



WebSphere Education



Basic reports and queries

Unit 11

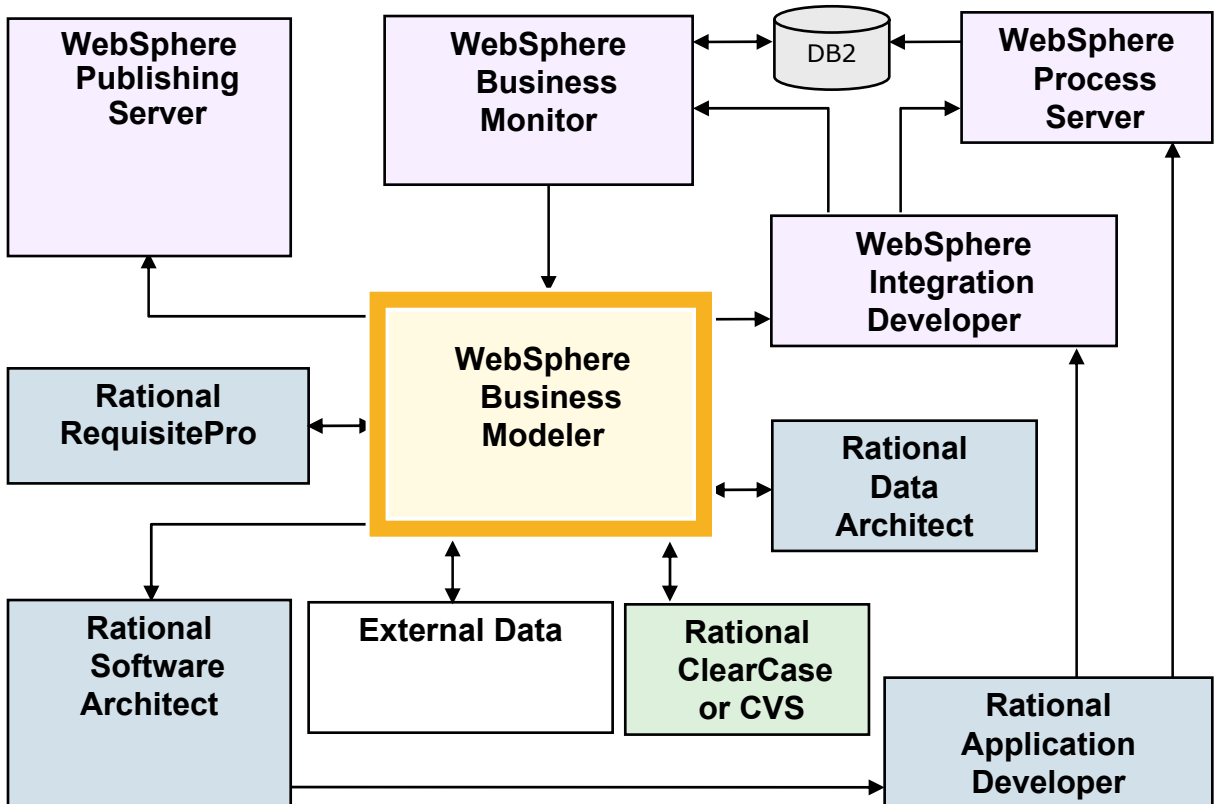


Unit objectives

After completing this unit, you should be able to:

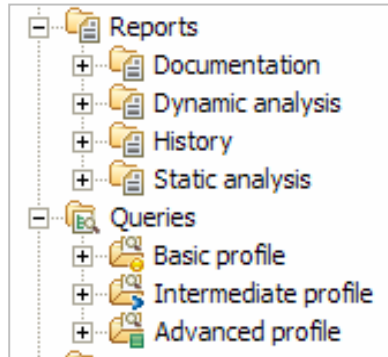
- Explain reporting and query terminology
- Identify different types of documentation reports
- Describe how to generate, export, and print reports
- Explain predefined queries

Creating reports and queries using Modeler



Querying, reporting, and printing

- Queries enable you to extract and view selected information on elements of your models
- Reports are a formatted presentation of information relating to a model or to the results of analyzing a process simulation.
- Reports can be viewed, printed, or exported
- Reports versus queries
 - All predefined queries have a corresponding predefined report based on the query.
 - Use the query to view the information.
 - Use the report if you want to format, print, or save the information
- Diagrams can also be printed or exported



