able to:
  - –Examine Report Studio and its interface.
  - –Explore different report types.
  - –Create a simple, sorted and formatted report.
  - –Explore how data items are added to queries.
  - –Create a report from a DMR data source.

48

2
Create List Reports

TOC

Summary: Create List Reports

- Group, format and sort list reports
- Describe option for aggregating data
- Create a multi-fact query
- Create a report with repeated data

50

Examine List Report

- You can use list reports to:
  - –Present tabular information
  - –Show detailed information from your database

Country	Employee name	Revenue
Switzerland	Adriaantje Haanraads	$27,600,413.97
Spain	Agatha Reyes	$24,097,530.30
Japan	Aimi Tanaka	$16,468,860.28

51

Group Data

- Group your data and choose how often to display item names by changing the group span properties.

Group on Country and City

Canada	Calgary	Tammy Sherwood
		Vittorio Rizzo
	Toronto	Brendon Pike

Group on Country and City with Group Span by City

Canada	Calgary	Tammy Sherwood
		Vittorio Rizzo
Canada	Toronto	Brendon Pike

52

Group Data and spanning level

- You can group on one or more columns
- The list report should preferably follow a1:n cardinality from left to right
- Spanning one group of items by second group can by helpful if the second group contains many items.
  - For example: Show the country name each time the city changes (***span country by city***)
  - You can show the group name every time there is a new record, using ***no level spanning***
- When grouping a column in a list, your data is automatically sorted ascending

53

Format List Columns

- You can emphasize certain data to make your reports easier to read and understand.

Before

Order number	Retailer name	Year
100003	Universo Acampando	2004
100009	Sporting Goods Direct	2004

After

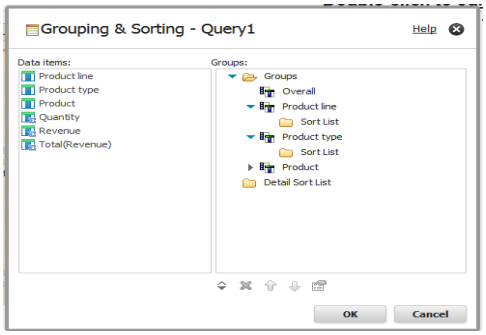
Order number	*Retailer name*	Year
100003	*Universo Acampando*	2004
100009	*Sporting Goods Direct*	2004

54

Format List Columns

- You can format list report columns at different levels:
  - –Lowest level: format the cells on a list column
  - –Higher level: format both cells and the title in a list column
  - –Highest level: format both the cells and titles in all list columns

- To show all properties of grouping and sorting in your report list, select the list object and in the Properties pane choose **Grouping & Sorting property**



55

Include List Headers and Footers

- You can add headers and footers to a list report to provide additional information about the contents of the report.

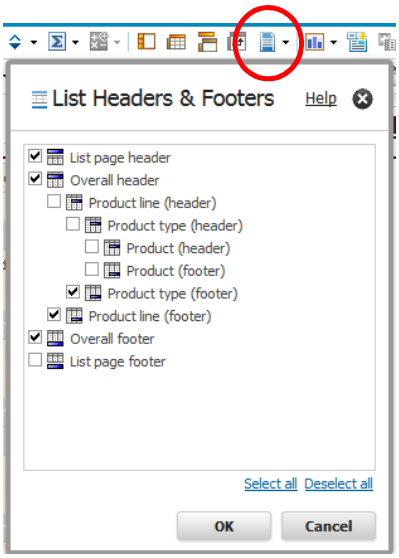
List Page Header →
Overall Header →

Country	City	Employee name	Revenue
Sales Rep Performance by Country and City			
As requested by Tom Johnson			
Austria	Wien	Jutta Shulz	26,274,108.98
		Sabine Grüner	32,895,343.27

56

Include List Headers and Footers

- List headers and footers can be placed:
  - –At the top or bottom of a list on each page.
  - –At the top of the first page or bottom of the last page
  - –Before or after a group of details



57

Lab 2.1: Enhance a List Report

Product type	Product	Retailer type	Quantity	Revenue
Revenue by Retailer Type				
Attention: Sales Managers				
Outdoor Protection				
First Aid	Aloe Relief	Department Store	51,891	$234,186.66
		Direct Marketing	37,792	$196,850.32
		Sports Store	33,795	$155,701.31
		Outdoors Shop	25,132	$127,549.56
		Warehouse Store	7,359	$38,278.37
		Golf Shop	2,535	$13,258.05
		Equipment Rental Store	1,043	$3,932.96
Aloe Relief - Total				$769,757.23

- Undo
- Automatic group and summary behavior for lists
- Sorting, Grouping and group span
- List page, Overall and group header
- List column body, List column title, List Column

58

Lab 2.1 : Enhance a List Report

- Task1: create the list and set options:
  - Package: Samples/Models/GO Data Warehouse (query)
  - Folder: Sales and Marketing (query)
  - Namespace: Sales (query)
  - Table: Products, Retailer type and Sales fact

Product line	Product type	Product	Retailer type	Quantity	Revenue
<Product line>	<Product type>	<Product>	<Retailer type>	<Quantity>	<Revenue>

- Task2: Group, span and report title:

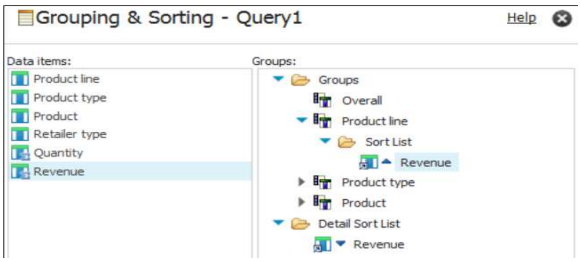
Product type Sales and Revenue by Product

Product line	Product type	Product	Retailer type	Quantity	Revenue
Camping Equipment	Cooking Gear	TrailChef Canteen	Department Store	211,339	2,426,658.9
			Direct Marketing	38,688	468,360.18
			Equipment Rental Store	6,641	72,910.87
			Outdoors Shop	222,831	2,682,916.23
			Sports Store	362,970	4,170,027.41
			Warehouse Store	123,254	1,512,645.06
	Cooking Gear	TrailChef Cook Set	Department Store	229,456	11,509,856.38
			Direct Marketing	72	0

59

Lab 2.1 : Enhance a List Report

- Task 3: Add a list page header, overall header and a group header.
- Task 4: Format and sort a Revenue column
  - Sort property: Descending
  - Select Revenue List Column body, in the properties pane→ Data Format
    - Format type: Currency
    - Properties Currency: $(USD) United States of America, dollar
- Task 5: Format the List Column and List Column Body
- Task 6: Sort the Product line column by the Revenue generated.



60

Lab 2.1 : Enhance a List Report

61

Understand Fact/Measure Data

- You can aggregate fact data to show Detail or Summaries.
- Show minimum, maximum, average, total, count or calculated data.

Employee name	Product line	Revenue
Agatha Reyes	Camping Equipment	9,596,483.77
	Golf Equipment	1,966,340.45
	Mountaineering Equipment	5,546,852.83
	Outdoor Protection	991,736.35
	Personal Accessories	5,996,116.9
Agatha Reyes		**24,097,530.3**

Detail rows

Summary row

62

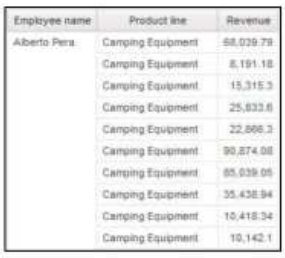
Understand Aggregate Data

- You can show your data as summarized aggregated data or as detailed non-aggregated data.

Default Aggregation

Rollup Aggregate Set to Total

Auto Group and Summarize set to No



63

Data Aggregation

- Aggregate Function: aggregates data at the lowest level of detail
  - –Applied by data modeler at the model
  - –Applies only when **Auto Group and Summary** is Yes
  - –Automatic: based on data type (Integer: Total, …etc)
  - –Summarize: same as model
- Rollup Aggregate
  - –Applied by report author to grouped items
  - –Provides higher level aggregation

64

Understand Difference in Aggregate

- You can use data items for your query from the **Source tab** or the **Data Items tab**.
- Data items selected from the source tab will be calculated and summarized prior to aggregation.
- Data items selected from the Data Items tab will be calculated and summarized after aggregation.

65

Exercise 2.2: Explore Data Aggregation

- Task 1: create a basic report and examine the query model.
  - use Products, Order method and Sales fact table.
- Task 2: View individual records rather than data grouped and summarized at the lowest level of detail.
  - Set the Auto Group & Summarize property to No.
- Task 3: Group query items, add aggregate data and observe the results in the query.
  - Use Average function of Summarize value of Revenue

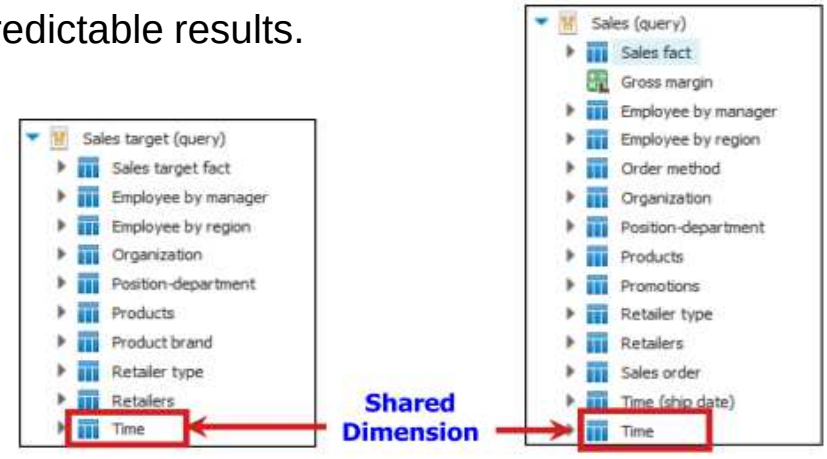
Product line	Order method type	Revenue
Camping Equipment	E-mail	75,899,094.63
	Fax	23,054,398.48
	Mail	21,348,644.09
	Sales visit	168,611,961.87
	Special	12,388,989.44
	Telephone	153,894,892.13
	Web	1,133,838,683.39
Camping Equipment - Average		227,066,237.718571
Golf Equipment	E-mail	47,933,933.16
	Fax	15,241,303.27
	Mail	12,693,287.48
	Sales visit	39,240,918.73
	Special	4,964,762.97
	Telephone	78,730,112.65
	Web	527,607,049.63
Golf Equipment - Average		163,773,052.555714

Results:
You created a list report displaying revenue generated by each order method for each product line and the average revenue all order methods generate for each product line. You also specified that the query should display individual data records instead of grouped and summarized data, and you then compared the results.

66

Multi-fact queries

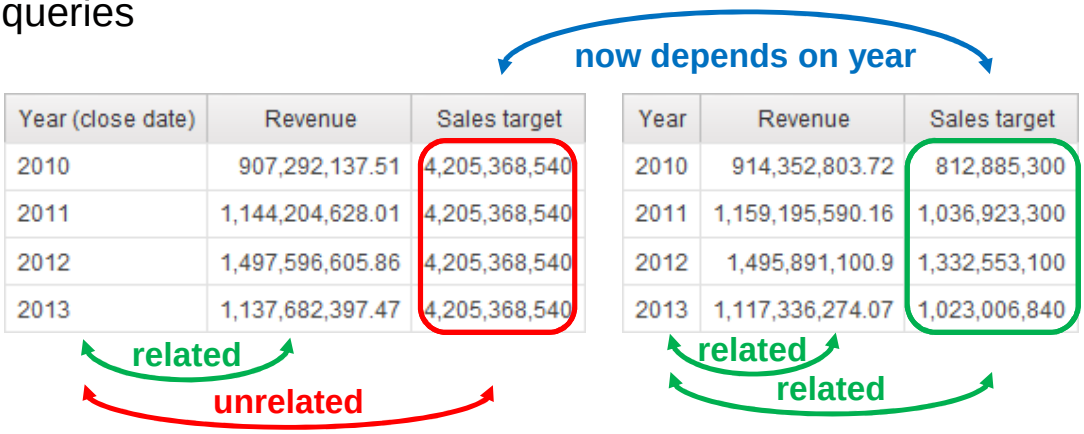
- When authoring reports with multiple facts, it is necessary to use at least one shared dimension item to ensure correlated and predictable results.



67

Lab 2.3: Create Multi-Fact Query in a List

- Use shared (conformed) dimensions to create multi-fact queries



Year (close date)	Revenue	Sales target
2010	907,292,137.51	4,205,368,540
2011	1,144,204,628.01	4,205,368,540
2012	1,497,596,605.86	4,205,368,540
2013	1,137,682,397.47	4,205,368,540

Year	Revenue	Sales target
2010	914,352,803.72	812,885,300
2011	1,159,195,590.16	1,036,923,300
2012	1,495,891,100.9	1,332,553,100
2013	1,117,336,274.07	1,023,006,840

68

Lab 2.3: Create Multi-Fact Query in a List

Year	Revenue	Sales target
2010	914,352,803.72	812,885,300
2011	1,159,195,590.16	1,036,923,300
2012	1,495,891,100.9	1,332,553,100
2013	1,117,336,274.07	1,023,006,840

Results:
You created a report showing sales revenue and target revenue for each year. You used a conformed dimension in the report to ensure the results were accurate and consistent with expected results.

69

Add Repeated Information to Reports

- **Repeater Table**
  - Repeat items in a table structure
- Example: 3 columns and 2 rows

Aaghie Heiman Switzerland Genève	**Aaltje Hansen** Switzerland Genève	**Abel Antunes** Brazil São Paulo
Abram Ruiz Switzerland Genève	**Ada Morales** Italy Milano	**Adara Cruz** Italy Milano

- **Repeater**
  - Duplicate items across a single row without a particular structure
- Example: Each record in a block

Aaghie Heiman is from Genève, Switzerland
Aaltje Hansen is from Genève, Switzerland
Abel Antunes is from São Paulo, Brazil
Abram Ruiz is from Genève, Switzerland
Ada Morales is from Milano, Italy
Adara Cruz is from Milano, Italy

70

Lab 2.4: Create a Mailing List Report

<Country>
<Address 1>
<Address 2>
<City>
<Province or State>
<Postal zone>
<Country1>

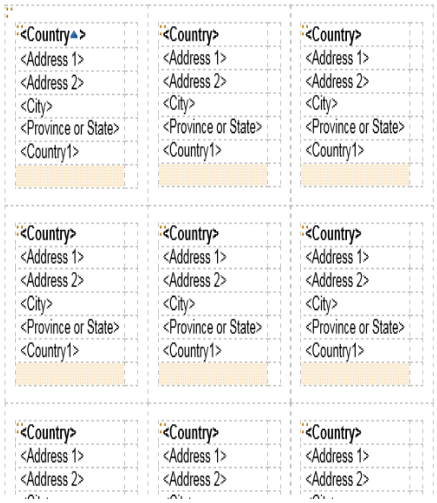
Australia 2315 Queen's Ave Level 2 Melbourne VIC 2088 Australia	Austria Jedleser Straße 7 Wien A-1210 Austria	Belgium Interleuvenlaan 2 Heverlee B-3001 Belgium
Brazil Avenida Paulista, 333 CJ 231 2o. Andar São Paulo SP 01403-090 Brazil	Canada 7800, 756 - 6th Avenue. S.W. Calgary Alberta T2P 3Z0 Canada	Canada 789 Yonge Street Toronto Ontario M2M 4K8 Canada

Results:
You created a mailing list and added the country name at the top of each address as a header and displayed the addresses alphabetically by country. The addresses were displayed, with no more than three addresses across and four down each page.

71

Lab 2.4: Create a Mailing List Report

- Task 1:Create a repeater table
- Task 2: Add table to repeater table
  – table with 3 Columns and 4 Rows
- Task 3: Add items to the table
  –Country, Address 1, Address 2, City, Province or State, Postal zone from **Employee by region** data source query.
- Task 4: List countries in alphabetical Ascending order and apply a style to the headers.



72

Summary: 2-Create List Reports

- At the end of this module, you should be able to:
  –Group, format and sort list reports
  –Describe option for aggregation data
  –Create a multi-fact query
  –Create a report with repeated data

73

Workshop 2: create and Format a List Report

Gross Profit by Retailer Type and Region

Retailer type	Region	Gross profit
Department Store	Americas	111,543,822.41
	Asia Pacific	98,425,260.8
	Central Europe	77,587,318.45
	Northern Europe	39,559,098.97
	Southern Europe	36,177,713.46
Department Store - Total		**363,293,214.09**
Direct Marketing	Asia Pacific	10,763,419
	Central Europe	7,054,511
	Americas	6,419,647.17
	Northern Europe	3,932,561.37
	Southern Europe	2,270,788.95
Direct Marketing - Total		**30,440,927.49**

74

3
Focus Reports Using Filters

TOC

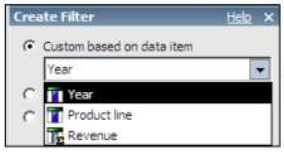
Objectives

- At the and of this module, you should be able to:
  - –Create filters to narrow the focus of reports
  - –Examine detail and summary filters
  - –Determine when to apply filters on aggregate data

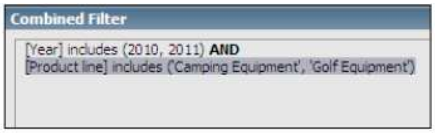
76

Create Filters

- To narrow the focus of you report, you can create a filter expression in three different ways:
  - Create a simple filter condition based on selected values from only one data item in the query

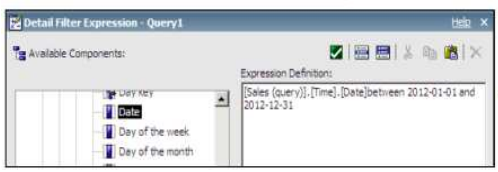


Custom based on data item



Combined

- Combine filter condition based on selected values from multiple data item in the query, into a single filter.
- Create filter condition that used advanced calculation (expression) based on items from query or Data source.



Advanced

77

Filter your Data with Advanced Detail Filters

- Create a detail filter to narrow your focus and report on specific data.

Filter to show only sales revenue greater than $100,000

Expression Definition
[Revenue]>100000

Filter to show only data from January to June for the year 2012

Expression Definition
[Sales (query)].[Time].[Date] between 2012-01-01 and 2012-06-30

78

Lab 3.1: Apply Filters to a report

City	First name	Last name	Position name	Revenue
Austria				
Wien	Sabine	Grüner	Level 3 Sales Representative	12,193,198.67
	Jutta	Shulz	Level 2 Sales Representative	9,938,792.37
	Thomas	Schirmer	Level 1 Sales Representative	6,216,976.62
Wien - Total				28,348,967.66
Austria - Total				28,348,967.66

Purpose:
The Vice President of Sales has requested a report that shows sales performance in each country for 2012. He wants to see the performance for representatives in Southern Europe so he can present an award to the top seller when he visits next month.

79

Lab 3.1: Apply Filters to a report

- Task 1: cerate the list report
  - use **Employee by region** and **Sales fact** table form **Sales an Marketing (query)→Sales (query)**
- Task 2: Add filter to show sales from 2012
  - [Sales(query)].[Time].[Year]=2012
- Task 3: Filter data to show only Southern European countries.
  - The Southern European countries= Austria, Italy and Spain

Results:
You created a report with filters to show the revenue generated by the top sales representatives for 2012 in Southern Europe.

80

Determine when to apply a Filter with aggregation-Before & After Auto Aggregation

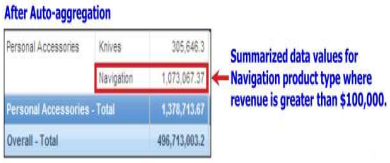
- **Detail filter**
  - Applies conditions to each row of data. If the conditions are true for a row, the row is retrieved and appears in the report; else the row is not retrieved and does not appear in the report.

