Modeling human tasks with WebSphere Business Modeler V6.1

What this exercise is about

The objective of this lab is to provide you with an understanding of the new feature in WebSphere Business Modeler V6.1 for modeling human tasks. The human tasks defined in WebSphere Business Modeler V6.1 can then be imported into WebSphere Integration Developer V6.1 where the business process implementation can be completed and tested.

This exercise will demonstrate how to create a human task in WebSphere Business Modeler V6.1 and the close integration with WebSphere Integration Developer V6.1.

Lab requirements

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

- WebSphere Business Modeler V6.1
- WebSphere Integration Developer V6.1

What you should be able to do

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

- Create a local human task in WebSphere Business Modeler.
- Export the project and then import it into WebSphere Integration Developer V6.1 and understand the mapping between the WebSphere Business Modeler and WebSphere Integration Developer.

Introduction

Human interactions are key components of many business processes. Modeling the human interactions in a business process involves roles, such as, who is going to do a task, security, ensuring that only authorized personnel are permitted to do each task and escalations. Escalations are a way to determine what to do, when a task is not completed within the allotted timeframe.

Capturing this information is a valuable step in the understanding and creation of business processes for an enterprise. If the business processes are being modeled with the intention of implementing them using WebSphere Integration Developer, then its essential that the information gathered during the business analysis is propagated accurately to the implementation stage. The features for modeling and specifying the human tasks in WebSphere Business Modeler V6.1 are designed to work seamlessly with WebSphere Integration Developer V6.1. The business analyst may choose to model the human interactions very simply and leave the details to the integration developer or they can specify the human task in detail, knowing that the work done will be carried over to the next phase of business process development.

In WebSphere Business Modeler V6.1, a human task is a *specialized kind-of task* that has unique requirements (constrained) on the inputs and the outputs, along with special resource and security requirements. The primary owner is a staff or person resource and the groups and roles help manage the security requirements.

In this exercise you will start with a human centric business process that was originally developed using WebSphere Business Modeler V6.0.2, using the new features in WebSphere Business Modeler V6.1 you will convert the 6.0.2 style human task to the new 6.1 Human Task element and then complete the specification for the human task.

When the specification in WebSphere Business Modeler V6.1 is complete, you'll then export the model from modeler and import it into WebSphere Integration Developer V6.1 to see how the new elements are mapped to constructs in the implementation model.

Exercise instructions

Some instructions in this lab are Windows operating-system specific. If you plan on running the lab on an operating-system other than Windows, you will need to run the appropriate commands, and use appropriate files (.sh or .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references, as follows:

Reference variable	Windows location	AIX/UNIX location
<WAS_HOME>	C:\WebSphere60\AppServer	/usr/WebSphere60/AppServer /opt/WebSphere60/AppServer
<IRAD_HOME>	C:\Program Files\IBM\RSDP\6.0	
<LAB_FILES>	C:\Labfiles60	/tmp/Labfiles60
<TEMP>	C:\temp	/tmp

Note for Windows users: When directory locations are passed as parameters to a Java program such as EJBdeploy or wsadmin, it is necessary to replace the backslashes with forward slashes to follow the Java convention. For example, replace C:\LabFiles61\ with by C:/LabFiles61/

Part 1: Creating the human tasks

____ 1. Download and extract the WBIV61_Labfiles_Modeler.zip from the IBM Education Assistant.

__ a. It is under the additional resources where you downloaded this document from.

__ b. Unzip it to the root of your drive.

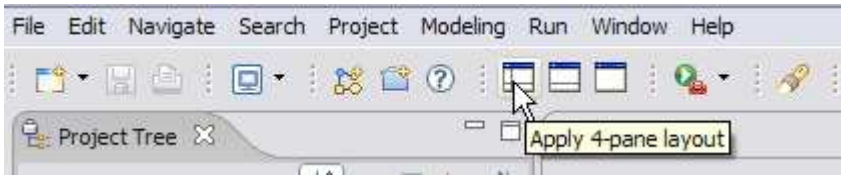
____ 2. Start WebSphere Business Modeler V6.1 using a new workspace

__ a. Call the workspace Human Tasks

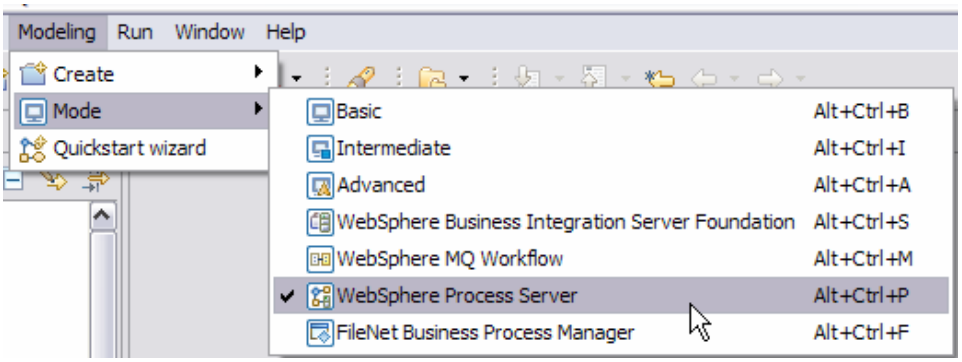
__ b. Wait a few moments until the WebSphere Business Modeler opens.

__ c. Close the welcome page

__ d. Apply the 4-pane layout from the toolbar



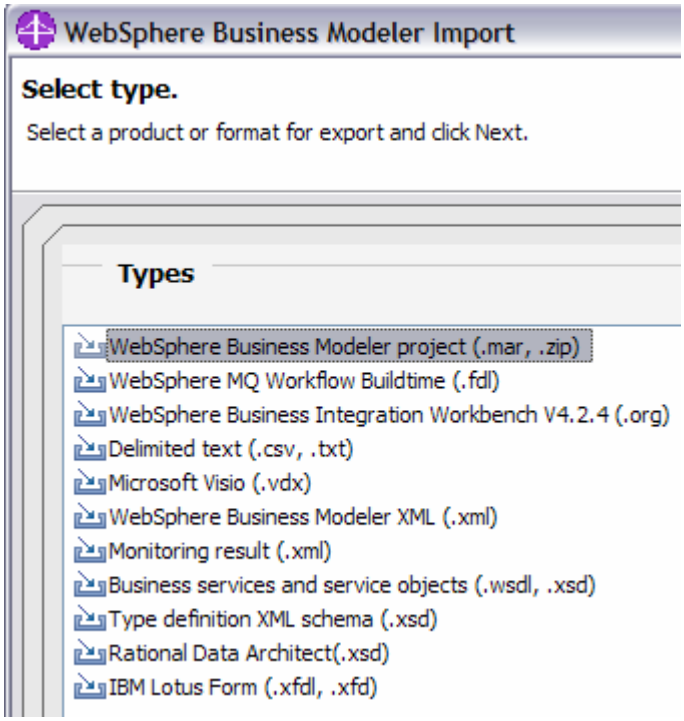
____ 3. Set the modeling mode to WebSphere Process Server



____ 4. Import the existing human resources project.

__ a. Right mouse click on in the background area of the project tree and select import.

__ b. Select the WebSphere Business Modeler project (.mar, .zip) import type and



__ c. Browse to the source directory <LAB_FILES>\Modeler 6.1

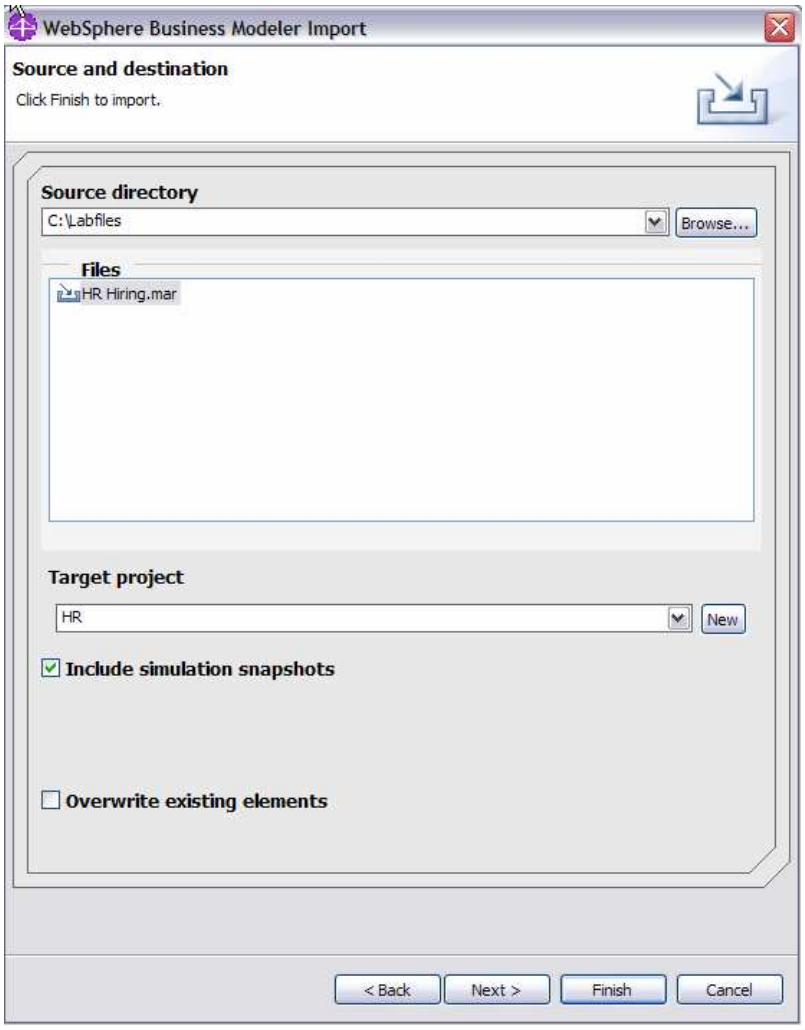
__ d. Select the modeler archive, **HR Hiring.mar**

