WebSphere Education

Custom reports and queries

Unit 21
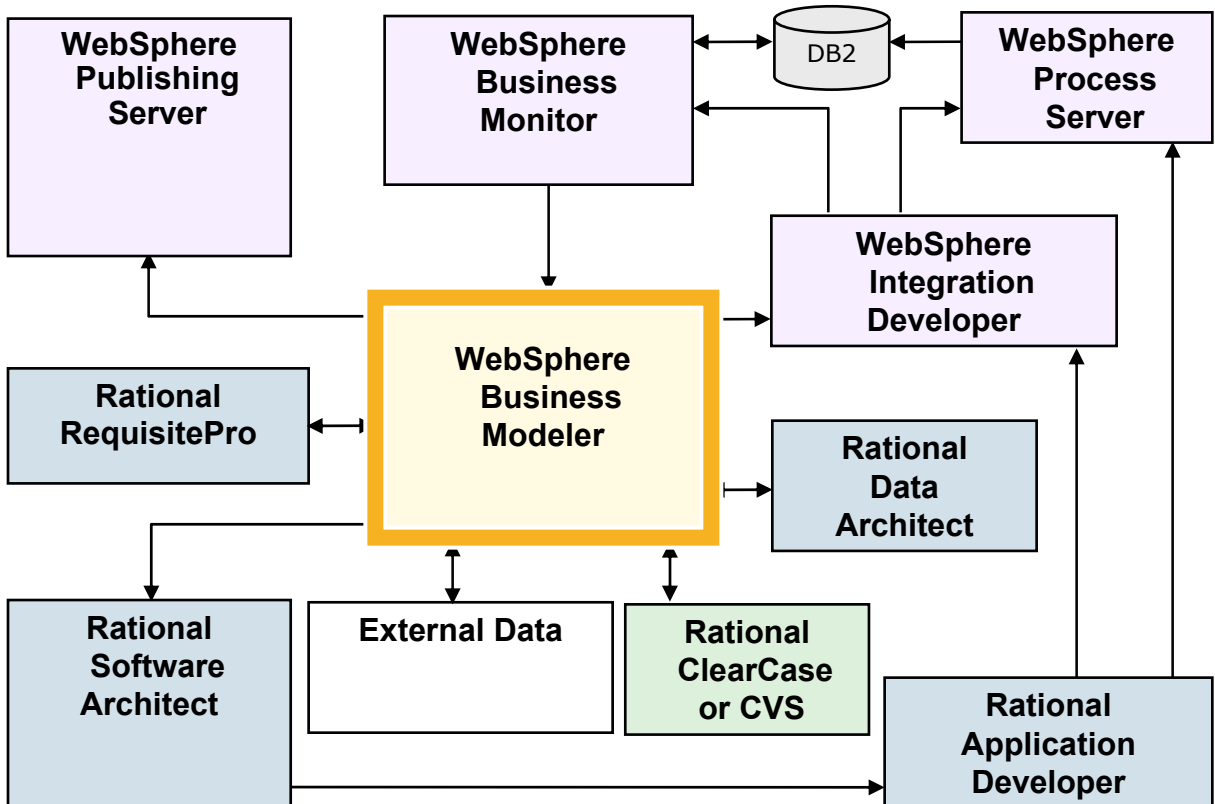
5.1.0.1

Unit objectives

After completing this unit, you should be able to:
- Create various types of reports:
  – Custom reports
  – Crystal Reports
- Create report templates using data sources
- Export reports
- Use pre-built and custom queries

Creating custom reports in Modeler

Reports

- Reports are a formatted presentation of information relating to a model or to the results of analyzing a process simulation.
  - Predefined report details
    - Numerous predefined reports available in the product
  - Custom reports using report designer
    - Report catalogs
      - Organize report templates for different projects or uses
    - Report templates
      - Produce detailed reports with specific content in a specified format
    - Report style masters
      - Reuse header and footer content for multiple report templates

