



Clips and Tacks: Getting started with the IBM BPM suite of products

## Contents

Introduction 1-1
Overview
Build it yourself
Modeling
Create the business process
Import the Lotus form
Build OrderHandling (Future1) process 3-6
Connect the tasks
Create the Notification Business Item 3-14
Implement the Decision Branch Conditions3-15
Set the input criterion for the process 3-19
Implement the business rule for automatic
approval
Specify monitoring criteria by creating business
measures
Create the Percentage of Orders Shipped
Business Performance Indicator
Create the Average process Duration Business
Performance Indicator
Create the Order Count Business Performance
Indicator
Create the Shipped Order Count Business
Performance Indicator
Create the Declined Order Count Business
Performance Indicator
Create the Order Price Total Business
Performance Indicator
Create the Order Price Average Business
Performance Indicator
Export the model for use with WebSphere
Integration Developer
Export the model for use with WebSphere
Business Monitor development toolkit 3-35
Integration development

Import model files into WebSphere Integration Developer	•	3-38 3-41 3-48
Deploy the Clips and Tacks Order Handling		3-52
Test the Clips and Tacks Order Handling business	•	3-53
process		3-54
Monitor the business process		3-59
Update the business process to emit monitor		
events		3-60
Create the monitor model to monitor the		
business process	•	3-62
Complete the clipsbpm monitor model	•	3-70
Generate executable artifacts for the monitor		
model and deploy to the server	•	3-81
Configure Action Services for business situation		
events	•	3-84
Exercise the model by running events	•	3-87
Create the business dashboard	•	3-88
Debug information	•	3-96
Down the second s		
	•	4-1
Download the sample		5-1
Importing the completed model into WebSphere		
Business Modeler		. 5-1
Importing the completed model into WebSphere		
Integration Developer.		. 5-2
Importing the completed WebSphere Integration		
Developer project into WebSphere Integration		
Developer		. 5-2

## Introduction

This end-to-end business dashboard tutorial introduces you to IBM<sup>®</sup> Business Process Management (BPM) products by showing you how to build and deploy a business process and configure a business dashboard to monitor that process. No prior usage knowledge of the BPM products is required to complete the steps in this sample.

Printable version of this tutorial

This tutorial focuses on the technical details that are related to building, running, and monitoring the scenario provided. A single Lotus<sup>®</sup> form is used throughout the process to convey information from one user to the next. You will use IBM WebSphere<sup>®</sup> Business Modeler to model the sample and WebSphere Integration Developer to complete the development, generate an end-user interface (or business client) using Lotus Forms, and add monitoring to the sample business process. You will use WebSphere Process Server to deploy the completed sample and WebSphere Business Monitor to configure a dashboard to monitor the sample business process. The sample culminates in a business dashboard and a business process using IBM Lotus Forms.

In addition to this introduction, the tutorial has four major sections:

- Overview Explains the scenario used in this sample, the data model, and the Human tasks that are involved.
- Build It Yourself Contains step by step instructions to build the sample from scratch.
- Run the Sample Explains how to run the sample using either the artifacts that you download or the artifacts that you created in the Build It Yourself section.
- Download the Sample Explains how to install the downloaded pre-built solutions for this sample.

#### **Time required**

This tutorial could take approximately two days to complete, depending on your familiarity with the products.

#### Skill level

This is a tutorial-style sample that has been designed for new users. Step-by-step procedures are provided to guide you through the process development lifecycle, from the beginning to setting up a test run time server and monitoring the data.

#### System requirements

This sample runs on Windows<sup>®</sup> operating systems.

#### Prerequisite software

Before you build the sample, you must install the following products. All of these products can be installed on a single computer:

• WebSphere Business Modeler Advanced version 6.1

- WebSphere Integration Developer version 6.1:
  - You must apply iFix 001 for WebSphere Integration Developer.
  - You must select WebSphere Process Server test server during the installation process.
- WebSphere Business Monitor development toolkit version 6.1
- Lotus Forms Designer (shipped with WebSphere Business Modeler and WebSphere Integration Developer)
- Lotus Forms Viewer (shipped with WebSphere Business Modeler and WebSphere Integration Developer)
- Lotus Forms Server (shipped with WebSphere Integration Developer)

For more information about the products that are involved in this sample, refer to the product documentation at the following link:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r1mx/index.jsp

Consider the following information when preparing to install your software:

• Install Lotus Forms Designer into WebSphere Business Modeler Advanced (Refer to "Installing optional software" in WebSphere Business Modeler version 6.1 documentation:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r1mx/ index.jsp?topic=/com.ibm.btools.help.modeler.doc/doc/install/installtopics/ t\_install\_additional\_software.html

- Install WebSphere Business Monitor development toolkit version 6.1 before Lotus Forms Server.
- Install Lotus Forms Sever and Lotus Forms Viewer into WebSphere Integration Developer (refer to "Installing optional software and documentation in WebSphere Integration Developer version 6.1 documentation:

http://publib.boulder.ibm.com/infocenter/dmndhelp/v6r1mx/ index.jsp?topic=/com.ibm.wbit.610.help.install.doc/topics/ t\_install\_additional\_software.html

When you install Lotus Forms Server, choose the WBMonSrv\_wps profile.

**Note:** This tutorial uses **admin** as the user ID and **admin** as the password for the dashboards.

### **Overview**

Clips and Tacks is a fictional office supply company. In this business scenario, Clips and Tacks is processing orders for office supplies and shipping them to customers.

The following sequence of events describes the Clips and Tacks business process for handling incoming orders.

- 1. The business process is initiated when a customer submits an order.
- 2. A business rule evaluates the data from the order form and determines whether the order can be automatically approved or if it needs human approval. When the total purchase price of the order is \$750.00 or less, the order is automatically approved. When the total purchase price of the order is more than \$750.00, it is sent to a person for review.
- **3**. For orders that are automatically approved, the customer account is checked to determine if it is in good standing. If the customer account is in good standing, then the order is sent for shipment; otherwise, the order is sent to a person for review.
- 4. If the order is approved by the person, then it is sent for shipment; otherwise, the order is cancelled and a notification is sent to the customer.
- 5. The orders that are ready for shipment are given a packaging slip number and are sent to the customer.

#### Data model

The following information for the business process is stored in a business object (also known as a business item) called Order:

- Customer information
- Items ordered
- Automatic approval field, which the business rule uses
- Field to include the status of the order
- The packing slip number, which is used to ship the order.

In the design phase, the Order business object is created automatically when the Lotus Form is imported for use within the business process.

A Notification business object is used to send notification to a customer about a canceled order. It has two fields: a text field and an e-mail field. In the design phase, the Notification business object is created manually.

#### Human tasks

There are three human activities in this business flow:

- A human activity for entering data into the order entry form . This starts the business process. This human activity is not modeled, it is the process-initiating action.
- A modeled human task that represents the employee activity of reviewing the order when the total purchase amount is more than \$750.00 or when the customer account is not in good standing.

• A modeled human task that represents the employee activity of shipping the order to the customer.