Note: This dialog is context sensitive and what is displayed depends on the file type selected. WebSphere Business Modeler V6.1 .mar files may or may not need to specify a target project whereas the 6.0.2 .mar files do.

__ e. Create a new target project using the **New** button.

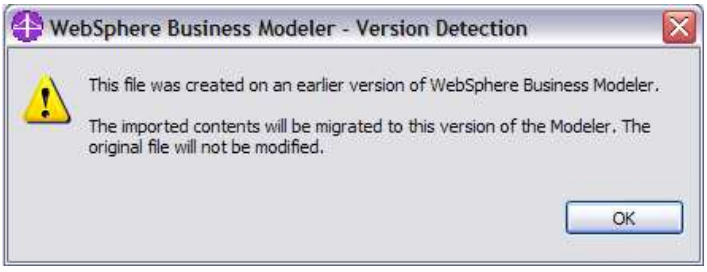
1) Call the target project **HR**

2) After the target project has been created, press **Finish**.



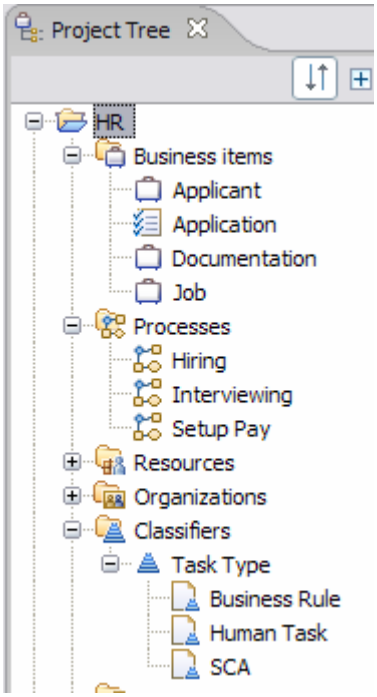
__ f. An informational dialog is displayed.

1) Press OK



2) Ignore the warnings when complete.

____ 5. Familiarize yourself with the HR model.



__ a. First notice the business processes. The overall business process that is captured in this model is the hiring of new employees. Interviewing the prospective employee is an integral part of the hiring process. In this exercise you will be working with the **Hiring** business process.

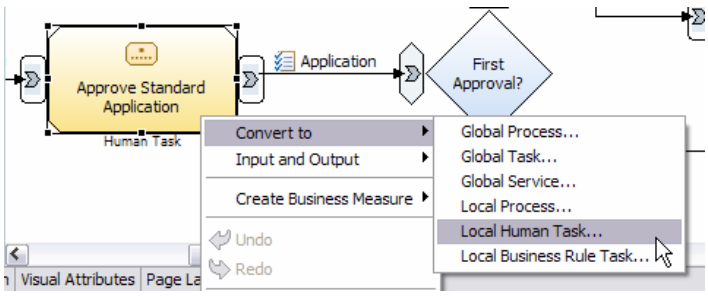
1) Open the Hiring business process and become familiar with it. Notice the labels and the overall flow.

2) There are three tasks labeled human tasks, *Approve Executive Application, Approve Standard Application* and *Four Eyes approval.* Each has the implementation type in the technical attributes set to “human task” and each is associated with a classifier called “Human Task”. The classification is used in the 6.0.2 model to help identify and manage the special kind of task and provide the label on the diagram.

3) In this exercise you will convert one of these tasks to the new human task element.

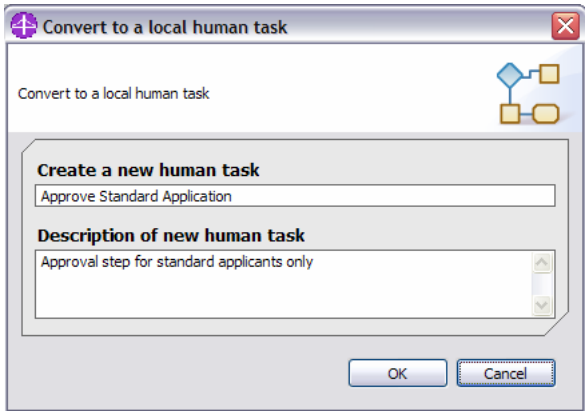
____ 6. Convert the V6.0.2 style human task called *Approve Standard Application* to a first class V6.1 human task.

__ a. Select the task *Approve Standard Application* and right-mouse click to get the pop-up menu.

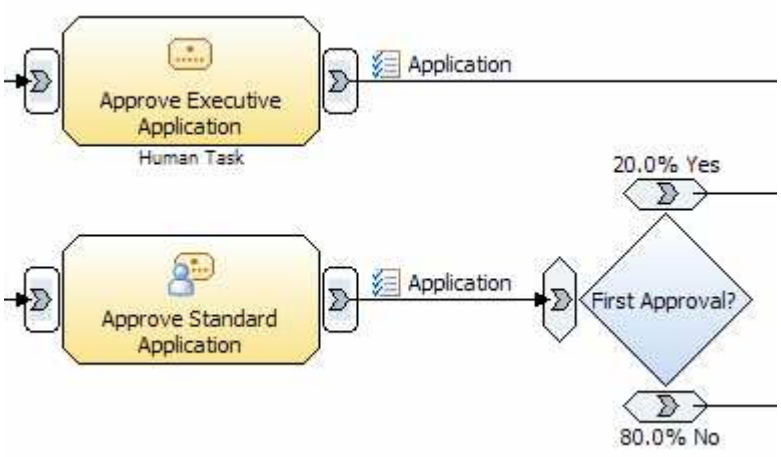


__ b. Select convert → Local Human Task…

__ c. Select “OK” on the confirmation dialog.

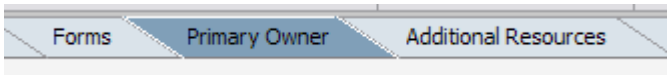


__ d. And the standard task is converted to a human task.



____ 7. Complete the specification of the newly created human task.

__ a. Select the new human task and then select the attributes tab, followed by the **Primary Owner** tab. Here you can begin to specify the details related to the human task, a short description, and the role along with additional criteria that is used to create a query against the user registry in the runtime environment.



1) Fill in the description with some words indicating how this task should be handled.

2) You can select either an individual resource definition or a role. Roles are much more flexible and easier to maintain, therefore, for this exercise, select role and browse until you find the HR Specialist and select the **HR Specialist** as the role.

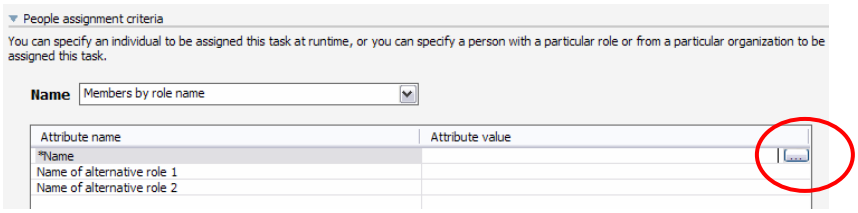
3) Next you can define the timeframe in which this task must be completed. Remember from the lecture that this is used by the WebSphere Business Modeler V6.1 for process modeling simulation but is not used by WebSphere Integration Developer V6.1.

a) Select 2 days

4) For the people assignment criteria…

a) Select *Members by role name* from the Name drop down box.

b) Select the **HR Specialist**. Select the field for the attribute value and the button for selecting the role is displayed.



c) Alternative roles can also be specified for the case where no one in the primary role is available.

Note: For this part of the modeling to go smoothly it helps if the resources and roles have already been defined.

