

IBM WEBSHERE 6.0 – LAB EXERCISE

Simulating a Process with WebSphere Business Modeler V6

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What this exercise is about

The objective of this lab is to provide you with hands-on experience in Simulation and Analysis functionality in the WebSphere Business Modeler V6.

Lab Requirements

List of system and software required for the student to complete the lab.

- WebSphere Business Modeler V6 installed
- Sample code in the directory C:\Labfiles60 (Windows)

What you should be able to do

At the end of this lab you should be able to:

- Static Analysis
- Simulation
- Dynamic Analysis

- Generate and Export Reports

Introduction

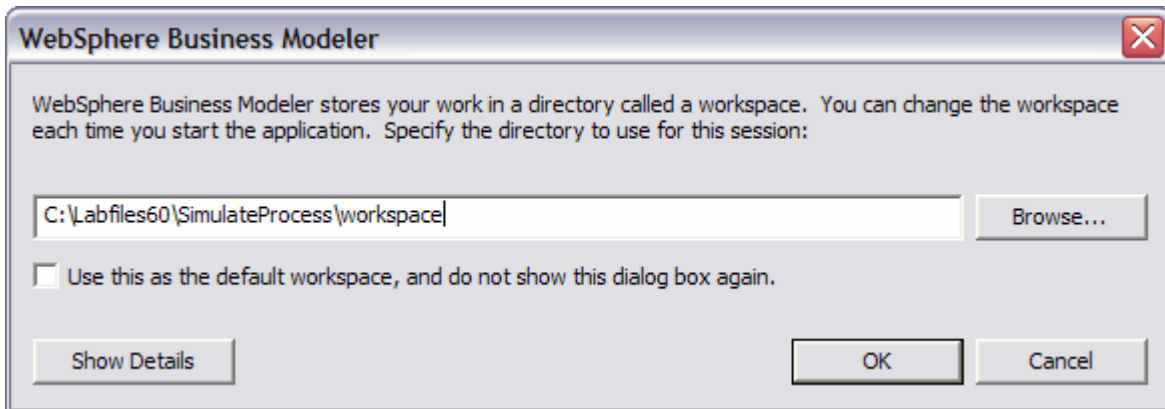
In this lab you will learn how to perform static analysis for the process created in previous labs. This lab will show you how to take a simulation snapshot and then run the simulation. After the simulation, you will learn how to generate and export reports of dynamic analysis.

Exercise Instructions

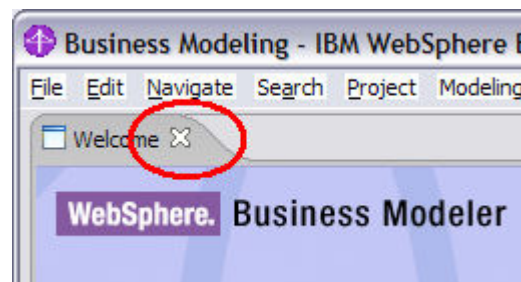
This lab walks you through the steps to analyze and simulate the process and then generate and export reports of the performed analysis.

Part 1: Initialize Workspace

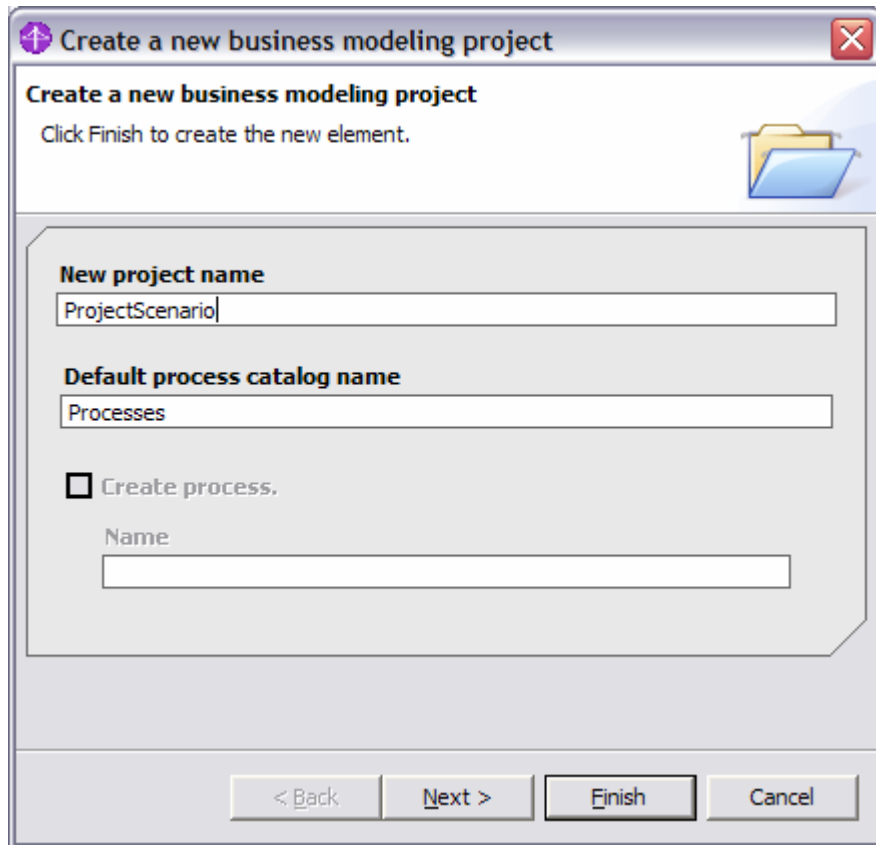
- ___ 1. Start WebSphere Business Modeler.
 - ___ i. To start the Modeler, click Start > Programs > WebSphere Business Modeler > WebSphere Business Modeler.
 - ___ j. The Modeler workspace window will appear. Click the Browse button and select <LAB_FILES>\SimulateProcess\workspace as your workspace directory.



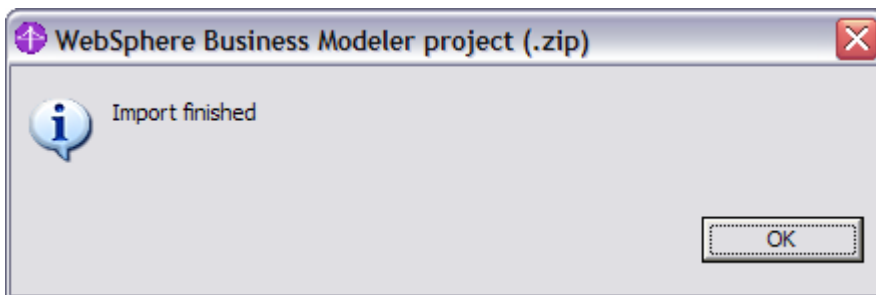
- ___ k. Click **OK**.
- ___ l. When WebSphere Business Modeler starts, close the Quickstart wizard by clicking **Cancel**.
- ___ m. Close the Welcome view by clicking the **X** at the top of the view.