- **Before Auto Aggregation**
  - Generates a Where clause (filtering detail records)

```
Select Name, Revenue
From Products
Where Revenue > 10
```

- **After Auto Aggregation**
  - Generates a Having clause (filtering summary records)

```
Select Name, Sum(Revenue)
From Products
Group By Name
Having Sum(Revenue)>1000
```



81

Detail Filters and Summary Filters

- **Summary filter**
  - –Before you create a summary filter, you must calculate the summary data items that you want to use in the filter.
  - –Summary data items that you include in the filter are calculated before the filter is applied
  - –summary data items that aren't in the filter are calculated after the summary filter is applied.
  - –Generate **`Having`** clauses in SQL
  - –Define the Scope of Summary filter

Lab 3.2: Apply a Detail Filter on Fact Data to a Report

- The report include only data from individual orders of each product type that generated more than $100000 in revenue.
- You want to display only product type for which the total revenue for all sales is greater than ten million dollars.
- Apply a Summary Filter to a report: You have asked to modify a report that focuses on product line that have generated revenues greater than $100.000.000.

Product line	Product type	Revenue
Camping Equipment	Cooking Gear	1,863,445.82
	Packs	52,076,711.17
	Sleeping Bags	21,034,472.39
	Tents	282,028,081.98
Camping Equipment - Total		**357,002,711.36**
Golf Equipment	Irons	41,032,759.96
	Putters	1,184,967.25
	Woods	87,453,875.01
Golf Equipment - Total		**129,671,602.22**

83

Apply Pre-defined Filters

- Save time and effort by applying filters published with your source package rather than creating your own.
- Defined in the package by metadata modeler
- Advantages:
  - –Reuse
  - –Encapsulation

Pre-defined filters have been included in the report package to assist in report authoring.

84

Summary

- At the end of this module, you should be able to:
  - –Create filters to narrow the focus of reports
  - –Examine detail and summary filters
  - –Determine when to apply filters on aggregate data

85

Homework #1 – Sorting & Formatting

- List countries, genders, and salaries for countries that exceeded 300,000$ in salaries of 2012
- Sort countries by Salary DESC, and their details by Gender DESC
- Show salary as number, in thousands, with one decimal place
- What is the Aggregate Function of Salary?

- Hints
  - Package: GO Data Warehouse (query)
  - Namespace: HR (query) > Employee Summary (query)

86

Country	Gender	Salary (K$)
Canada	Male	240.5
	Female	287.8
Canada - Total		**528.3**
France	Male	183.8
	Female	157.8
France - Total		**341.7**
Italy	Male	181.2
	Female	154.2
Italy - Total		**335.3**
Netherlands	Male	178.5
	Female	150.5
Netherlands - Total		**328.9**
Switzerland	Male	178.5
	Female	150.5
Switzerland - Total		**328.9**
Germany	Male	157.8
	Female	157.8
Germany - Total		**315.7**
Overall - Total		**2,178.8**

4
Create Crosstab Reports

TOC

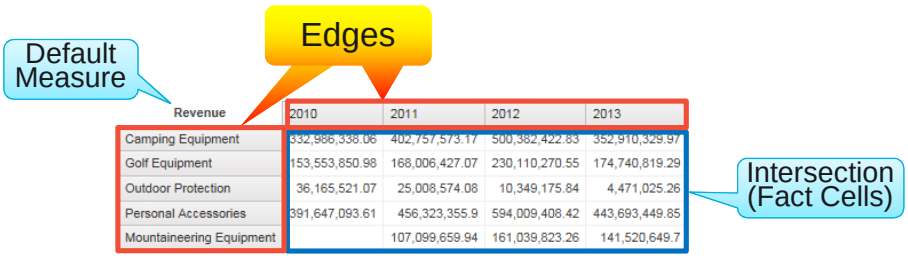
Objectives

- At the end of this module, you should be able to:
  - Format and sort crosstab reports
  - Create complex crosstabs using drag and drop functionality
  - Create crosstabs using unrelated data items

88

Crosstab Reports

- Add query items to rows and columns, add measures to the body (intersection)
- Usage: Analyzing and comparing summarized numeric data in rows and columns
- Crosstabs are, by design, dimensional reporting objects

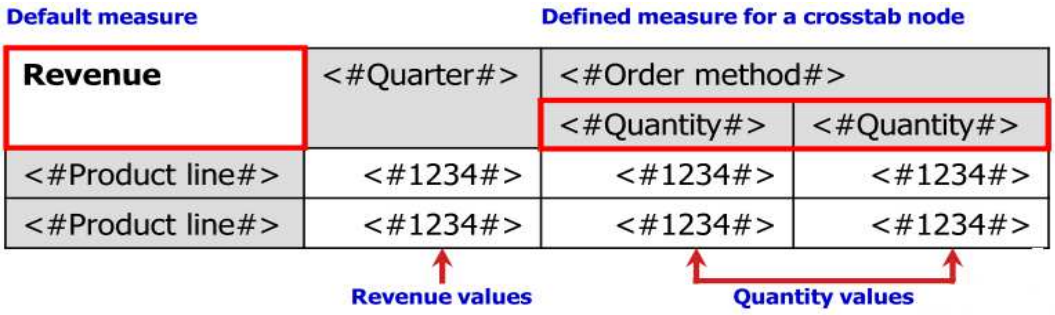


Revenue	2010	2011	2012	2013
Camping Equipment	332,986,338.06	402,757,573.17	500,382,422.83	352,910,329.97
Golf Equipment	153,553,850.98	168,006,427.07	230,110,270.55	174,740,819.29
Outdoor Protection	36,165,521.07	25,008,574.08	10,349,175.84	4,471,025.26
Personal Accessories	391,647,093.61	456,323,355.9	594,009,408.42	443,693,449.85
Mountaineering Equipment		107,099,659.94	161,039,823.26	141,520,649.7

89

Add Measures to Crosstab Reports

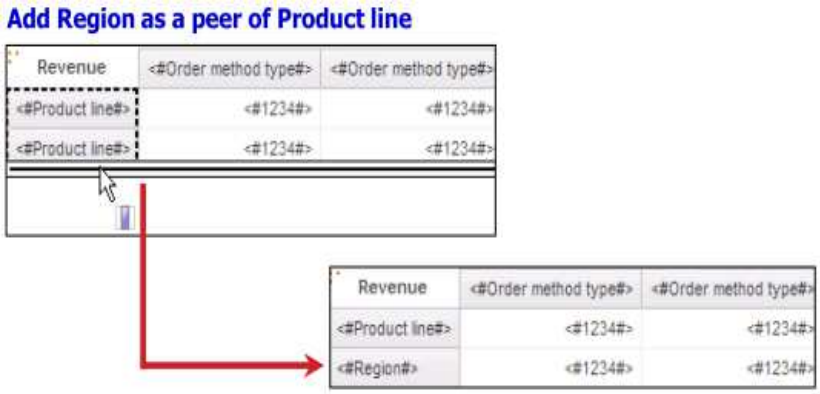
- You can add measures to either the row or column edges of a crosstab report.
- You can add a default measure that is used in cells where the measure is not define on the row or column edge.



90

Create Complex Crosstab Reports

- Crosstab drop zones let you cerate a wide variety of crosstab layouts to meet your business requirements.
- Use drop zones to add parents, peers, and children



91

Crosstab Nodes

- A crosstab node contains one or more crosstab node members

92

Data Sources for Crosstabs

- Relational models a basic metadata structure that looks like tables and columns in a database
- DMR models are built from relational data source, but are modeled with a dimensional structure (like OLAP) consisting of measures and dimensions.
- Crosstabs are better suited to dimensional reporting.
- Filters in a crosstab may be cause unpredictable results and should be used only when necessary

93

Exercise 4.1: Create a simple Crosstab Report

- Pivot crosstab using Swap Rows and Columns 

Revenue		Camping Equipment	Golf Equipment	Outdoor Protection	Personal Accessories	Mountaineering Equipment
Telephone	2010	80,467,596.88	44,244,120.93	8,141,169.76	45,940,692.79	
	2011	47,562,256.31	27,340,352.57	3,203,287.7	18,428,095.15	10,626,292.36
	2012	17,715,451.4	6,411,233.64	507,485.63	5,979,547.46	6,586,124.67
	2013	8,149,587.54	734,405.51	76,371.43	3,173,298.96	5,698,410.37
Web	2010	125,829,519.92	49,583,401.41	13,735,716.85	284,622,826.47	
	2011	270,463,415.68	116,939,694.38	16,479,270.8	411,577,877.16	65,855,489.46
	2012	426,353,675.75	203,385,896.61	8,570,078.91	568,668,077.83	132,736,443.67
	2013	311,192,071.84	157,698,057.23	4,166,745.33	427,367,391.98	117,010,256.92

94

Exercise 4.2: Create a complex Crosstab Report

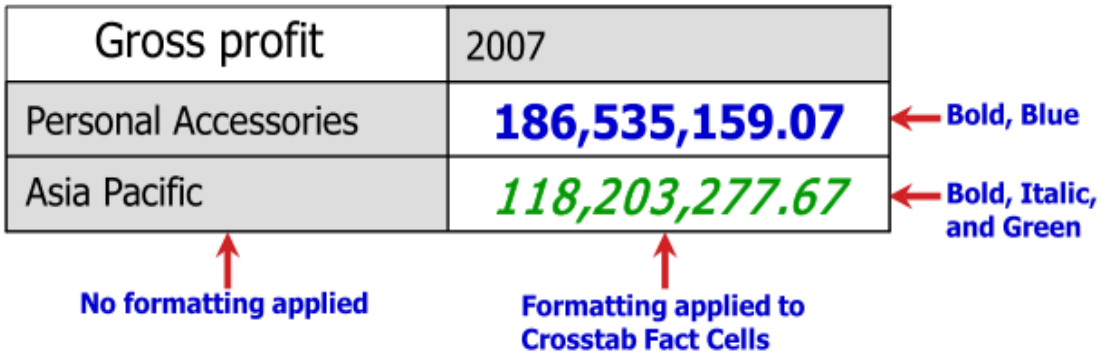
- Examine Revenue and Quantity by each order method for each product line.
- Examine Revenue generated by different order methods varies from country to country.
- Examine data for order methods and years.
- Sort Crosstab items

		2010	2011	2012	2013	E-mail
Camping Equipment	Revenue	332,986,338.06	402,757,573.17	500,382,422.83	352,910,329.97	75,899,094.83
	Quantity	5,895,053	6,903,764	8,399,156	6,103,176	1,413,084
Outdoor Protection	Revenue	36,165,521.07	25,008,574.08	10,349,175.84	4,471,025.26	5,882,477.87
	Quantity	5,614,356	4,111,058	1,599,585	689,446	905,156
Personal Accessories	Revenue	391,647,093.61	456,323,355.9	594,009,408.42	443,693,449.85	42,651,086.54
	Quantity	7,572,339	8,567,357	10,706,015	8,061,994	791,965
Mountaineering Equipment	Revenue		107,099,659.94	161,039,823.26	141,520,649.7	7,476,451.96
	Quantity		2,644,713	3,700,262	3,555,116	199,214
Golf Equipment	Revenue	153,553,859.98	168,006,427.07	230,110,270.55	174,740,819.29	47,933,933.16
	Quantity	1,092,982	1,297,793	1,536,772	1,186,154	333,300
Australia	Revenue		19,270,852.15	38,968,802.62	29,323,674.25	600,979.72
Austria	Revenue	13,866,004.52	19,343,686.48	28,348,967.66	21,981,768.43	
Belgium	Revenue		21,554,248.84	27,345,821.17	19,822,994.69	
Brazil	Revenue	17,566,891.21	22,580,246.05	28,939,868.92	21,447,899.23	330,436.43

95

Format Crosstab Reports

- You can formatting for cells displaying data for a specific row or column edge item, such as Product line or Region.



96

Add Unrelated Items to Crosstab Edges

- You can create discontinuous crosstabs that have unrelated data in the row and column edges.

97

Exercise 4.3: Sort and Format Crosstab Report

- Report Items: Product Line, Product type, Branch region and Year
- Show Total from all years and Total from each product line.
- Sort Product line and Year by Ascending
- Sort Branch region by descending value from Total Revenue
- Format Report as follows

Revenue		2010	2011	2012	2013	Total
Personal Accessories	Binoculars	29,246,444.08	30,310,573.76	39,974,426.94	31,303,208.42	**130,834,653.2**
	Eyewear	154,310,479.02	208,648,605.39	282,226,165.14	221,939,948.93	**867,125,198.48**
	Knives	36,374,634.09	33,164,183.25	47,704,144.36	36,177,477.89	**153,420,439.59**
	Navigation	51,598,510.99	43,724,569.8	62,330,073.61	49,837,487.52	**207,490,641.92**
	Watches	120,117,025.43	140,475,423.7	161,774,598.37	104,435,327.09	**526,802,374.59**
	Personal Accessories	**391,647,093.61**	**456,323,355.9**	**594,009,408.42**	**443,693,449.85**	**1,885,673,307.78**
Central Europe		428,821,196.74	539,235,928.65	675,574,387.12	499,863,272.05	**2,143,494,784.56**
Americas		192,230,456.3	239,213,647.85	312,037,992.91	233,605,783.74	**977,087,880.8**
Asia Pacific		166,746,977.65	212,250,513.92	275,691,959.9	204,564,826.67	**859,254,278.14**
Northern Europe		70,230,147.41	90,215,646.65	117,148,067.64	91,945,289.26	**369,539,150.96**
Southern Europe		56,324,025.62	78,279,853.09	115,438,693.33	87,357,102.35	**337,399,674.39**

98

Exercise 4.4: Unrelated Items in a Discontinuous Crosstab

- Rows: Product line, Year and Quarter
- Columns: Branch region, Revenue and quantity

		Americas		Asia Pacific		Central Europe		Northern Europe		Southern Europe	
		Revenue	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity
Camping Equipment		481,445,781.04	8,101,682	421,639,391.62	7,366,131	343,645,848.36	5,904,428	180,851,396.88	3,046,563	161,454,246.13	2,882,345
Golf Equipment		217,262,995.22	1,544,411	193,677,873.68	1,338,406	153,632,833.39	1,071,235	84,424,300.9	592,168	77,413,364.7	567,481
Outdoor Protection		23,002,647.68	3,619,457	19,716,018.32	3,114,960	17,488,870.77	2,800,923	8,346,431.17	1,310,804	7,440,328.31	1,168,301
Personal Accessories		132,249,058.98	2,730,299	116,715,219.51	2,397,747	1,540,675,699.15	27,771,811	49,825,913.97	1,050,963	46,207,416.17	956,885
Mountaineering Equipment		123,127,397.88	2,948,533	107,505,775.01	2,571,299	88,051,532.89	2,146,207	46,091,108.04	1,131,215	44,884,319.08	1,102,837
2010	Q1	47,381,351.43	1,117,915	41,548,840.6	970,249	101,800,331.59	2,066,747	17,178,637.94	394,586	13,795,543.75	327,561
	Q2	46,446,442.22	1,161,957	39,682,191.16	989,504	105,169,148.29	2,189,147	17,117,291.4	419,849	13,728,311.5	345,261
	Q3	50,130,435.79	1,163,992	43,885,141.25	1,010,004	109,583,098.88	2,203,282	17,861,264.35	401,471	14,290,375.98	331,566
	Q4	48,272,226.86	1,127,027	41,630,804.64	966,587	112,268,617.98	2,236,310	18,072,953.72	411,419	14,509,794.39	340,296
2011	Q1	61,679,289.83	1,369,148	56,312,126.53	1,268,246	134,130,313.2	2,677,977	21,984,786.32	489,797	19,121,944.65	453,259
	Q2	56,910,812.55	1,181,071	49,277,462.06	1,029,775	129,735,386.05	2,481,726	22,669,178.67	462,374	19,587,920.63	424,697
	Q3	57,195,724.98	1,159,624	49,206,966.1	998,645	132,664,137.27	2,539,454	22,481,473.56	447,998	19,531,365.04	411,132
	Q4	63,427,820.49	1,312,751	57,453,959.23	1,194,136	142,706,092.13	2,722,561	23,080,208.1	471,016	20,038,622.77	429,298
2012	Q1	72,919,470.22	1,269,166	61,699,029.76	1,101,646	151,653,156.66	2,677,762	29,214,791.98	516,210	28,637,818.45	530,003

99

Summary

- At the end of this module, you should be able to:
  - –Format and sort crosstab report
  - –Create complex crosstabs using drag and drop functionality
  - –Create crosstabs using unrelated data items.

100

5
Present Data Graphically

TOC

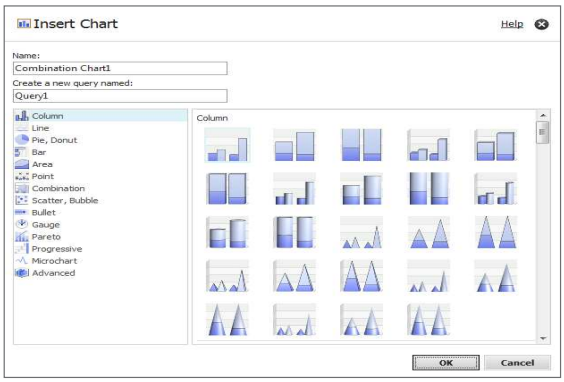
Objectives

- Create charts containing peer and nested columns
- Present data using different chart type options
- Add context to charts
- Create and reuse custom chart palettes
- Introduction to visualization
- Present key data in a single dashboard report