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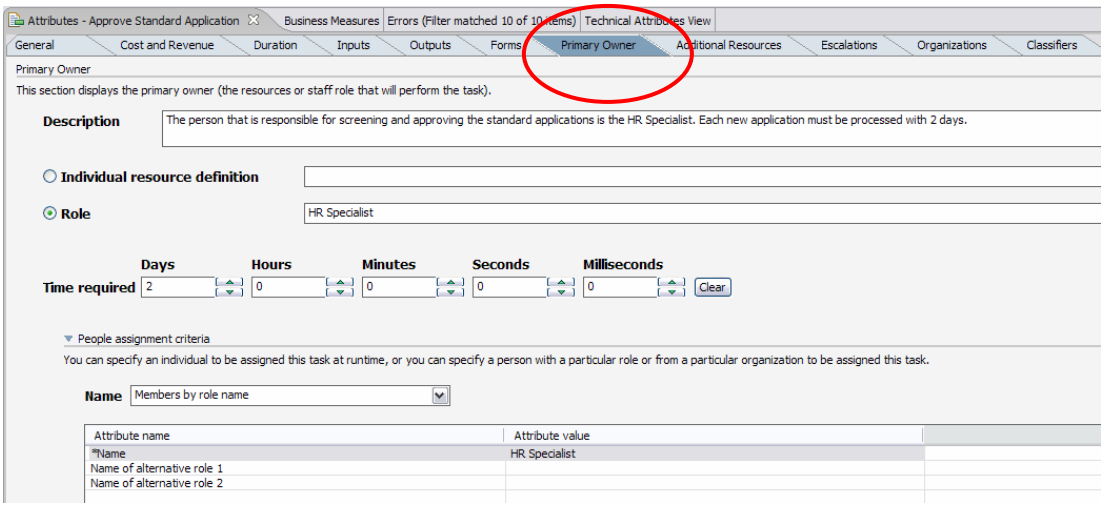
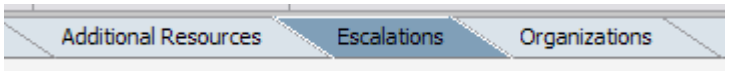
5) When you're done the Primary Owner should look as shown below.



6) Ctrl-S to save your work.

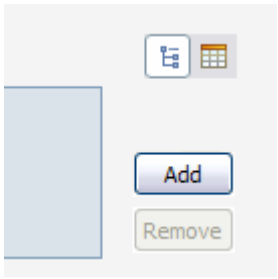
____ 8. Define the escalations.

__ a. Select the **escalations** tab in the attributes view.



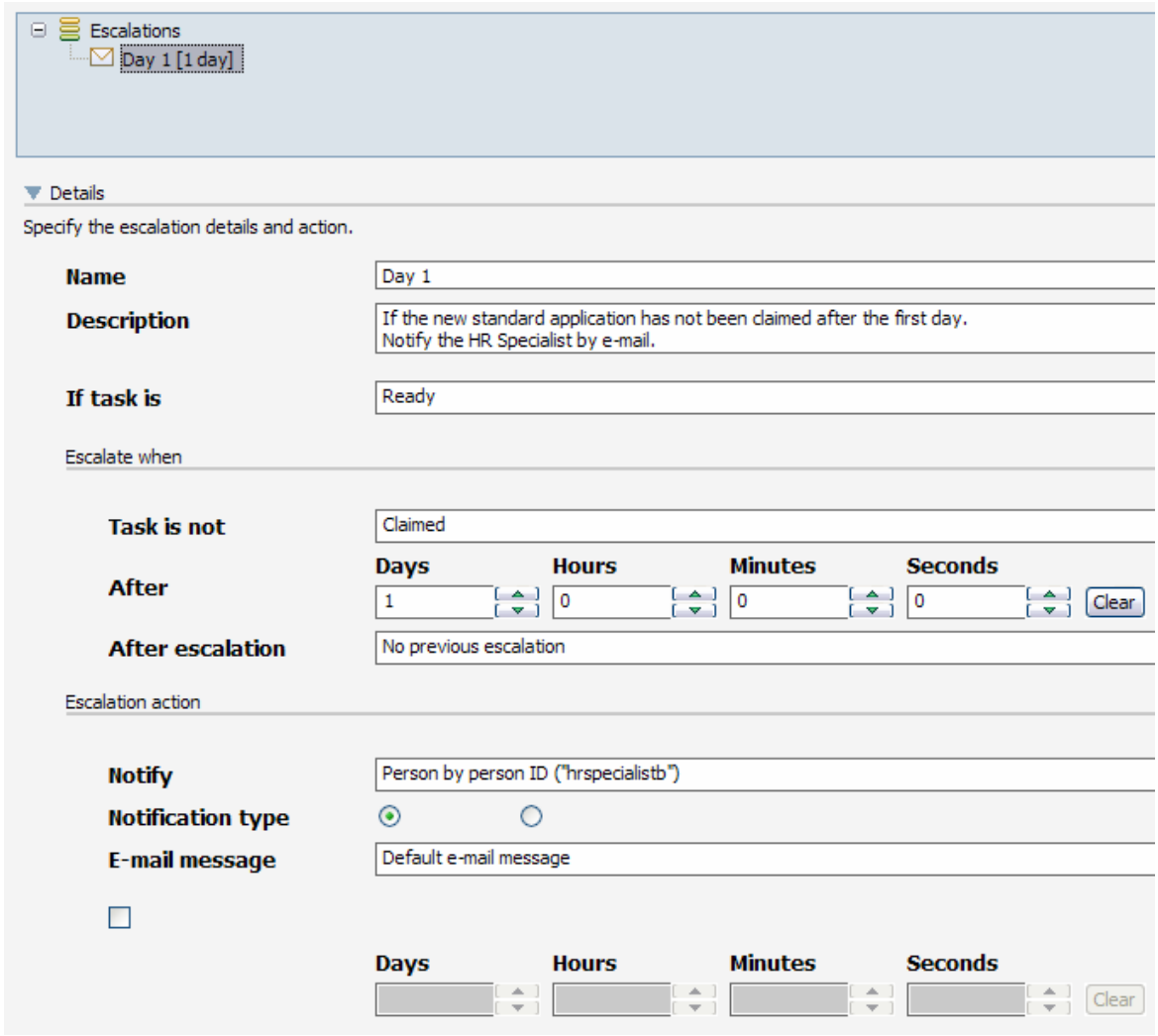
__ b. Create an escalation called Day 1.

1) Select the **add** button on the right at near the top.



2) Name: Day 1

3) Description: The new standard application has not been claimed after the first day. Notify the team leader, HR Specialist B, by e-mail.



Fill in the fields as shown in the screen capture above.

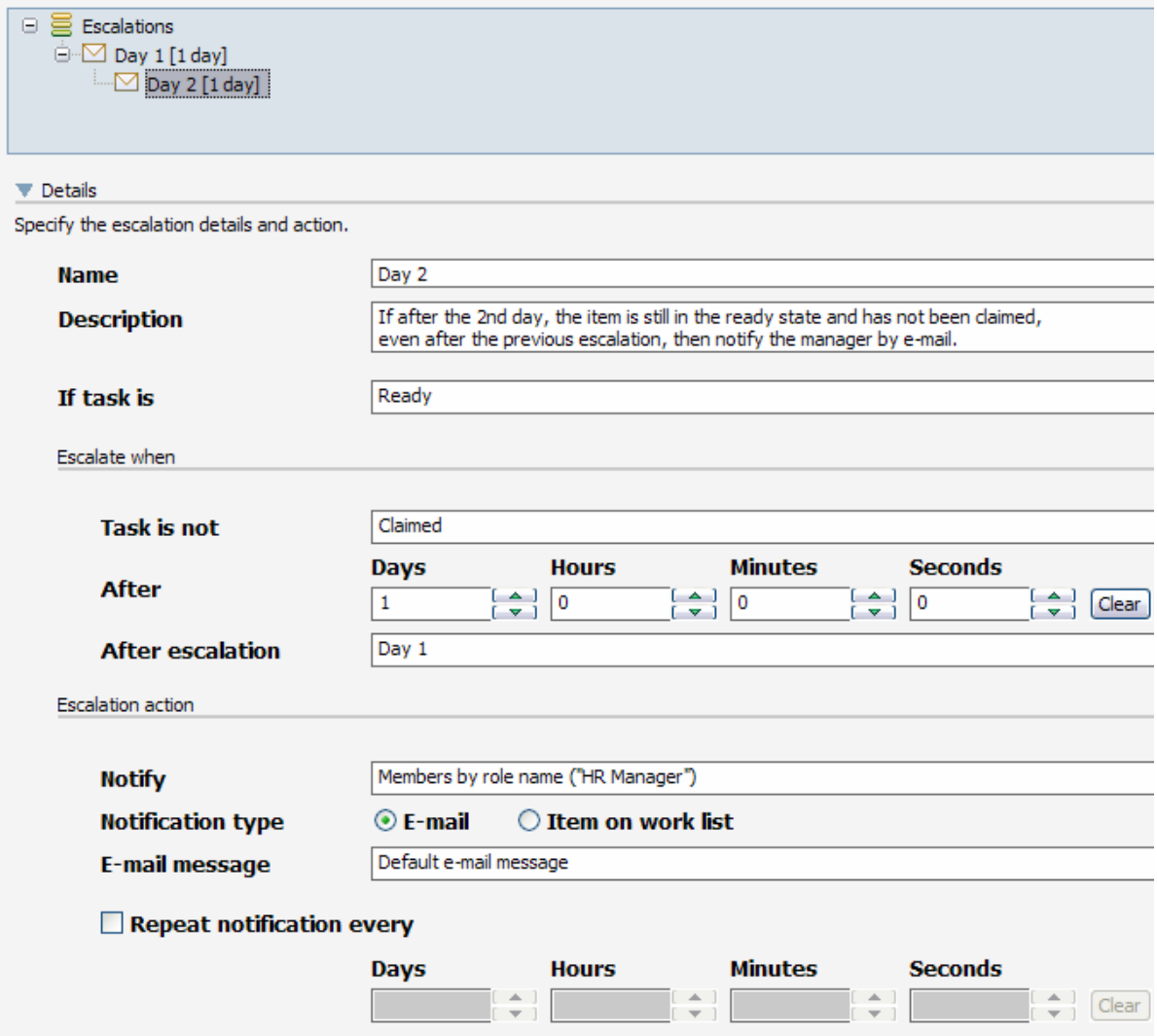
__ c. Create an escalation called Day 2.