- ___ 2. Import the process into the workspace.
 - ___ i. Click **File > Import**.
 - ___ j. Select **WebSphere Business Modeler Import** from the list.
 - ___ k. Click **Next**.
 - ___ l. Ensure WebSphere Business Modeler project (.zip) is selected and click **Next**.
 - ___ m. Click Browse... and navigate to <LAB_FILES>\SimulateProcess\import\.
 - ___ n. Select **ProcessScenario_Start.zip**.
 - ___ o. To the right of the Target project field, click **New**.
 - ___ p. Change the New project name to **ProjectScenario**.



- ___ i. Click **Finish**. The Target project field should be filled in with the ProjectScenario value.
- ___ j. Click **Finish**.
- ___ k. Click **OK** to the Import finished message.



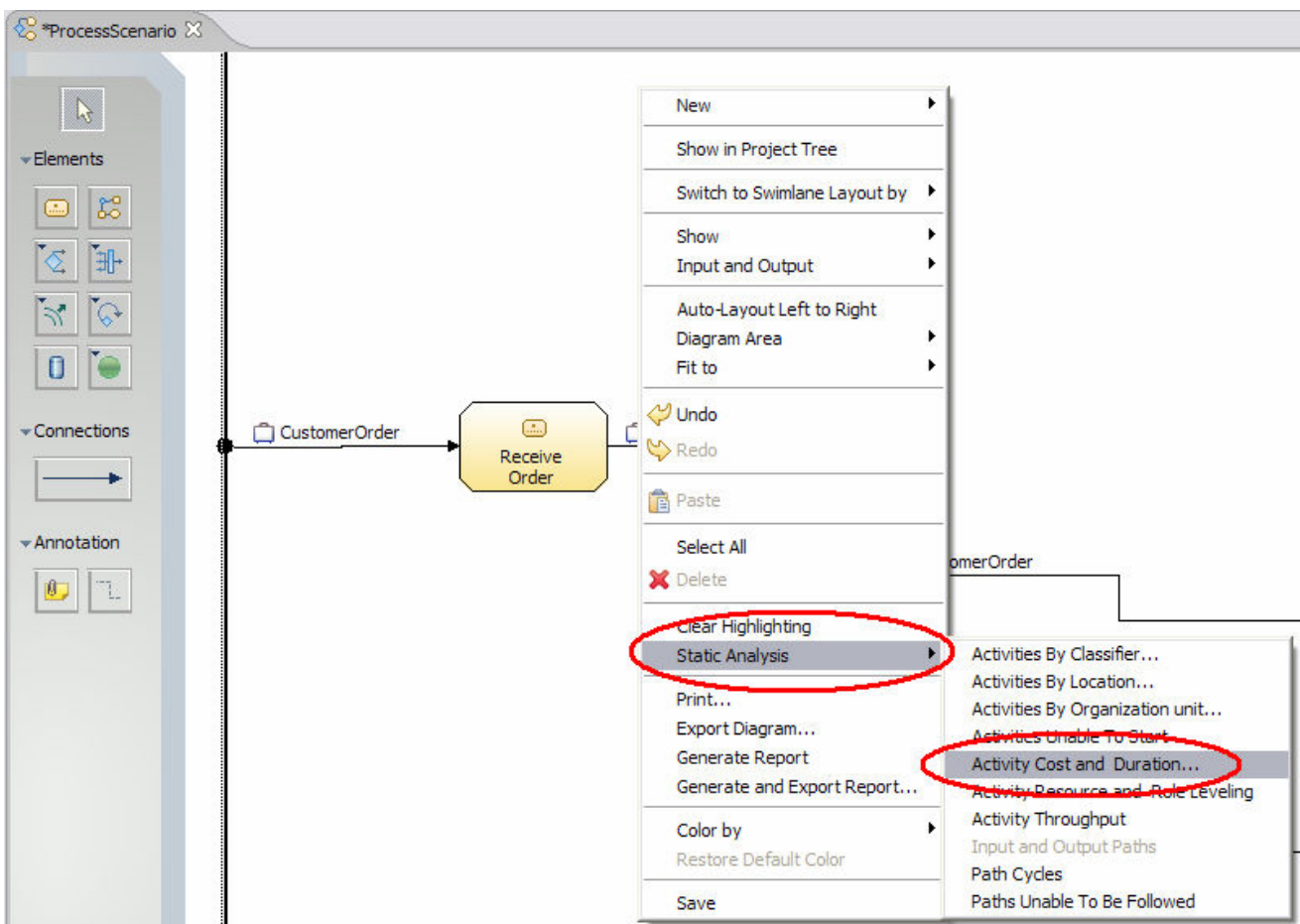
Part 2: Static Analysis

There are many static analysis reports available:

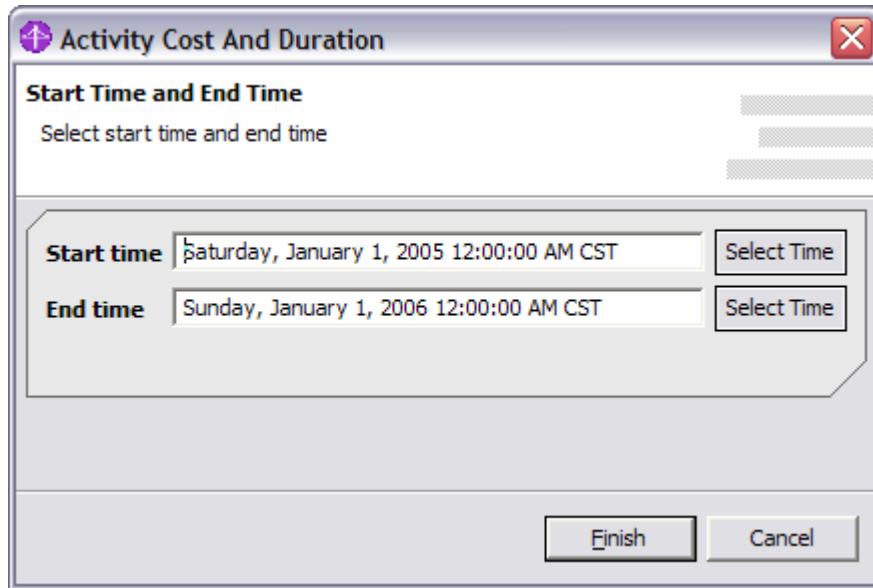
- Resource Model Analysis – allows you to extract information on resources, roles and timetables that you have defined in your project.
- Organization Model Analysis – allows you to identify the usage and position of organization model elements within structures and structure definitions.
- General Analysis – allows you to determine the relationships of model elements with each other.

In this exercise, you will only reference a subset of these reports.

1. In the Project Tree view, expand ProjectScenario\Processes and open the process by double clicking the **ProcessScenario** process.
2. Perform the Activity Cost and Duration analysis from the process diagram:
 - a. Right click the empty area of your process diagram and select **Static Analysis > Activity Cost and Duration**.