- Crystal Reports.
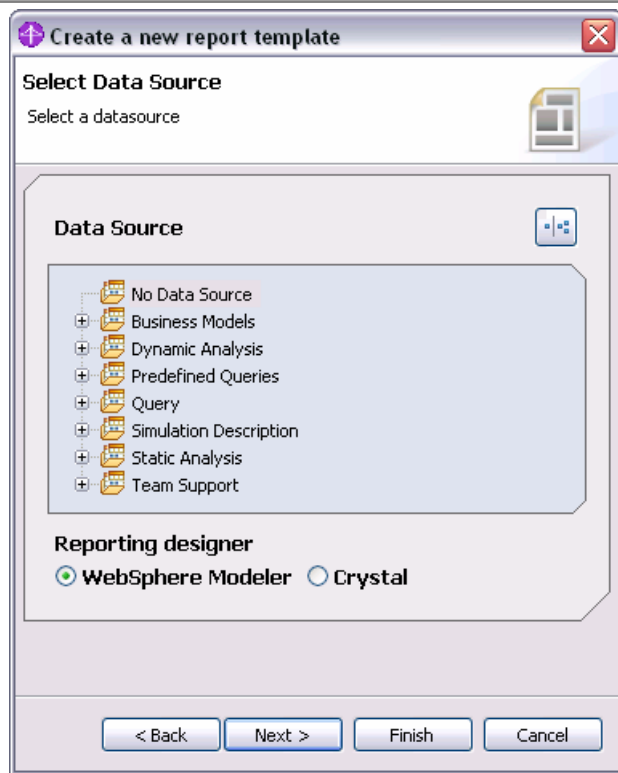 - Alternative way of creating and generating report templates

Queries

- Queries enable the extraction and viewing of selected information on elements in a model.
  - Predefined queries:
    - Several predefined queries can be used to extract and view a predefined set of information from a model.
  - Custom queries using query builder
  - Use the query builder to create queries

Data sources

- Data sources are sets of information derived from project elements.
  - Use data sources as the basis for defining report templates in report designer.

- The data source depends on information to be provided by the report.
  - Reports on resources may use the resource specification data.
  - Reports on detailed process information may use the process specification data.
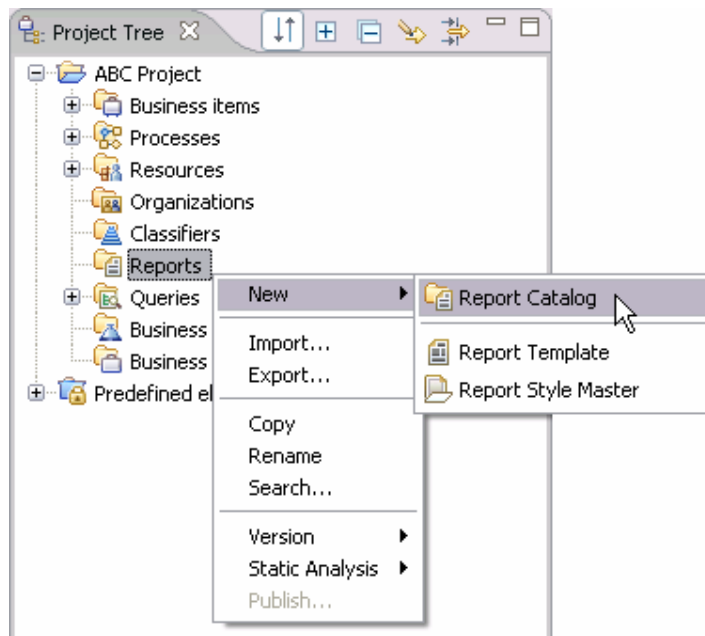

Create a new report template

Select Data Source
Select a datasource

Data Source

- No Data Source
- Business Models
- Dynamic Analysis
- Predefined Queries
- Query
- Simulation Description
- Static Analysis
- Team Support

Reporting designer
⦿ WebSphere Modeler ○ Crystal

[< Back] [Next >] [Finish] [Cancel]

Categories of data sources

Data source	Description
Business model	Information contained in business model
Dynamic analysis	Information returned by the different types of dynamic analysis
Predefined queries	Information contained within predefined queries included in the product
Query	Information from custom queries
Simulation description	Information contained in simulation profiles
Static analysis	Information returned by the different types of static analysis
Team support	Information contained in a repository location
No data source	Used to create a blank report template with no data source associated

Creating report catalogs

- Report catalogs help organize report templates.
  - Created in the Project Tree

Report templates

- Create detailed reports for your processes containing data that you have specified.
  - Use report designer to create report templates that have the exact content and presentation that you need.

- A report template can be run against different process models to generate results specific to each model.
  - An efficient way to create multiple reports that contain the specific information that you want to display.
    - For example, every report is required to have company name, address, and date.