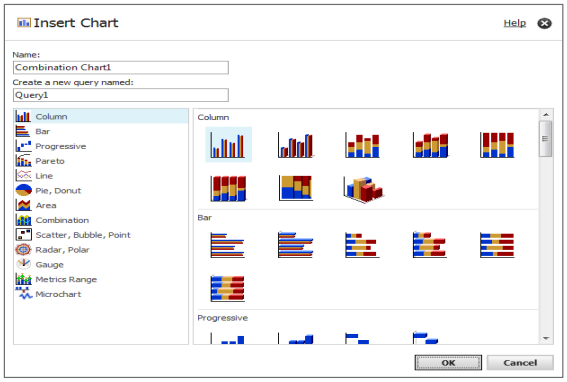
102

Different Chart Options

- Default and Legacy Charts

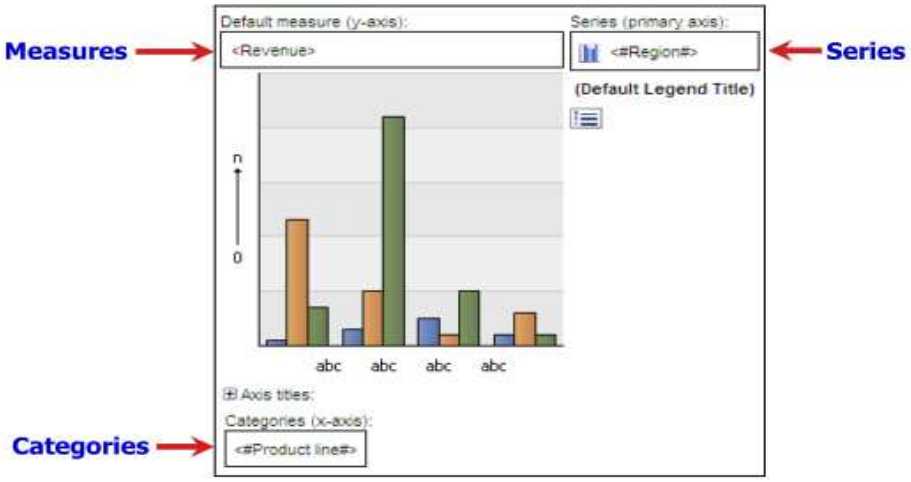


Default Charts



Legacy Charts

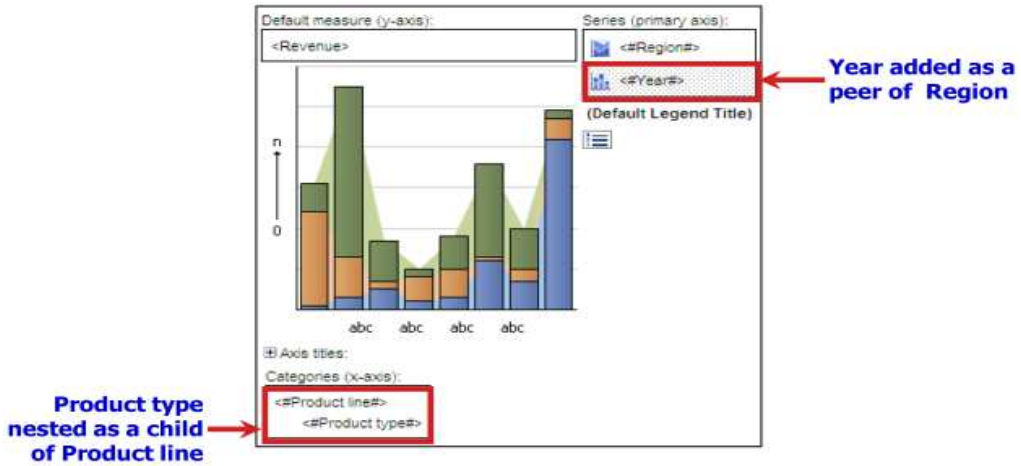
Create a chart Report



104

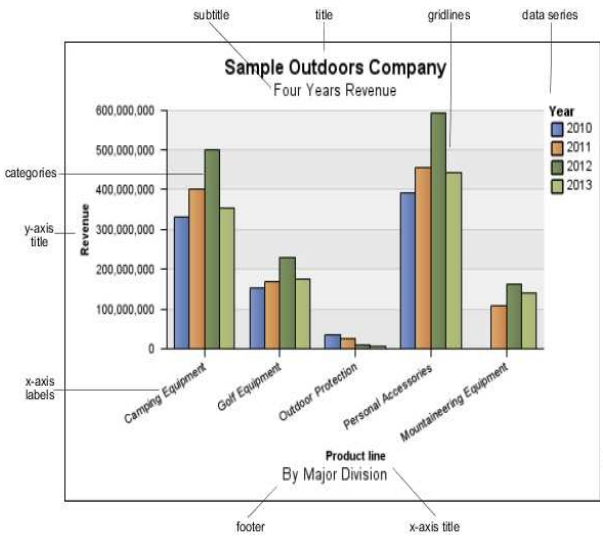
Charts containing Peer and Nested Items

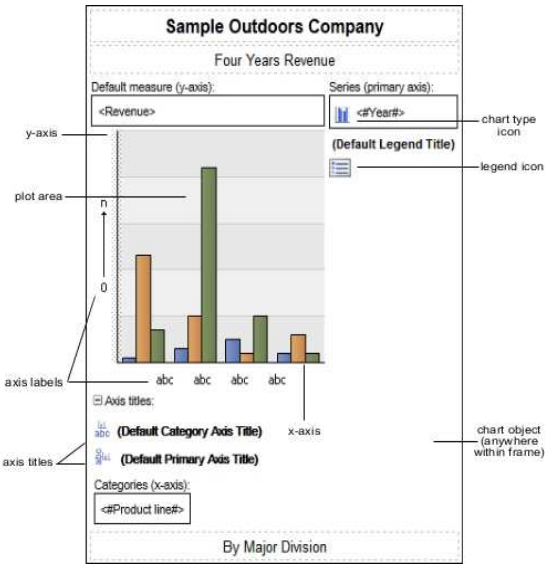
- You can add items as parents, peers or children



105

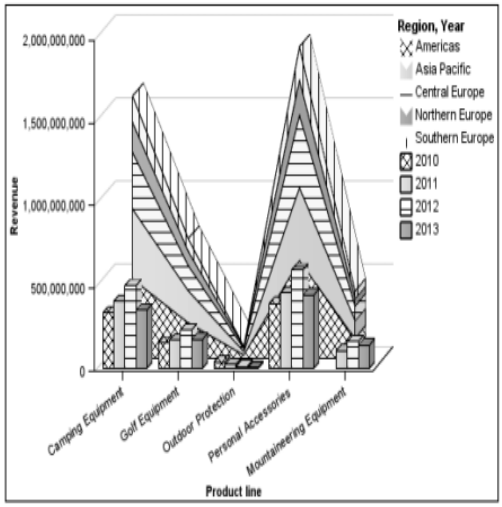
Common Chart Objects





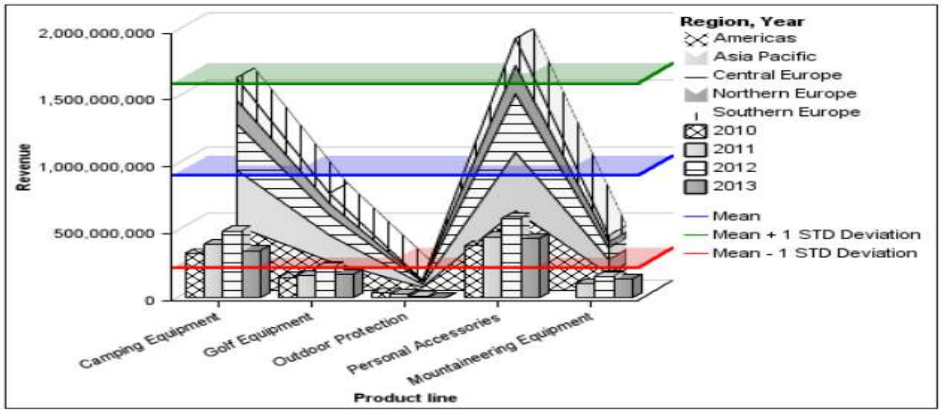
Create and Reuse Custom Chart Palettes

- Patterns are especially useful when users print in black & white.
- To reuse a custom palette, copy the palette to the clipboard and then paste the palette into a different chart report.
- You can change the foreground and background colors for patters in the palette
- Choose palette property from properties pane of series, under Color & Background



Add Data-driven Baselines and Markers to Charts

- Baselines help report consumers to quickly identify target or threshold values in charts.
- Use Property of chart, under Chart Annotations → Numeric Baselines (Exp.)

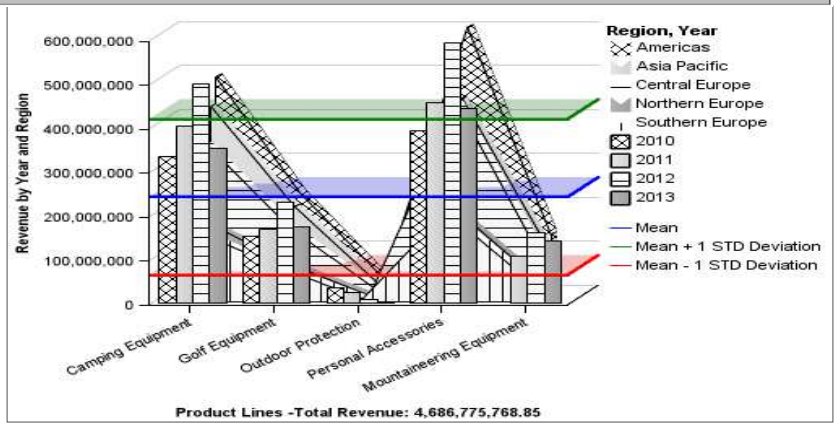


108

Exercise 5.1: Apply Palettes & Add Baselines

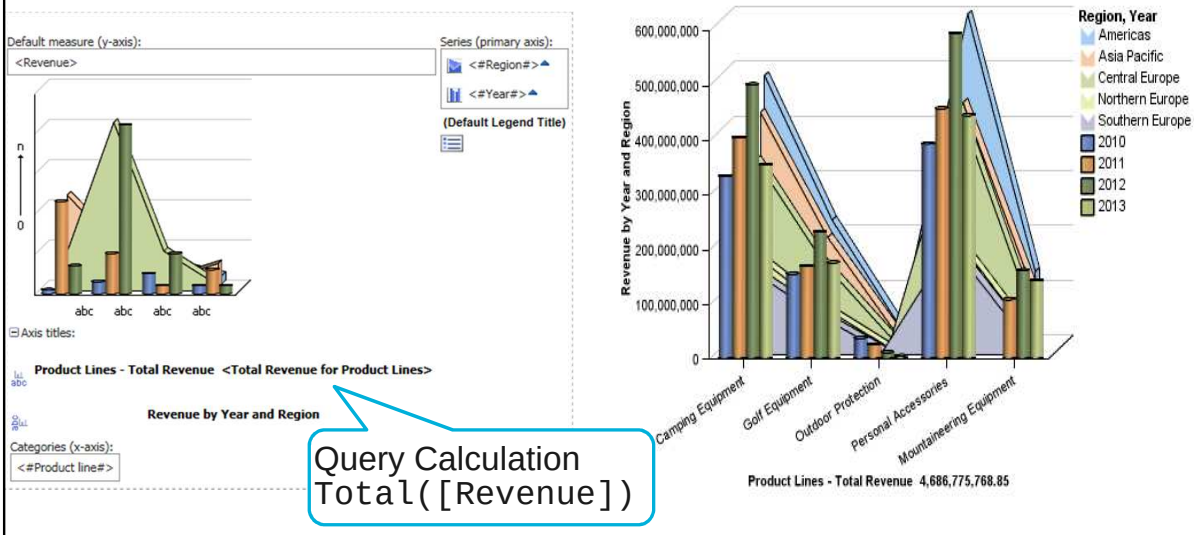
Purpose:
You will create a combination chart displaying yearly revenue generated by different regions, product lines. You want users to easily distinguish between regional data and yearly data. Because this report will be printed in black and white, you will create a custom palette for the chart and then reuse it for the second series chart. You will add baselines for this chart to display the mean, and plus or minus one standard deviation.

- **Palette**
  - Borders
  - Background
  - Foreground
  - Format Title
  - Pattern (useful for printing in B&W)
  - Reuse the custom palette
- **Add Baseline to the chart**



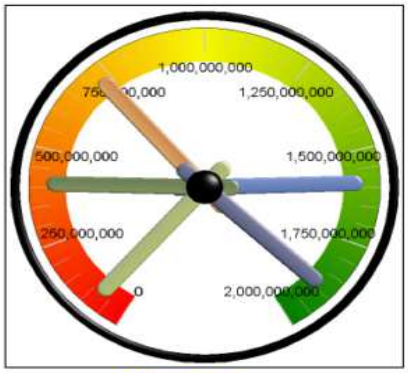
109

Exercise 5.1: Clustered Bar and Stacked Area

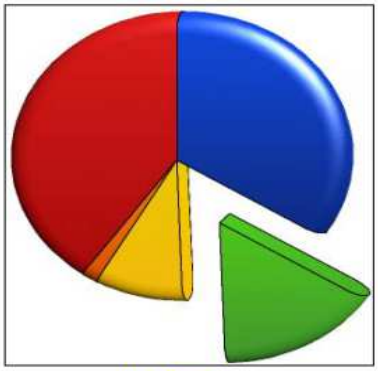


Compare values and highlight proportions using Gauge and Pie Charts

- Gauge charts are useful for comparing values between a small number of variables.
- Pie charts are useful for quick identification of major performers.



Gauge Chart

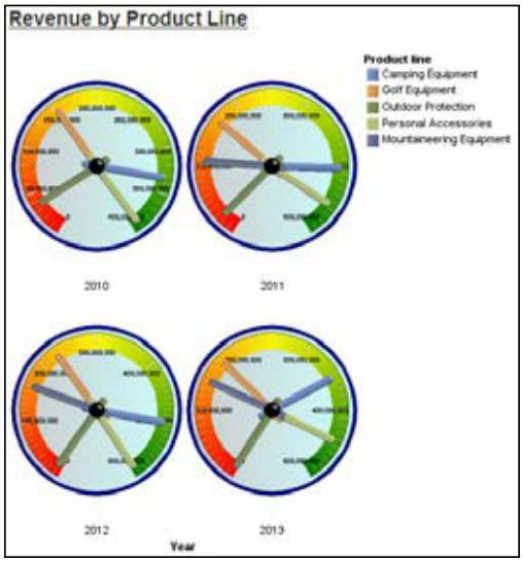


Pie Chart

111

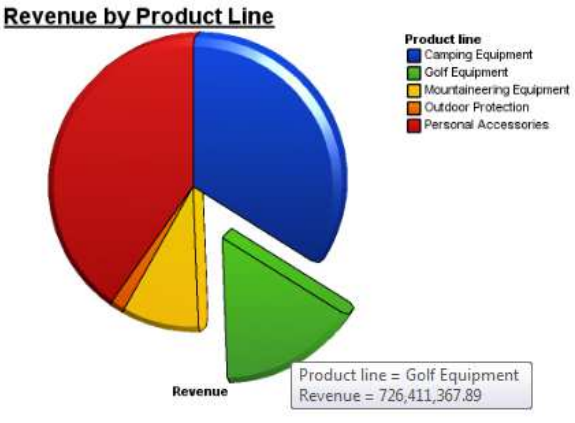
Exercise 2: Gauge Chart with Beveled Border

- Gauge chart present revenue by product line and year
- Format gauge chart as follows
  - –Title
  - –Gauge border color=navy
- Modify the axis labels and gauge properties.
- Modify the arc colors (red, yellow and Green)



Exercise 3: Pie with 3-D Effects and Rounded Bevel

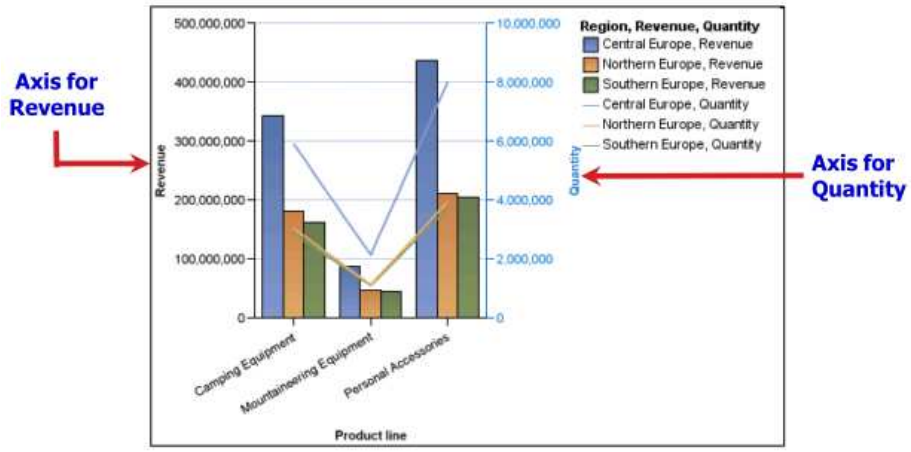
- Chart Pie with 3D Effects & Rounded Bevel
- Pie Chart present revenue by Product line
- Slice Golf Equipment Product line.
- Format Pie chart as follows
  - –Title
  - –Show border
  - –Use dynamic Palette



113

Display Items on Separate Axes

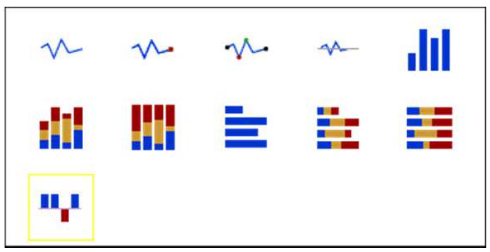
- Is useful when the value ranges for different items displayed in the chart are significantly different.

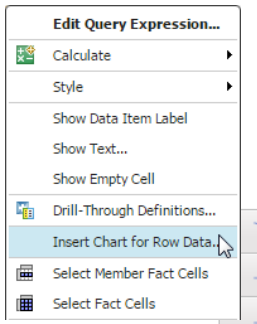


114

Microcharts

- Microcharts
  - –smaller versions of column, bar, and line charts
  - –can be used in crosstabs and dashboards.





	Camping Equipment		Mountaineering Equipment		Personal Accessories	
	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity
Central Europe	343,645,848.36	5,904,428	88,051,532.89	2,146,207	437,336,485.23	8,016,774
Northern Europe	180,851,396.88	3,046,563	46,091,108.04	1,131,215	210,608,208.82	3,954,449
Southern Europe	161,454,246.13	2,882,345	44,884,319.08	1,102,837	204,231,710	3,739,270

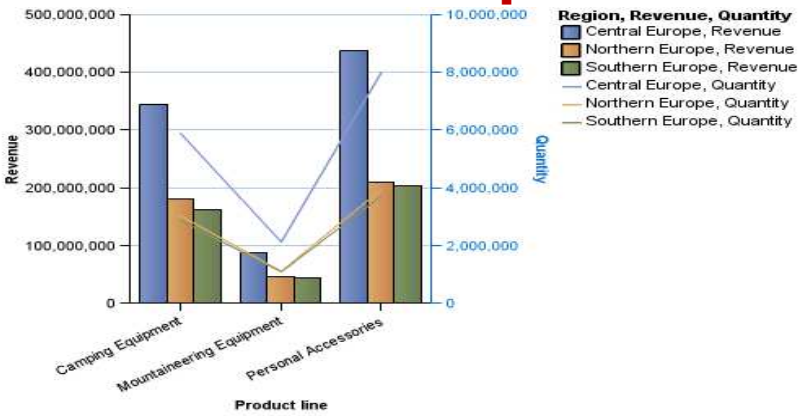
115

Exercise 4: Show the same Data Graphically and Numerically

- **Use** a Crosstab & Combination Chart to report the same information
- **Show** Revenue and Quantity by Product line and Region.
- **Focus** on Camping Equipment, Mountaineering Equipment, and Personal Accessories sales for the three European sales regions
- Add a Micro chart to the crosstab for a quick overview of product lines revenue for all regions.