## Build it yourself

As you complete this sample tutorial, check your entries carefully. You might want to work from a printed copy of the sample documentation so that you can check-off each step as you perform it. (A PDF version of the documentation is included with the artifacts that you download.) An experienced Business Process Management (BPM) developer would be able to find mistakes, such as wrong or skipped entries; however, a new BPM developer might have difficulty identifying errors.

Before you begin, you must have installed all items listed under Prerequisites in the Introduction section.

To download the following artifacts that are used in this section, refer to the Download section:

- Order.xfdl the Lotus form used in this tutorial
- CreditRating.java a Java<sup>™</sup> file used in this tutorial. It is the implementation for the task to check the customer account status.

#### Modeling

During the modeling phase, you will use WebSphere Business Modeler to build a model that represents the Clips and Tacks business process for handling incoming orders. There are several tasks to complete during this phase:

- Create the business process
- Import the Lotus form
- Build OrderHandling (Future1) process
- Connect the tasks
- · Create the Notification Business Item
- Implement the Decision Branch Conditions
- Set the input criterion for the process
- Implement the business rule for automatic approval
- Specify monitoring criteria by creating business measures
- · Create the Percentage of Orders Shipped Business Performance Indicator
- Create the Average process Duration Business Performance Indicator
- Create the Order Count Business Performance Indicator
- Create the Shipped Order Count Business Performance Indicator
- · Create the Declined Order Count Business Performance Indicator
- Create the Order Price Total Business Performance Indicator
- Create the Order Price Average Business Performance Indicator
- Export the model for WebSphere Integration Developer
- · Export the Model for Monitor Development Toolkit

#### Create the business process

1. Start WebSphere Business Modeler Advanced Version 6.1. The Workspace Launcher wizard opens.

2. Create a new workspace for this tutorial, such as C:\Documents and Settings\Administrator\IBM\wbmodeler6.1\ClipsAndTacks. Do not select **Use this as the default and do not ask again** so that you are prompted with this dialog box each time on each launch. Click **OK**.

🚯 Workspa	ace Launcher 🛛 🔀
Select a w	orkspace
IBM WebSphe Choose a wor	ere Business Modeler Advanced Version 6.1 stores your projects in a folder called a workspace. rkspace folder to use for this session.
Workspace:	C:\Documents and Settings\Administrator\IBM\wbmodeler6.1\ClipsAndTacks
Use this a	s the default and do not ask again
	OK Cancel

- **3**. On the Welcome window, click on **Close Product Welcome** to close the Welcome window. The Start Process Modeling wizard opens.
- 4. Enter ClipsAndTacksF1 as the project name and OrderHandling (Future1) as the business process name. Click **Next** >.

Start Process Modeling	×
Start modeling a new business process	
Identify the new or existing project and catalog (containers) for the business process. Then name the process that you want to model.	4.3
Project name	
ClipsAndTacksF1	
Process catalog name	
Processes	
Business process name	
OrderHandling (Future 1)	
Always show this wizard on startup	
Launch Help	
	J
	/
< <u>Back</u> Next > Finish	Cancel

5. Clear **Create business item** and click **Finish**. The project and the business process are created.

The OrderHandling (Future1) process is opened.

6. Click the **Apply 4-Pane Layout** icon .

🚯 Business Modeling - OrderHandling (Future1) - IBM WebSphere Business Modeler 🖃 🔲	X
Eile Edit Modeling View Navigate Search Project Data Run Window Help	
Image: Image	
😫 Proje 🛛 🦳 🖸 🔀 OrderHandling (Future 1) 🕅 🖓	
Image: ClipsAndTacksF1         Image: ClipsAndTacks	
🖌 📰 🕞 Attributes - Ord 🛛 Business Measu Static Analysis Errors (Filter m)	5
🗄 Outline 🛛 🦳 🔲 General Cost and Revenue Duration Inputs Outputs 🔹	
General information  General information  This section provides general information about this process.  Name  OrderHandling (Future 1)  Description	
☐ ♦ Selected Project: ClipsAndTacksF1	

7. Select Modeling > Mode > WebSphere Process Server to ensure that the model you are going to build can be imported into WebSphere Integration Developer and later deployed to WebSphere Process Server. WebSphere Business Modeler allows you to model for different run time environments.



#### Import the Lotus form

- 1. Refer to the **Download** section to download the files needed in this tutorial, such as the Lotus form.
- 2. In the navigation tree, expand **ClipsAndTacksF1**. Right-click **Processes** and select **Import**.

😫: Project Tree 🖇	3
ClipsAndTa	ocksF1 ss items
Resou	New
🗌 🧰 Organ	Import
Classif	Export
⊕ • • • • • • • • • • • • • • • • • • •	Reports
- 🖳 Busine	Сору
	Rename
🗄 🖓 Predefined	Search
	Version 🕨
	Static Analysis 🕨
	Publish

3. Select Lotus Forms (.xfdl, .xfd) and click Next.

WebSphere Business Modeler Import	X
Select type Select a product or format for import and click Next.	
Types	
Image: Second	
< <u>B</u> ack <u>N</u> ext > <u>Finish</u>	Cancel

4. Click Browse and select Order.xfdl from the list of files. Click Finish.

WebSphere Business Modeler In	nport 🛛 🔀
Import options	<b>◇</b> -□
Click Finish to import.	<u> </u>
Source directory	
C:\Temp	Browse
Files	
Prder.xfdl	
Target project	
ClipsAndTacksF1	New New
	/
	< <u>back</u> <u>Next</u> <u>Finish</u> Cancel

5. On the Import finished successfully dialog box, click OK.

The Lotus form is imported. The **Order** element under **ClipsAndTacksF1** > **Processes** is the imported Lotus form. The **Order** element under **ClipsAndTacksF1** > **Business service objects** is the data element that was created automatically during import of the Lotus form.

🖃 \overline 🛃 ClipsAndTacksF1
Business items
🖹 🖓 Processes
···· 🖓 OrderHandling (Future 1)
Order
Resources
Organizations
Classifiers
Reports
🕀 🕞 🕞 Queries
Business services
🖃 🖓 🕒 Business service objects
🖹 🔓 🔓 Order
CustomerRecord
Order
OrderItem
OrderProcessingData

## **Build OrderHandling (Future1) process**

 If the OrderHandling (Future1) process is not open already, expand ClipsAndTacksF1 > Processes and double-click OrderHandling (Future1) to open it.



- 2. Right-click the start node 🖤 on the canvas and delete it.
- 3. Right-click the stop node 🔍 on the canvas and delete it. You might have to scroll to the right and down to see the stop node. From the palette, you can

reduce the size of the canvas by using the 1 icon to reduce the width and

the  $\square$  icon to reduce the height.

4. On the palette, click the Local Business Rules task icon and then click the canvas. Rename the local business rules task to Check Order Handling Policy for Automatic Approval. You can resize the task to fully display the text if you wish. As you add new elements, make sure that you add them to the right of the previously added item. A figure with all the elements in the process is included in the Connect (wire) the task section.



5. Click the **Create simple decision** icon and then click the canvas. Rename the simple decision to Approve Without Review?

6. Click the **Create local task** icon i and then click the canvas. Rename the local task to Check Customer Account Status.