WebSphere Business Modeler terminology: Reports

- Report catalogs
 - A container that holds report templates
- Report templates
 - Used to create detailed reports for processes containing specified data
 - Report Designer is used to create report templates that have specific content and a specific format
- Data sources
 - Sets of information derived from elements of a project
 - Can be used as the basis for defining report templates
- Report style master
 - Enables the reuse of header and footer information for multiple report templates

Predefined reports

- Several predefined reports included in the product
- Categories of predefined reports:
 - Documentation reports
 - Predefined documentation report templates generate reports based on predefined queries of model elements.
 - Show the content of models.
 - Static analysis reports
 - Static analysis reports provide a way for you to print, store, and share the results of analyzing process models and other project elements.
 - Dynamic analysis reports
 - Dynamic analysis reports provide a way for you to view, share, and print the results of analyzing process simulation results.
 - History reports
 - History reports show the version history of model elements.

Documentation reports

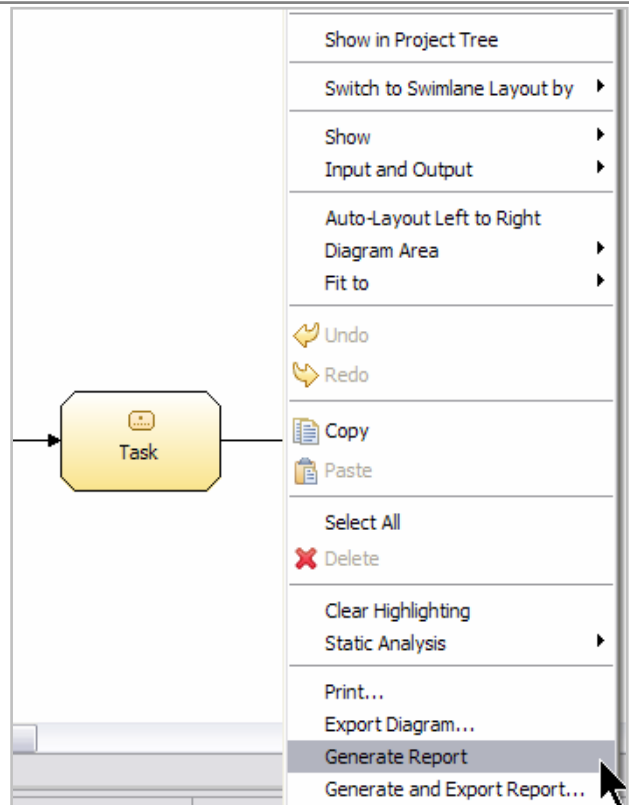
- Predefined documentation report templates quickly generate reports based on predefined queries of model elements.
 - Documentation reports show the content of models.
- Documentation report types:
 - Statistics reports
 - Show the number of each element associated to the selected model element
 - Details reports
 - Show the other types of elements, such as resources, roles, organization units, locations, and business items that are associated with the selected element
 - Specification reports
 - Show the values contained in the specification of the selected element
- Documentation report categories:
 - Process reports
 - Extract information on processes, tasks, services, and repositories
 - Data reports
 - Extract information on business items and notifications
 - Resource reports
 - Extract information on resources, roles, and timetables
 - Organization reports
 - Extract information on the contents of organizations and locations

Creating a report from the diagram

- Detailed process summary report
 - Supports the diagram with complete documentation
 - Displays summary information for the selected process
- The report includes:
 - The process diagram
 - Process specification
 - Specifications of each element contained in the process

Model Specification

Detailed Process Summary



Detailed process summary

Scope

The process Summary report provides summary information of the selected process.