116

Exercise 4: Final Output

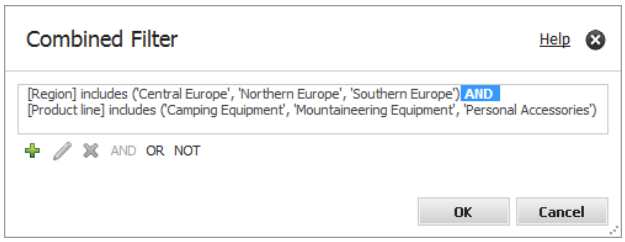


	Camping Equipment		Mountaineering Equipment		Personal Accessories	
	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity
Central Europe	343,645,848.36	5,904,428	88,051,532.89	2,146,207	437,336,485.23	8,016,774
Northern Europe	180,851,396.88	3,046,563	46,091,108.04	1,131,215	210,608,208.82	3,954,449
Southern Europe	161,454,246.13	2,882,345	44,884,319.08	1,102,837	204,231,710	3,739,270

11

Exercise 4: Design

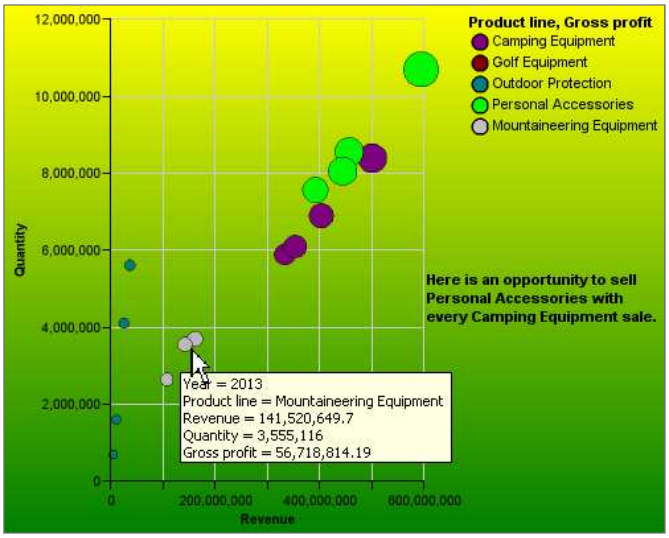
- Query items:
  - Rows: Retailers: Region
  - Columns:
    - Products: Product line
    - Sales fact: Revenue, Quantity
- Combination chart:
  - Clustered Bar & Clustered Line (default)
  - Use same query as the crosstab
- Show Revenue & Quantity on different axes
  - General > Combinations > Secondary Axis > Line
  - Move (Region > Quantity) to secondary access
- Focus (filter) data: Combined filter (AND)
  - Region: all Europe
  - Product line:
    - Camping Equipment
    - Mountaineering Equipment
    - Personal Accessories
- Add a microchart to the crosstab
  - Region > Insert Chart for Row Data
  - Default Measure (y-axis): Revenue
  - Delete Quantity



118

Customize Charts

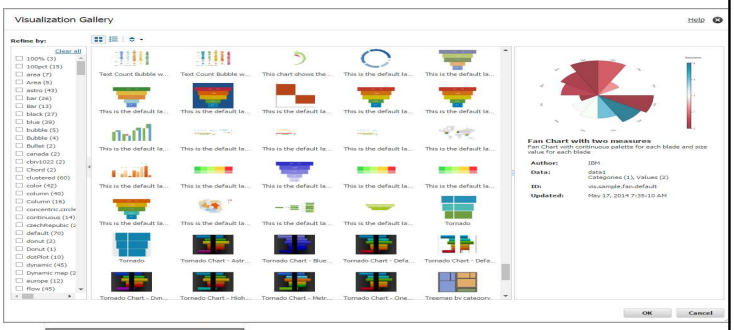
- Color schemes
- Axis scale
- Fill & Background
- Tooltips
- Notes
  (hide whatever is under them)

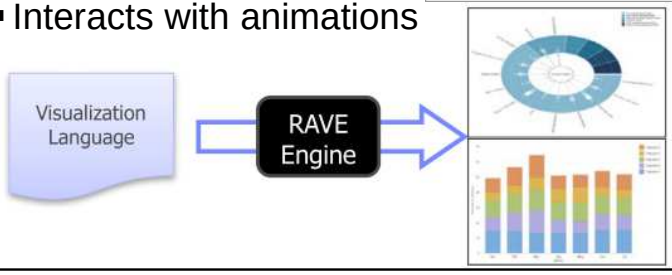


119

RAVE: Rapidly Adaptive Visualization Engine

- Globalized and accessible
- Uses visJSON language to describe the visualization
- Flexible and extensible
- Interacts with animations





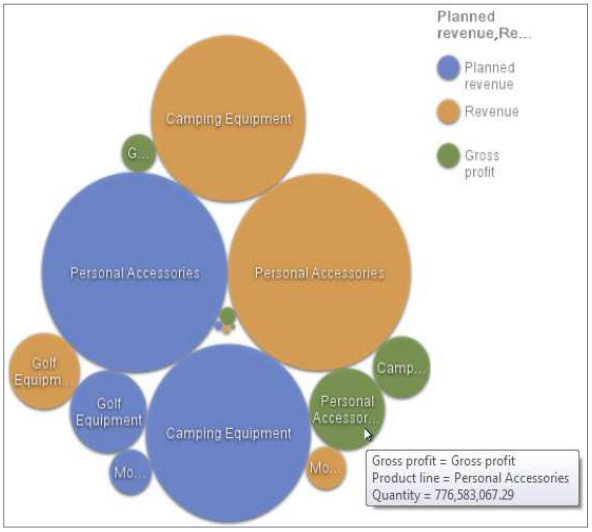
Visualization

- Visualization exploits the human visual system to provide:
  - –Intuitive
  - –Immediate
  - –Language independent

121

Exercise 5: Display Visualizations

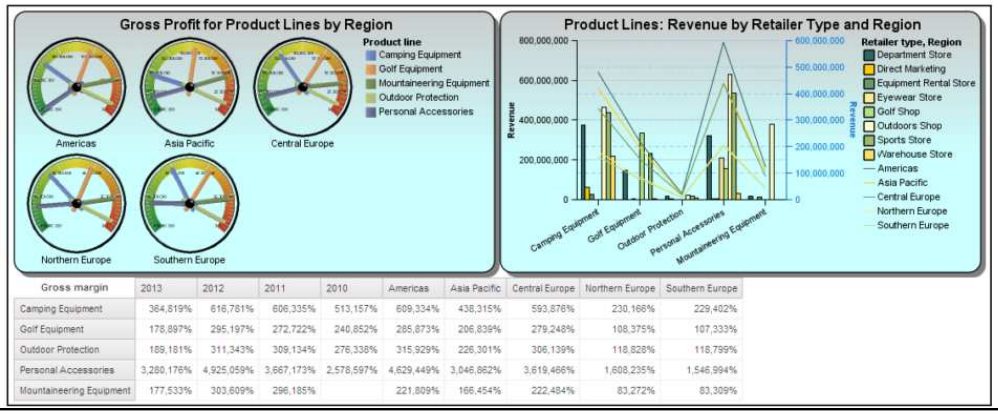
- Add a Visualization > Bubble > Packed bubble
- Populate the packed bubble visualization.
  - –Value size: Quantity
  - –Categories Series: Planned revenue, Revenue and Gross profit
  - –Categories Bubbles: Product line



Exercise 6: Create Dashboard Report

Create a dashboard report that contains::

- A gauge chart that compares the gross profit of each product line by region,
- A combination chart that shows revenue earned by each product line by retailer type and region on separate axis
- And finally, a crosstab report that shows the gross margin of each product line by year and region.



Gross margin	2013	2012	2011	2010	Americas	Asia Pacific	Central Europe	Northern Europe	Southern Europe
Camping Equipment	364,819%	616,781%	606,335%	513,157%	609,334%	438,315%	593,876%	230,168%	229,402%
Golf Equipment	178,897%	295,197%	272,722%	240,852%	285,873%	206,839%	279,248%	108,375%	107,333%
Outdoor Protection	189,181%	311,343%	309,134%	276,338%	315,929%	226,301%	306,139%	118,828%	118,799%
Personal Accessories	3,280,176%	4,925,059%	3,667,173%	2,578,597%	4,629,449%	3,046,862%	3,619,466%	1,608,235%	1,546,994%
Mountaineering Equipment	177,533%	303,609%	296,185%		221,809%	166,454%	222,484%	83,272%	83,309%

123

Summary

- At the end of this module, you should be able to:
  - Create charts containing peer and nested columns
  - Present data using new chart type options
  - Add context to charts
  - Create and reuse custom chart palettes
  - Introduction to visualization.
  - Present key data in a single dashboard report

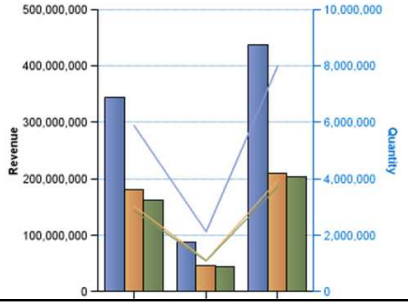
124

Use of Types of Reports

- **List**
  - Present tabular information
  - Show detailed information from the DB
- **Repeater Table**
  - Repeating a layout horizontally & vertically
- **Crosstab**
  - Analyzing and comparing summarized numeric data in rows and columns
- **Chart**
  - Present data graphically
  - Comparisons, relationships, trends

Product Line	Year	Revenue
Camping Equipment	2006	$500,382,422.83
Camping Equipment	2007	$352,910,329.97
Golf Equipment	2006	$174,740,819.29
Golf Equipment	2007	$230,110,270.55

Revenue	2006	2007
Camping Equipment	$500,382,422.83	$352,910,329.97
Golf Equipment	$230,110,270.55	$174,740,819.29



125

6
Focus Reports Using Prompts

TOC

Objectives

- Identify various prompt types
- Use parameters and prompts to focus data
- Search for prompt types
- Navigate between pages

127

Examine Parameters and Prompts

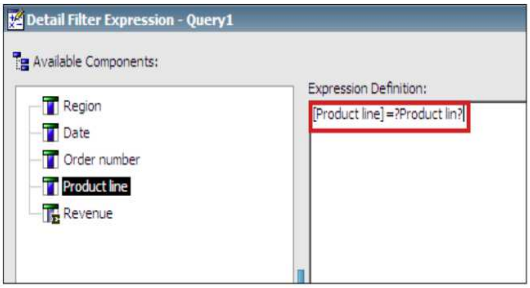
- Prompts provide the value for the parameter that will filter the report on specific data values.
- Ways of creating prompts:
  1) Use an unassigned filter (will generate an appropriate prompt based on the model)
  2) Create a prompt page by selecting columns & clicking the Build Prompt Page button
  3) Use a prompt item (in a prompt page or a report page

- Prompts function as dynamic filters.
- Parameters are based on parameterized filters.
- The filter consists of a query item and operator:
  - If you choose '**=**' operator ➔ the user will only be able to select a single option
  - If you choose '**in**' operator ➔ the user will only be able to select multiple options

128

1.Create a Prompter Item on the Report

- Use a parameterized filter to create a prompt.
- Syntax: ?NameOfParameter?
- Prompted report are generated automatically based on parameters you create

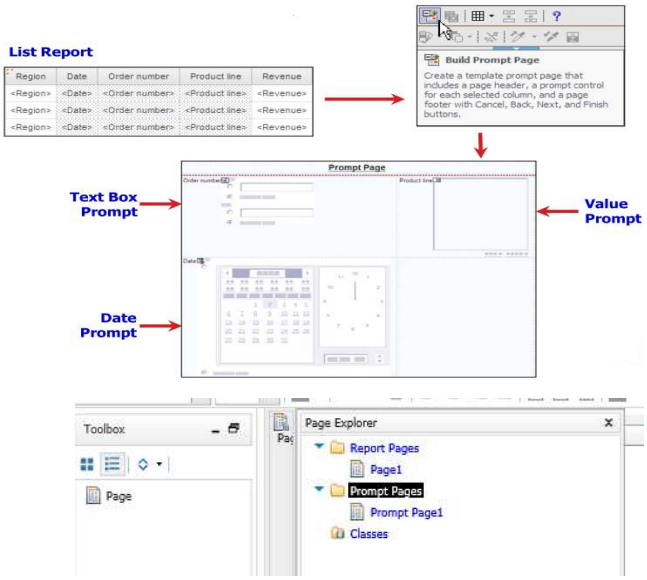


- Report studio generate a prompt page for each parameter not associated to an existing prompt page depending on whether the prompt run option is selected or not.
- When you run the report you will be prompted to specify a value for that item.

129

2.Build a Prompt Page

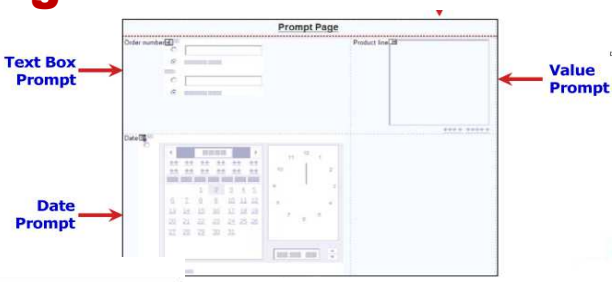
- Prompt page control how prompt appear in the report.
- Two ways to create a Prompt page:
  1. Select one or more items and the click build Prompt Page button
  2. Add a new page to the Prompt pages section in Page Explorer

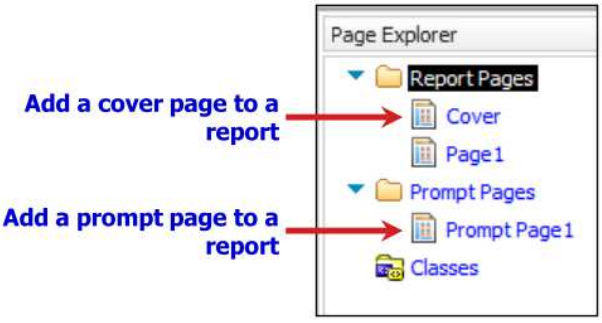


130

2.Build a Prompt Page

- Automatically generate type of prompt:
  - Date item ➔ Calendar prompt
  - Number item ➔ Text Box prompt
  - Value item ➔ Value prompt





131

3.Add a Prompt Item to a Report

- A prompt item can be added directly to a report, using Prompt Wizard dialog box, To:

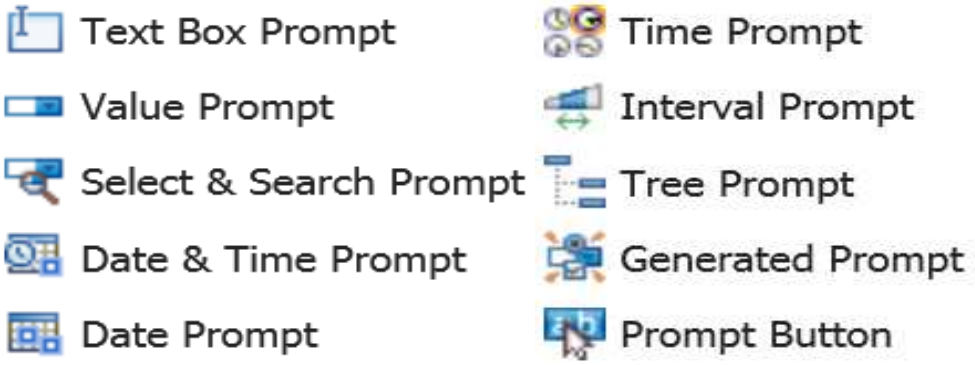
1. Create a parameter
2. Add a filter to the data container with the parameter.
3. Creating query for the prompt.
4. Add the query and the parameter to the prompt

- If you add prompt directly, you will be:
  - –Set the prompt to automatically submit the selection, Or
  - –Add a Finish prompt button to the report

132

Identify Prompt Type

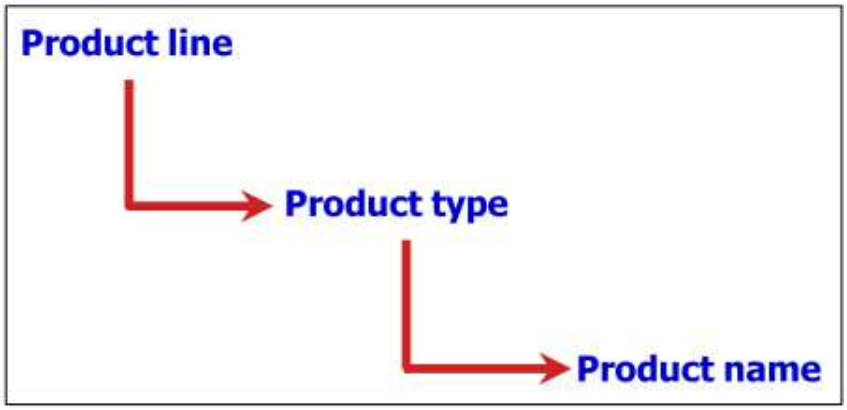
- Choose the appropriate prompt type and style for your reporting requirements.
- If you select items on a report and then create a prompt page, RS choose an appropriate prompt type for you.



133

Cascading Prompt

- Use values from a previous prompt to filter the values in the current prompt or picklist.



134

Summary

- At the end of this module, you should be able to:
  - Identify various prompt type
  - Use parameters and prompts to focus data
  - Search for prompt types
  - Navigate between pages
  - Create a Cascading Prompt

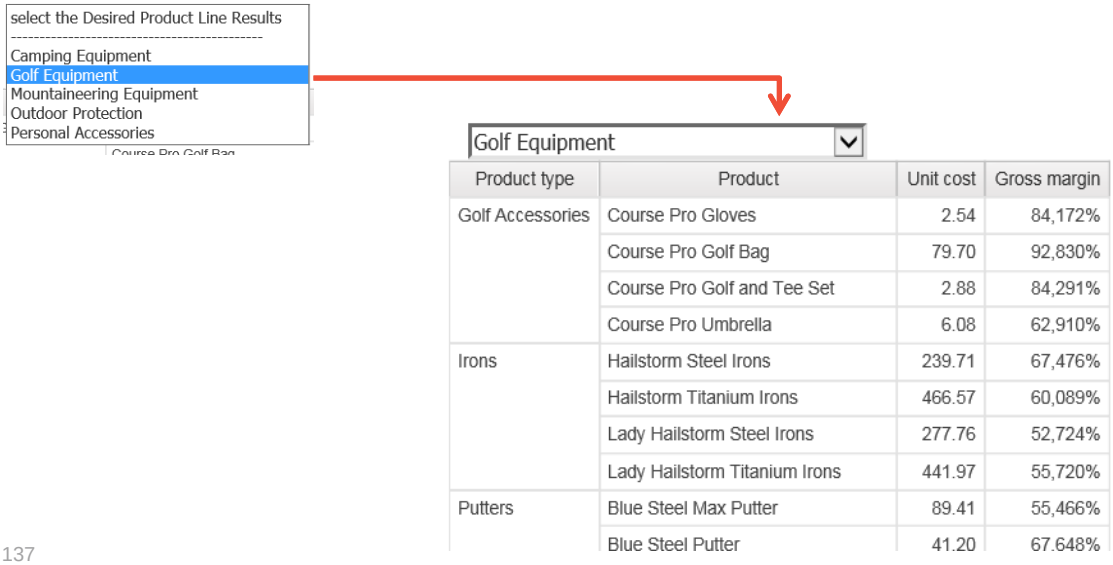
135

Exercise 6.1: Create a Prompt by Adding a parameter

Order number	Date	Product	Revenue
104734	Jan 8, 2013	Blue Steel Max Putter	34,320
104734	Jan 8, 2013	Course Pro Gloves	5,974.5
104734	Jan 8, 2013	Lady Hailstorm Titanium Irons	73,477.59
104735	Jan 8, 2013	Course Pro Putter	38,178.52
104735	Jan 8, 2013	Firefly Multi-light	7,670.06
104735	Jan 8, 2013	Hailstorm Steel Irons	22,773.4
104735	Jan 8, 2013	Hailstorm Steel Woods Set	52,234.8
104735	Jan 8, 2013	Lady Hailstorm Steel Irons	43,525.46

136

Exercise 6.2: Add a value Prompt to a Report

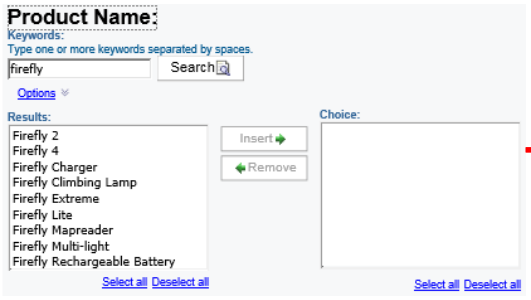


Product type	Product	Unit cost	Gross margin
Golf Accessories	Course Pro Gloves	2.54	84,172%
	Course Pro Golf Bag	79.70	92,830%
	Course Pro Golf and Tee Set	2.88	84,291%
	Course Pro Umbrella	6.08	62,910%
Irons	Hailstorm Steel Irons	239.71	67,476%
	Hailstorm Titanium Irons	466.57	60,089%
	Lady Hailstorm Steel Irons	277.76	52,724%
	Lady Hailstorm Titanium Irons	441.97	55,720%
Putters	Blue Steel Max Putter	89.41	55,466%
	Blue Steel Putter	41.20	67.648%

137

Exercise 6.3: Add Prompt Page to a Report

- Add a Select & Search Prompt to a Report.

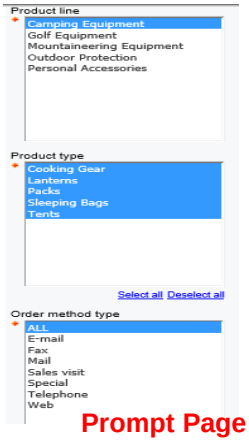


Prompt Page

Report Page

Product line	Product type	Product	Unit cost	Gross margin
Mountaineering Equipment	Climbing Accessories	Firefly Charger	22.36	55,479%
		Firefly Climbing Lamp	21.57	38,336%
		Firefly Rechargeable Battery	3.15	54,869%
Camping Equipment	Lanterns	Firefly 2	16.38	48,909%
		Firefly 4	17.84	44,545%
		Firefly Extreme	29.10	51,590%
		Firefly Lite	6.75	62,846%
		Firefly Mapreader	7.50	62,146%
		Firefly Multi-light	17.78	37,673%

Exercise 6.4: Create a Cascading Prompt



Prompt Page

Cover Page

Report Page

Product type by Product line for all Order methods

Product line	Product type	Order method type	Return quantity
Camping Equipment	Cooking Gear	E-mail	7,589
		Fax	5,980
		Mail	673
		Sales visit	21,404
		Special	827
		Telephone	19,358
		Web	85,900
	Cooking Gear - Total		141,731
	Lanterns	E-mail	1,527
		Fax	1,089
		Mail	335
		Sales visit	7,408
		Special	169
		Telephone	4,902
		Web	50,160

- Update Order method type filter:
  - if (?Order method type?='ALL') then ([Order method type]=[Order method type]) else ([Sales (query)].[Order method].[Order method type] = ?Order method type?)