1) Select the Day 1 escalation in the escalation hierarchy tree.

2) Select the add button on the right side of the “Escalations”.

3) Fill in the information as shown in the screen capture below.

4) Description: If after the 2nd day, the work item is still in the ready state and has not been claimed, even after a previous escalation, then notify the manager by e-mail



5) Notice the use of the “after escalation”. This is how you tell it that this escalation is based on the previous one, for Day 1.

6) Also notice the “notify” field. By selecting the query for “Members by role name” the query can be kept general. In this way the notification can avoid getting pinned to a particular person.

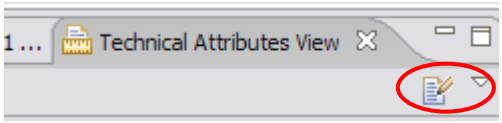
7) Ctrl-S to save your work.

____ 9. Complete the technical attributes

__ a. When exporting the model with the intention of importing it into WebSphere Integration Developer V6.1 for elaboration of the implementation, its important to complete the fields in the technical attributes. The easiest way to get started on this is to use the tool to apply the defaults.

This will provide the pattern which can then be updated to the values that suit your particular environment.

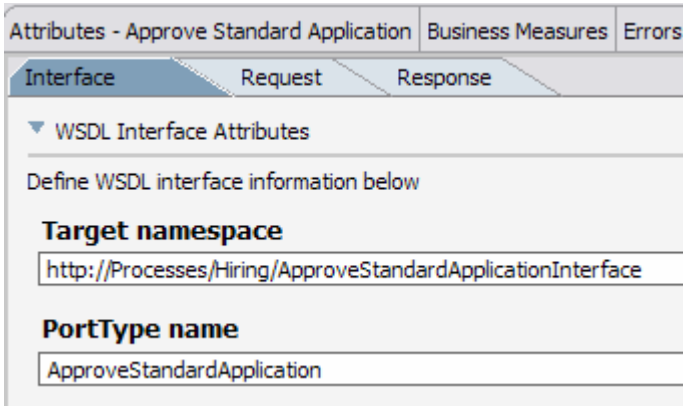
1) From the tool bar of the technical attributes view, on the upper right, select the icon to apply the default values.



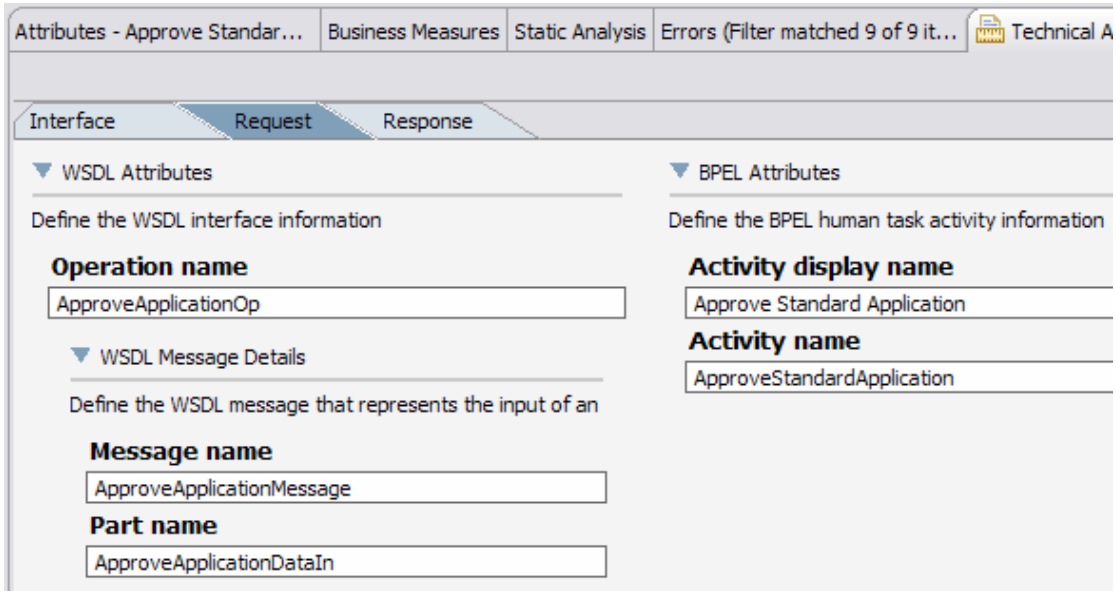
This will set the default technical attributes for all the elements in your model.

2) You'll be asked if you want to overwrite you existing technical attributes. Since this is your first time you want to **select yes**. If you have already set them and made modifications, this will allow you to set it for new, elements and leave the old ones as they are.

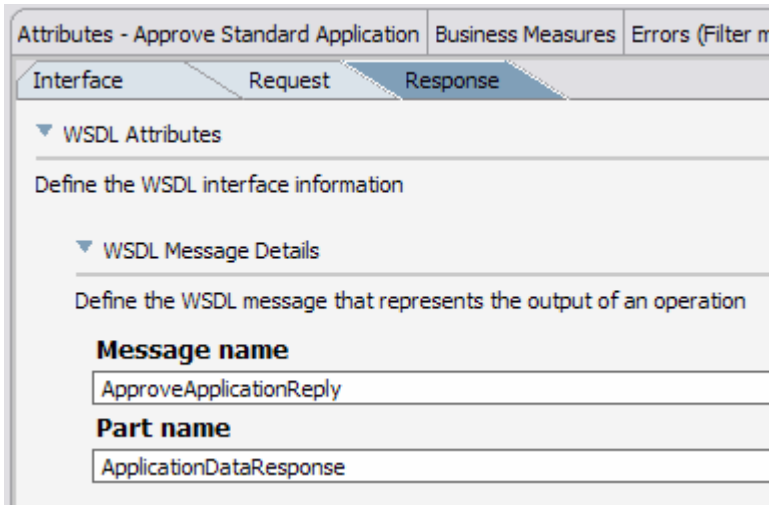
__ b. Select the Interface tab and adjust the values as shown in the screen capture below.



__ c. Select the Request tab and adjust he values as shown in the screen capture below. The names here are used when creating the implementation artifacts such as WSDL interfaces and BPEL activities. Many organizations have standard naming conventions. This is the place where those conventions should be applied.



__ d. Select the Response tab and adjust the values as shown in the screen capture below.



__ e. Notice how the available technical attributes different from the 6.0.2 definitions; the implementation type is no longer available because it is defined by the task type.