- It can take some time to create and polish a template's design.
  - The effort invested in building a template provides the flexibility to generate any number of reports.

Report designer (1)

- The report designer, like the process editor and the structure editor, is a graphical editor with a palette that contains elements that can be added to the report template.
  - Pages and page breaks
  - Page headers and footers
  - Tables
  - Shapes, including lines, rectangles, circles, and ellipses
  - Static text fields
  - Pictures
  - Charts
  - Table of contents
  - Summary statistics fields (such as counts, sums, and averages for selected data fields)
  - Report special fields (such as page numbers, print date, and record number)
  - Groups (a set of reporting elements such as labels and data fields that can be repeated multiple times in a generated report)

Report designer (2)

- Report designer provides many options for you to customize the appearance of elements that you add to the report template.
 - When an element is selected, the Attributes view can be used to edit the properties.
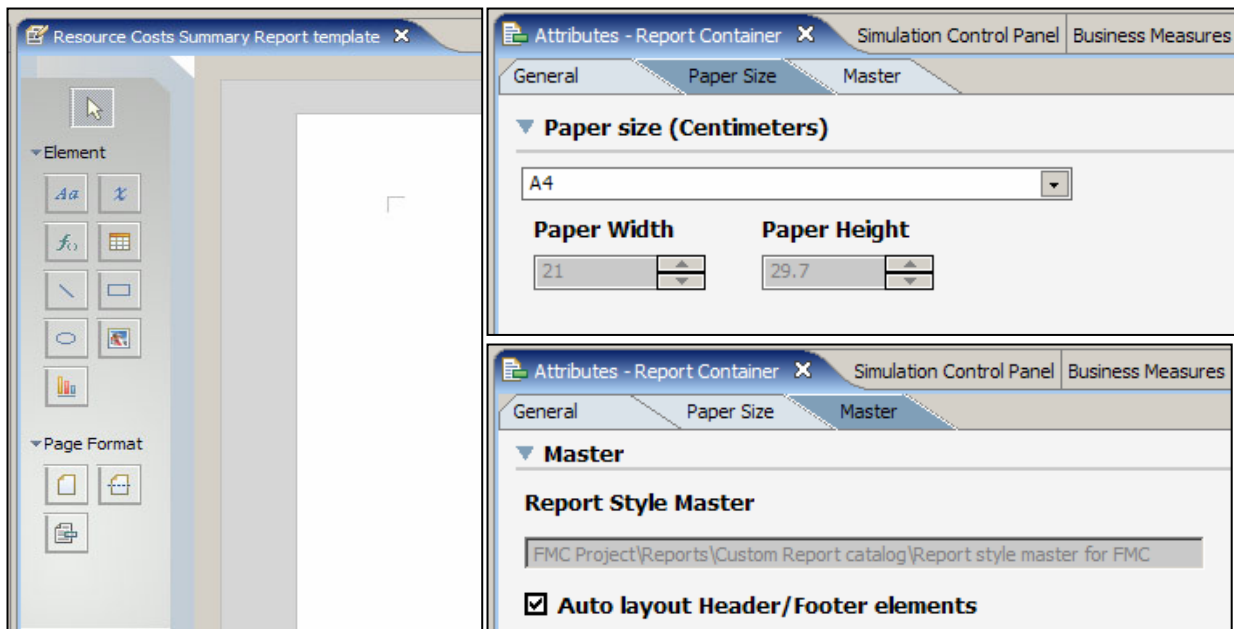
Report style master (1)

- Report style master enables you to reuse header and footer information for multiple report templates.

- Add your required fields once to a single report style master.
  - Apply that report style master to as many report templates as needed.
  - Every report template will have the same set of header and footer information.