Process Specification

Process:

Customer Order Handling

Catalog:

Processes

Description:

This Process includes all the tasks needed to process a customer order

Inputs:

Input

Input Criteria:

Input Criteria

Preconditions:

Outputs:

Output

Output Criteria:

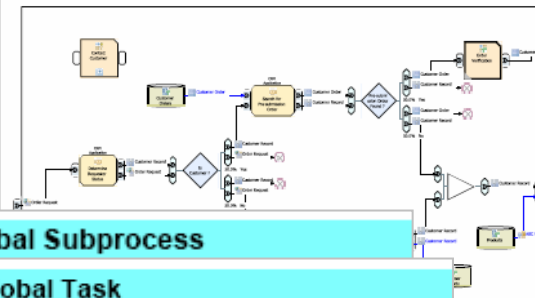
Output Criteria

Postconditions:

Operational Attributes:

Startup Cost	
Execution Cost	
Resource Waiting Cost	
Waiting Cost TimeUnit	
Revenue Generated Cost	
Operationaltime	
Max. Resource Waiting Time	

Process Diagram



Global Subprocess

Global Task

Local Subprocess

Local Task

Determine Requester Status

Parent Process:

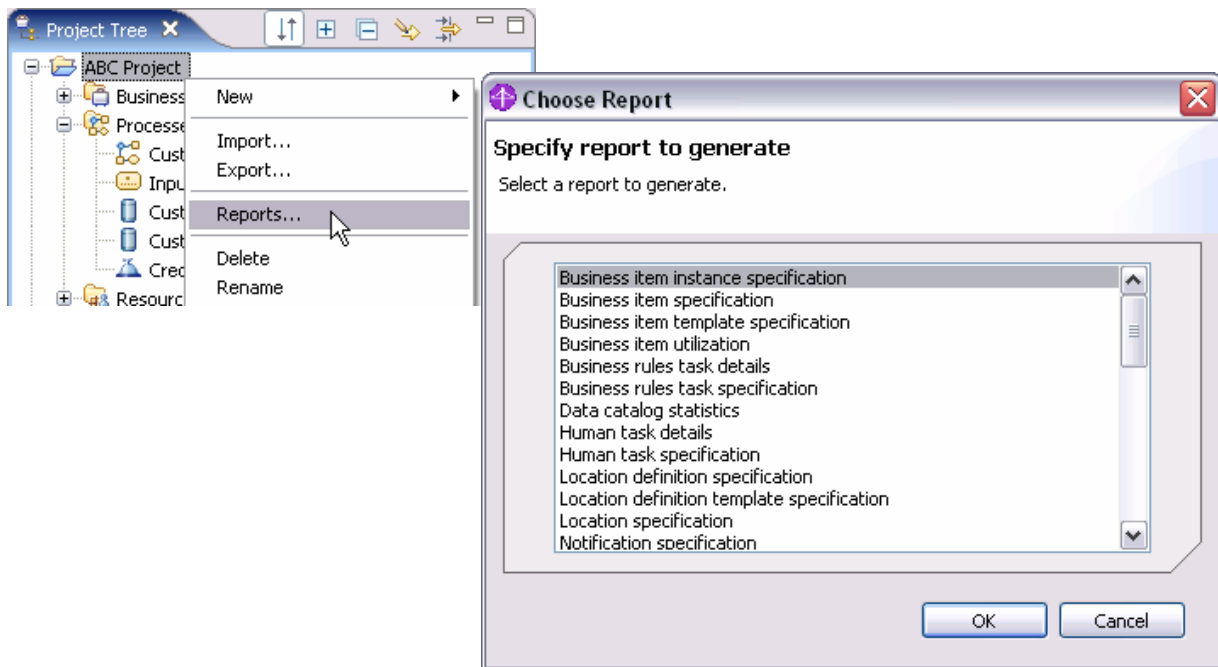
Customer Order Handling

Description:

Input Criteria

Creating a report from the Project Tree

- **Selecting a documentation report template**
 - Generate reports that show the content of models or the results of a process simulation or analysis



Process reports — process

- Process annotation report
 - Displays the complete text of all annotations contained in a process or in multiple processes in a process catalog
- Process details report
 - Displays the names of elements contained in a process or in multiple processes in a process catalog
- Process level details report
 - Contains details about a main process and all of its component activities and subprocesses
- Process procedure report
 - Shows the sequence of steps within a process, and the relationships of a process to other processes
- Process specification report
 - Shows the information contained in a process specification
- Process statistics report
 - Displays the quantities of elements contained in a process or in multiple processes in a process catalog

Process annotation report

Process Annotation Information

Process:

Order Verification

Catalog:

Processes

Annotation:

This is the Order Verification process which requires credit verification.