- 7. Click the **Create simple decision** icon and then click the canvas to the right of the **Check Customer Account Status** task. Rename the simple decision to Account in Good Standing?
- 8. Click the **Create Merge** icon and then click the canvas.



If you do not see the Create Merge icon in the palette, click the top left of the

**Create Join** icon in the palette to expand its options. Place the merge elements on the canvas from left to right as you define them to align with other steps later in this sample.

**Note:** Do not delete a merge element. WebSphere Business Modeler generates names for the merge elements relative to when the merge element is added to the canvas. In the monitoring design phase, these names are used to create the monitoring model. Also, you can move the merge elements but do not change the relative left-to-right position of two merges elements.



9. Click the **Create local human task** icon in and then click the canvas. Rename the local human task to Review Order.



10. Right-click the **Review Order** task, select **Associate Form**. Click **Browse** and select **Order** from the ClipsAndTacksF1 project. Then click **OK**.



11. Leave the default. Use the input form as the output form selected and click OK.

Associate Fo	rm		X
Associate form Make one form the different input and	ns with this human task input and output form, or selec output forms for this human ta	<b>(</b> ct ssk.	
Input form Use the inp Output form	Order out form as the output form Order		Browse
		ОК	Cancel

- 12. Add a simple decision called Acceptable Credit Risk? to the canvas on the right side of the previous item.
- 13. Add a Create Merge item to the canvas to the right of Acceptable Credit Risk?
- 14. Add a **local human task** called Ship Order to Customer to the canvas. Associate the Order form with the Ship Order to Customer human task in the same way as you did for the Review Order human task.
- 15. Add a local task called Update Order Database to the canvas.
- 16. Ad a local task called Cancel Order and Send Notification to the canvas.
- 17. Add a Stop node by clicking the **Create Stop** icon  $\bigcirc$  on the palette and then clicking the canvas. (If you do not see the **Create Stop** icon, then click the top left of **Create Start** to expand the options.)
- 18. Add a second Stop node.



## **Connect the tasks**

To connect the tasks means to *wire* the tasks.

To wire the tasks, click in the center of the input and output elements you are wiring; otherwise a second input or output port may be created.

 Click the Connections icon in the palette, and then click the Input Criterion item which is a rectangle on the outer left boundary of the canvas. Click the input of the Check Order Handling for Automatic Approval task. A wire connection is created.



2. Click on the arrow icon is to move out of the connection mode. Right-click the newly created connection and select **Associate Data**. Navigate to the ClipsAndTacksF1 project, select **Order**, and then click **OK**.



**3**. Wire the remainder of the process diagram by repeating steps 1 and 2 for all of the elements. Review the Tips below before proceeding with wiring. All of the links must have the Order business item, with the exception of the link from **Cancel Order and Send Notification** to the **Stop** node.

**Important:** If Order of is not automatically added to the link, add it using the **Associate Data** context menu option before continuing with the wiring. **Tips** 

- To rearrange the elements, you can drag the elements on the canvas, however do not change the relative left to right orientation of the merge elements.
- Ctrl+Z orEdit → Undo will reverse your last change. This is preferable to deleting for this tutorial.

- The order of the wire creation from the simple decisions and merges is important in order for the naming to work correctly in the monitor model. Wire Yes's before No's for the simple decisions and tops before bottoms for the merges.
- If the **Connections** wiring tool is still enabled, select the white arrow icon at the top of the palette to enable the regular mouse pointer. (Before you try to right-click an item, enable the regular mouse pointer.)
- To prevent yourself from inadvertently creating extra input or output ports on the elements, click the center of each element that you are connecting.

The following three images show the completed wired diagram. The first image shows the left half and the second image shows the right half. The third image is the completed wired diagram.







- 4. Right-click the canvas and select **Auto-Layout left to right**. Save your work with any of these choices:
  - File > Save
  - File > Save All
  - Ctrl+S

#### Create the Notification Business Item

The Cancel Order and Send Notification task does not use Order as an output business item. To send notification to customers that their orders have been canceled, Clips and Tacks creates a new business item called Notification.

- From the Project Tree, right-click Business items and select New → Business Item.
- 2. Name the new business item Notification and click Finish.
- **3**. Add two attributes, **email** and **text**, of type Text. Click **Add** and then click the new attribute name and replace it with **email**. Repeat this step to add the second attribute named **text**. Save your changes and then close the Notification business item panel by clicking the **X** on its tab.

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gibutes are propertie	ributes s or significant	features. Inherited	attributes can only be e	dited in the par	ent template.		
Name	2	Туре	Minimum	Maximum	Read only	Static	0
email	1	Text	1	1	False	False	Fi
text	1	Text	1	1	False	False	Fa
-							
-							

4. Right-click the wire between **Cancel Order and Send Notification** and the **Stop** node and select **Associate Data**. Select **Notification** from Business Items and click **OK**.



### **Implement the Decision Branch Conditions**

 In the process diagram, click the Approve Without Review? simple decision. In the Attributes view, select the Attributes – Approve without Review? tab and then click the Output branches tab.

	₩ <	ш						
Diagram Specification Visual Attributes Page Layout Technical Specification								
🔒 Att	🔓 Attributes - Approve Without Review? 🖄 Technical Attributes View Business Measures Static Analysis Errors (Filter matched 0 of 0 items)							
Gener	ral Inputs Outputs	Input branches Output bran	ches					
Output branches								
This s	This section shows the output branches for this decision.							
	Name Gentlemen Development Development							
	Name	Contents			Condition		Probability (%)	
Y	es	Output			Yes		65.0	
N	lo	Output:2			No		35.0	

a. Click the **Yes** line and change the probability (%) to 65. Similarly, change the **No** probability to 35. These probabilities are used during simulation.

Because this tutorial is not using simulation, you can leave the other probabilities at 50. This step was simply to demonstrate how to change the decision branch probabilities.

b. Click the **Yes** line again. Scroll down to the **Expression** field and click **Edit** (the panes in the 4-pane layout can be sized by selecting and dragging borders). The Expression Builder wizard opens.

Diserse	Castification Usual Abbitudes Dens Laural Technical Castification
Diagram	specification visual Actiones Page Layour Technical specification
🔁 Attrib	utes - Approve Without Review? 🕮 Technical Attributes View Business Measures Static Analysis Errors (Filter matched 0 of 0 items)
General	Inputs Outputs Input branches Output branches
-	Decision Branch Condition
	Name
	No
	Description
	×
	Expression
	<u>×</u>
	Clear Edt

- c. In Expression Builder wizard, complete the following steps:
  - 1) Click Add.
  - 2) Under the Expression Composer section, ensure that Modeling artifact is selected as the first term. Expand Process → OrderHandling (Future1) → Approve Without Review? → Input → OrderProcessingPreference and select automaticApproval.
  - 3) For Operator, select is equal to.
  - 4) For the second term, select **Boolean** and set the Boolean value to true.