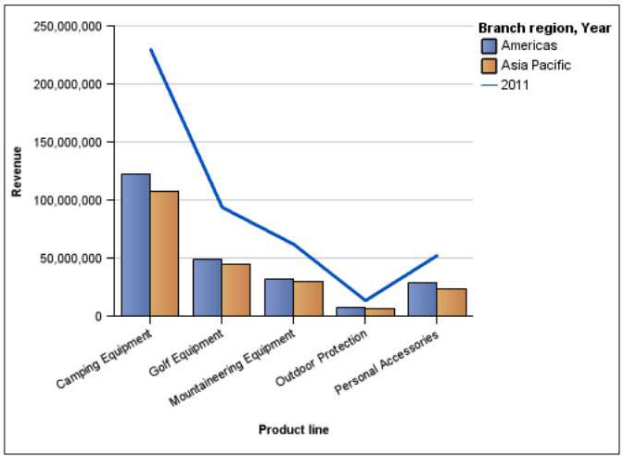
Exercise 6.5: Focus a report using Value Prompts

GO Data warehouse - Revenue Generated

Cover Page

Report Page

Prompt Page



140

3.2 Tds: Report Studio Fundamentals

Exercise 1: Create a simple report

Purpose:
Sales executives would like you to create a report that lists all of the sales representatives and the revenue they have generated to date. The report should include their name, position, city, and country. Sort the report by revenue, in descending order, and display revenue in American dollars.

The result is like:

Country	City	Last name	First name	Position name	Revenue
Switzerland	Genève	Bruno	Fausta	Level 3 Sales Representative	$79,955,838.92
Switzerland	Genève	Giordano	Fiorenza	Level 3 Sales Representative	$72,784,594.30
Switzerland	Genève	Chambers	Warren	Level 3 Sales Representative	$62,843,459.76
Finland	Kuopio	Lindholm	Helena	Level 3 Sales Representative	$59,799,153.93
Korea	Seoul	Kim	Chang-ho	Level 3 Sales Representative	$59,422,592.32
United States	Los Angeles	Laurel	Charles	Level 3 Sales Representative	$59,406,874.73
Switzerland	Genève	Bichot	Lotta	Level 3 Sales Representative	$54,436,904.60
Netherlands	Amsterdam	Jansen-Velasquez	Belinda	Level 3 Sales Representative	$52,822,234.19
Switzerland	Genève	Schulz	Warner	Level 2 Sales Representative	$52,147,739.64
Switzerland	Genève	Benoit	Nathalie	Level 2 Sales Representative	$51,943,906.21
France	Paris	Jauvin	Étienne	Level 2 Sales Representative	$51,130,992.71
China	Shanghai	Meng	Fei	Level 3 Sales Representative	$51,005,700.69
Switzerland	Genève	Didier	Marlene	Level 2 Sales Representative	$50,876,374.10
Switzerland	Genève	Ruiz	Abram	Level 2 Sales Representative	$50,339,838.94

The main tasks for this exercise are as follows:

Task1: open Report Studio and choose a **list report type**.

Task 2: Add items to the list.

- Package: Samples/Models/GO Data Warehouse (analysis).
- On the Source tab, chose: **Sales and Marketing(query)** → **Sales(query)** to add all items to the list report object.
- Country, City, Last name, First name, Employee level, Position name from Employee by region query subject.
- Revenue from Sales fact query subject.

Task 3: View the data items in the query.

- Use the **Explorer bar** and point to **Query Explorer**  **→Query1**

Task 4: remove a column from the report.

- Remove Employee level column.
- What is the difference between Cut and Delete?

Task 5: format and sort the data, and run the report.

- Sorted the date in descending order and formatted the revenue in American dollars.

Task 6: Run Report  .

Results:
You created a list report and added the necessary items from the model as required by the sales executives. You sorted the data in descending order and formatted the revenue in American dollars.

Exercise 2: Create a Report from a DMR Data sources

Purpose:
You want to explore a dimensionally-modeled relational data source and create a report that enables you to drill down to a lower level of detail.

2011	Canada	Star Dome	Quantity
Q1 2011	Canada	Star Dome	621
Q2 2011	Canada	Star Dome	531
Q3 2011	Canada	Star Dome	586
Q4 2011	Canada	Star Dome	865

The main tasks for this exercise are as follows:

Task 1: Explore a DMR in Report Studio

- Package: Samples/Models/GO Data Warehouse (analysis).
- Expand the Sales and Marketing (analysis)→Sales

Task 2: add items to the list report object

- Time dimension →Time hierarchy →Year level→ Members→2011
- Retailers dimension → Retailers hierarchy →Region level→ Members→Americas→Canada
- Products dimension → Products hierarchy → Product line level→ Members→Camping Equipment→ Tents→ Start Dome
- Sales Fact → Quantity measure

Task 3: allow drill-up and drill-down on the report.

- From the Data menu →Drill Behavior select Allow drill-up and drill-down check box

Results:
You have explored a dimensionally-modeled relational data source in Report Studio. You created a report that demonstrated how you can drill down to a lower level of detail in the data source.

Exercise 3: Create a Revenue Report

Create a report showing revenue from each product within each product type for each product line. The report must list the revenue from the greatest to the least. The report should be as follows:

Product line	Product type	Product	Revenue
Camping Equipment	Tents	Star Lite	168,191,550.48
Personal Accessories	Eyewear	Zone	157,369,344.95
Camping Equipment	Tents	Star Gazer 2	147,783,128.88
Golf Equipment	Woods	Hailstorm Titanium Woods Set	117,598,685.56
Personal Accessories	Watches	TX	112,878,735.7
Personal Accessories	Eyewear	Inferno	104,705,055.75
Camping Equipment	Packs	Canyon Mule Journey Backpack	99,216,132.92

Exercise 1: Enhance a List report

Purpose:
Executives would like you to create and format a report to highlight and sort the product lines based on the revenue that they generated. They would also like you to highlight the retailer type and sort revenue descending by quantity sold.

The report should be like:

Product type	Product	Retailer type	Quantity	Revenue
Revenue by Retailer Type				
Attention: Sales Managers				
Outdoor Protection				
First Aid	Aloe Relief	Department Store	51,891	$234,186.66
		Direct Marketing	37,792	$196,850.32
		Sports Store	33,795	$155,701.31
		Outdoors Shop	25,132	$127,549.56
		Warehouse Store	7,359	$38,278.37
		Golf Shop	2,535	$13,258.05
		Equipment Rental Store	1,043	$3,932.96
Aloe Relief - Total				$769,757.23

The main tasks for this exercise are as follows:

Task1: create the list and set options:

- Package: Samples/Models/GO Data Warehouse (query)
- Folder: Sales and Marketing (query)
- Namespace: Sales (query)
- Table: Products, Retailer type and Sales fact

Product type Sales and Revenue by Product

Product line	Product type	Product	Retailer type	Quantity	Revenue
Camping Equipment	Cooking Gear	TrailChef Canteen	Department Store	211,339	2,426,658.9
			Direct Marketing	38,688	468,360.18
			Equipment Rental Store	6,641	72,910.87
			Outdoors Shop	222,831	2,682,916.23
			Sports Store	362,970	4,170,027.41
			Warehouse Store	123,254	1,512,645.06
	Cooking Gear	TrailChef Cook Set	Department Store	229,456	11,509,856.38
			Direct Marketing	72	0

Task2: Group, span and report title:

- The results appear as follow:

Task 3: Add a list page header, overall header and a group header.

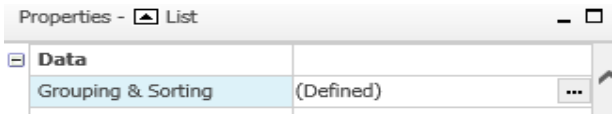
Task 4: Format and sort a Revenue column

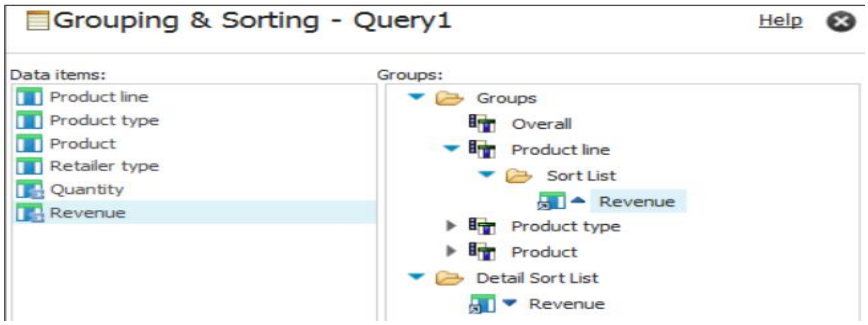
- Sort property: Descending
- Select Revenue List Column body, in the properties pane→ Data Format
  - Format type: Currency
  - Properties Currency: $(USD) United States of America, dollar

Task 5: Format the List Column and List Column Body.

Task 6: Sort the Product line column by the Revenue generated.

- Select entire List Report, in the properties pane→Date→Grouping & sorting click in the eclipse é





Task 7: Run Report.

Results:
You have created a list report that grouped Product line, Product type, and Product name. You highlighted retailer type; and you have sorted revenue in descending order according to the quantity sold.

Exercise 2: Explore Data Aggregation

Purpose:
You have been asked by management to create a report that compares how different order methods are performing for each product line. This report should display the revenue that individual order methods generate for each product line and the average revenue all order methods generate for each product line. You will create this report and examine the underlying query model at various stages.

The main tasks for this exercise are as follows:

Task 1: create a basic report and examine the query model.

- use Products, Order method and Sales fact table.

Task 2: View individual records rather than data grouped and summarized at the lowest level of detail.

- Set the Auto Group & Summarize property to No.

Task 3: Group query items, add aggregate data and observe the results in the query.

- Use Average function of Summarize value of Revenue

Product line	Order method type	Revenue
Camping Equipment	E-mail	75,899,094.63
	Fax	23,054,398.48
	Mail	21,348,644.09
	Sales visit	168,611,961.87
	Special	12,388,989.44
	Telephone	153,894,892.13
	Web	1,133,838,683.39
Camping Equipment - Average		227,005,237.718571
Golf Equipment	E-mail	47,933,933.16
	Fax	15,241,303.27
	Mail	12,693,287.48

Results:
You created a list report displaying revenue generated by each order method for each product line and the average revenue all order methods generate for each product line. You also specified that the query should display individual data records instead of grouped and summarized data, and you then compared the results.

Exercise 3: Create Multi-Fact Query in a List

Year	Revenue	Sales target
2010	914,352,803.72	812,885,300
2011	1,159,195,590.16	1,036,923,300
2012	1,495,891,100.9	1,332,553,100
2013	1,117,336,274.07	1,023,006,840

Purpose:
You have been asked to create a report showing sales revenue and target revenue for each year. You will need to use conformed query items in the report to ensure the results are accurate and consistent with expected results.

Table: Sales target (query)→ Sales target fact	Table: Sales target (query)→ Sales target fact

items:

- Sales (query)→ Sales fact→Revenue
- Sales (query)→ Time (clos date)→Year (clos date)
- Sales target (query)→ Sales target fact→Sales target
- Sales target (query)→ Time →Year

Results:
You created a report showing sales revenue and target revenue for each year. You used a conformed dimension in the report to ensure the results were accurate and consistent with expected results.

Exercise 3: Create a Mailing List Report

Australia
2315 Queen's Ave
Level 2
Melbourne
VIC
2088
Australia

Austria
Jedleser Straße 7
Wien
A-1210
Austria

Belgium
Interleuvenlaan 2
Heverlee
B-3001
Belgium

Brazil
Avenida Paulista, 333
CJ 231 2o. Andar
São Paulo
SP
01403-090
Brazil

Canada
7800, 756 - 6th Avenue. S.W.
Calgary
Alberta
T2P 3Z0
Canada

Canada
789 Yonge Street
Toronto
Ontario
M2M 4K8
Canada

Purpose:
You will create a mailing list for all of your sales offices. The addresses must be listed alphabetically by county with the country name appearing at the top. For easy readability, each page must contain no more than three addresses across and four down.

Task 1:Create a repeater table

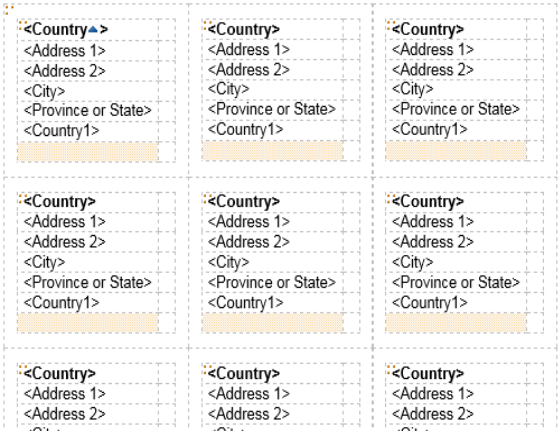
Task 2: Add table to repeater table

- table with 3 Columns and 4 Rows

Task 3: Add items to the table

- Country, Address 1, Address 2, City, Province or State, Postal zone from Employee by region data source query.

Task 4: List countries in alphabetical Ascending order and apply a style to the headers.



Exercise 4: Create and Format a List Report

You have been asked to create a list report where users can review the gross profit generated by retailer type for each region. The report should be as follows:

Gross Profit by Retailer Type and Region

Retailer type	Region	Gross profit
Department Store	Americas	111,543,822.41
	Asia Pacific	98,425,260.8
	Central Europe	77,587,318.45
	Northern Europe	39,559,098.97
	Southern Europe	36,177,713.46
Department Store - Total		363,293,214.09
Direct Marketing	Asia Pacific	10,763,419
	Central Europe	7,054,511
	Americas	6,419,647.17
	Northern Europe	3,932,561.37
	Southern Europe	2,270,788.95
Direct Marketing - Total		30,440,927.49

- Items: Retailer type→Retailer type, Retailer → Region and Sales fact → Gross profit
- Sort Gross profit as descending
- Aggregate Gross profit by Total

Exercise 1: Apply Filters to a report

Purpose:
The Vice President of Sales has requested a report that shows sales performance in each country for 2012. He wants to see the performance for representatives in Southern Europe so he can present an award to the top seller when he visits next month.

City	First name	Last name	Position name	Revenue
Austria				
Wien	Sabine	Grüner	Level 3 Sales Representative	12,193,198.67
	Jutta	Shulz	Level 2 Sales Representative	9,938,792.37
	Thomas	Schirmer	Level 1 Sales Representative	6,216,976.62
Wien - Total				28,348,967.66
Austria - Total				28,348,967.66

Task 1: Cerate the list report

- Use **Employee by region** and **Sales fact** table form **Sales an Marketing (query)→Sales (query)**

Task 2: Add filter to show sales from 2012

- [Sales(query)].[Time].[Year]=2012

Task 3: Filter data to show only Southern European countries.

- The Southern European countries= Austria, Italy and Spain

Exercise 2: Apply a Detail Filter on Fact Data to a Report

Purpose:
You need to make a report displaying the total revenue produced by top performing products. To create this report, you will add several filters and examine how they affect the query.

The report should be like:

Product line	Product type	Revenue
Camping Equipment	Cooking Gear	1,863,445.82
	Packs	52,076,711.17
	Sleeping Bags	21,034,472.39
	Tents	282,028,081.98
Camping Equipment - Total		357,002,711.36
Golf Equipment	Irons	41,032,759.96
	Putters	1,184,967.25
	Woods	87,453,875.01
Golf Equipment - Total		129,671,602.22

The main tasks for this exercise are as follows:

Task1: create the list and set options:

- Package: Samples/Models/GO Data Warehouse (query)
- Folder: Sales and Marketing (query)
- Namespace: Sales (query)
- Table: Products and Sales fact

Task2: Group and Summarize

- Group with Product line column
- Summarize revenue column with Total Function
- Run Report, a section of the results appears as behind.
- On the Explorer bar, point Query Explorer and then click Query1
    - In the Properties pane change the value to Auto Group & Summarize to NO
    - Run Report, what you notice?

Product line	Product type	Revenue
Camping Equipment	Cooking Gear	272,835,984.18
	Lanterns	126,925,660.64
	Packs	351,880,402.84
	Sleeping Bags	309,172,888.35
	Tents	528,221,728.02
Camping Equipment - Total		**1,589,036,664.03**
Golf Equipment	Golf Accessories	51,514,343.88
	Irons	254,814,337.99
	Putters	106,184,271.37
	Woods	313,898,414.65
Golf Equipment - Total		**726,411,367.89**

Task 3: Set the query group and summarize data

You want to see only one row for sales of each product type, so you will set the Auto Group & Summarize property for the query to YES.

Task 4: Apply a detail filter after auto aggregation and observe the effects.

You want to display only product type for which the total revenue for all sales is greater than ten million dollars.

Task 5: Apply a Summary Filter to a report

You have asked to modify a report that focuses on product line that have generated revenues greater then $1billion.

- Total(Revenue)>1000000000 and
- Scope= Product line

Exercise 3:

Create a report Focused on top performing Product line and Product type.

The report must show the product types that generated revenue greater than $100 million and product lines that generated revenue greater than $400 million.

Product line	Product type	Revenue
Camping Equipment	Cooking Gear	272,835,984.18
	Lanterns	126,925,660.64
	Packs	351,880,402.84
	Sleeping Bags	309,172,888.35
	Tents	528,221,728.02
Camping Equipment - Total		1,589,036,664.03
Golf Equipment	Irons	254,814,337.99
	Putters	106,184,271.37
	Woods	313,898,414.65
Golf Equipment - Total		674,897,024.01
Personal Accessories	Binoculars	130,834,653.2
	Eyewear	867,125,198.48
	Knives	153,420,439.59
	Navigation	207,490,641.92
	Watches	526,802,374.59
Personal Accessories - Total		1,885,673,307.78
Overall - Total		4,149,606,995.82

Exercise 4: sorting, formatting, grouping and filtering (Modules 1-3)

- List countries, genders, and salaries for countries that exceeded 300,000$ in salaries of 2012
- Sort countries by Salary DESC, and their details by Gender DESC
- Show salary as number, in thousands, with one decimal place
    - Use Scale property
- What is the Aggregate Function of Salary?
- Hints
    - Package: GO Data Warehouse (query)
    - Namespace: HR (query) > Employee Summary (query)

Country	Gender	Salary (K$)
Canada	Male	240.5
	Female	287.8
Canada - Total		**528.3**
France	Male	183.8
	Female	157.8
France - Total		**341.7**
Italy	Male	181.2
	Female	154.2
Italy - Total		**335.3**
Netherlands	Male	178.5
	Female	150.5
Netherlands - Total		**328.9**
Switzerland	Male	178.5
	Female	150.5
Switzerland - Total		**328.9**
Germany	Male	157.8
	Female	157.8
Germany - Total		**315.7**
Overall - Total		**2,178.8**

Exercise 1: Create a simple Crosstab Report

Purpose:
You want to create and format a report to show revenue generated by order method for each year. You want to see yearly trends in sales for each order method.

Revenue		Camping Equipment	Golf Equipment	Outdoor Protection	Personal Accessories	Mountaineering Equipment
Telephone	2010	80,467,596.88	44,244,120.93	8,141,169.76	45,940,692.79	
	2011	47,562,256.31	27,340,352.57	3,203,287.7	18,428,095.15	10,626,292.36
	2012	17,715,451.4	6,411,233.64	507,485.63	5,979,547.46	6,586,124.67
	2013	8,149,587.54	734,405.51	76,371.43	3,173,298.96	5,698,410.37
Web	2010	125,829,519.92	49,583,401.41	13,735,716.85	284,622,826.47	
	2011	270,463,415.88	116,939,694.38	16,479,270.8	411,577,877.16	65,855,489.46
	2012	426,353,675.75	203,385,896.61	8,570,078.91	568,668,077.83	132,736,443.67
	2013	311,192,071.84	157,698,057.23	4,166,745.33	427,367,391.98	117,010,256.92

Pivot Crosstab using Swap Rows and Columns 

Exercise 2: Create a complex Crosstab Report

Purpose:
Management needs you to create a crosstab report for users to analyze the revenue generated and the quantity sold for different order methods. You will add data to examine the revenue generated by different order methods in the countries where your products are sold. You will also add order year data to the report and explore the flexibility of layout options using the crosstab drop zones.