__ b. Click **Finish** to accept the default start and end time.



__ c. The Activity Cost and Duration view will be displayed:

| Activity | Cost | Allocated Resources Total Working Duration | Activity Minimum Working Duration | Notes |
|----------------------|----------|--|-----------------------------------|-------|
| Approve Order | \$300.00 | 2 hours | 2 hours | |
| Package and Ship ... | \$100.00 | 30 minutes | 30 minutes | |
| Receive Order | \$100.00 | 1 hour | 1 hour | |

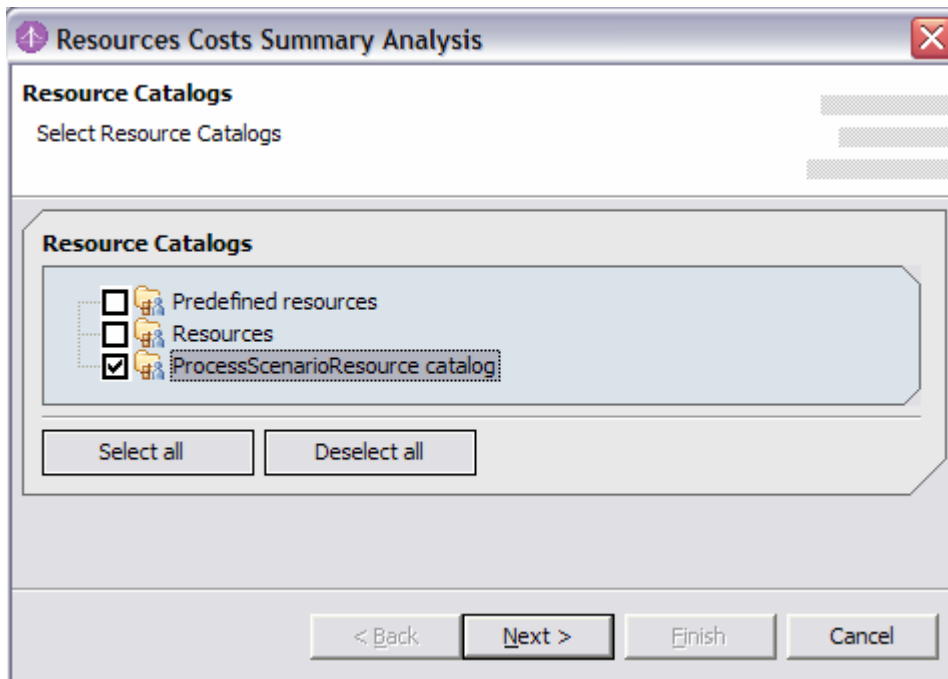
Note that these values were assigned in process already.

The Activity Cost and Duration analysis returns the cost of each activity as a sum of the average costs of the allocated resources. It also computes the total working duration of the allocated resources of each activity, and the minimum working duration of the activity.

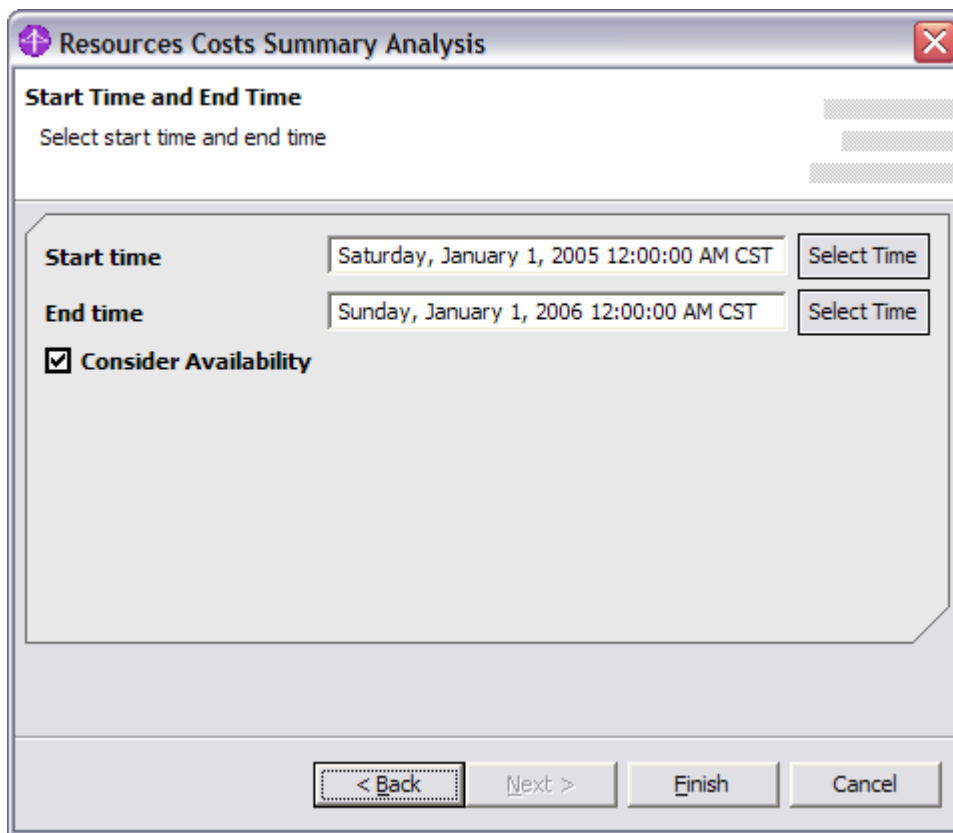
___ 3. Perform Static Analysis from the **Project Tree** view.

__ a. Right-click anywhere in the Project Tree view and select **Static Analysis > Resource Analysis > Resource Costs Summary**.

__ b. Select **ProcessScenario Resource Catalog** and click **Next**.



__ c. Click **Finish** to accept the default start and end time.



The Resource Costs Summary Analysis results will be displayed in the Analysis View in the bottom right-hand pane:

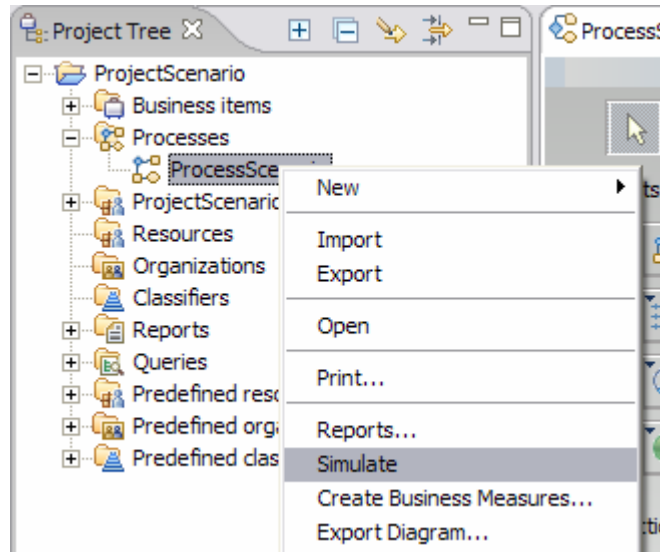
| Resources Costs Summary Analysis ProcessScenario 12:23:57 PM CST | | | | | | | | |
|--|-----------------|-----------------|--------------------|---|----------------|--------------------------|----------------------|---------------------------|
| Activity Cost and Duration Analysis ProcessScenario 12:14 PM | | | | Resources Costs Summary Analysis ProcessScenario 12:23 PM | | | | |
| Resource Name | Average One-... | Average Cost... | Average Cost Pe... | Average Cost Per Time Unit | Total Duration | Total Cost Per Time Unit | Annual Working Hours | Annual Per Time Unit Cost |
| Mike | \$0.00 | | | \$6.83 / Hour | 2904 hours | \$19,834.32 | 2,911 | \$19,882.13 |
| Jim | \$0.00 | | | \$10.92875 / Hour | 2904 hours | \$31,737.09 | 2,911 | \$31,813.59125 |
| John | \$0.00 | | | \$5.465 / Hour | 2904 hours | \$15,870.36 | 2,911 | \$15,908.615 |

The Resource Costs Summary analysis determines the costs of multiple resources for all periods during which the resources are available between a specified start and end time.