Expression Builder			_ 🗆 🔀
Decision branch condition A decision branch condition defines the rules that of "Boolean", to be valid.	determine which decision branch to take.	The built expression must evaluate to	X+Y =?
Imple binary expression           Create a sequence of subexpressions, and specify expression, dick the Full Expression icon.	the operators that connect the subexpre	ssions. To create a more complex	
Operator Expression text <ul> <li></li> <li><!--</th--><th>er to create the expression.&gt;</th><th></th><th>Add Remove</th></li></ul>	er to create the expression.>		Add Remove
First term:	Operator:	Second term:	
First term details:	is equal to	Second term details: Boolean value: True	
		ОК	Cancel

5) Click Apply and then OK.

reference of the second
Image: State in the state
am Specification Visual Attributes Page Layout Technical Specification          ttributes - Approve Withoux Review? 23       Technical Attributes View Business Measures       Static Analysis       Errors (Filter matched 4 of 4 items)         eral       Inputs       Outputs       Input Southaranches         eral       Inputs       Outputs       Output Input Dranches         exciton shows the output branches for this decision.       Name       Contents       Condition         Name       Contents       Condition       Probability (%)         Ves       65.0         No       35.0       Static         Details       Ves       0utput       Order         Ves       Output       Order       1       1         Dutput       Order       1       1       Immunum         Ves       Decision Branch Condition       Forescription       Ves         Decription       Ves       Ves       Ves       Ves         Decription       Ves       Ves       Ves       Ves       Ves         Itemporter       Immunum       Ves       Ves       Ves       Ves       Ves         Decision Branch Condition       Ves       Ves       Ves       Ves       Ves       Ves       Ves       Ves
ttributes - Approve Without Review? 33 Technical Attributes View Business Measures Static Analysis Errors (Filter matched 4 of 4 items) era  Toputs Output Toputs Output Toputs Outputs Outputs Outputs Outputs Output Yes 65.0 N Output:  Details
eral Inputs Outputs Input branches  put branches  sector shows the output branches for this decision.  Name Contents  Contents  Name
section shows the output branches for this decision.   Name Contents Condition Probability (%)   Yes Output:2 No 35.0     Details     Name     Associated data State Minimum Maximum     Output: Order 1 1     Decision Branch Condition     Name     Decision Branch Condition     Kame     Tes     Decision Branch Condition     Kame     Tes     Decision Branch Condition     Kame     Tes     Decision Branch Condition     Kame     Tes:     Decision Branch Condition     Kame     Tes:     Decision Branch Condition     Foression     Tyreession     Processes.OrderHandling (Future 1). Approve Without Review? Input. OrderProcessingPreference. automaticApproval is equal to true
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Yes       65.0         No       35.0         Output:2       No         Details       State         Name       Associated data       State       Minimum       Maximum         Output       Order       1       1         Decision Branch Condition       State       Minimum       Maximum         Ves
No Output 2     Details     Ves     Output     Order     1     Decision Branch Condition     Name     Ves     Description     Yrocesses.OrderHanding [Future1].Approve Without Review?.Input.OrderProcessingPreference.automaticApproval is equal to true
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Contents       Mame       Associated data       State       Minimum       Maximum         Output       Order       1       1       1         Decision Branch Condition       Immu       Immu       Immu       Immu         Name       Ves       Immu       Immu       Immu       Immu         Ves       Immu       Immu       Immu       Immu       Immu       Immu         Expression       Immu       Immu <td< th=""></td<>
Name       Associated data       State       Minimum       Maximum         Output       Order       1       1         Decision Branch Condition       1       1       1         Name         Yes       Image: Image
Output       Order       1       1         Decksion Branch Condition       Image: Condition       Image: Condition         Name         Ves       Image: Condition         Decksion Branch Condition         Name         Ves       Image: Condition         Decription         Expression         Processes.OrderHanding (Future 1). Approve Without Review?.Input. OrderProcessingPreference.automaticApproval is equal to true         Ves       Image: Condition
Decision Branch Condition         Name         Yes         Description         Expression         Processes.OrderHanding (Future 1). Approve Without Review?. Input. OrderProcessingPreference.automaticApproval is equal to true         Yes
Decision Branch Condition         Name         Yes         Description         Expression         Processes.OrderHanding (Future 1). Approve Without Review?.Input. OrderProcessingPreference.automaticApproval is equal to true         Yrocesses.OrderHanding (Future 1). Approve Without Review?.Input. OrderProcessingPreference.automaticApproval is equal to true
Decksion Branch Condition         Name         Yes         Description         Expression         Frocesses.OrderHanding (Future 1). Approve Without Review? Input. OrderProcessingPreference.automaticApproval is equal to true         Yrocesses.OrderHanding (Future 1). Approve Without Review? Input. OrderProcessingPreference.automaticApproval is equal to true
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Name         Yes         Description         Image: Second Se
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Expression           Processes.OrderHanding (Future 1). Approve Without Review?. Input. OrderProcessingPreference. automaticApproval is equal to true         Image: Content of the
Expression  Frocesses.OrderHandling (Future 1). Approve Without Review? Input. OrderProcessingPreference. automaticApproval is equal to true
Expression Processes.OrderHanding (Future 1).Approve Without Review?.Input.OrderProcessingPreference.automaticApproval is equal to true
Processes.OrderHandling (Future 1).Approve Without Review?.Input.OrderProcessingPreference.automaticApproval is equal to true

- 2. In the process diagram, click the **Account in Good Standing?** simple decision. In the Attributes view, click the **Output branches** tab and change the **Yes** probability to 85 and the **No** probability to 15
  - a. Select the **Yes** line, scroll all the way down, and click **Edit** under the **Expression** field:
  - b. In the **Expression Builder** dialog box, complete the following steps:
    - 1) Click Add.
    - 2) Ensure Modeling artifact is selected as the first term. Under First term details expand Processes → OrderHandling (Future1) → Account in Good Standing? → Input and select TotalPrice.
    - 3) For Operator select, is less than or equal to.
    - 4) For the second term, select Modeling artifact and then expand
       Processes → OrderHandling (Future1) → Account in Good Standing? →
       Input → Customer and select AvailableCredit.

xpression b	uilder			_ 0
ision branc	h condition h condition defines the rules that	determine which decision branch to take.		X+ =?
¥r 🖑 🏷				
imple binary eate a sequen pression, click	y expression ce of subexpressions, and specify the Full Expression icon.	the operators that connect the subexpre	ssions. To create a more complex	
Operator	Expression text			
Expression	Composer - Root express	sion		Add Remove Move Up Move Down
First term		Operator:	Second term:	
Modeling art	ifact 🗸	Select operator	Modeling artifact	~
		is equal to	11	
	TotaPrice     OrderNumber     OrderProcessi	is not equal to is greater than is greater than or equal to is less than is less than or equal to	Second term details:	talCode

- 5) Click Apply and OK and then save your work.
- 3. Click the Acceptable Credit Risk? task. In the Attributes view, select the **Output branches** tab.
  - a. Change the Yes probability to 70 and the No probability to 30.
  - b. Select the **Yes** line, scroll all the way down, and click **Edit** under the **Expression** field.
  - c. In Expression Builder wizard, complete the following steps:
    - 1) Click Add.
    - 2) Ensure Modeling artifact is selected as the first term. Under First term details expand Processes → OrderHandling (Future1) → Acceptable Credit Risk → Input and select OrderStatus.
    - 3) For Operator, select is equal to.
    - 4) For the second term, select **Text** and enter the value as APPROVED.