The main tasks for this exercise are as follows:

- Examine Revenue and Quantity by each order method for each product line.
- Examine Revenue generated by different order methods varies from country to country.
- Examine data for order methods and years.
- Sort Crosstab items

		2010	2011	2012	2013	E-mail
Camping Equipment	Revenue	332,986,338.06	402,757,573.17	500,382,422.83	352,910,329.97	75,899,094.63
	Quantity	5,895,053	6,903,764	8,399,156	6,103,176	1,413,084
Outdoor Protection	Revenue	36,165,521.07	25,008,574.08	10,349,175.84	4,471,025.26	5,882,477.87
	Quantity	5,614,356	4,111,058	1,599,585	689,446	905,156
Personal Accessories	Revenue	391,647,093.61	456,323,355.9	594,009,408.42	443,693,449.85	42,651,086.54
	Quantity	7,572,339	8,567,357	10,706,015	8,061,994	791,905
Mountaineering Equipment	Revenue		107,099,659.94	161,039,823.26	141,520,649.7	7,476,451.96
	Quantity		2,644,713	3,700,262	3,555,116	199,214
Golf Equipment	Revenue	153,553,850.98	168,006,427.07	230,110,270.55	174,740,819.29	47,933,933.16
	Quantity	1,092,982	1,297,793	1,536,772	1,186,154	333,300
Australia	Revenue		19,270,852.15	38,968,802.62	29,323,674.25	600,979.72
Austria	Revenue	13,866,004.52	19,343,686.48	28,348,967.66	21,981,766.43	
Belgium	Revenue		21,554,248.84	27,345,821.17	19,822,994.69	
Brazil	Revenue	17,566,891.21	22,580,246.05	28,939,868.92	21,447,899.23	330,436.43

Exercise 3: Sort and Format Crosstab Report

Purpose:
Sales Managers want you to create a crosstab report with data in which users can easily understand the sort order and can distinguish between data based on appearance. The report should show revenue for each year of operation for each Product type within each Product line. In the same crosstab, you want to display Revenue for each Branch Region.

- Report Items: Product Line, Product type, Branch region and Year
- Show Total from all years and Total from each product line.
- Sort Product line and Year by Ascending
- Sort Branch region by descending value from Revenue
- Format Report as follows

Revenue		2010	2011	2012	2013	Total
Personal Accessories	Binoculars	29,246,444.08	30,310,573.76	39,974,426.94	31,303,208.42	**130,834,653.2**
	Eyewear	154,310,479.02	208,648,605.39	282,226,165.14	221,939,948.93	**867,125,198.48**
	Knives	36,374,634.09	33,164,183.25	47,704,144.36	36,177,477.89	**153,420,439.59**
	Navigation	51,598,510.99	43,724,569.8	62,330,073.61	49,837,487.52	**207,490,641.92**
	Watches	120,117,025.43	140,475,423.7	161,774,598.37	104,435,327.09	**526,802,374.59**
	Personal Accessories	**391,647,093.61**	**456,323,355.9**	**594,009,408.42**	**443,693,449.85**	**1,885,673,307.78**
Central Europe		428,821,196.74	539,235,928.65	675,574,387.12	499,863,272.05	**2,143,494,784.56**
Americas		192,230,456.3	239,213,647.85	312,037,992.91	233,605,783.74	**977,087,880.8**
Asia Pacific		166,746,977.65	212,250,513.92	275,691,959.9	204,564,826.67	**859,254,278.14**
Northern Europe		70,230,147.41	90,215,646.65	117,148,067.64	91,945,289.26	**369,539,150.96**
Southern Europe		56,324,025.62	78,279,853.09	115,438,693.33	87,357,102.35	**337,399,674.39**

Exercise 4: Unrelated Items in a Discontinuous Crosstab

Create a report showing revenue and quantity for each product line, year and quarter by sales region.

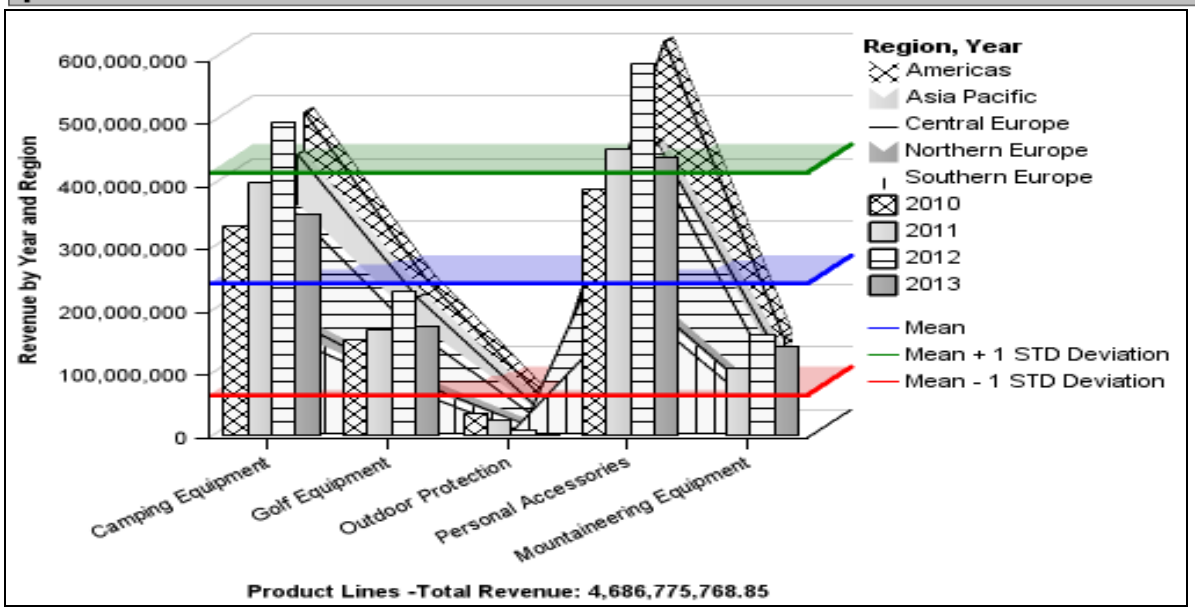
- Rows: Product line, Year and Quarter
- Columns: Branch region, Revenue and quantity
- Format columns colors
    - Revenue column by red and Quantity column by blue

The results appear as follows:

		Americas		Asia Pacific		Central Europe		Northern Europe		Southern Europe	
		Revenue	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity
Camping Equipment		481,445,781.04	8,101,682	421,639,391.62	7,366,131	343,645,848.36	5,904,428	180,851,396.88	3,046,563	161,454,246.13	2,882,345
Golf Equipment		217,262,995.22	1,544,411	193,677,873.68	1,338,406	153,632,833.39	1,071,235	84,424,300.9	592,168	77,413,364.7	567,481
Outdoor Protection		23,002,647.68	3,619,457	19,716,018.32	3,114,960	17,488,870.77	2,800,923	8,346,431.17	1,310,804	7,440,328.31	1,168,301
Personal Accessories		132,249,058.98	2,730,299	116,715,219.51	2,397,747	1,540,675,699.15	27,771,811	49,825,913.97	1,050,963	46,207,416.17	956,885
Mountaineering Equipment		123,127,397.88	2,948,533	107,505,775.01	2,571,299	88,051,532.89	2,146,207	46,091,108.04	1,131,215	44,884,319.08	1,102,837
2010	Q1	47,381,351.43	1,117,915	41,548,840.6	970,249	101,800,331.59	2,066,747	17,178,637.94	394,586	13,795,543.75	327,561
	Q2	46,446,442.22	1,161,957	39,682,191.16	989,504	105,169,148.29	2,189,147	17,117,291.4	419,849	13,728,311.5	345,261
	Q3	50,130,435.79	1,163,992	43,885,141.25	1,010,004	109,583,098.88	2,203,282	17,861,264.35	401,471	14,290,375.98	331,566
	Q4	48,272,226.86	1,127,027	41,630,804.64	966,587	112,268,617.98	2,236,310	18,072,953.72	411,419	14,509,794.39	340,296
2011	Q1	61,679,289.83	1,369,148	56,312,126.53	1,268,246	134,130,313.2	2,677,977	21,984,786.32	489,797	19,121,944.65	453,259
	Q2	56,910,812.55	1,181,071	49,277,462.06	1,029,775	129,735,386.05	2,481,726	22,669,178.67	462,374	19,587,920.63	424,697
	Q3	57,195,724.98	1,159,624	49,206,966.1	998,645	132,664,137.27	2,539,454	22,481,473.56	447,998	19,531,365.04	411,132
	Q4	63,427,820.49	1,312,751	57,453,959.23	1,194,136	142,706,092.13	2,722,561	23,080,208.1	471,016	20,038,622.77	429,298
2012	Q1	72,919,470.22	1,269,166	61,699,029.76	1,101,646	151,653,156.66	2,677,762	29,214,791.98	516,210	28,637,818.45	530,003

Exercise 1: Apply Palettes & Add Baselines

Purpose:
You will create a combination chart displaying yearly revenue generated by different regions, product lines. You want users to easily distinguish between regional data and yearly data. Because this report will be printed in black and white, you will create a custom palette for the chart and then reuse it for the second series chart. You will add baselines for this chart to display the mean, and plus or minus one standard deviation.

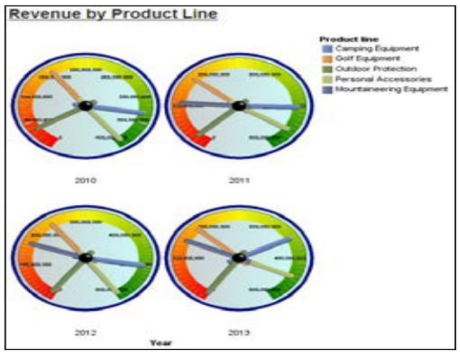


The main tasks for this exercise are as follows:

- Create the combination chart: use Stacked Bar and Stacked Area.
  - **Series Type**=Clustered
  - **Sort Region and year**=Ascending
- **Palette**
  - Borders
  - Background
  - Foreground
  - Format Title
    - Use Query Calculation (from Toolbox) in the horizontal axis title.
  - Pattern
    (useful for printing in B&W)
  - Reuse the custom palette
- **Add Baseline to the charts**

Exercise 2: Gauge Chart with Beveled Border

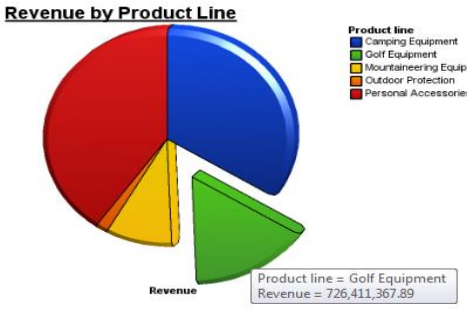
Purpose: create a chart for users to quickly compare how different product lines are selling. A gauge chart is a good way to show comparisons between multiple variables.



- Gauge chart present revenue by product line and year
- Format gauge chart as follows
  - Title: Revenue by Product Line
  - Gauge border color=navy
- Modify the axis labels and gauge properties.
- Modify the arc colors (red, yellow and Green)

Exercise 3: Pie with 3-D Effects and Rounded Bevel

Purpose: create a chart for users to see different products lines data represented proportionally. A Pie chart will show the data proportionally.

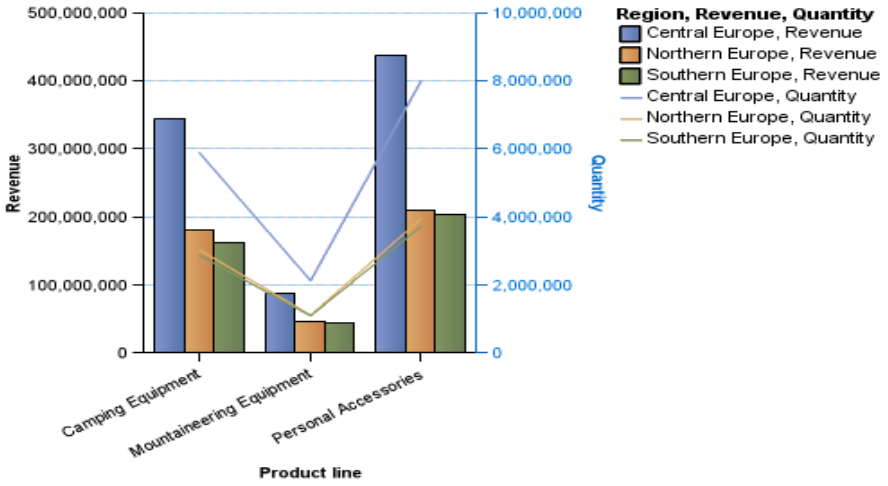


- Chart Pie with 3D Effects & Rounded Bevel
- Pie Chart present revenue by Product line
- Slice Golf Equipment Product line.
- Format Pie chart as follows
- Title
- Show border
- Use dynamic Palette

Exercise 4: Show the same Data graphically and numerically

Purpose:
You want to create a report that shows revenue and quantity by Product line and Region. You want the report to focus on Camping Equipment, Mountaineering Equipment, and Personal Accessories sales for the three European sales regions. You will build a crosstab report and add a combination chart that reports on the same information. You will add a microchart to the crosstab for a quick overview of specified regions and product lines.

- **Use** a Crosstab & Combination Chart (Clustered Bar & Clustered Line) to report the same information
  - Use same query
- **Show** Revenue and Quantity by Product line and Region.
  - General > Combinations >Secondary Axis > Line
  - Move (Region > Quantity) to secondary access
- **Focus** on Camping Equipment, Mountaineering Equipment, and Personal Accessories sales for the three European sales regions (all Europe).
- Add a **Microchart** to the crosstab for a quick overview of product lines revenue for all European regions.
  - Region > Insert Chart for Row Data
  - Default Measure (y-axis): Revenue
  - Delete Quantity
- Final output appear as follows

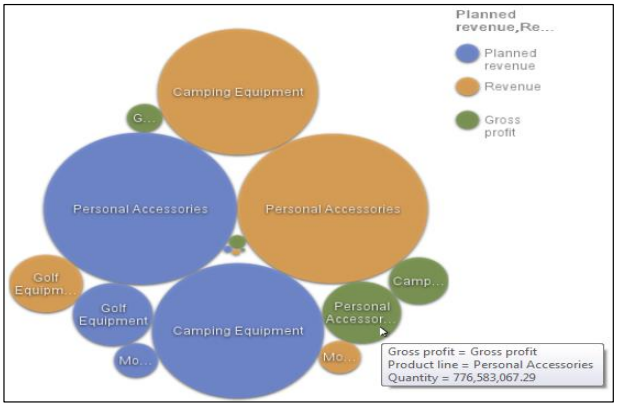


	Camping Equipment		Mountaineering Equipment		Personal Accessories	
	Revenue	Quantity	Revenue	Quantity	Revenue	Quantity
Central Europe	343,645,848.36	5,904,428	88,051,532.89	2,146,207	437,336,485.23	8,016,774
Northern Europe	180,851,396.88	3,046,563	46,091,108.04	1,131,215	210,608,208.82	3,954,449
Southern Europe	161,454,246.13	2,882,345	44,884,319.08	1,102,837	204,231,710	3,739,270

Exercise 5: Display Visualizations

Purpose:
You have been asked to create a report that compares multiple key performance indicators for all product lines. Users need to be able to quickly identify product line performance. You will use a visualization that was made available in the portal Library to accomplish this task.

- Add a Visualization > Bubble > Packed bubble
- Populate the packed bubble visualization.
  - Value size: Quantity
  - Categories Series: Planned revenue, Revenue and Gross profit
  - Categories Bubbles: Product line

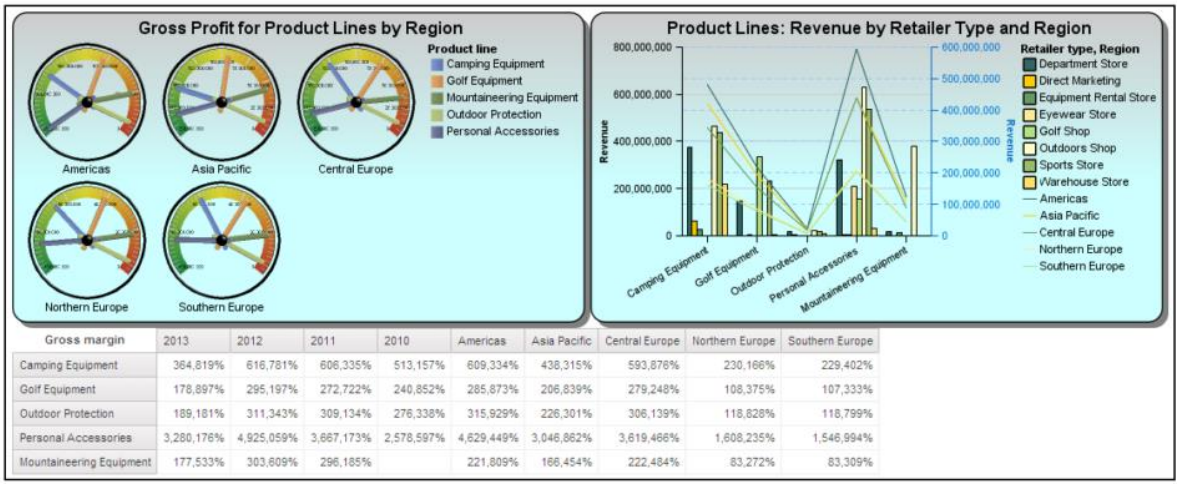


Exercise 6: Create Dashboard Report

Purpose: Create an interactive report that lets users examine a variety of important sales data in one view. To do this, you will create a dashboard report that contains:

- A gauge chart that compares the gross profit of each product line by region,
- A combination chart that shows revenue earned by each product line by retailer type and region on separate axis
- And finally, a crosstab report that shows the gross margin of each product line by year and region.