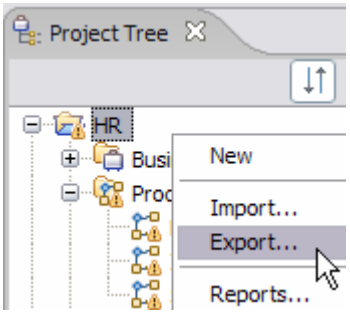
__ f. Save you work; CRTL-s

Part 2: The implementation – exporting to WebSphere Integration Developer V6.1

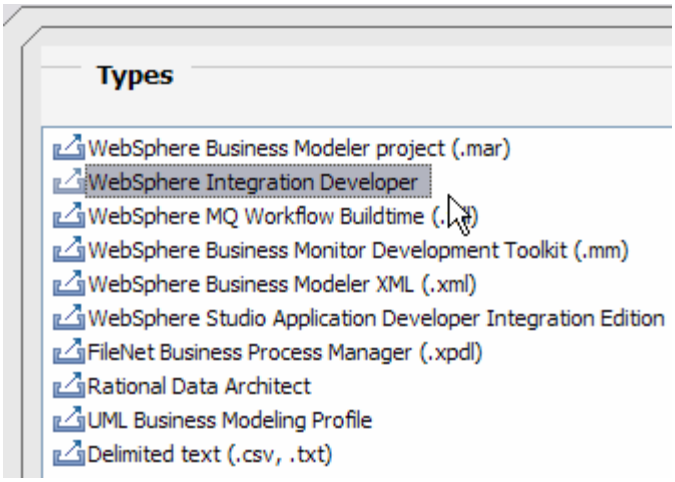
Capturing the basic human interactions and the business process in WebSphere Business Modeler may be all that is required. Chances are that the real goal is to create a model that will be implemented in WebSphere Integration Developer V6.1 and run in WebSphere Process Server V6.1.

To do this the next step is to export the model you've just created and then import it into WebSphere Integration Developer V6.1. Part 2 of this exercise will take you through those steps.

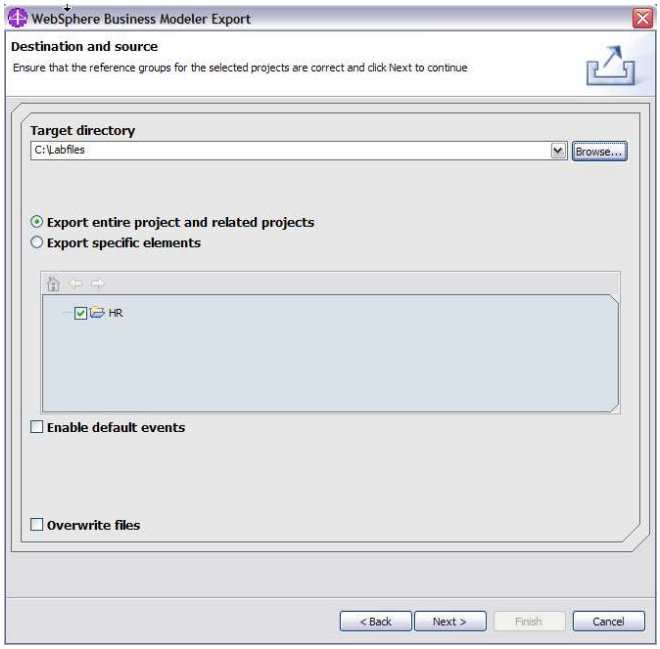
____ 1. Right mouse click on the HR project to get the pop-up menu and select export.



____ 2. Export the HR modeling project using the WebSphere Integration Developer export type.

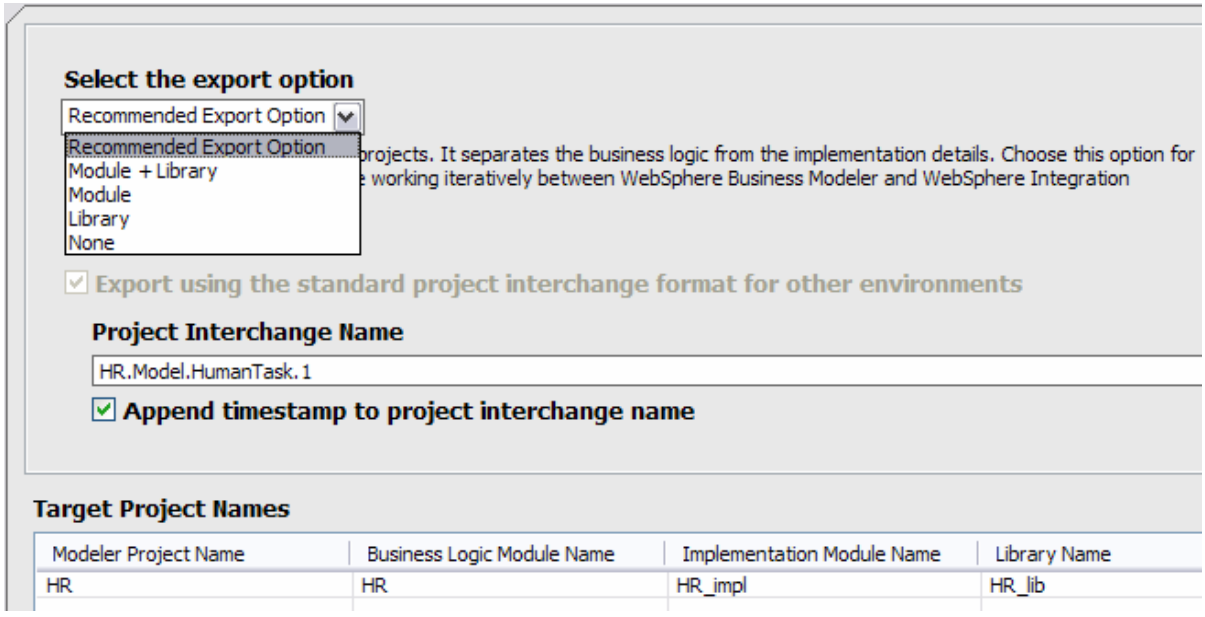


__ a. Set the target directory = <LAB_FILES>



__ b. Press **Next**.

__ c. Use the **recommended export option**. This is selected by default. When this option is used three projects are created for you in WebSphere Integration Developer V6.1 based on the separation of concerns principle discussed in the lecture.



1) **Business Logic Module:** This project will contain all of the generated BPEL and any concrete processing elements such as the business rules and human tasks that represent the business model.

a) BPEL, inline TEL files, WSDL files related to the BPEL, exports and imports.

2) **Implementation Module:** This project will contain the implementations for the Web services or other tasks for which there is no concrete implementation. The implementations are linked to the BPEL activities in the business logic module through SCA import/exports.

This separation between the Model and the Implementation will help preserve the implementations when there are changes in the model.

Note: A regular task in modeler with an implementation type set in the technical attributes will have a skeleton of the specified type created in the integration module project.

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3) **Library Module:** This project contains the supporting interfaces and data definitions shared by the business logic and the implementation modules.

a) Artifacts included in the library are BOs and WSDL interfaces for all elements (global and local).

__ d. Export using the standard project interchange format

__ e. For the Project Interchange Name: **HR.Model.HumanTask.1**

__ f. Append the timestamp.

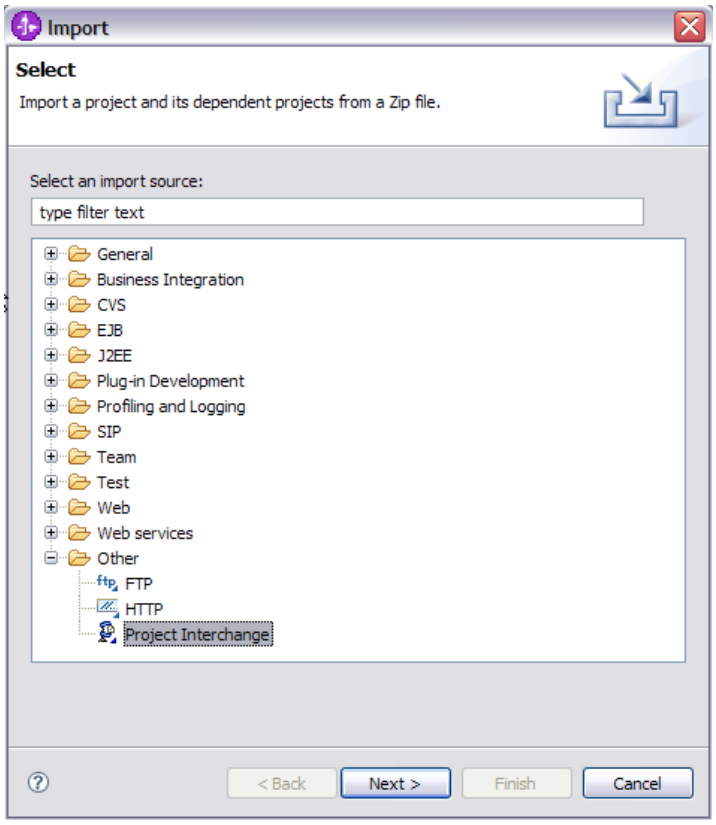
__ g. Press **Finish**.

1) There will be a warning about a missing correlation id. This is ok. The correlation is something the integration developer will be able to take care of.