Process:

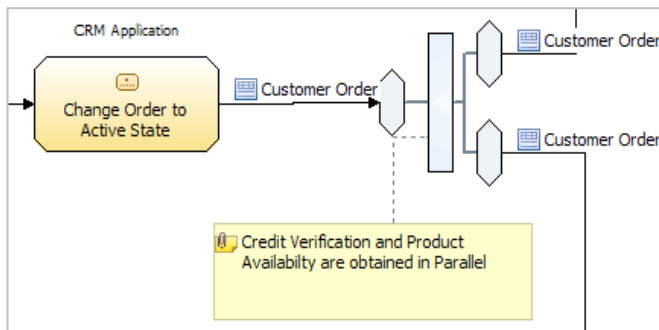
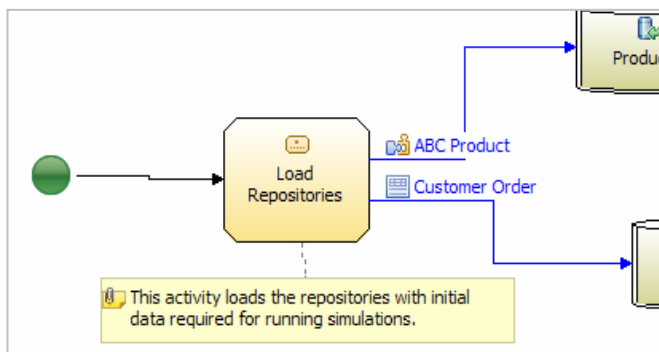
Payment Handling

Catalog:

Processes

Annotation:

Payment Handling process requires customer interaction.

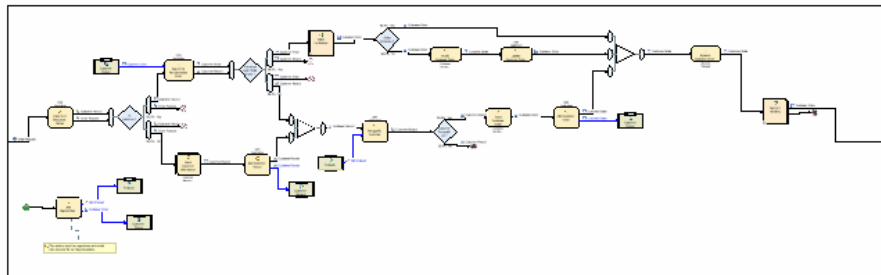


Process level details report

Table of Contents

Scope.....	
Main Process.....	
Customer Order Handling.....	
Process Diagram.....	
Processes, Tasks or Decisions.....	
Add Customer Order.....	
Add Customer Record.....	
Approve Customer Order.....	
Customer Pre-qualified ?.....	
Determine Requester Status.....	
Is Customer ?.....	
Load Repositories.....	
Modify Customer Order.....	
Order Complete ?.....	
Input Customer Information.....	
Input Customer Order.....	
Order Verification.....	
Payment Handling.....	
Pre-qualify Customer.....	
Pre-submission Order Found ?.....	
Search for Pre-submission Order.....	
Update Customer Order.....	
Business Items used in the process.....	
ABC Product.....	
Customer Order.....	
Customer Record.....	
Order Request.....	

Process Diagram



Scope

This report identifies the details of the main process or sub level process.

Main Process

Customer Order Handling

Description:

This Process includes all the tasks needed to process a customer order

Classifiers:

Organization Units:

Inputs:

Input
Order Request

Outputs:

Output
Customer Order

Process reports — repository and service

- Repository specification report
 - Shows the information contained in a repository specification
- Service details report
 - Displays the names of elements contained in a service or in multiple services in a process catalog
- Service specification report
 - Shows the information contained in a service specification
- Service statistics report
 - Displays the quantities of elements contained in a service or in multiple services in a process catalog

Service and repository specification reports

Service Specification

Service:

Credit Verification Service

Catalog:

Description:

Use of an external Credit Bureau service to verify the customer's credit status

Inputs:

Input

Input Criteria:

Input Criteria

Preconditions:

Outputs:

Output

Output Criteria:

Output Criteria

Postconditions:

Operation Attributes:

Startup Cost		
Execution Cost	4.5	USD
Resource Waiting Cost		
Waiting Cost Time Unit		
Revenue Generated Cost		
Operational Time	P0Y0M1DT0H0M0S	
Max. Resource waiting Time		

Repository Specification

Repository:

Customer Orders

Catalog:

Processes

Description:

Type:

Customer Order

Capacity:

-1

Repository:

Customer Records

Catalog:

Processes

Description:

Type:

Customer Record

Capacity:

-1

Process reports — task

- Task details report
 - Displays the names of elements contained in a task or in multiple tasks in a process catalog
- Tasks by role report
 - Identifies all the tasks in a process that are performed by a specified role
- Task specification report
 - Shows the information contained in a task specification
- Task statistics report
 - Displays the quantities of elements contained in a task or in multiple tasks in a task catalog

Task specification, statistics, by role

Task Specification

Task:

Input Customer Information

Catalog:

Processes

Description:

Inputs:

Input

Input Criteria:

Input Criteria

Preconditions:

Outputs:

Output

Output Criteria:

Output Criteria

Postconditions:

Operational Attributes:

Startup Cost	
Execution Cost	
Resource Waiting Cost	
Waiting Cost Time Unit	
Revenue Generated Cost	
Operational Time	
Max. Resource WaitingTime	

Classifiers:

Model Specification

Task Statistics

Statistics

Task:

Input Customer Information

Catalog:

Processes

Individual Resources	0.0
Bulk Resources	0.0
Roles:	1.0
Organization Units:	0.0
Locations:	0.0
Business Items:	1.0

Tasks By Role

**Tasks Performed By
Customer Service
Representative
In
Customer Order Handling**

Input Customer Information

Type:

Input Customer Information

Description:

Classifiers:

Organization Units:

Role:

Customer Service Representative

Inputs:

Associated Data
Order Request

Outputs:

Associated Data
Customer Record

Data reports

- Business item instance specification report
 - The business item instance specification report details the attributes of each business item instance in a model.
- Business item specification report
 - The business item specification report shows the information contained in a business item specification.
- Business item template specification report
 - The business item template specification report identifies the attributes of each business item template in the model.
- Business item utilization report
 - The business item utilization report identifies all the business items in a model, including information about the utilization of each business item.
- Data catalog statistics report
 - The data catalog statistics report displays the quantities of elements contained in a data catalog that you select for inclusion in the report.
- Notification specification report
 - The notification specification report shows the information contained in a notification specification.

Business item specification and utilization reports

Specification

Business Item:

Customer Order

Catalog:

Business items

Description:

Attributes:

Attribute Name	Attribute Type
Customer Address	Address
Pay by Credit Card	Boolean
Pay by Cash or Check	Boolean
Credit Status	String
Order Item	ABC Product
Available Order Item	Boolean

Rules:

Rule Name	Rule Description
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Utilization

Order Request

Description:

Attributes:

Attribute Name	Attribute Type
Customer Number	Integer
Requester Address	Address
Order Items	ABC Product

Used By:

Name	Input or Output
Determine Requester Status	input
Determine Requester Status	output
Customer Order Handling	input

Resource reports

- Resource catalog statistics report
 - The resource catalog statistics report displays the quantities of elements contained in a resource catalog that you select for inclusion in the report.
- Resource specification report
 - The resource specification report shows the information contained in a resource specification.
- Role specification report
 - The role specification report shows the information contained in a role specification.
- Timetable specification report
 - The timetable specification report shows the information contained in a timetable specification.

Role and resource specification

Role Specification

Role:

Account Analyst

Catalog:

Resources

Description:

Interacts with customer to provide billing and account se

Scope Dimension Names:

Role:

Account Manager

Catalog:

Resources

Description:

Manages Account Analysts and services customer to pro
services

Scope Dimension Names:

Resource Specification

Individual Resource:

Name	AI Billings
Catalog	Resources
Instance Of	Staff
Description	

Individual Resource:

Name	CRM Application
Catalog	Resources
Instance Of	Software Application
Description	

One Time Cost:

Applicable To:
Cost: USD 5.25

Organization reports

- Organization catalog statistics report
 - The organization catalog statistics report displays the quantities of elements contained in a organization catalog that you select for inclusion in the report.
- Organization unit specification report
 - The organization unit specification report shows the information contained in a organization unit specification.
- Location specification report
 - The location specification report shows the information contained in a location specification.