	h condition			
decision brand	h condition defines the rules that de	atermine which decision branch to i	take. The built expression must evaluate to	X+
Boolean", to be	valid.			=;
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reate a sequence	ce of subexpressions, and specify t	he operators that connect the sub	expressions. To create a more complex	
pression, click t	the Full Expression icon.			
Operator	Expression text			1
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First term	ifact	Operator: Select operator	Second term: Text	•
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First term Modeling art First t	term details: ⊕_∑ Input ⊕_C Customer ↓ ⊕ TotaPrice	Operator: Select operator is equal to is not equal to	Second term: Text Second term details: Text value: [APPROVED]	
First term Modeling art	term details:	Operator: Select operator is equal to is not equal to	Second term: Text Second term details: Text value: [APPROVED]	
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First term Modeling art First t	i: ifact  iterm details: i OrderNumber OrderNumber OrderProcessint DediractionAust	Operator: Select operator is equal to is not equal to	Second term: Text Second term details: Text value: [APPROVED]	
First term Modeling art First t	term details:	Operator: Select operator is equal to is not equal to	Second term: Text Second term details: Text value: [APPROVED]	Apply
First term	term details:	Operator: Select operator is equal to is not equal to	Second term: Text Second term details: Text value: [APPROVED]	Apply

5) Click **Apply** and then **OK** and then save your work.

### Set the input criterion for the process

To ensure that the process initiator doesn't wait for a response, set the operation type of the Input Criterion to One way by completing the following steps:

- 1. Click the canvas and then click the Technical Attributes View tab and then the Request tab.
- 2. Select the Input Criterion row.
- **3**. For Operation type, select One way operation and save your work.

utes - OrderHandling (Futu ieral Interface	ure 1) Business Measures Static A Request Response	nalysis Errors (Filter matched Implementation	0 of 0 items) 🛗 Technical Att	ributes View 🛛 👔 💆
Input criterion section				
ect an input criterion in the	table to see the WSDL and BPEL in	formation in the sections below	r	
Input criterion name	Corresponding output crit	Valid operation type	Selected operation type	
Input Criterion	Output Criterion	Request / response, one	One way	
Operation type				
Select the type of operati	on			
O Request / Res	ponse operation			

#### Implement the business rule for automatic approval

The business rules task uses the Order business object as the input and checks the TotalPrice variable. If the total price is not greater than a specified fixed amount (in this case, \$750.00), then the rules task sets the automaticApproval variable in the business rules component to true; otherwise, the variable is set to false. The business rules component returns the modified Order business object as the output.

Implement the business rules task by completing the following steps:

- 1. In the process diagram, click the **Check Order Handling for Automatic Approval** task and then, in the Attributes view, click the **Business Rules** tab.
- 2. Click Add. The Define Business Rule wizard opens.
- 3. Enter AutomaticApprovalF1 as the name of the business rule.
- 4. Click the Rule Templates tab and then click Add Template.
- 5. Change the template name from Rule template:1 to AutoApproval Template by selecting the name and typing over it.
- 6. Under Rule parameters, click Add.
- 7. Define the rule parameter by completing the following steps:
  - a. Change the parameter name to totalPriceMax by selecting it and typing over the generated name.
  - b. Select **Decimal (double-precision)** as the type.
  - c. For the description, enter maximum purchase for automatic approval.

fine Business Rule							_
fy the rule logic as	a set of if-the	n rules					
or modify one or more if	-then rules that defi	ne the logic of the business rule.	To create rule co	onditions and actions, the business ru	les task must have inputs a	nd outputs defined.	
ame							
utoApprovalF1							
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nportant							
reuse rule conditions an	d actions or allow the	eir parameter values to be chang	ed in an applicat	ion at runtime, create a rule template			
Rule Templates	If-Then Rules						_
Definition							
To specify rule conditions	and actions, create	any required rule parameters. A	lso ensure that I	the business rules task has inputs and	outputs defined.		
Template name	Rule condition		Rule action		Template description		
AutoApproval Template	Rule contration		Raie action		<type description="" h<="" td="" the=""><td>Add Template</td><td>h</td></type>	Add Template	h
riator oprovar remplate					crype are description in	Add Template	J
						Remove Template	J
						Move Up	
						Maura Davia	
						Move Down	
Rule parameters							
To change parameter va	lues at runtime or ad	d parameters to either the rule c	ondition or actio	n, specify rule parameters. Add consi	raint information as a desc	ription.	
Rarameter name		Tuno		Description			
totalPriceMax		Decimal (double-precision)		maximum purchase for automatic ap	proval	Add	1
						Remove	J
Rule template pre	esentation						
Determine how the rule	template is presente	ed to users at runtime for modific	ation of the rule	parameter values.			
Automatically generation	ate the text for the r	rule template presentation					
Customize the text f	for the rule template	presentation					_
							anc

8. Returning back toward the top of the wizard, under **Important** → **Rule** → **Templates** → **Definition** in the table, click the rule condition cell for

**AutoApproval Template** and then click **use** to open a Rule Condition wizard. This is a common way to launch a wizard.

- **9**. In the Expression Builder (for the rule condition), complete the following steps:
  - a. Add a simple binary expression by clicking Add.
  - b. For the first term, select Modeling Artifact. Expand Check Order Handling Policy for Automatic Approval → Input and select TotalPrice.
  - c. For the Operator, select is less than or equal to.
  - d. For the second term, select Modeling Artifact. Expand Check Order Handling Policy for Automatic Approval and select totalPriceMax.

Expression Builder		
e Condition In an if-then rule, a rule condition must be satisfied for a rule a	action to take effect. The built expression must	evaluate to "Boolean", to be valid.
☆ ☆ ☆ ☆ 歩 ⊕		
iull expression Ise the Expression Composer to create each subexpression. To	o create a simple binary expression, click the Sin	mple Expression icon.
Expression Tree	Expression text:	
- < <empty expression="">&gt;</empty>	< <empty expression="">&gt;</empty>	
Expression Composer First term:	Operator:	Second term:
Modeling artifact	Select operator	Modeling artifact
First term details:	is not equal to is greater than is greater than or equal to	Second term details:
Input     Customer     TotaPrice     OrderNumber     OrderStatus	is jess than or equal to	Hovening at lack:     Instance     Control of the content of
Input     Customer     TotaPrice     OrderStatus	is less than or equal to	Househing an latect     Househing Policy for Automatic Ap     D Input     D Output     D TotaPriceMax

- e. Click Apply and OK.
- Click in the Rule action cell for AutoApproval Template and then click the edit icon

le Templates	If-Then Rules			
finition				
pecify rule condition	ons and actions, create any required rul	e parameters. Also ensure that the business rules ta	ask has inputs and outputs defined.	
remplate name	Rule condition	Rule action	Template description	
utoApproval Temp	at/Check Order Handling Policy for Aut	omatic Approval.Inc	CType the description h	Add Template
				Remove Templa
				Move Up
				Move Down

The Specify Rule Action wizard opens.