____ 3. Start WebSphere Integration Developer V6.1 using a new workspace.

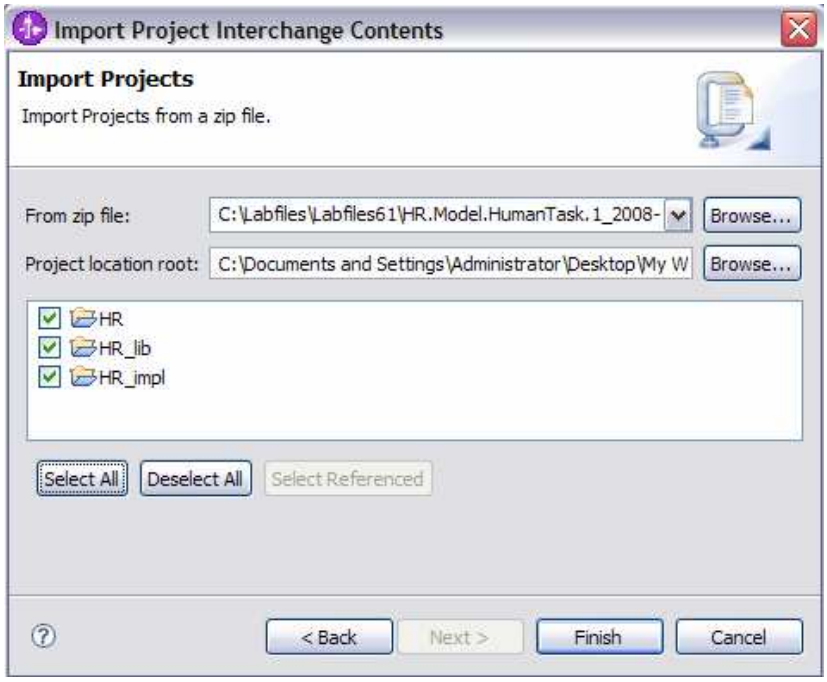
____ 4. Import the HR.Model.HumanTask.1 _yyyy-mm-dd**T**hh.mm.ss.zip

__ a. Locate the Project Interchange import type in the “Other” folder.



__ b. Press **Next**.

__ c. Notice the three type of project that are available. Ensure that all three are selected.



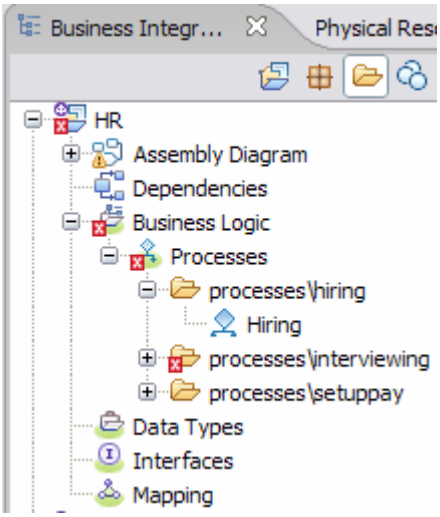
__ d. Press **Finish**.

__ e. Wait for the projects to finish building. The progress indicator is at the bottom right, in the message bar at the bottom of the window.

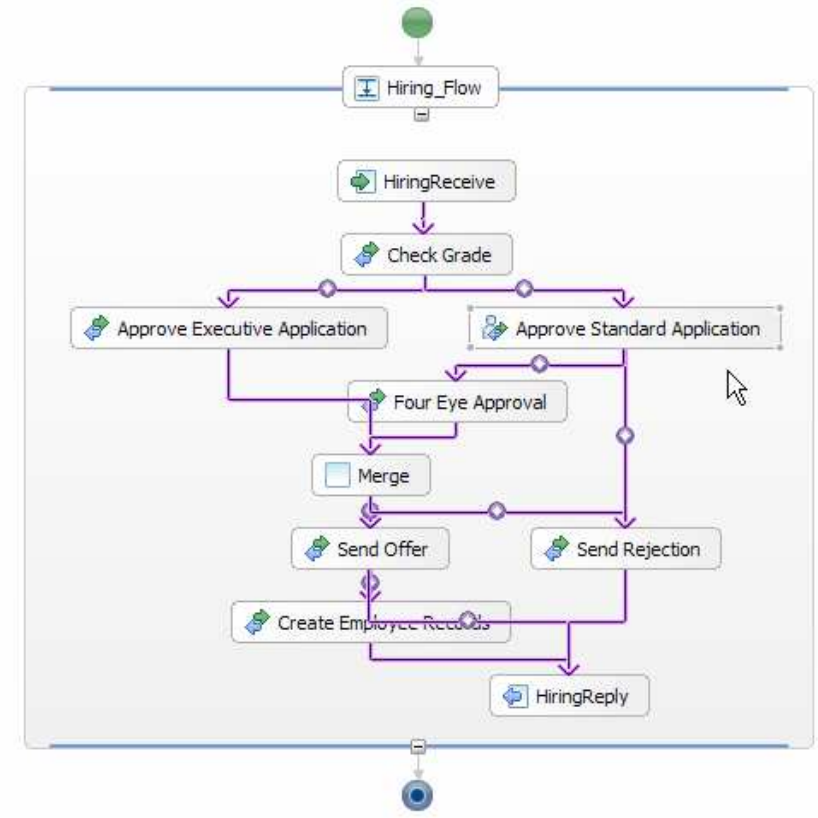
__ f. There should only be one error in the problems list, regarding a correlation set in the interviewing business process. This is ok for the purpose of this exercise.

____ 5. Browse the projects keeping in mind that the focus here is on the Human tasks in the **Hiring** business process.

__ a. HR (business logic module) – expand the *Business Logic* folder



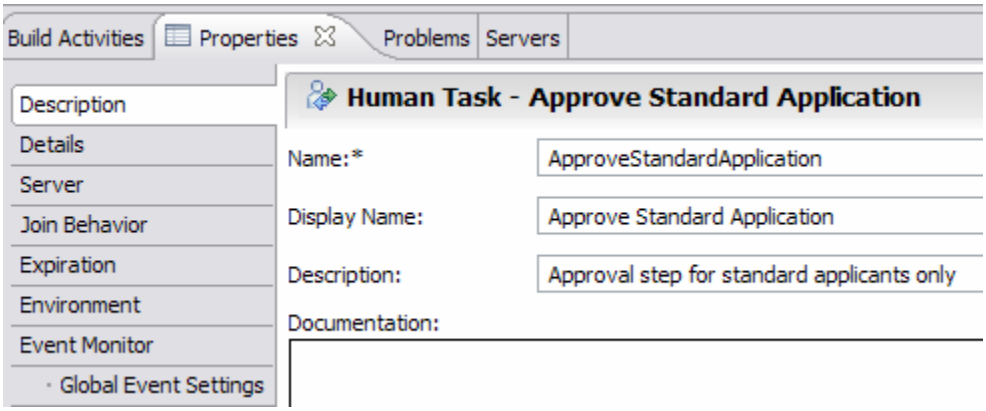
__ b. It is the Hiring business process that we're interested in; double click on the hiring business process.



__ c. All of the tasks with the exception of the *Approve Standard Application* are mapped to BPEL invocation activities. The *Approve Standard Application* has been mapped to a in-line human task.

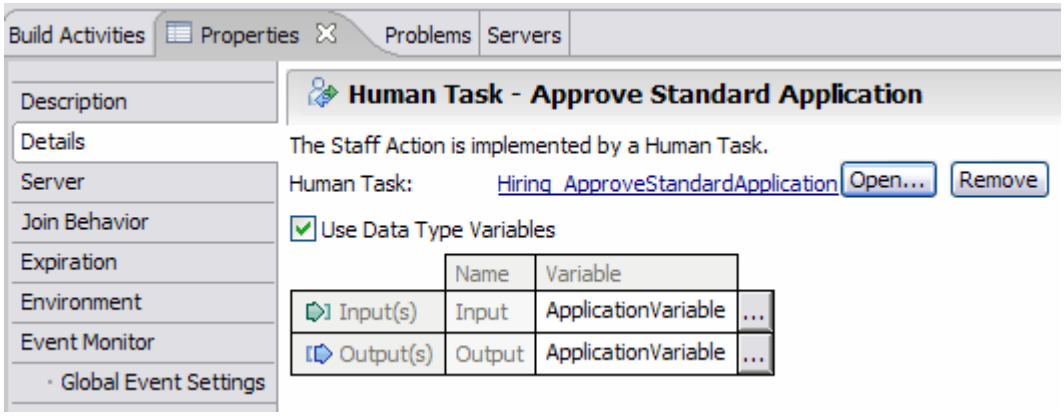
1) Select the *Approve Standard Application* and then select the properties tab in the view pane below.