The output report should be appearing as follows:



Gross margin	2013	2012	2011	2010	Americas	Asia Pacific	Central Europe	Northern Europe	Southern Europe
Camping Equipment	364,619%	616,781%	606,335%	513,157%	609,334%	438,315%	593,876%	230,166%	229,402%
Golf Equipment	178,897%	295,197%	272,722%	240,852%	285,873%	206,839%	279,248%	108,375%	107,333%
Outdoor Protection	189,181%	311,343%	309,134%	276,338%	315,929%	226,301%	306,139%	118,828%	118,799%
Personal Accessories	3,280,176%	4,925,059%	3,667,173%	2,578,597%	4,629,449%	3,046,862%	3,619,466%	1,608,235%	1,546,994%
Mountaineering Equipment	177,533%	303,609%	296,185%		221,809%	166,454%	222,484%	83,272%	83,309%

Exercise 1: Create a Prompt by Adding a parameter

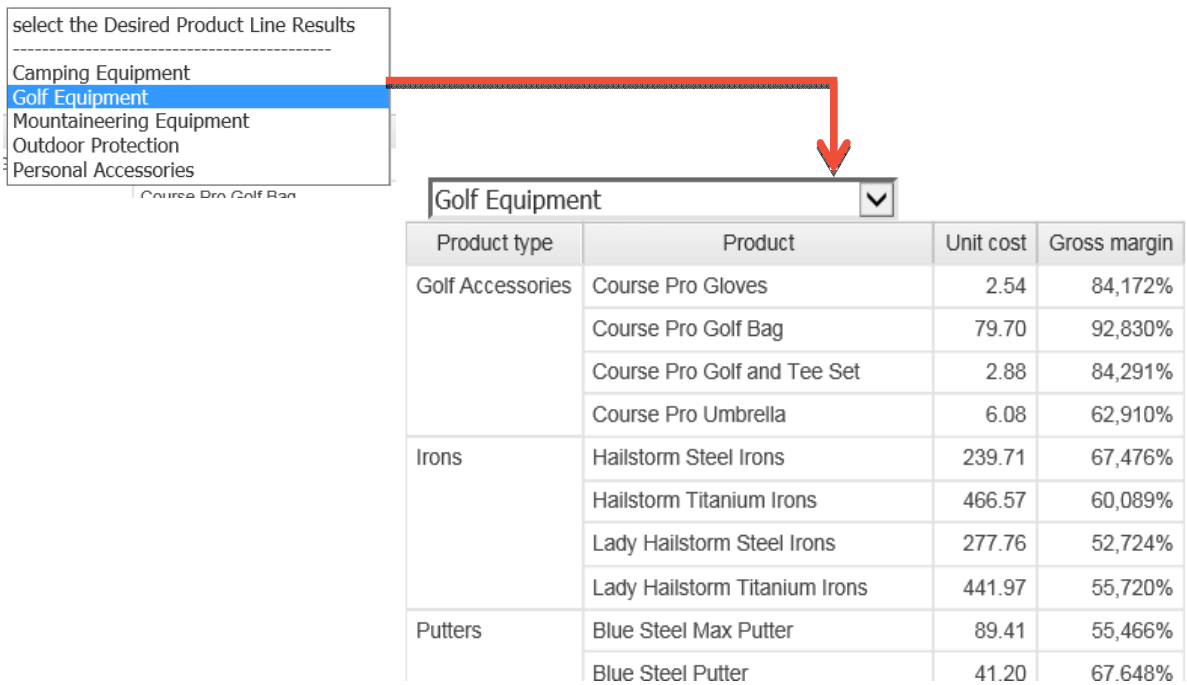
Purpose:
You have been asked to provide a report showing product sales by date to determine the revenue generated by each individual order. Because the report contains detailed information, you want to be able to filter the report to show only orders made after a specified date. You will create a parameter to prompt a user for a date and the report will return all dates greater than the one specified.

Order number	Date	Product	Revenue
104734	Jan 8, 2013	Blue Steel Max Putter	34,320
104734	Jan 8, 2013	Course Pro Gloves	5,974.5
104734	Jan 8, 2013	Lady Hailstorm Titanium Irons	73,477.59
104735	Jan 8, 2013	Course Pro Putter	38,178.52
104735	Jan 8, 2013	Firefly Multi-light	7,670.06
104735	Jan 8, 2013	Hailstorm Steel Irons	22,773.4
104735	Jan 8, 2013	Hailstorm Steel Woods Set	52,234.8
104735	Jan 8, 2013	Lady Hailstorm Steel Irons	43,525.46

Create a report by aadding a parameter for an item on the report.

Exercise 2: Create a Prompt by Adding a parameter

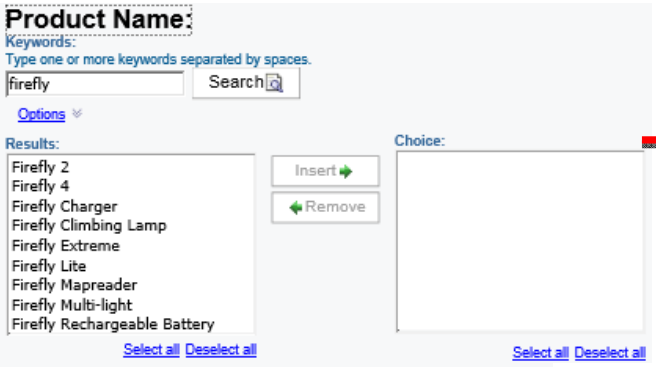
Purpose:
You will create a report to help reduce production costs. Because you have many products, you will add a prompt so that users can view products within a specified product line without closing and running the report.



Product type	Product	Unit cost	Gross margin
Golf Accessories	Course Pro Gloves	2.54	84,172%
	Course Pro Golf Bag	79.70	92,830%
	Course Pro Golf and Tee Set	2.88	84,291%
	Course Pro Umbrella	6.08	62,910%
Irons	Hailstorm Steel Irons	239.71	67,476%
	Hailstorm Titanium Irons	466.57	60,089%
	Lady Hailstorm Steel Irons	277.76	52,724%
	Lady Hailstorm Titanium Irons	441.97	55,720%
Putters	Blue Steel Max Putter	89.41	55,466%
	Blue Steel Putter	41.20	67.648%

Exercise 3: Add a Select & Search Prompt to a Report

Purpose:
You want to change your current report to allow users to select multiple products to show in the report. To do this you must delete the current value prompt and replace it with the Select & Search prompt.



Prompt Page

Report Page

Product line	Product type	Product	Unit cost	Gross margin
Mountaineering Equipment	Climbing Accessories	Firefly Charger	22.36	55,479%
		Firefly Climbing Lamp	21.57	38,336%
		Firefly Rechargeable Battery	3.15	54,869%
Camping Equipment	Lanterns	Firefly 2	16.38	48,909%
		Firefly 4	17.84	44,545%
		Firefly Extreme	29.10	51,590%
		Firefly Lite	6.75	62,846%
		Firefly Mapreader	7.50	62,146%
		Firefly Multi-light	17.78	37,673%

You removed the existing value prompt and filter and updated the existing report (Exercise 2) with a Select & Search prompt.

This allowed users to search for and select from, a list of product names based on keyword options.

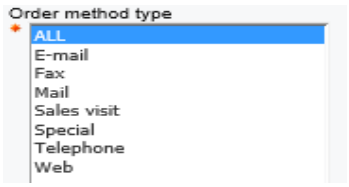
Exercise 4: Create a Cascading Prompt

Purpose:
Executives need a report that lets them analyze product returns. They want a report that enables them to focus on specific product lines and product types within those product lines for all order methods. This report will be delivered to the shareholders during their monthly meeting, so the executives would like a cover page to add a more official look.

Hints table: Sales (query)→Product, Sales (query)→Order Method and Returned items (query)→Returned items fact

Product type and product line are cascading prompt.

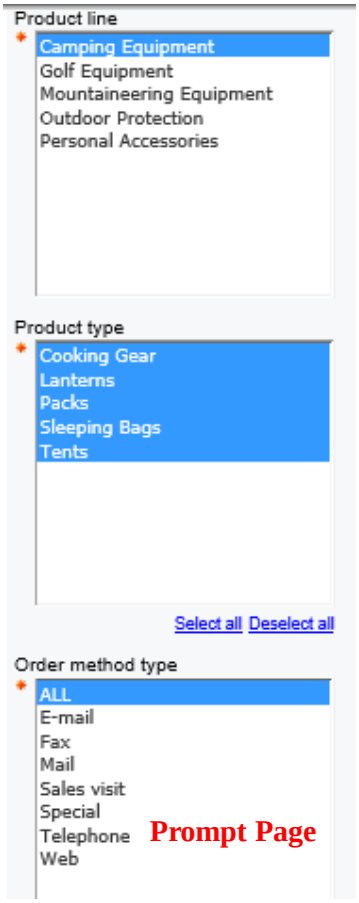
From Order method prompt, in the head of the choice list add a static value óALLô to select all order method type.

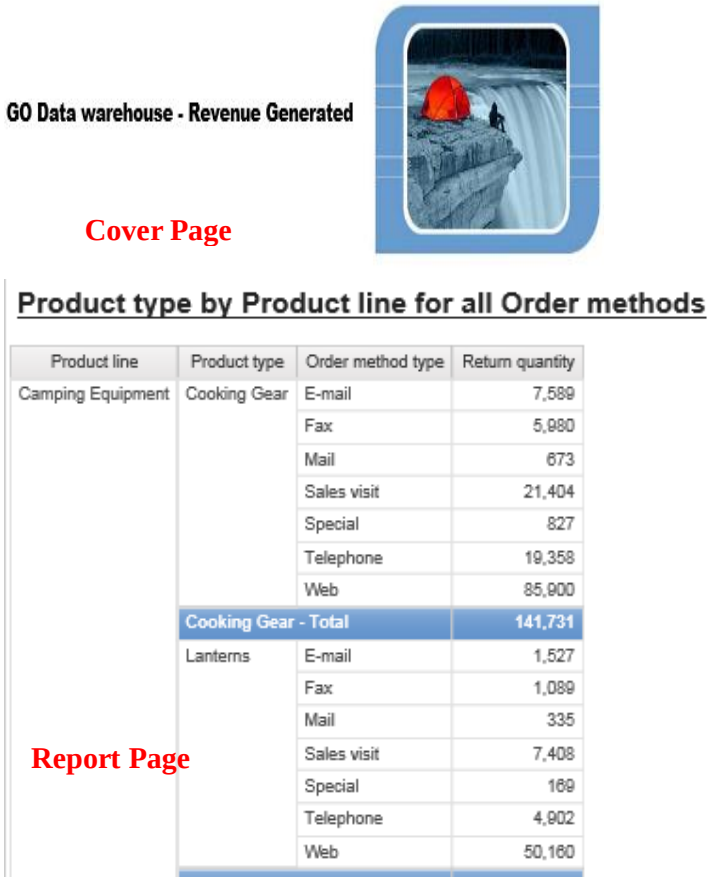


- You can select either ***one*** or ***all*** order methods type.
- Update Order method type filter.

Add a Cover page, using Cover1.jpg.

The out put report apear as follows.





Product line	Product type	Order method type	Return quantity
Camping Equipment	Cooking Gear	E-mail	7,589
		Fax	5,980
		Mail	673
		Sales visit	21,404
		Special	827
		Telephone	19,358
		Web	85,900
	Cooking Gear - Total		141,731
	Lanterns	E-mail	1,527
		Fax	1,089
		Mail	335
		Sales visit	7,408
		Special	169
		Telephone	4,902
		Web	50,160

Exercise 5: Focus a Report using Value Prompts

CHAPTER 4

B5A58: IBM COGNOS STUDIO

1. Extend Reports Using Calculations
2. Use Additional Report Building Techniques
3. Customize Reports with Conditional Formatting
4. Drill-Through From One Report to Another
5. Drill-Through Definitions
6. Enhance Report Layout

4.1 Cours: IBM Cognos Studio

IBM Cognos Studion (V10.2.2)

B5A58_V2

TOC

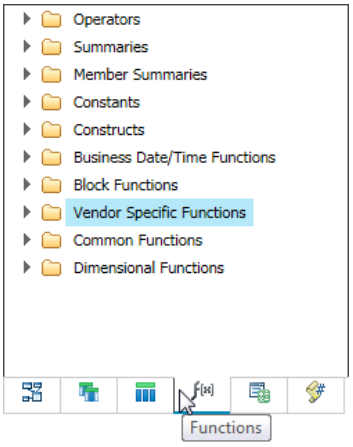
Table of Contents - B5A58_V2

7
Extend Reports Using Calculations

TOC

Objectives

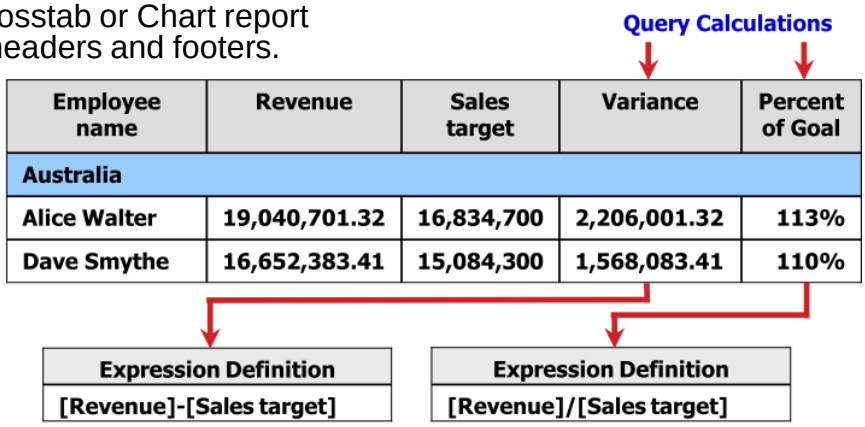
- Create calculations based on data in the data source
  - Query Calculation
- Add run-time information to the reports
  - Layout Calculation
- Create expressions using functions
- QoS indicators



144

Derive Additional Information from the Data Source

- Create a calculated columns based on existing items using query calculations.
- Calculation can be added to a:
  - List, Crosstab or Chart report
  - Body, headers and footers.

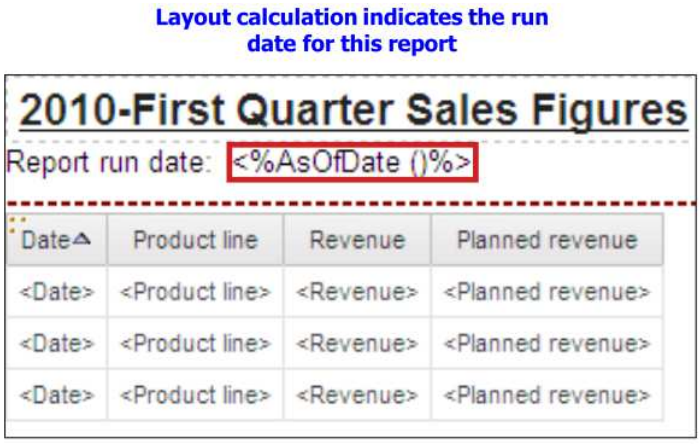


145

Add Run-time Information to your Report

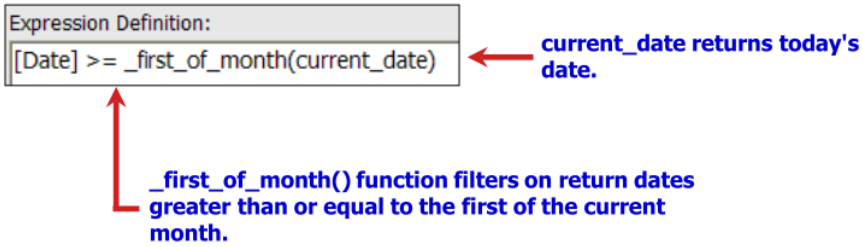
- Layout calculations can include run-time information such as: current date, current time, user name…

- To build the expression use the:
  - Source tab
  - Data Items tab
  - Parameters tab
  - Functions tab



146

Add Date/Time Functions to your Report



If current_date is May 17,2016, then the filter would return data for all dates starting at and greater than May 1, 2016

- Date/Time functions can be found under the:
  - –***Business Date/Time*** Functions folder
  - –***Common*** Functions folder or
  - –***Vendor Specific*** Functions folder

147

Add String Functions to your Report

- Use string functions in calculations and filters in your report to manipulate text data.

trim ([[trailing|leading|both] [chars_to_remove] ,] text)	**Function removes specific characters from beginning or end of a specific text data item** **Returns text trimmed of leading or trailing blanks or trimmed of a certain character specified in "chars_to_remove".** **"Both" is the default for first argument.** **" " is the default for second argument**

- String functions can be found under the:
  - –***Common*** Functions folder or
  - –***Vendor Specific*** Functions folder

148

Some Common Functions – Numeric

Function	Description
cast (expression, datatype)	Converts *expression* to the specified *datatype*
floor (numeric_expression)	Returns the largest integer ≤ *numeric_expression*
mod (integer_expression1, integer_expression2)	Returns the remainder (modulus) of integer_expression1 / integer_expression2

Some Common Functions – Date/Time

Function	Description
AsOfDate()	Returns the current date of the database engine
current_time	Returns the current time of the database engine if it supports this function. Otherwise, the current time of the Cognos BI server
extract (datepart , datetime_expression)	Returns an integer representing the value of *datepart* (year, month, day, hour, minute, second) in *datetime_expression*
_first_of_month (date_expression)	Returns *date_expression* with the day set to 1
Now()	Returns current time of the database engine

Some Common Functions – Text

Function	Description
char_length (string_expression)	Returns number of logical characters in *string_expression*
position (keyword, text)	Returns the integer position of *keyword* in *text*, or 0 if not found
substring (text, start_position, num_of_chars)	Returns the substring of *text* that starts at *start_position* for *num_of_chars* characters. First position in text is 1
trim ([[trailing|leading|both] [chars_to_remove] ,] text)	Function removes specific characters from beginning or end of a specific text data item
upper (string_expression)	Returns *string_expression* in uppercase
lower (string_expression)	Returns *string_expression* in lowercase

Some Common Functions – Summaries

Function	Description
percentage (data_item)	Returns the percentage of total for *data_item*
total (data_item)	Returns the total value for *data_item*
running-count (data_item)	Returns the running count by row, for *data_item*

Product line	Revenue (M)	percentage ([Revenue])	running-count([Product line])
Camping Equipment	1,589	34%	1
Golf Equipment	726	15%	2
Mountaineering Equipment	410	9%	3
Outdoor Protection	76	2%	4
Personal Accessories	1,886	40%	5
Overall - Total	**4,687**	**100%**	**15**

QoS (Quality Of Service) Indicators

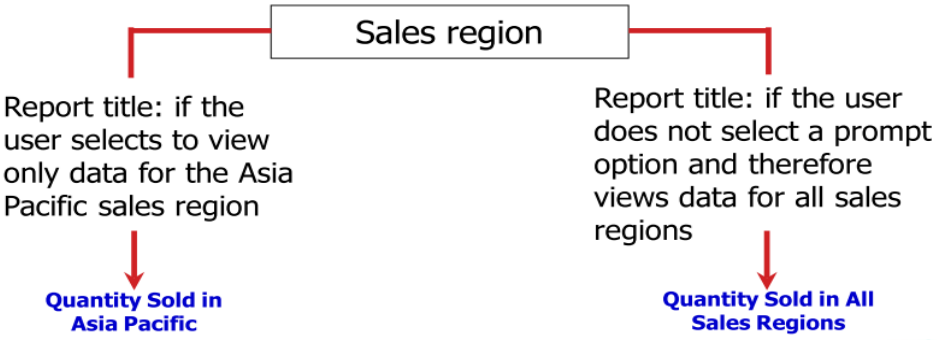
- **Data modeler** can set a Quality Of Service (QoS) indicator (icon beside the function) to indicate behavior of functions
- **Report authors** use QoS indicators to determine which function to use

Symbol	Indicator	Meaning
X	Not available	Not available for any data source in the package
!!	Limited availability	The function is not available for some data sources in the package
!	Poor performance	The function is available for all data sources in the package but may have poor performance in some data sources
(no symbol)	Unconstraint	The function is available for all data sources

153

Display Prompt Selections in Report Titles

- You can display information in the report title that describes the prompt option a user selects.
- Exp. Add a layout calculation to the report title that returns a different value depending on the prompt option a user selects



154

Summary

- At the end of this module, you should be able to:
  - –Create calculations based on data in the data source
  - –Add run-time information to the reports
  - –Create expression using functions
  - –Display Prompt Selections in Report Titles

155

Exercise 7.1: Add calculations to a report

- Add calculations to a report
  - – Layout calculation: run date
  - – Query calculation: Percent of Goal
- Add filter dates. Report return the data of the first quarter of 2010

2010-First Quarter Sales Figures

Report run date: Feb 24, 2016

Date	Product line	Revenue	Planned revenue	Percent of Goal
Jan 12, 2010	Camping Equipment	20,217,372.98	21,714,739.59	93%
Jan 12, 2010	Golf Equipment	9,141,599.89	9,815,894.17	93%
Jan 12, 2010	Outdoor Protection	2,263,380.47	2,393,032.12	95%
Jan 12, 2010	Personal Accessories	7,414,443.06	7,797,859.04	95%
Jan 13, 2010	Camping Equipment	5,000,710.6	5,350,515.31	93%
Jan 13, 2010	Golf Equipment	2,536,524.65	2,723,837.61	93%
Jan 13, 2010	Outdoor Protection	474,025.75	496,960.85	95%

Results:
You created a report to show revenue and planned revenue and the percentage of planned revenue that was achieved for product lines for the first quarter of 2010. You also included the date when the report was run.