Organization unit and location specification

Organization Units

Organization Unit:

ABC Ltd

Catalog:

Organizations

Description:

Instance Of:

Organization

Local Attributes And Attribute Values:

Attribute Name	Attribute Value
organizationID	0A1
manager	Sarah James

Organization Unit:

Accounting

Catalog:

Organizations

Description:

Responsible for all Accounting activities of the Es

Instance Of:

Department

Locations

Location:

Headquarters

Description:

Instance Of:

Canadian Locations

Local Attributes And Attribute Values:

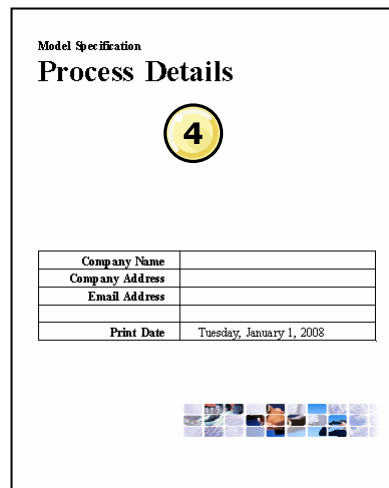
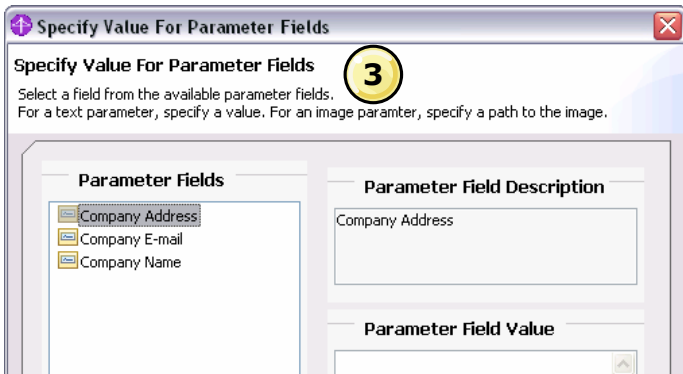
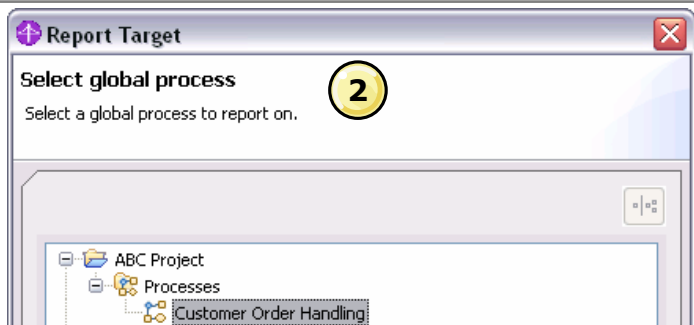
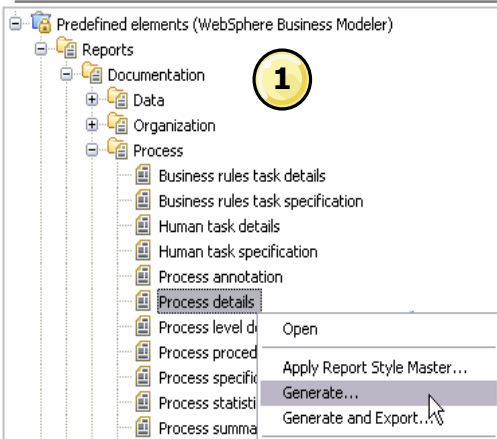
Attribute Name	Attribute Value
Address Line	4100 Warden Ave.
City	Toronto
Province	Ont.
Country	Canada
Postal Code	L5T 6Y7

Location:

Palm Beach District Office

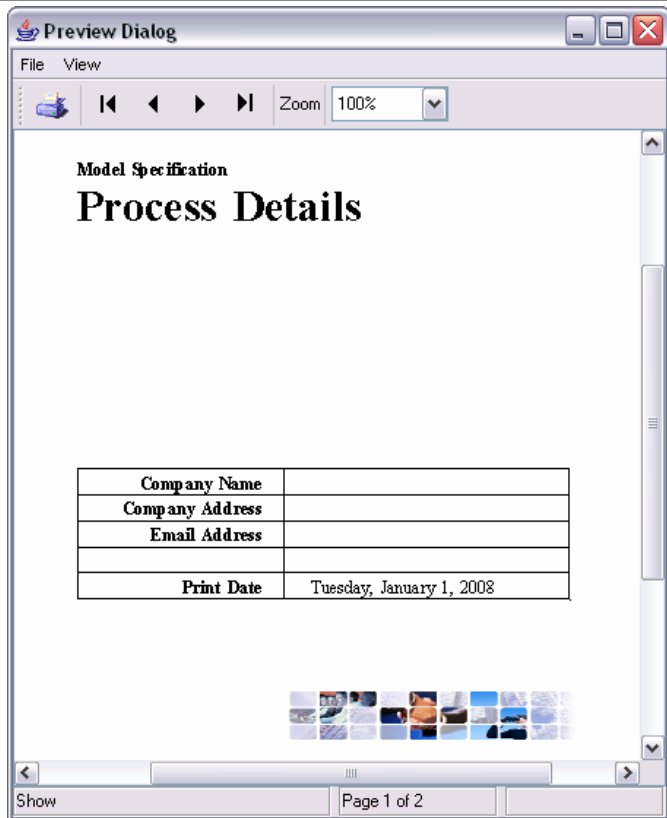
Description:

Generating reports

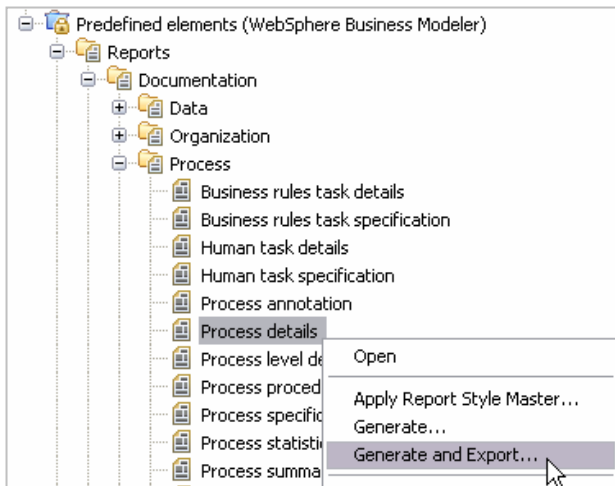


Printing reports

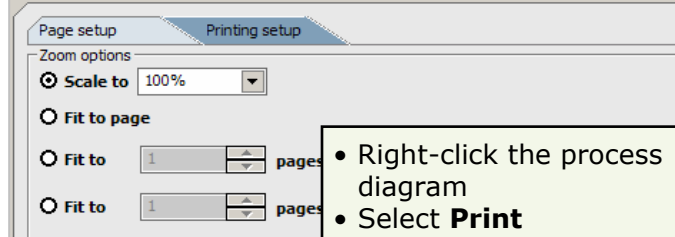
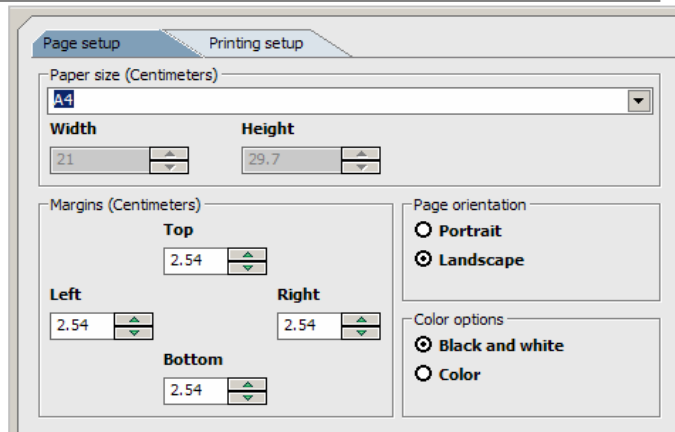
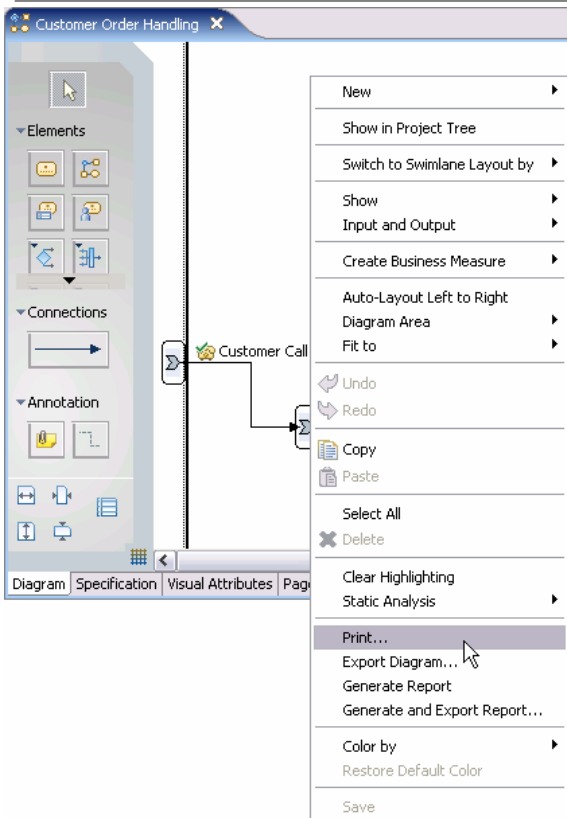
- Generated reports open in a report viewer for printing
- Print a report:
 - Click the Print button on the viewer
 - Or, select **File** → **Print** from the menu