__ d. Notice the name of the component and the display name are the same as specified in the technical attributes of WebSphere Business Modeler V6.1



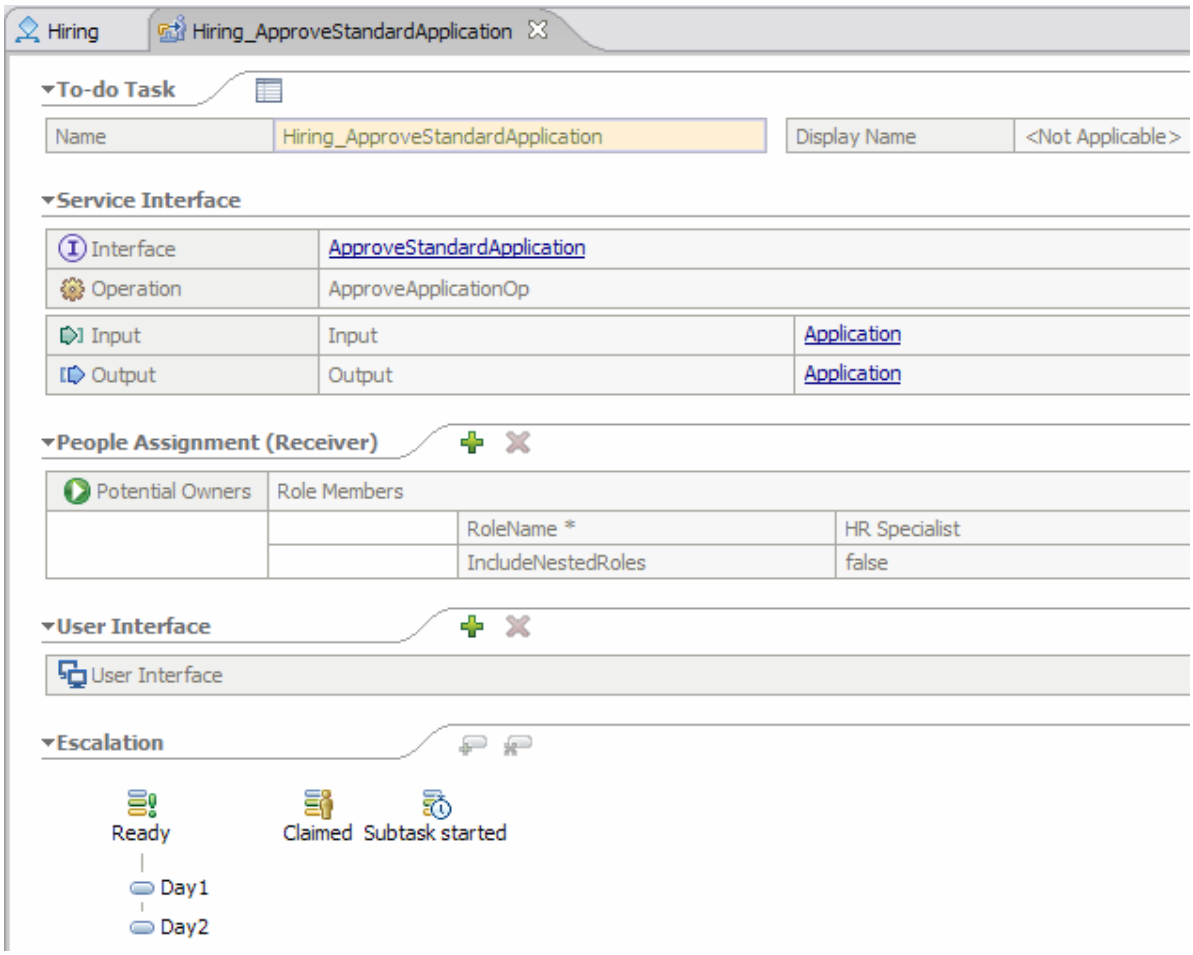
__ e. Select the details tab in the right navigation bar of the properties view. Here you see the names of the input and output variables, which happen to be one and the same in this case. They are

created for you automatically as part of the import process and are based on the business items defined in WebSphere Business Modeler.

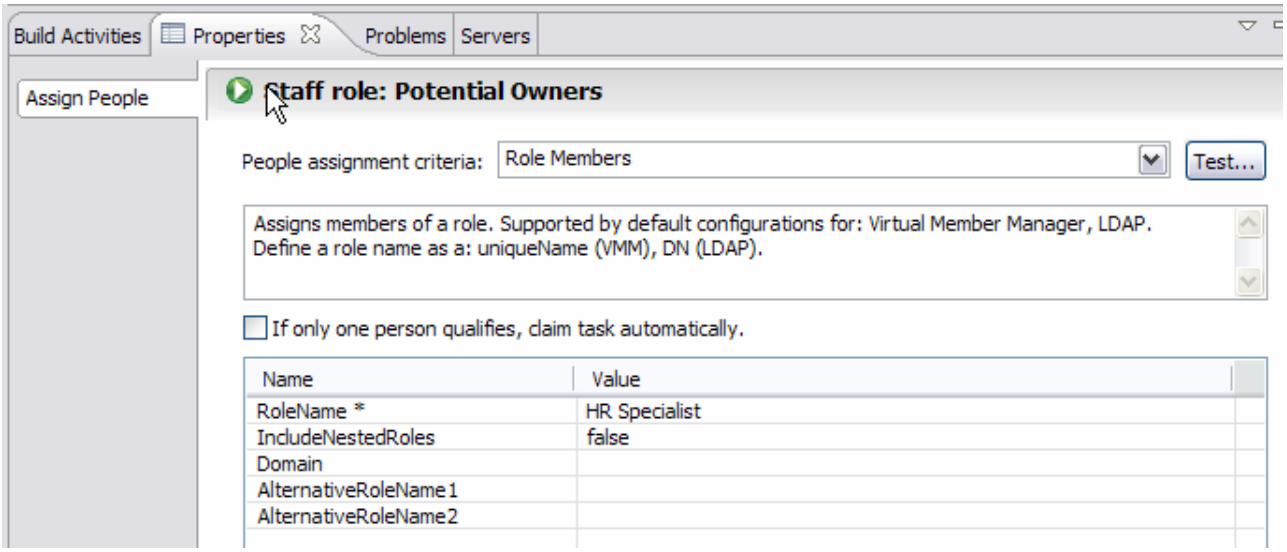


__ f. To see the details of the in-line human task component, select the Open… button.

__ g. Expand the service interface twisty. The interface and service operation names are as defined in the technical attributes in WebSphere Business Modeler V6.1.



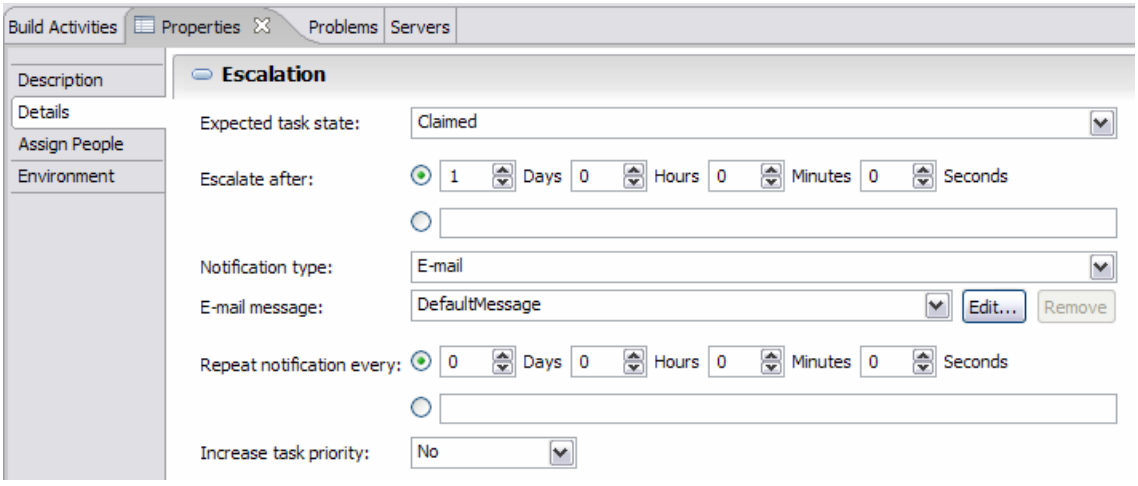
__ h. Select the Potential Owners and the details below will change….