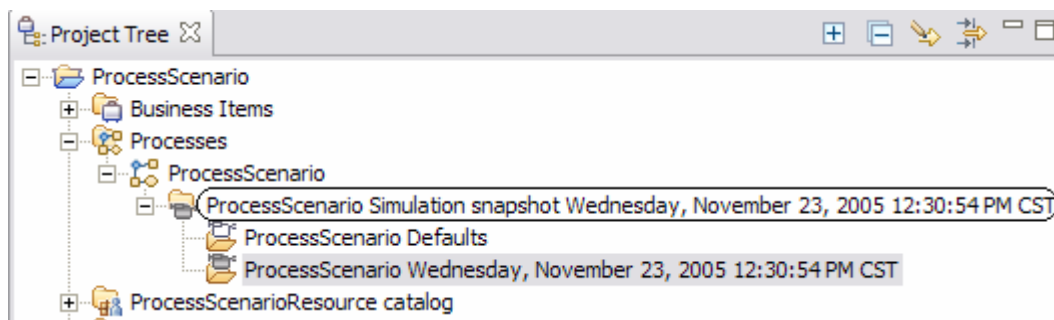
Part 3: Run a Process Simulation

Simulating processes assists in identifying issues and potential improvements. You can create one or more simulation profiles for each process and then use the Simulation Editor to specify attributes of the profile, such as the quantity of available resources, number, rate and composition of inputs to the process. You can also set specific conditions such as cumulative costs for the process.

- ___ 1. Create a Simulation Snapshot.
 - ___ a. Right-click the **ProcessScenario** process in the Project Tree and select **Simulate**.

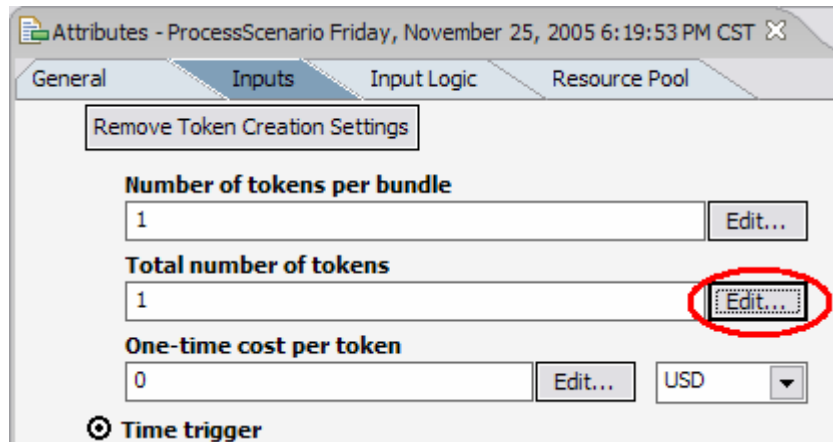


A new simulation snapshot will be created in the Project Tree and the ProcessScenario simulation profile opens in the Simulation editor.

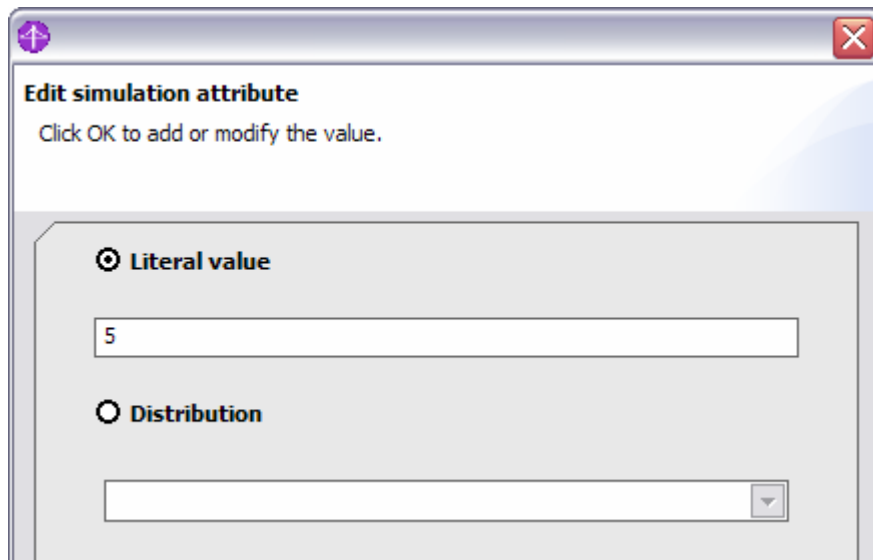


- ___ 2. Specify simulation settings for the overall process.
 - ___ a. Click in an open area in the Process Editor. The ProcessScenario Attribute View opens.
 - ___ b. Click the **Inputs** tab in the **Attributes** view.
 - ___ c. Click the row that contains the **CustomerOrder** in the **Associated Data** input in the **Token creation settings** table.
 - ___ d. Click the scroll down arrow on the bottom-right of the Attributes View panel to review Token creation settings.