Exporting a report



Printing a diagram



- Right-click the process diagram
- Select **Print**
- Select printer settings (paper size, margins)
- Click **Finish**

Export a diagram

The screenshot displays the IBM Business Process Manager interface. On the left, a workflow diagram is visible, featuring a 'CRM Application' container with a 'Search for Pre-submission Order' task, followed by a decision node for '% Yes' and '% No'. The '% Yes' path leads to 'Customer Record' and 'Order Request' tasks, while the '% No' path leads to 'Input Customer Information' and 'Customer Service...' tasks. A context menu is open over the 'Search for Pre-submission Order' task, listing various actions. The 'Export Diagram...' option is highlighted. On the right, the 'Export Diagram...' dialog box is open, showing a warning about large files, a list of export formats (JPG, PDF, SVG), and a field to select the export location. A callout box provides a four-step guide to exporting the diagram.

CRM Application

Search for Pre-submission Order

Customer Record

Order Request

% Yes

Customer Record

Order Request

% No

Input Customer Information

Customer Service...

New

Show in Project Tree

Switch to Swimlane Layout by

Show

Input and Output

Auto-Layout Left to Right

Diagram Area

Fit to

Undo

Redo

Copy

Paste

Select All

Delete

Clear Highlighting

Static Analysis

Print...

Export Diagram...

Generate Report

Generate and Export Report...

Color by

Restore Default Color

Save

Export Diagram...

Export Diagram Details

Warning: Exporting large jpg files may cause memory problems.
Select the export location

Export Format

Format for exporting

jpg

jpg

pdf

svg

Select the location for exporting

Browse...

- Right-click the process diagram
- Select **Export Diagram**
- Select export format (JPG, PDF, or SVG)
- Click **Finish**

Finish

Cancel

Queries

- Queries extract and show information on elements in models
 - 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 that is used for creating reports
- A variety of documentation queries are available:
 - Statistics queries
 - Return the number of elements associated with the selected model element
 - Details queries
 - Return element names, such as resources, roles, organization units, locations, and business items, that are associated with the selected element
 - Specification queries
 - Return the values contained in the specification of the selected element

Checkpoint: Basic reports and queries

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. What is the Process Procedure report?
2. What is the Business Item Utilization report?
3. What is a Resource Specification report?
4. What is the function of queries in WebSphere Business Modeler?

Checkpoint solutions: Basic reports and queries

1. The Process Procedure report shows the sequence of steps within a process, and the relationships of a process to other processes.
2. The Business Item Utilization report identifies all the business items in a model, including information about the utilization of each business item.
3. The Resource Specification report shows the information contained in a resource specification which shows the values contained in the specification of the selected element.
4. Queries can be used to confirm that the content of your models accurately represents your business, to gather required information for making business decisions, to document and disseminate specific types of information, and also to define the content that is used for creating reports.

Unit summary

Having completed this unit, you should be able to:

- Explain reporting and query terminology
- Identify different types of documentation reports
- Describe how to generate, export, and print reports
- Explain predefined queries

Exercise overview

In this exercise, you will:

- Generate and exporting predefined report
- Run a predefined query
- Print the process diagram