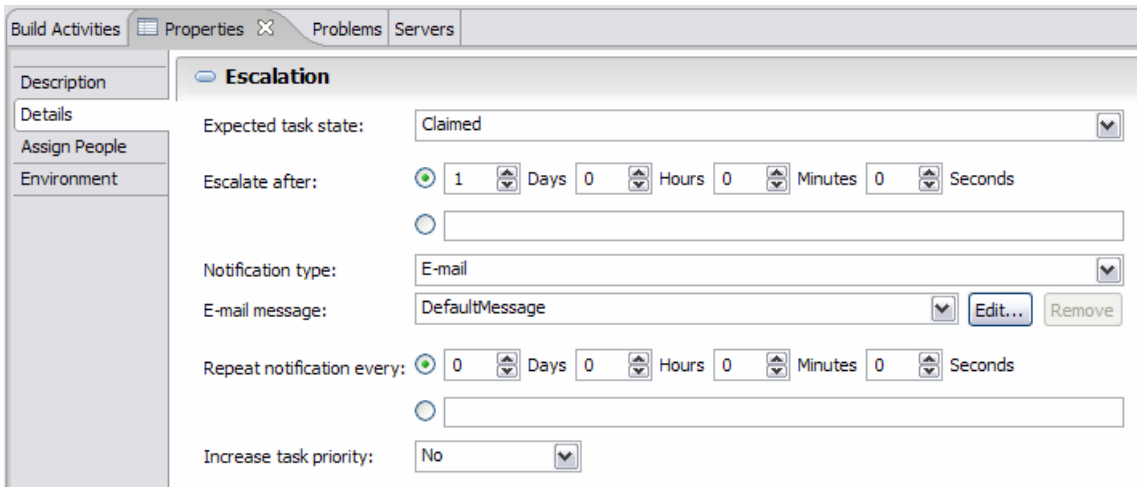
This should be very familiar to you, since it is what you specified in WebSphere Business Modeler. At this point an experienced integration developer might start to make changes. Be aware that changes made to the human task component are not incorporated into the delta file that can be provided to WebSphere Business Modeler V6.1 for change analysis.

__ i. To view and inspect the escalation chain, select Day 1 and then the details tab in the properties view below. Again this should be very familiar.

Take a look at the Assign People tab too. In modeler, the people assignment was part of the same input screen as the escalation details. As you can see the specification interface for the human task element in WebSphere Business Modeler is nearly identical to the one in WebSphere Integration Developer V6.1

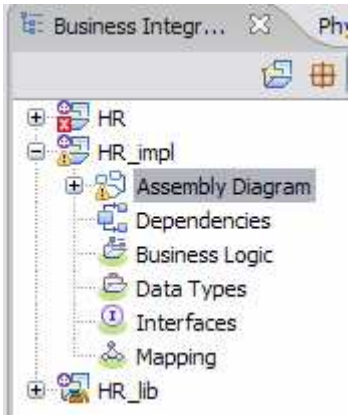


__ j. Continue your inspection tour by looking at the Day 2 part of the escalation.



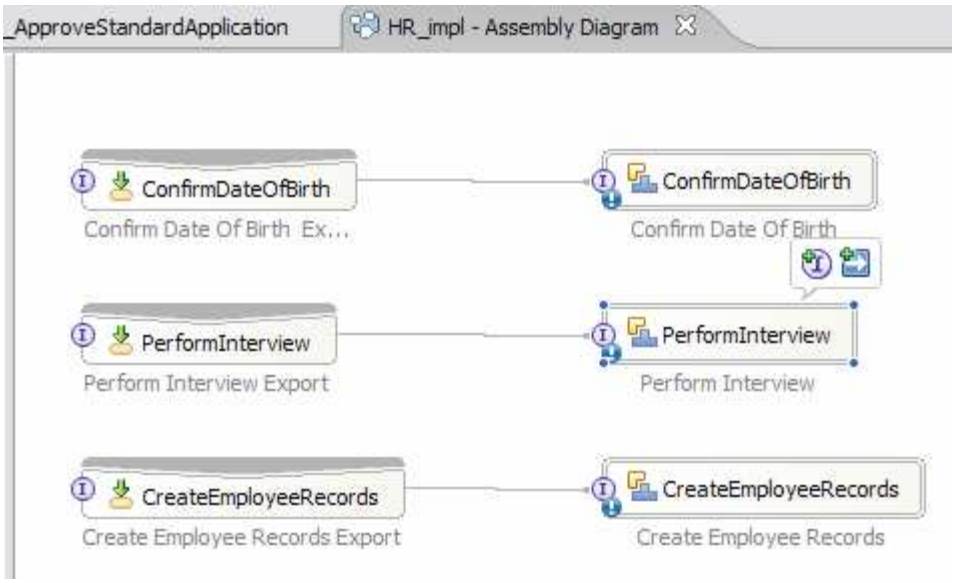
__ k. This completes the tour of the human task component generated by importing the model from WebSphere Business Modeler V6.1. There are a few other points of interest that should be pointed out.

____ 6. Expand the HR_impl (implementation module)



__ a. Notice that there are no implementation types automatically generated. Inspecting the assembly diagram will reveal that generic, un-typed components have been created for you, along with their exports.

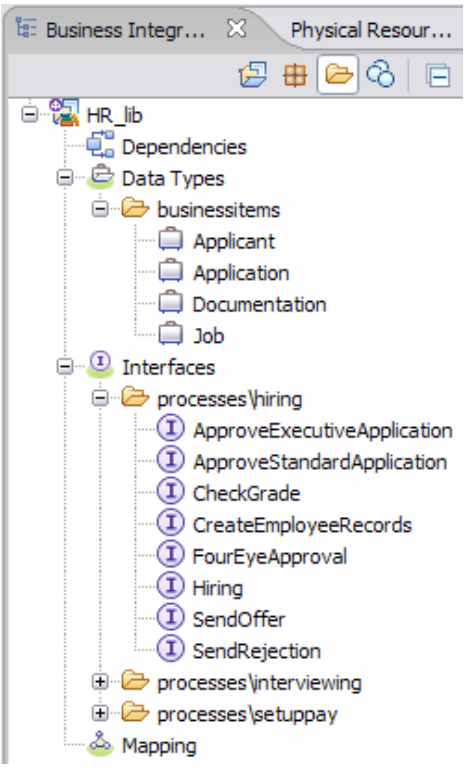
____ 7. Open the assembly diagram for the HR_impl module.



Unspecified exports are linked to generic, un-typed SCA components for each of the BPEL invocations in the BPEL business process. Inspecting the assembly diagram for the HR module will reveal that there are corresponding Imports with SCA bindings for all of the BPEL invocations.

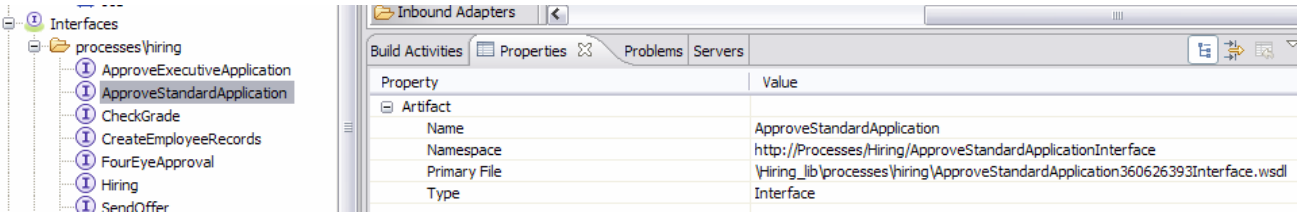
With the 3-module export pattern, the business logic is separated from the implementation. The implementations should be defined in the HR_impl module using the interfaces and exports provided in the assembly diagram. When a new version of the business process model is imported, the new business logic is placed in the HR (business logic) module and the implementations in the HR_impl module will be untouched. Some minor wiring adjustments in the assembly diagram may be necessary.

____ 8. Next expand the HR_lib module.



__ a. Notice the use of folders. This is new with V6.1. Also notice the names are as they are defined in the technical attributes in WebSphere Business Modeler.

__ b. Select ApproveStandardApplication and observe the properties, the namespace and the primary file name.



____ 9. This concludes the tour.

What you did in this exercise

In this exercise you began by importing a human centric business process model that was originally created using WebSphere Business Modeler V6.0.2. Using that as a starting point, you then converted one of the tasks that was marked as a human task to a WebSphere Business Modeler V6.1 human task.

Once the task was converted you then fully specified the details of the human task, the primary owner and escalations.

Next you set the technical attributes for the task so that they map to the standards used by the integration team.

The model was exported from WebSphere Business Modeler V6.1 and imported into WebSphere Integration Developer V6.1 and you then inspected the results to understand how the constructs are mapped from one environment to the other, using the 3-module ‘best practice’ export pattern.

Solution instructions

The solution is in 2 parts, the WebSphere Business Modeler part and the WebSphere Integration Developer part.

The WebSphere Business Modeler part is in the file:

\labfiles\Modeler\solutions\HR.Model.HumanTask.1.mar

The solution for WebSphere Integration Developer is in the file:

\labfiles\Modeler\solutions\HR.Model.HumanTask.1.zip

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