__ e. Click **Edit** next to the **Total number of tokens** data field.



__ f. The Edit simulation attributes window opens. Under **Literal value**, enter **5**.



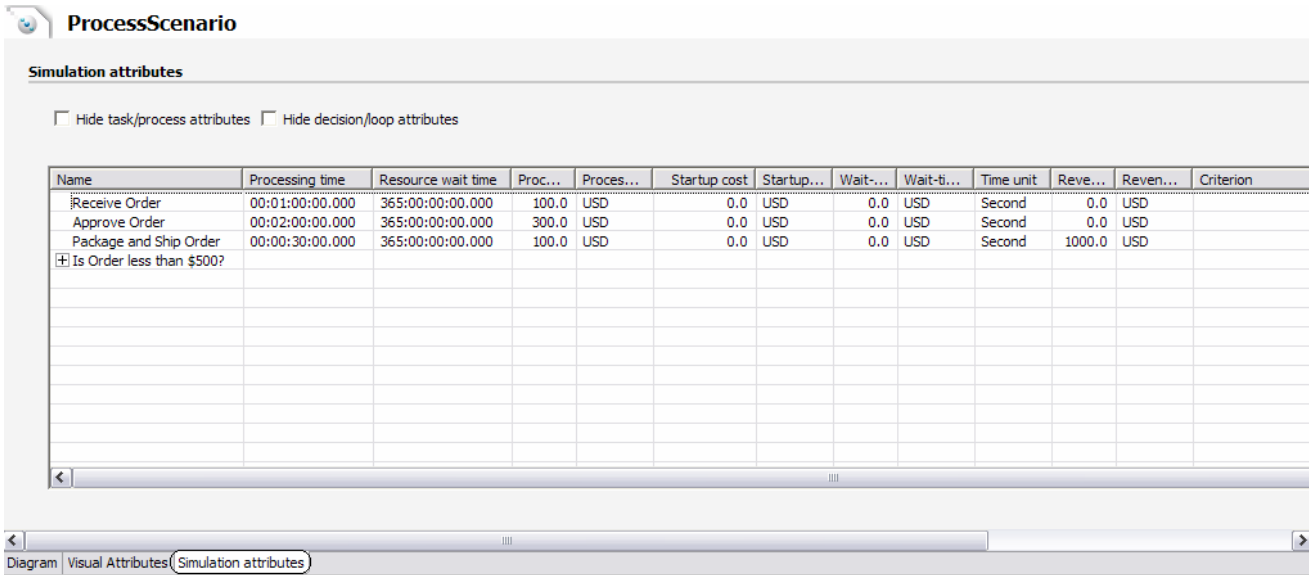
This will cause the process to simulate 5 instances of the business process.

__ g. Click **OK**.

__ h. Save your project (**Ctrl+S**).

___ 3. Check the complete simulation setup.

___ a. In the simulation view of the process diagram, select the **Simulation attributes** tab.



This summarized view is new in Modeler V6, and can be used for editing as well. The simulation attributes panel provides a full overview of simulation setup. This view is editable, and any values modified and saved will be used in the simulation.

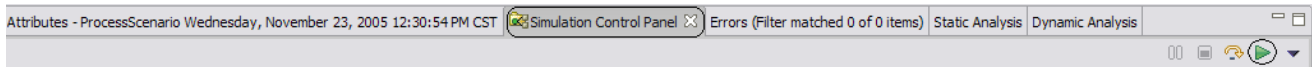
Note: If the Simulation attributes view is blank, enlarge the window by double-clicking on the top tab. The table should appear. Double-click on the top tab again to restore it to the original size.



___ b. Click the **Diagram** tab to switch back to the process diagram.

___ 4. Simulate the ProcessScenario process.

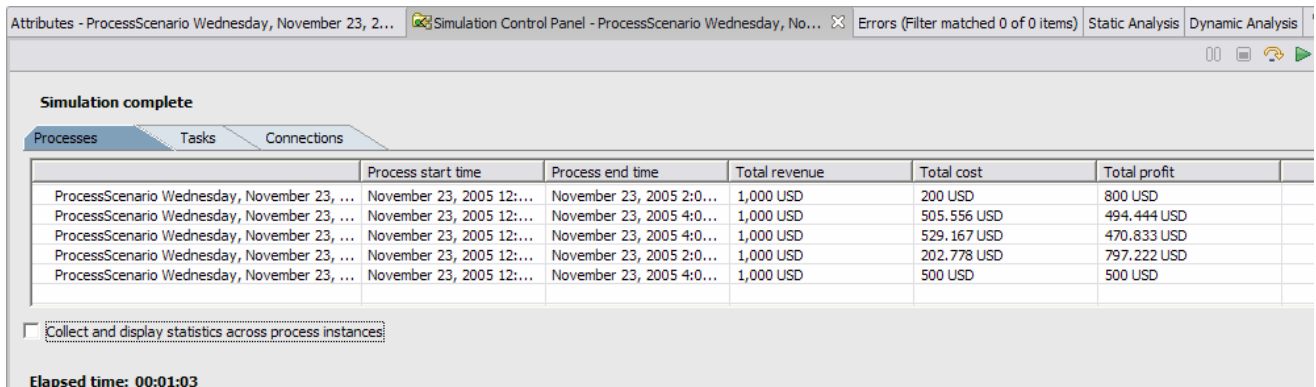
___ a. Click the **Simulation Control Panel** tab (located at the bottom of pane and at the top of the Attributes View).

___ b. Click the Run  icon on the upper-right of the Control Panel toolbar.

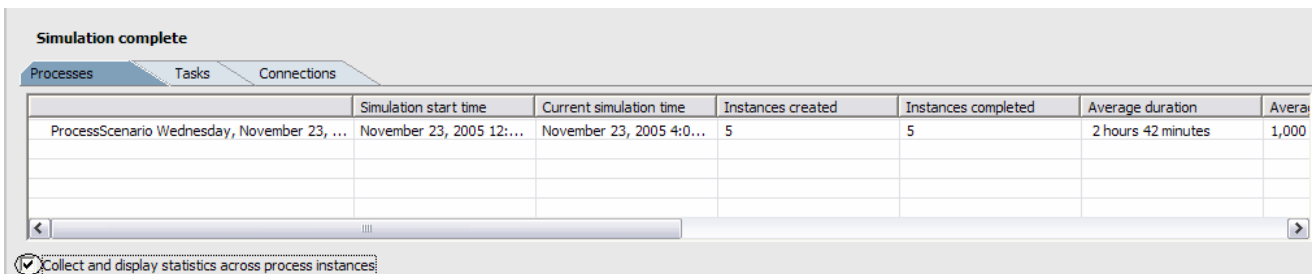


The simulation starts and runs until completion, based on the default attributes. During the simulation, you will see the ProcessScenario process in action, and each token will flow through the process. You can control the simulation by clicking the various icons in the Control Panel toolbar. To pause the simulation, click the Pause  icon. To stop the simulation, click the Stop  icon.

As the simulation runs the simulation statistics are displayed in the Control Panel.

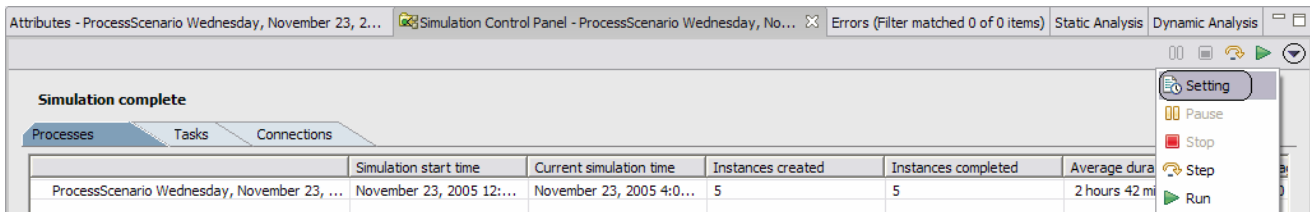



- ___ c. Check the **Collect and display statistics** across process instances box at the bottom to view generated statistics as averages for all process instances.