- Report style masters can be applied to predefined or user-defined report templates.
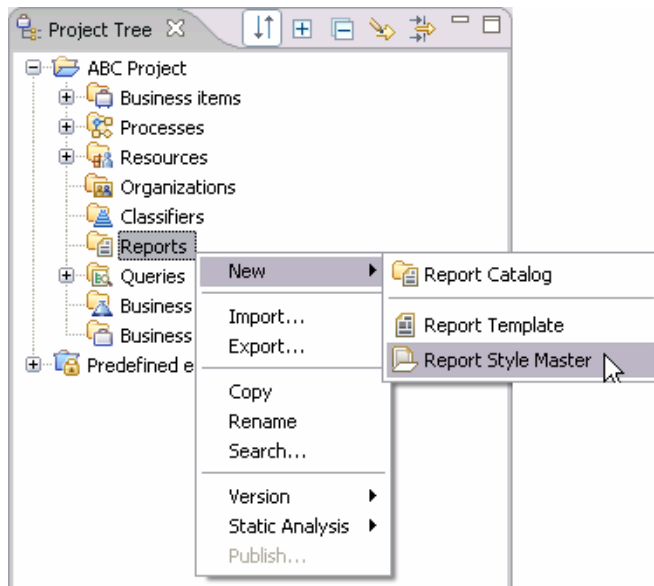
Report style master (2)
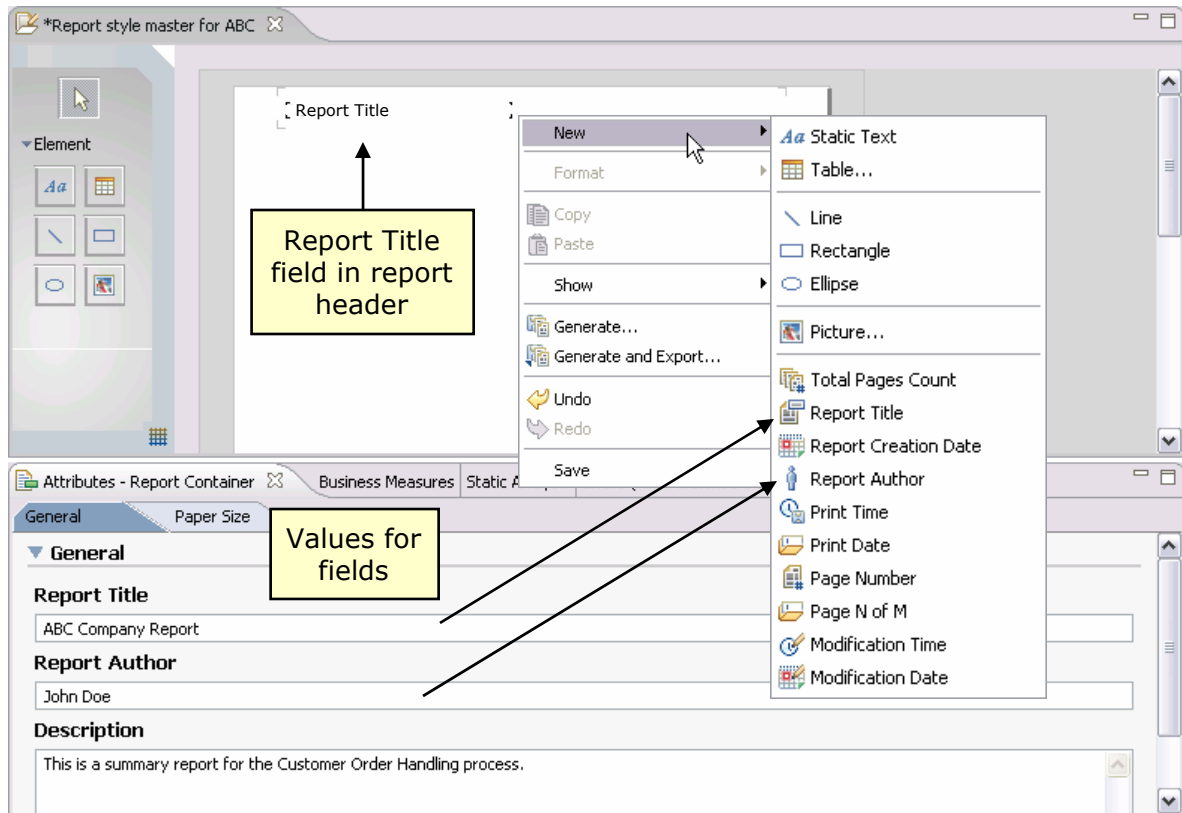
Setting report designer preferences