156

Exercise 7.2: Display Prompt Selections in Report Title

Quantity Sold in Asia Pacific

Quantity		2010	2011	2012	2013
PERSONAL ACCESSORIES	Binoculars	43,340	45,626	62,144	49,788
	Eyewear	22,252	50,760	79,760	69,607
	Knives	396,185	275,620	388,653	307,093
	Navigation	117,074	84,358	107,223	113,107
	Watches	33,936	46,015	60,211	44,995
	PERSONAL ACCESSORIES	**612,787**	**502,379**	**697,991**	**584,590**
MOUNTAINEERING EQUIPMENT	Climbing Accessories		410,155	526,482	573,585
	Rope		30,530	45,981	38,024
	Safety		85,114	104,518	87,855
	Tools		187,255	245,019	236,781
	MOUNTAINEERING EQUIPMENT		**713,054**	**922,000**	**936,245**

157

Exercise 7.3: Sales percent by sales Rep and Country

- Create a report that shows which product lines each salesperson tends to sell the most of.
- Sales manager would like to be able to filter the data by specified year and country or countries.

158

8
Use Additional Report Building Techniques

TOC

Objectives

- Enhance report design with report objects
- Reuse objects within the same report
- Share layout components among separate reports
- Discuss report templates
- Choose options to handle reports with no available data

160

Enhance Report Design

- Each reports have:
  - –Horizontal bands
    - You can use a block to hold the objects
  - –Vertical bands
    - You can use a table to organize the objects
  - –Data frame objects (lists, crosstabs, charts, etc.)
- Use Padding, Margin

Padding on bottom of block

Gross Profit per Product
For more information, please contact…

bottom margin

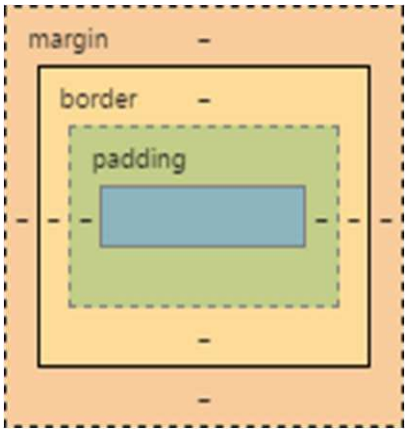
Gross Profit per Product
For more information, please contact…

161

Enhance report design with report objects

- Set properties at highest level (*property inheritance*)
- Avoid fixed-size objects
- Use headers and footers to repeat on each page
- Use Padding, Margin, and Blocks for spacing
  - –If objects have border, use margins to make the objects look spaced apart
  - –An empty block does not add space between objects➔ you must specify the padding
- Sections (vs. headers)

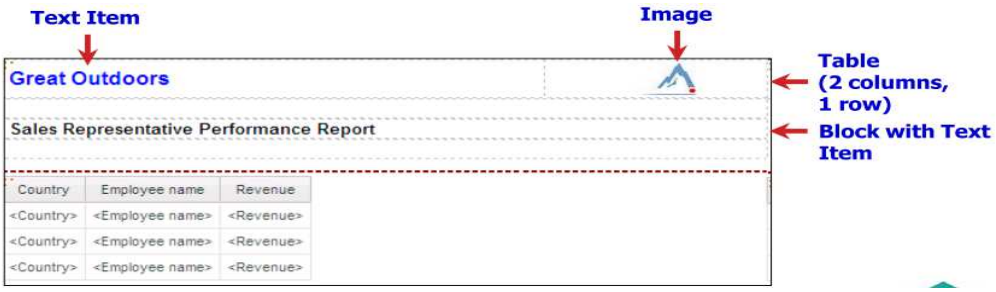
Box Model



162

Add Objects

- Add, format and organize objects to enhance the appearance of reports.
- You can format items and objects to change:
  - Size, Shape, Location and behavior
- You can add background image to a:
  - Data frame object (list, crosstab, …),
  - Cell in a table or
  - Entire page



163

Organize objects Using Tables

- Add a table to a page to hold and organize objects such as titles, list, images and charts

164

Break a Report into Sections

- Create sections to show grouped information in separate report objects
- Use List & Header & Footers menu to remove section headers or footers

Data Sectioned by Country

Australia

Product line	Year	Revenue
Camping Equipment	2013	$13,007,383.98
Personal Accessories	2011	$2,131,381.68

Austria

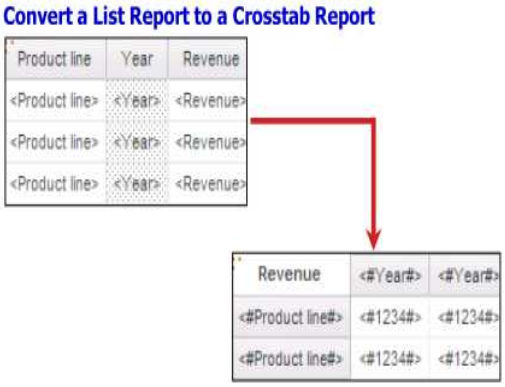
Product line	Year	Revenue
Camping Equipment	2013	$5,009,903.66
Personal Accessories	2010	$7,431,795.17

165

Convert a List to a Crosstab

- Condense a report and view data from a different perspective by converting a list to a crosstab.

- Selected list columns become columns and nested columns in the crosstab
- Unselected columns become rows and nested rows
- If you have one measure, it becomes the cells of the crosstab
- If you have more than one measure, then the measure will appear as columns or rows



166

Reuse Objects within the Same Report

- Use a Layout Component Reference from Toolbox tab, to reuse objects
- Be sure to name each items component object you want to reuse
- You can change the contents of a reused object by overriding the child components and replacing them with other objects.

167

Share Layout Components Among Separate Reports

- You can reuse layout components in different reports.
- You can update shared layout objects manually or automatically
  - –Automatically➔ by default
  - –Manually ➔ change the Embed property from Reference to Copy
- Be sure to name each layout component you want to reuse in other reports.
- Create a report containing all the objects you want to reuse in different reports, and the use it as an object library.

168

Reuse Objects/Layout summary

- Reuse objects
  - –Layout Component Reference
  - –within a report / between separate reports
- Report templates
  - –Convert a report to a template

169

Exercise 8.1: Reuse Objects within the Same Report

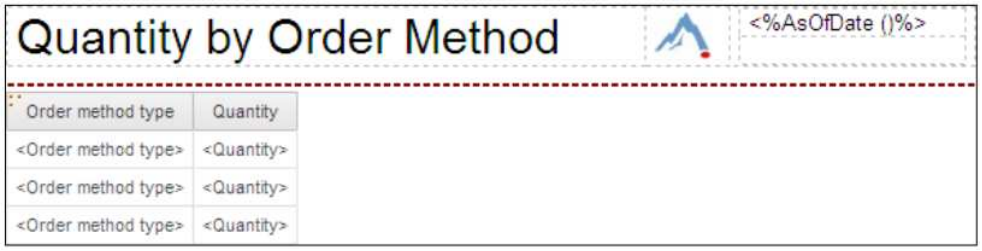
Purpose:
You have been asked to add some descriptive information to a sectioned report. The report must include a title on each page describing the contents of the report, and information about whom to contact if users have any questions.

- Use pivot List to Crosstab
- Header page
- Reuse header block to footer page

170

Exercise 8.2: Reuse Layout Components in a Different Report

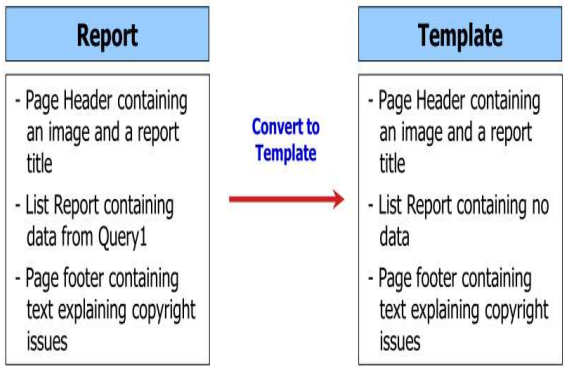
Purpose:
To save time when creating new reports, you will create one report containing a standard page header that can be used in many. Next, you will create one report that will reuse this page header.



171

Create a Template Report to Use with Any Package

- You can create and format a report and then convert this report to a template to be used with any package.
- To convert a report to a template, from the File menu, click **Convert To Template**
- RS removes any query-related data from the report (like; data items, calculations and filters)



172

Create a Template Report to Use with Any Package

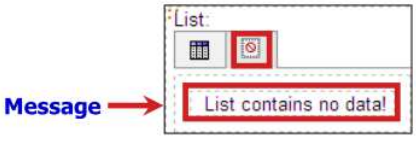
- There are two ways to create a report using a template
  1. First open the package you require. Next, open the template and add data from package. ***OR***
  2. Choose **New from Template** at the Report Studio welcome screen

173

Handle Reports with No Data Available

- Hide the whole page if a data container is empty
  - –Render Page when Empty
    - Yes
    - No

- Replace an empty data container
  - –No Data Contents
    - Don't display
    - Specified text
    - Content specified in the No data tab



174

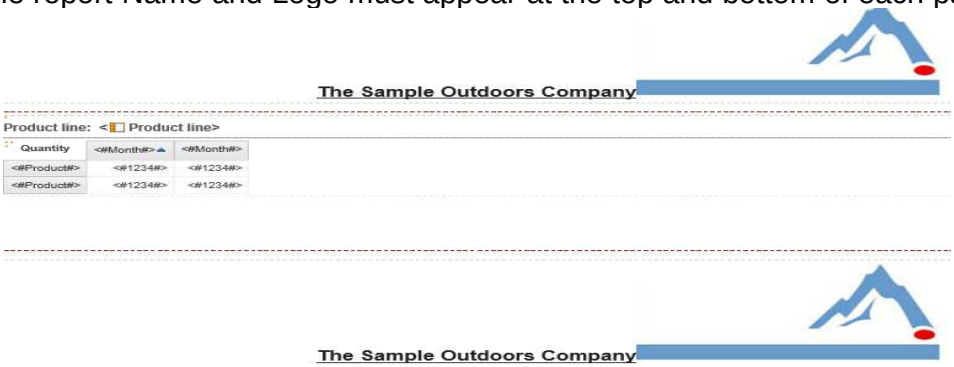
Exercise 8.3: Explore option for reports that Contain No Data

Purpose:
You want to create a report with three pages showing different methods of handling no data being returned. The first page will show default data handling, the second page will not display when the list is empty, and the third page will generate a custom message to replace the empty container.

175

Exercise 8.4: Analyze product quantities Sold by Month

- The report shows the quantity of products sold in each month of 2012 for all product lines
- The report mist be broken into separate sections for each Product line
- The report Name and Logo must appear at the top and bottom of each page.



176

Summary

- At the end of this module, you should be able to:
  - Enhance report design with report object
  - Reuse objects within the same report
  - Share layout components among separate reports
  - Discuss report templates
  - Choose options to handle reports with no available data

177

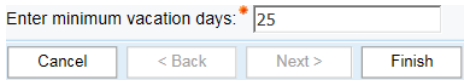
Homework #2 – Vacation Alert

- List employees who took vacation days ≥ a number that is specified by the user in a text box on a previous page.
- If user's condition is not met (minimum vacation days), then list users with vacation days ≥ vacation days by user - 10
- Group by vacation days
- Sort by vacation days descending, then by employee names ascending
- Summarize by count of employees
- Other filters: Year: 2013
- Hints
  - Package: GO Data Warehouse (query)
  - Namespace: HR (query) > Employee Summary (query)

Vacation Days	# of Employees
0	696 (all employees)
25	6
32	1
33	8

178

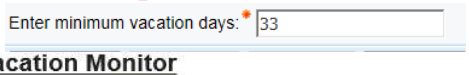
Homework #2 – Required Output



Vacation Monitor

Employees who took 25 or more vacation days in 2013:

Vacation days taken	Employee name
32	Edouard Didier
32 - Count	**1**
25	Bianca Agostini
	François De Crée
	Maria Schmidt
	Susan Vermeeren
	Zola Ricci
25 - Count	**5**
Overall - Count	**6**



Vacation Monitor

Employees who took 33 or more vacation days in 2013:

No employees took 33 or more vacation days, but these are employees who took 23 or more vacation days.

Vacation days taken	Employee name
32	Edouard Didier
32 - Count	**1**
25	Bianca Agostini
	François De Crée
	Maria Schmidt
	Susan Vermeeren
	Zola Ricci
25 - Count	**5**
24	Hortense Roux
24 - Count	**1**
23	Susanne Sommer
23 - Count	**1**
Overall - Count	**8**

179

4.2 Tds: IBM Cognos Studio

Exercise 1: Add calculations to a report

Results:
You created a report to show revenue and planned revenue and the percentage of planned revenue that was achieved for product lines for the first quarter of 2010. You also included the date when the report was run.

Add calculations to a report

- Layout calculation: run date
- Query calculation: Percent of Goal

Add filter dates. Report returns the data of the first quarter of 2010

2010-First Quarter Sales Figures

Report run date: Feb 24, 2016

Date	Product line	Revenue	Planned revenue	Percent of Goal
Jan 12, 2010	Camping Equipment	20,217,372.98	21,714,739.59	93%
Jan 12, 2010	Golf Equipment	9,141,599.89	9,815,894.17	93%
Jan 12, 2010	Outdoor Protection	2,263,380.47	2,393,032.12	95%
Jan 12, 2010	Personal Accessories	7,414,443.06	7,797,859.04	95%
Jan 13, 2010	Camping Equipment	5,000,710.6	5,350,515.31	93%
Jan 13, 2010	Golf Equipment	2,536,524.65	2,723,837.61	93%
Jan 13, 2010	Outdoor Protection	474,025.75	496,960.85	95%

Exercise 2: Display Prompt Selections in Report Title

Purpose:
You have been asked for a report that displays the quantity of products sold for each order year. You also need to display all product lines in uppercase. The report should contain an optional prompt that lets users view data by sales region. Add a report title that indicates which sales region users select in the prompt. It should also indicate if they do not select a region as well. You will use a layout calculation to display the report title.

Create a crosstab to show the quantity of each product type by year.

Quantity Sold in Asia Pacific

Quantity		2010	2011	2012	2013
PERSONAL ACCESSORIES	Binoculars	43,340	45,626	62,144	49,788
	Eyewear	22,252	50,760	79,760	69,607
	Knives	396,185	275,620	388,653	307,093
	Navigation	117,074	84,358	107,223	113,107
	Watches	33,936	46,015	60,211	44,995
	PERSONAL ACCESSORIES	**612,787**	**502,379**	**697,991**	**584,590**
MOUNTAINEERING EQUIPMENT	Climbing Accessories		410,155	526,482	573,585
	Rope		30,530	45,981	38,024
	Safety		85,114	104,518	87,855
	Tools		187,255	245,019	236,781
	MOUNTAINEERING EQUIPMENT		**713,054**	**922,000**	**936,245**

Exercise 3: Sales percent by sales Rep and Country

- Create a report that shows which product lines each salesperson tends to sell the most of.
- Sales manager would like to be able to filter the data by specified year and country or countries.
- The output report appear as beside.

Exercise 1: Reuse Objects within the Same Report

Purpose:
You have been asked to add some descriptive information to a sectioned report. The report must include a title on each page describing the contents of the report, and information about whom to contact if users have any questions.

- Create a list report
- Convert list to crosstab report
- Add a page header and footer
- Add and apply style to the header block and text
  - The name of header block=Block
  - The name of header text=Text
- Reuse the header block in the footer page

Exercise 2: Reuse Layout Components in a Different Report

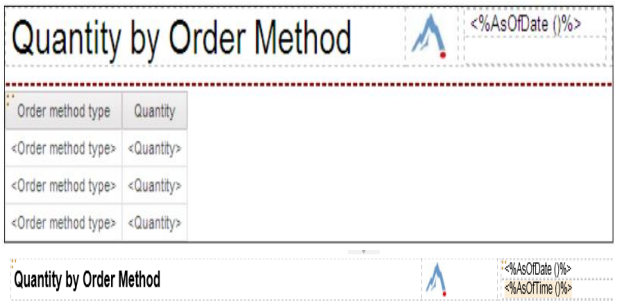
Purpose:
To save time when creating new reports, you will create one report containing a standard page header that can be used in many. Next, you will create one report that will reuse this page header.

Create a page header with table templet. The name of table object is ***StandardPageHeader***. The table contains:

- Title
- Go_logo_small.jpg
- Date and time

Save the report of page header in **My Folders** with **Layout Library** name.

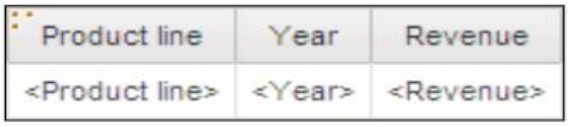
Create a second report that reuse the layout Library report.

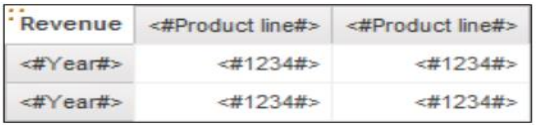


Exercise 3: Explore option for reports that Contain No Data

Purpose:
You want to create a report with three pages showing different methods of handling no data being returned. The first page will show default data handling, the second page will not display when the list is empty, and the third page will generate a custom message to replace the empty container.

- Create a list and a crosstab with a same query





- Add filters to your list and crosstab: [Year]=?pYear? and [Product line]=?pPl?
- Create two additional pages in page Explorer:
  - Page 1: default page. ***Title*** = Page 1- Default Behavior
  - Page 2: not render when the list is empty. ***Title*** = Page 2- Don't Render Page if no Data is returned in the List.

- Page 3: display a custom message when the list or crosstab is empty. Title= Page 3- Show Custom message when No Data Returned

- Add a Prompt page,

Exercise 4: Analyze product quantities Sold by Month

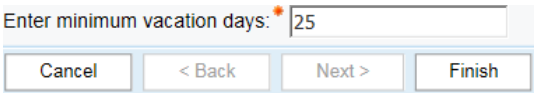
- The report shows the quantity of products sold in each month of 2012 for all product lines
- The report mist be broken into separate sections for each Product line
- The report Name and Logo (cover2.jpg) must appear at the top and bottom of each page.

Exercise 5 (Homework): Vacation Alert

- List employees who took vacation days Óa number that is specified by the user in a text box on a previous page.
- If userôs condition is not met (minimum vacation days), then list users with vacation days Óvacation days by user - 10
- Group by vacation days
- Sort by vacation days descending, then by employee names ascending
- Summarize by count of employees
- Other filters: Year: 2013
- Hints
  - Package: GO Data Warehouse (query)
  - Namespace: HR (query) > Employee Summary (query)

Vacation Days	# of Employees
0	696 (all employees)
25	6
32	1
33	8

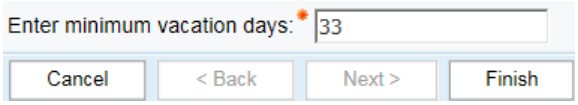
Required Output



Vacation Monitor

Employees who took 25 or more vacation days in 2013:

Vacation days taken	Employee name
32	Edouard Didier
32 - Count	1
25	Bianca Agostini
	François De Crée
	Maria Schmidt
	Susan Vermeeren
	Zola Ricci
25 - Count	5
Overall - Count	6



Vacation Monitor

Employees who took 33 or more vacation days in 2013:
No employees took 33 or more vacation days, but these are employees who took 23 or more vacation days.

Vacation days taken	Employee name
32	Edouard Didier
32 - Count	1
25	Bianca Agostini
	François De Crée
	Maria Schmidt
	Susan Vermeeren
	Zola Ricci
25 - Count	5
24	Hortense Roux
24 - Count	1
23	Susanne Sommer
23 - Count	1
Overall - Count	8

CHAPTER 5

B5A59: REPORT STUDIO ADVANCED

1. Create Query Models
2. Create Reports Based on Query Relationships
3. Create Advanced Dynamic Reports
4. Design Effective Prompts
5. Create Additional Advanced Reports
6. Examine the Report Specification
7. Distribute Reports Through Bursting
8. Enhance User Interaction with HTML

5.1 Cours: Report Studio Advanced

5.2 Tds: Report Studio Advanced