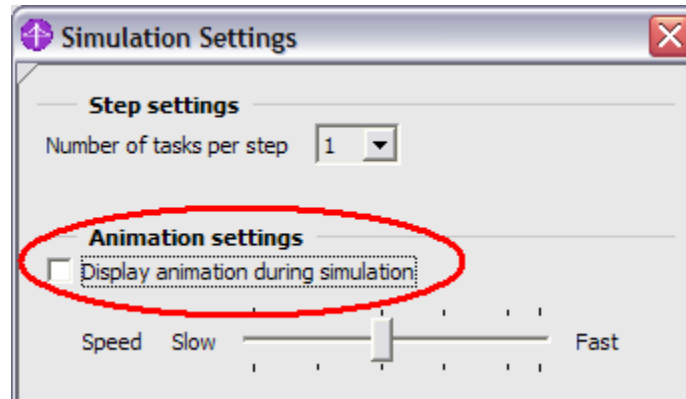


- ___ 5. You may experiment with turning off the animation, which makes simulation faster.

- ___ a. Click on the simulation **control panel** tab, and then select the drop down arrow at the upper right corner of the panel. Select **Setting**.



- ___ b. Under **Animation settings**, uncheck the **Display animation during simulation**. Then click **OK** and **run** () the simulation again if desired.



Part 4: Dynamic Analysis

You can perform detailed analysis on the results of your simulations to extract information regarding scheduling, costs, output, and other statistics pertaining to your processes.

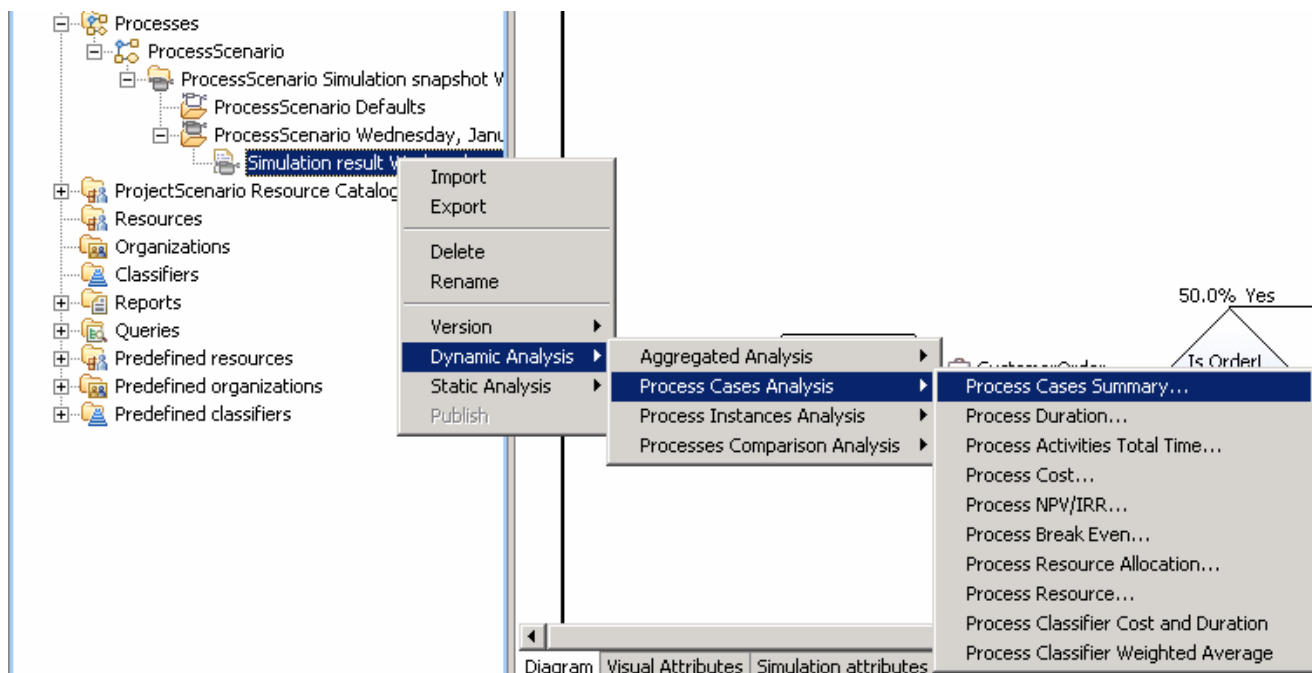
You can perform the following types of dynamic analysis with WebSphere Business Modeler:

- Aggregated - Determines information about activities and resources used in all process instances generated during a simulation.
- Process Cases and Process Instances - Performs a process instances summary analysis to list the process cases and process instances generated in process simulation run and to show the probability of occurrence for each process case.
- Process Comparison - Compares the weighted average analysis results for two simulated processes that use the same input parameters.

___ 1. Review dynamic analysis reports.

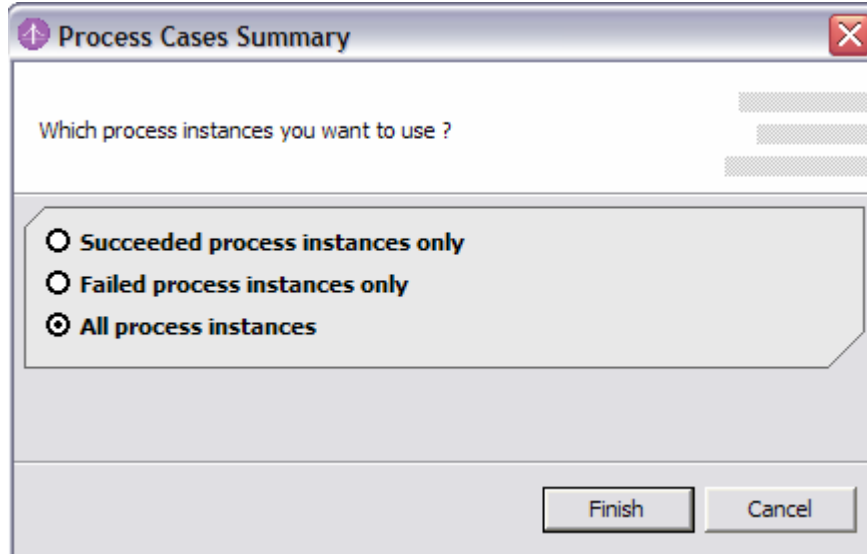
___ a. From **Project Tree** view, select and expand **ProcessScenario** process.

___ b. Right-click the simulation results of **ProcessScenario** in the Project Tree and select **Dynamic Analysis > Process Cases Analysis > Process Cases Summary**.