- 11. Specify the rule action by completing the following steps::
  - a. Expand and select Check Order Handling Policy for Automatic Approval → Output → OrderProcessingPreference → automaticApproval. Then select Value specification → Specific value and True. Click OK.

etails	lue to the input the output		more innu	t or output attributor	Value specification	
Name	Type	Minim	Maxi	Value		
Check Order Handling for Auto	matic None				O NONE	
B D Input	Order	1	1		• Specific value	
Customer	CustomerRecord	1	1		True	1
TotalPrice	Decimal (double-pr	1	1			and the
CrderNumber	Integer (long)	1	1		O Expression	
GrderStatus	Text	1	1			
OrderProcessingPrefer	ence OrderProcessingD	1	1			
PackingSlipNumber	Text	1	1			
OrderItems	OrderItem	1	n			
D Output	Order	1	1			
Customer	CustomerRecord	1	1			
TotalPrice	Decimal (double-pr	1	1			
GrderNumber	Integer (long)	1	1			
CrderStatus	Text	1	1			
OrderProcessingPrefer	ence OrderProcessingD	1	1			
automaticApproval	Boolean	1	1	True		
PackingSlipNumber	Text	1	1			
Image: Image: OrderItems	OrderItem	1	n			
totalPriceMax	Decimal (double-pr					

The following figure shows the completed business rule.

The business Rule							_ [
fy the rule logic a	is a set of if-the	n rules					
or modify one or more	if-then rules that defi	ine the logic of the business rule	e. To create rule co	nditions and actions, the bus	iness rules task must have inputs	and outputs defined.	
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utoApprovalF1							
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reuse rule conditions a	and actions or allow th	ieir parameter values to be char	nged in an applicati	on at runtime, create a rule t	emplate.		
Dula Tamalatan	16 Theor Dular						
Rule remplates	In-Inen Rules						-
Definition							
To specify rule conditio	ns and actions, create	e any required rule parameters.	Also ensure that t	he business rules task has inp	outs and outputs defined.		
Template name	Rule condition		Rule action		Template description	7	
AutoApproval Templa	at/Check Order Handli	ng Policy for Automatic Approva	al.Ir'Check Order H	andling Policy for Automatic A	oproval.O <type description<="" td="" the=""><td>h Add Template</td><td>ן ר</td></type>	h Add Template	ן ר
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Dula navametors							
Kule parameters							
lo change parameter \	values at runtime or ac	dd parameters to either the rule	condition or action	n, specify rule parameters. Ai	dd constraint information as a des	cription.	
Parameter name		Type		Description			
totalPriceMax		Decimal (double-precision)		maximum purchase for auto	matic approval	Add	
-						Remove	ן ר
Pulo tomplato p	recontation						
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Rule template p Determine how the ru O Automatically genn Customize the tex If 'Check Order Han then 'Check Order H	resentation le template is present erate the text for the t for the rule template dling Policy for Automa tandling Policy for Aut	ted to users at runtime for modi rule template presentation e presentation atic Approval.Input.TotalPrice'i iomatic Approval.Output.OrderF	fication of the rule s less than or equa ProcessingPreferer	parameter values. i to 'totalPriceMax', ce.automaticApproval' is set	to True		

- 12. Close the Define Business Rule wizard by clicking OK again.
- In the Attributes view, select the Business Rules tab and scroll down to the Default business rule section. In the selection list, select AutomaticApprovalF1. Save your work.

neral Cost and Re	evenue Duration	Inputs Outputs Business Rules Resource	es Organizations
siness rules			
ntify the high-level business i	ules associated with the task.		
Business rule		Description	
AutomaticApprovalF1			Add
			Edit
			Eult
			Bomovo
			Remove
			Remove
reduling			Remove
reduling cify which business rule shou	Id be used by default and which	i business rules are in effect on specific dates. Dates are set	in local time zones, so the
eduling cify which business rule shou eduling of business rules in ar	ld be used by default and which application at runtime occurs i	business rules are in effect on specific dates. Dates are set n the local time zone.	in local time zones, so the
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## Specify monitoring criteria by creating business measures

Business measures are used to specify what should be monitored in the business process. Complete the following steps to specify what should be monitored:

- 1. Select Window > Show View > Business Measures.
- 2. Within the Business Measures view, select the Monitored Values tab.
- **3**. In the % **Per Branch** column in the table, select the three check boxes (See the image in the next step.)
- 4. In the **Processing Time** column, select the seven check boxes and then save your work. The other columns usually require additional resource properties to be specified for each task, but these other properties are not part of this sample.

ites - OrderHandling (Future 1) 📊 Business Measures	s 🔀 🛛 Static Analysis I	Errors (Filter matched	0 of 0 items)	Technical Attributes View	
ess Performance Indicators Monitored Val	ues				
tored values					
eastion indicates which we has you want out read from	WebCebere Rusiness Mer	iter ofter the every		aitarad	
section indicates which values you want returned from	websphere business Mor	ntor after the proces	s nas been mo	nitorea.	
Process Element	Processing Time	Processing Cost	Startup Cos	t Revenue	% Per Branch
Acceptable Credit Risk?					✓
Account in Good Standing?					✓
Approve Without Review?					✓
Cancel Order and Send Notification	✓				
Check Customer Account Status	✓				
Check Order Handling for Automatic Approval	✓				
OrderHandling (Future 1)	$\checkmark$				
Review Order	$\checkmark$				
Barra and a second	✓				
Ship Order to Customer					

## Create the Percentage of Orders Shipped Business Performance Indicator

Create the Percentage of Orders Shipped KPI by completing the following steps:

- 1. Click the Business Performance Indicators tab and then click Add.
- 2. In Business Measure Details Measure1 wizard, enter the name Percentage of Orders Shipped.
- 3. Select **Type** as **KPI**.
- 4. For the Description, enter Percentage of orders that are shipped.

5. Expand **Dashboards** and preview the different KPI representations. You can select each of the highlighted values (for example, KPI Gauge or KPI Bar, to see how the KPI is represented as a gauge or bar graph. The Type field above the Dashboard section also lists other monitoring types, such as KPI, Instance Metric, Aggregate metric, and Unspecified. You can change the selection from KPI to one of the other values to see the various ways that they are displayed on a dashboard. When you are finished exploring the Dashboards section, ensure that the **Type** field under the **Name** field is selected as **KPI** before proceeding.