- Setting report preferences
  - Set various preferences to control the default format of elements in the report designer
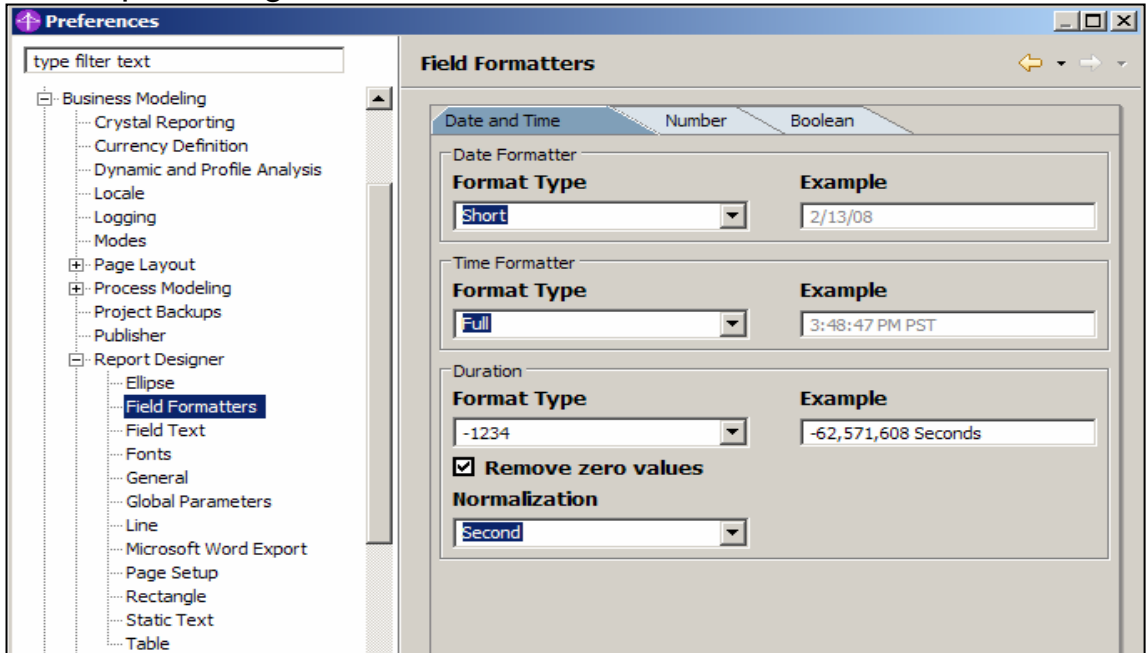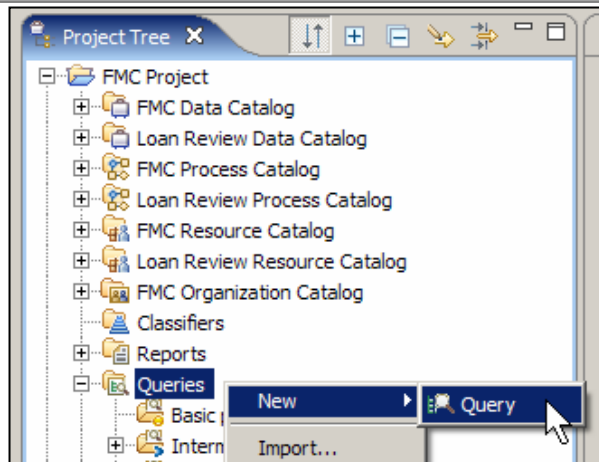
Queries

- Queries extract and show information on elements of a model.
  - Queries return information about model elements of one specified type.

- Use queries to:
  - Confirm that the content of your models accurately represents your business.
  - Gather required information for making business decisions.
  - Document and disseminate specific types of information.
  - Define the content used for creating reports.

- Query builder is used to create queries.
  - Expressions can be used to get information on specific model elements.
    - For example, create a query that retrieves all the individual resources that have a cost per time unit of $20.00 or less.

Creating queries: Scope

- Queries are created from the project tree.