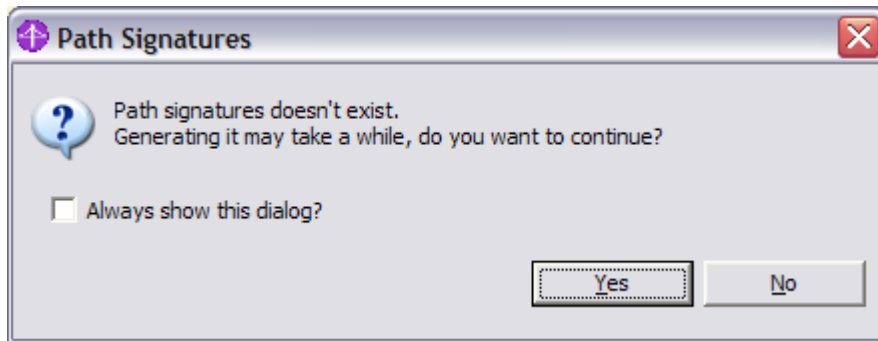
___ c. Click **OK**.

___ d. Select **All process instances**.



___ e. Click **Finish**.

___ f. If you are doing for the first time, you will see the Path Signatures window. Uncheck the **Always show this dialog?** radio button and click **Yes**.



___ g. The Process Cases Summary Analysis results will be displayed in the Analysis View in the bottom right-hand pane. The result list provides a summary of all cases executed in this simulation, the number of instances, cost, duration and distribution.

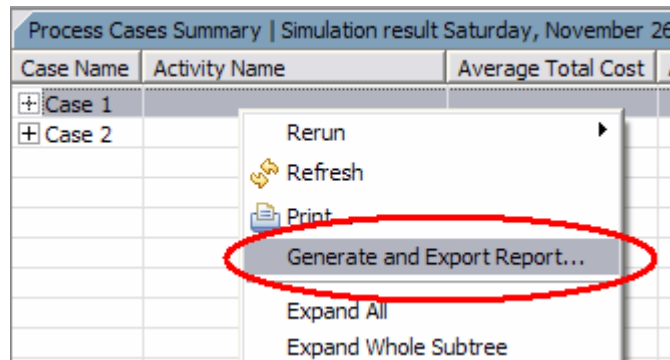
___ h. Click the **Case 1** cell on the Analysis results, and note that the path of **Case 1** is highlighted in blue.

| Case Name | Activity Name | Average Total Cost | Average Elapsed Duration | Number of Process Instances | Average Process Total Cost | Average Process Elapsed Duration | Distribution | Success Status |
|-----------|---------------|--------------------|--------------------------|-----------------------------|----------------------------|----------------------------------|--------------|----------------|
| Case 1 | | | | 3 | \$206.05 | 1 hour 30 minutes | 60% | Succeeded |
| Case 2 | | | | 2 | \$500.00 | 3 hours 30 minutes | 40% | Succeeded |

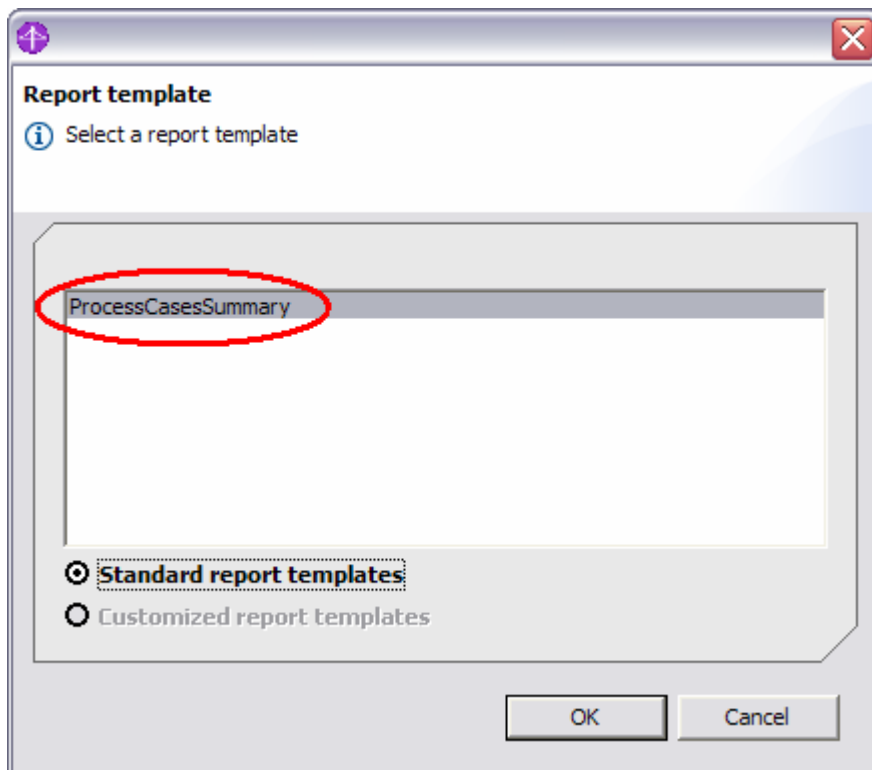
Part 5: Generate and Export Reports

This section of the exercise demonstrates how to generate and export the results of any analysis that you have run and have not closed in the Analysis View.

- ___ 1. The Process Case Summary results are displayed in the Analysis view in the bottom right-hand pane. Export these results.
 - ___ a. Right-click from analysis view and select **Generate and Export Report**.

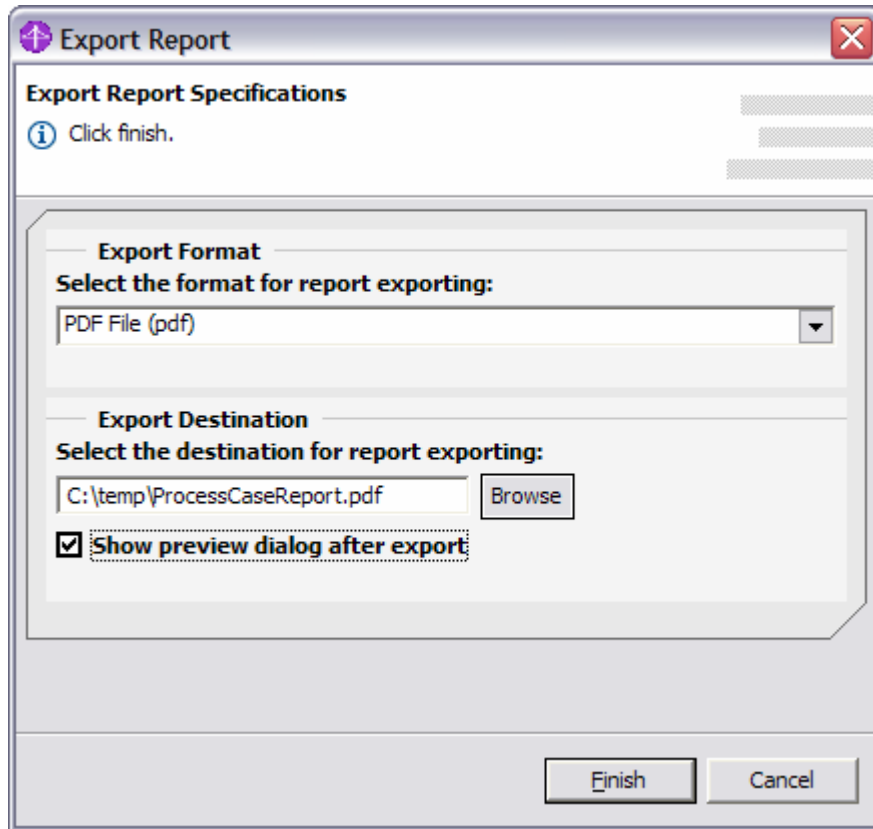


- ___ b. Select **ProcessCasesSummary** from the Report Template window. The **Standard report templates** options should already be selected.