cify additional deta	ills to describe how the business measure is calculated.						
Optionally, you ca	in create a business measure by applying a predefined ter	mplate to a process elem	ient.				
Template	Jnspecified 💌						
Name	Percentage of Orders Shipped						
Туре	⊙ KPI ○ Instance metric ○ Aggregate m	netric 🔿 Unspecifi	ed				
Description	Percentage of orders that are shipped						~
L							
Dashboards							
Dashboards pr	esent continuously updated business measures data in a	graphical format to make	e it easy to t	rack proce	ess perforn	nance.	
Dashboards pr A KPI is calcula "Average time "\$65000," or " KPI Table:	resent continuously updated business measures data in a ted across multiple runs of the process and is used to tra for response to a customer inquiry" with a target of "less Reduce employee turnover" with a target of "5%". This ty Displays details of modeled Key Performance	graphical format to make ck business objectives. E ; than two days", "Achiev ype of data can be displa KPL Table	e it easy to t Examples of I ve target pro ayed in the fi	rack proce (PIs and t fit" with a ollowing d	ess perforn heir targe target of ashboards	nance. ts are :	7
Dashboards pr A KPI is calcula "Average time "\$65000," or " <u>KPI Table:</u>	resent continuously updated business measures data in a ted across multiple runs of the process and is used to tra for response to a customer inquiry" with a target of "less Reduce employee turnover" with a target of "5%". This ty Displays details of modeled Key Performance Indicators (VPIs) such as KPI value relative to the defined ranges and the target, if applicable, and the status.	graphical format to make ick business objectives. E i than two days', "Achiev ype of data can be displa KPI Table KPI Name	e it easy to t Examples of l ve target pro ayed in the fi Status	rack proce (PIs and t fit" with a ollowing d <b>Value</b>	ess perform heir target target of ashboards Target	nance. ts are : <b>Range</b>	
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Dashboards pr A KPI is calcule "Average time "\$55000," or " KPI Table: KPI Gauge: KPI Bar: Alerts:	resent continuously updated business measures data in a sted across multiple runs of the process and is used to tra for response to a customer inquiry" with a target of "less Reduce employee turnover" with a target of "5%". This the Displays details of modeled Key Performance Indicators (KPIs) such as KPI value relative to the defined ranges and the target, if applicable, and the status. Displays an individual KPI value, relative to the KPI range and target in a full or half gauge format, if applicable. Displays an individual KPI value, relative to the KPI range and target in bar format, if applicable. Displays alerts that notify users of defined situations accurring at run time.	graphical format to mak ck business objectives. E s than two days", "Achiev ype of data can be displa KPI Table KPI Name Orders Minimum Percentage Total Order	Examples of i terms of the terms of t	Value 90 4.0 3 90.0	Target 50.0 255.0 100.0	Range	
Dashboards pr A KPI is calcule "Average time "\$55000," or " KPI Table: KPI Gauge: KPI Bar: Alerts: Dimensional	resent continuously updated business measures data in a tated across multiple runs of the process and is used to tra for response to a customer inquiry" with a target of "less Reduce employee turnover" with a target of "5%". This t Displays details of modeled Key Performance Indicators (VPIs) such as XP1 value relative to the defined ranges and the target, if applicable, and the status. Displays an individual KP1 value, relative to the XP1 range and target in a full or half gauge format, if applicable. Displays an individual KP1 value, relative to the XP1 range and target in bar format, if applicable. Displays an individual KP1 value, relative to the XP1 range and target in bar format, if applicable. Displays alerts that notify users of defined situations occurring at run time. Provides a multidimensional view of business performance data. Charts and grids present data for analysis acainst different dimensions.	graphical format to mak ck business objectives. E s than two days", "Achieu ype of data can be displa KPI Table KPI Name Orders Minimum Percentage Total Order Customize Viel	e it easy to t Examples of i ve target pro systed in the fr Status O O O O O	Value 90 4.0 390.0	Target form their target ashboards 20.0 55.0 100.0	Range	
Dashboards pr A KPI is calcule "Average time "\$55000," or " KPI Table: KPI Gauge: KPI Bar: Alerts: Dimensional Report:	resent continuously updated business measures data in a sted across multiple runs of the process and is used to tra for response to a customer inquiry" with a target of "less Reduce employee turnover" with a target of "5%". This to Displays details of modeled Key Performance Indicators (KPIs) such as KPI value relative to the defined ranges and the target, if applicable, and the status. Displays an individual KPI value, relative to the KPI range and target in a full or half gauge format, if applicable. Displays an individual KPI value, relative to the KPI range and target in bar format, if applicable. Displays an individual KPI value, relative to the KPI range and target in bar format, if applicable. Provides a multidimensional view of business performance data. Charts and grids present data for analysis against different dimensions. Displays performance reports relative to a time axis. Such reports typically contain tables and graphs with textual descriptions of the analysis.	graphical format to make schousiness objectives, E sthan two days", "Achiev ype of data can be displa KPI Table KPI Name Orders Minimum Percentage Total Order Customize Vid Sample	e it easy to t Examples of i re target pro- respyed in the fi Status O O O O	Value Value 90 4.0 3 90.0	Target 50.0 20.0 55.0 100.0	Range	

- 6. Select **Specify a target value and type**. Select the type as **Number** and change **Target value** to 90.
- Check Specify range details. Select Percentage of target value (target value = 100%).
- 8. Under **Specify ranges**, click **Add**. In many tables like this one that have an **Add** button, you can click **Add** or double-click in a row in the table to add a row. Change the **Range name** to Shipped orders percentage too low. Set the start value to 0 and the end value to 85. Perform the same actions for the following ranges:

Range name	Start value	End value
Shipped orders percentage good	85	90
Shipped orders percentage great	90	100

- 9. Check Specify a time period over which the business measure will be monitored. Select Rolling and Last 30 days.
- Check Specify when to send an alert and the action to take as a result. Click Add. The Percentage of Orders Shipped Alert is added. Change it to Percentage of Orders Shipped < 85%.</li>
- 11. Check Select the dimension to be used as filters and add the values of interest. Change the Dimension name to Location. Select Location.
- 12. Click **OK** and save your work.

city deterdential de	tails to describe how the business m	easure is calculated.				
Optionally, you	can create a business measure by ap	oplying a predefined to	emplate to a process ele	ment.		
Template	Unspecified 💌					
Namo	Percentage of Orders Shipped					
name		<u>.</u>		<b>.</b>		
Туре	• KPI • Instance metric	· O Aggregate r	netric 🔾 Unspeci	fied		_
Description	Percentage of orders that are ship	pped				
					~	
b Deathered						
Dashboards	5					
Specify a	target value and type					
The target is	s an exact value that the KPI should	achieve.				
Type:	Number 🗸					
Target value	e: 90	<b>▲</b> ] ▼]				
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example, when this measure exceeds a ce	an value, an enderna y need to be sent
Alert Description Percentage of Orders Shipped <95%	Add
reitentage of orders shipped <05%	
	Remov
ct the dimensions to be used a	; filters and add the values of interest
ct the dimensions to be used a	Filiters and add the values of interest
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ct the dimensions to be used a example, you have a City dimension but o Dimension C Location	s filters and add the values of interest Ily want to include values from New York and Los Angeles.

# Create the Average process Duration Business Performance Indicator

Create the Average Process Duration KPI by completing the following steps:

- 1. Add a new Business Performance Indicator by clicking Add.
- 2. In the Business Measure Details Measure1 wizard, enter the name Average Process Duration.
- 3. Select Type as KPI.
- 4. Enter **Description** as *Measure average time of business process duration*.
- 5. Check Specify a target value and type.
- 6. Select type as Duration.
- 7. Select Target value as 3 days.
- 8. Check Specify range details.
- 9. Select Actual value.
- 10. Under **Specify ranges**, click **Add**. Change the range name to Duration is acceptable. Start value: 1 Day. End value: 3 days.
- 11. Click Add again. Change the range name to Duration too long. Start value: 3 Days. End value: 5 days.