- Scope:
  - Determines how much of the project is included in the search
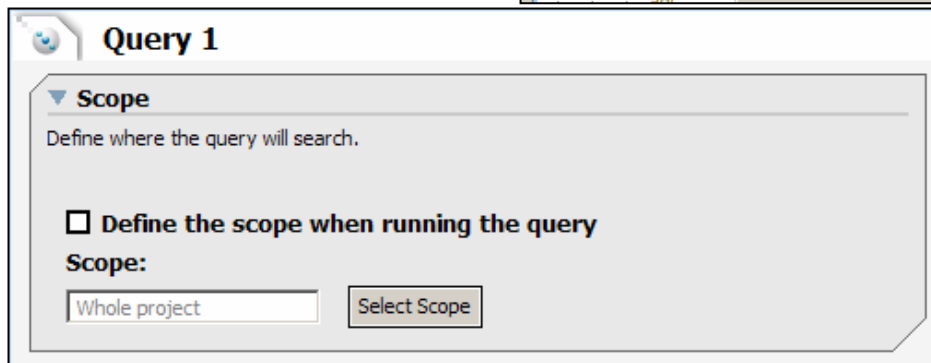
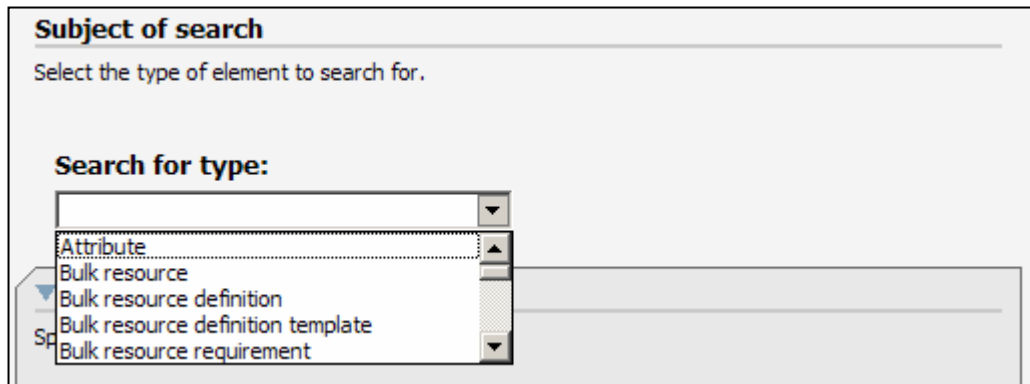# Creating queries: Subject of search

- Subject of search
  - Determines which element type to search for

Subject of search

Select the type of element to search for.

Search for type:

	▼

Attribute	▲
Bulk resource	
Bulk resource definition	
Bulk resource definition template	
Bulk resource requirement	▼

Creating queries: Expression builder

Expression editor is used to refine the search.
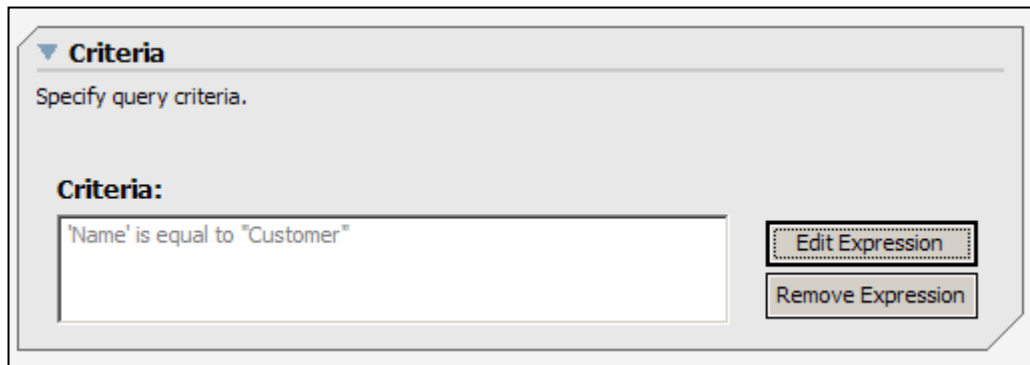
Creating queries: Define criteria

- Criteria
  - An expression to search for something more specific

Creating queries: Result definition

- Result definition
  - Defines what will be displayed

Running the query

- Run from the Project Tree.
- If the query scope is defined at execution time, the query will prompt you to select a scope.
- The query view displays the query results.
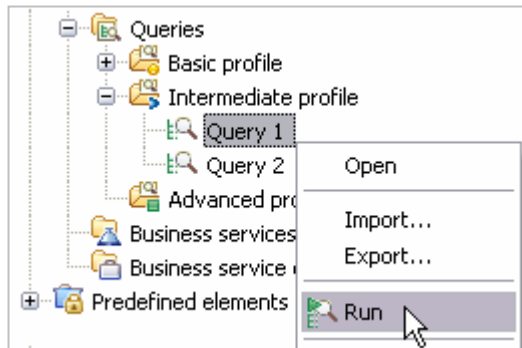
Attributes - Report Page | Simulation Control Panel | Errors (Filter matched 0 of 1 items) | Query View ⊠