- ___ c. Click **OK**.
 - ___ d. An Export Format window opens. Select the **PDF File (pdf)** option from the Export Format.

- ___ e. Click **Browse** button to select the **C:** drive.
- ___ f. Type **ProcessCaseReport.pdf** as the file name.
- ___ g. Click **Save**.
- ___ h. Select the **Show preview dialog after export** option.



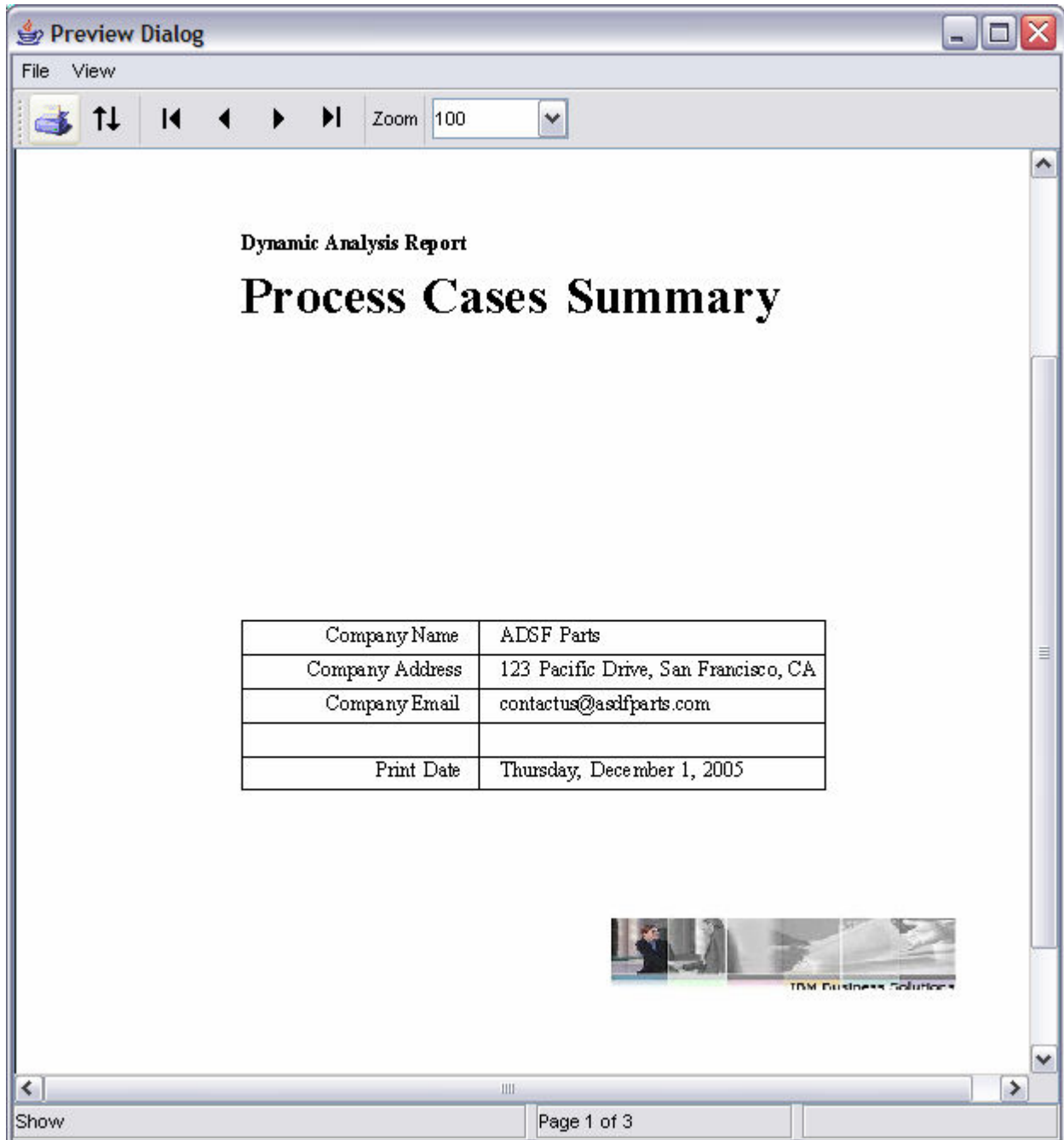
- ___ i. Click **Finish**.

- ___ j. The report can be customized with company information. The Enter Parameters Values dialog box will be displayed. Select **Company Name** and enter **ASDF Parts** in the Enter Parameter Value field.

The screenshot shows a dialog box titled "Enter Parameter Values". It contains three main sections: "Parameter Fields" with a list of "Company Name", "Company Address", and "Company Email"; "Parameter Description" with the text "Enter company name"; and "Parameter Value" with a text box containing "ASDF Parts". At the bottom are "OK" and "Cancel" buttons.

- ___ k. Select **Company Address** and enter **123 Pacific Drive, San Francisco, CA** in the Enter Parameter Value field.
- ___ l. Select **Company E-mail** and enter contactus@asdfparts.com in the Enter Parameter Value field.
- ___ m. Click **OK**.

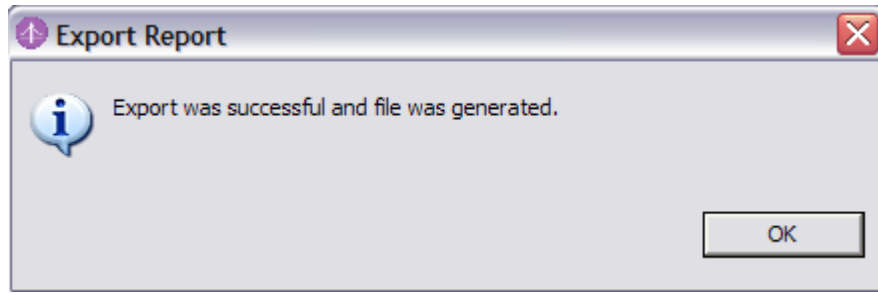
__ n. A **Preview Dialog** window will be displayed with the Process Case Summary:



__ o. Review all the pages in this document.

__ p. Close the **Preview Dialog** when finished.

___ q. Click **OK** from the **Export Report** window:



What you did in this exercise

In this lab, you performed static analysis for the process ProcessScenario. You then developed a simulation snapshot, from where you ran a simulation with the input settings. You completed the exercise by performing a dynamic analysis for which you generated and exported a report in pdf format.

Solution Instructions

There are no solution instructions since this exercise is a sequence of steps to be completed on existing artifacts.

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