Query View 4:11:26 PM PST

Process Statistics 4:11 PM

Process Name	Catalog	Global Tasks	Local Tasks	Global Processes	Local Processes	Local Repositories	Global Services	Decisions
Customer Order Han...	Processes	2	8	2	0	0	0	4
Order Verification	Processes	1	2	0	0	0	1	0
Payment Handling	Processes	0	4	0	0	0	0	1

Using queries in reports

Dialog box text:

Create a new report template

Select Data Source
Select a datasource

Data Source

- No Data Source
- Business Models
- Dynamic Analysis
- Predefined Queries
- Query
  - Query 1 (ABC Project, Basic profile)
  - Query 1 (ABC Project, Intermediate profile)
  - Query 2 (ABC Project, Basic profile)
  - Query 2 (ABC Project, Intermediate profile)
- Simulation Description
- Static Analysis
- Team Support

Saved queries can be used to create reports on the query output

Reporting designer
◉ WebSphere Modeler ○ Crystal

Exporting reports

- Exporting reports allows for the use of the information contained in your models for a variety of purposes.
  - Export documentation reports
  - Export reports that show the results of any type of analysis you run on a model or on simulation results
  - Export reports that show the version history of model elements.
  - Export custom reports based on report templates that were created in the report designer

- Changing text size in generated reports:
  - If the text in a generated report is too large or too small to be useful, it can be changed.
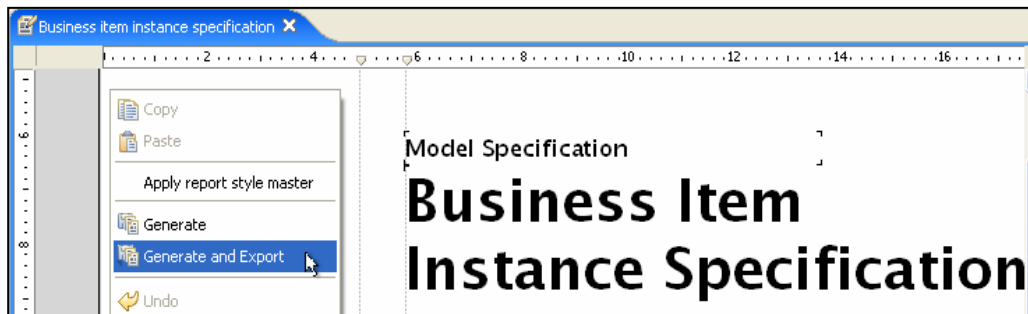
Exporting analysis data

- Export from the analysis view
  – Data exported depend on the type of analysis displayed.

Crystal Reports

- WebSphere Business Modeler also provides support for Crystal Reports to facilitate the work of organizations that already use this application.
  - Crystal Reports is a separate product from WebSphere Business Modeler.

- Activities related to Crystal Reports:
  - Create new report templates in the Project Tree view, define their content using WebSphere Business Modeler data sources, and start the Crystal Reports design environment to specify the particulars of the report template
  - Copy, rename, and delete report templates
  - Generate and export reports based on existing report templates from the Project Tree view (assuming that Crystal Reports is installed on the local machine)
  - View and print generated reports
  - Import report templates that have been defined by another user
  - Export report templates for use or customization by another user
  - Check in and check out CVS versions of report templates

- WebSphere Business Modeler does not provide any predefined Crystal Reports templates.

Checkpoint: Creating reports

Your instructor will review these questions with you as a group.
If time permits, the instructor may provide you time to answer
the questions on your own before the group discussion.

1. Name some of the categories of data sources used in
   WebSphere Business Modeler reports.

2. Which data source would contain information in a repository
   location of a version control system?

3. What is the function of the report style master?

4. What is the purpose of a scope when creating a query?

Checkpoint solutions: Creating reports

1. Business models, dynamic analysis, predefined queries, query (user-defined), simulation description, static analysis, team support.

2. Team support data sources.

3. The report style master enables you to reuse header and footer information for multiple report templates.

4. The scope determines how much of the project is to be included in the search.

Unit summary

Having completed this unit, you should be able to:
- Create various types of reports:
  - Custom reports
  - Crystal Reports
- Create report templates using data sources
- Export reports
- Use pre-built and custom queries

Exercise overview

In this exercise you will:
- Create a report style master
- Create a report template
- Add report details
- Add a report chart
- Apply a report style master to report