**Tip:** Besides clicking **Add** to add a row to a table, you can also double-click a row to add a row.

- 12. Check Specify when to send an alert and the action to take as a result.
- Click Add. It adds an Average Process Duration Alert. Change it to Average Process Duration >3 days.
- 14. Check Select the dimension to be used as filters and add the values of interest.
- **15.** Click **Add**. Change the Dimension name to Location. Check the **Location**. (The completed view is shown in the following 2 images.)

usiness Measure	e Details - Ave	erage Proce	ess Duratiop	n					×
ness Measure	Details								
ecify additional det	tails to describe h	now the busine	ess measure is c	alculated.					
									<u>^</u>
Optionally, you c	can create a busir	ness measure	by applying a pr	redefined ter	plate to a process elem	ent.			
Template	Unspecified		~						
Name	Average Proce	ess Duratiopn							
Туре	⊙ KPI ○ In	istance me	etric 🔾 Agg	pregate m	etric 🔾 Unspecifie	ed			
Description	Measure average	ge time of busi	siness process du	uration				~	
								~	
Dashboards									
Specify a	target value	and type							
The target is	an exact value t	hat the KPI sh	hould achieve.						
-									
Turner	Duration								=
Type:	Darbaon		<u> </u>		a setti a				
Target value	Days	Hours	Minutes	Seconds	Milliseconds				
get raide	3		_ (≑)	0	0				
Specify ra	inge details:								
Ranges can	be defined as pe	ercentages of	the target value	e or as fixed,	actual values.				
O Percenta	age of target valu	ue (target valu	ue = 100%)						
Actual va	alue								
Specify r	ranges								
A range is a	a set of values, su	uch as allowab	ole margins or lov	wer and uppe	r limits, against which to	track your KPI.			
Ran	ige name				Start value	End value			
Dura	ation is acceptable	a			1 Day 0 Seconds	< 3 Days 0 Second	ds	Add	
Dura	ation too long				3 Days 0 Seconds	< 5 Days 0 Second	ds		
								Remove	
								Sort	
Specify a	time period o	over which	n the busine	ss measui	re will be monitore	ed			
	ating			lling					
Borio	ud Franci				A lang	Start date:			
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re Template Dof	faults						OK	Cancel	
re remplate del	i a a l a								
Specify w	hen to send a	an alert ar	nd the actio	n to take	as a result				
For example	e, when this meas	sure exceeds a	a certain value.	an email may	need to be sent.				
	Deseri- first								
Alert	Description	tion > 3dave						Add	
Avera	.g	LLAN SUGYS						Romerica	
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✓ Select the	e dimensions	to be used	d as filters a	and add th	e values of intere	est			
Select the	e dimensions	to be used	d as filters a	and add th	e values of intere	est			=
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Select the For example Dimer	e <b>dimensions</b> e, you have a City nsion cation	<b>to be usec</b> y dimension bu	<b>d as filters a</b> ut only want to i	and add th	e values of intere s from New York and Los Values to Include	e <b>st</b> s Angeles,		Add	11
Select the For example Dimer	e <b>dimensions</b> e, you have a City nsion cation	<b>to be usec</b> y dimension bu	d as filters a ut only want to i	and add th	e values of intere s from New York and Los Values to Include	est Angeles.		Add	
♥ Select the For example Dimer ♥ Loo	e <b>dimensions</b> e, you have a City nsion cation	<b>to be used</b> y dimension bu	d as filters a ut only want to i	and add th	<b>Ne Values of intere</b> s from New York and Los Values to Include	e <b>st</b> s Angeles.		Add Remove	1
♥ Select the For example ♥ Loo	e <b>dimensions</b> e, you have a City nsion cation	<b>to be used</b> y dimension bu	d as filters a ut only want to in	and add th	e values of intere s from New York and Los Values to Include	est s Angeles.		Add Remove	
Select the For example	e <b>dimensions</b> e, you have a City nsion cation	<b>to be user</b> y dimension bu	d as filters a ut only want to i	and add th	e values of intere s from New York and Los Values to Include	est s Angeles.		Add Remove	
Select the For example Dimer	e <b>dimensions</b> e, you have a City nsion cation	<b>to be user</b> y dimension bu	d as filters a ut only want to i	and add th	e values of intere s from New York and Los Values to Include	est s Angeles.		Add	
Select the For example Dimer Los ore Template Def	e dimensions e, you have a City nsion ccation	to be user	d as filters a ut only want to i	and add th	e values of intere s from New York and Los Values to Include	est s Angeles.	ОК	Add Remove Cancel	

16. Click **OK** and save your work.

#### **Create the Order Count Business Performance Indicator**

Create the Order Count Business Performance Indicator by completing the following steps:

- 1. Click Add to add a new Business Performance Indicator.
- 2. Enter the name as Order Count.
- 3. Select **Type** as Aggregate metric.
- 4. Enter **Description** as Count the number of orders processed.
- 5. Expand the **Dashboards** tab to get a preview of how an Aggregate metric can be visualized on a Dashboard as a Dimensional or Report view.
- 6. Check Specify how this measure is aggregated across multiple runs of the process.
- 7. Select Function as Count.
- 8. Check **Specify the categories that will be available in the dashboards for analysis of the metric**. Keep the Dimension as Location. The completed item is shown below.

ess measure	Details
cify additional de	tails to describe how the business measure is calculated.
Optionally, you	can create a business measure by applying a predefined template to a process element.
Template	Unspecified
Name	Order Count
Type	○ KDI ○ Instance metric ③ Aggregate metric ○ Unspecified
ype	
Description	Count the number of orders processed
Dashbaard	
P Dasriboard:	•
Specify h	ow this measure is aggregated across multiple runs of the process:
This can be	used for historical analysis in the Dimensional view.
The correct	
Euroction:	inunt 🔍
Function:	Count
Function:	tount  tount tount tount  tou
Function:	Tount  tount tount tount  toun
Function:	tount  he categories that will be available in the dashboards for analysis of the metric  e, location, city, or sales representative.  ansion  toon  Add  Remove
Function: ( Specify t For examp Dime Loca	Count       Image: Count mark         he categories that will be available in the dashboards for analysis of the metric       e, location, city, or sales representative.         e, location       Image: Count mark       Add         ension       Image: Count mark       Add         toon       Image: Count mark       Remove
Function: ( Specify t For examp Dime Loca	tount       Image: Count mark         he categories that will be available in the dashboards for analysis of the metric         le, location, dity, or sales representative.         ension         tion         Add         Remove
Function:	tount       Image: Count mark         he categories that will be available in the dashboards for analysis of the metric
Function:	tount  text  text text  text

9. Click OK and save your work.

## Create the Shipped Order Count Business Performance Indicator

Create the Shipped Order Count Business Performance Indicator by completing the following steps:

- 1. Click Add to add a new Business Performance Indicator.
- 2. Enter the name as Shipped Order Count.
- 3. Select **Type** as Aggregate metric.
- 4. Enter **Description** as Count the number of orders shipped.
- 5. Check **Specify how this measure is aggregated across multiple runs of the process.** Select **Function** as Count.
- 6. Check **Specify the categories that will be available in the dashboards for analysis of the metric**. Keep the Dimension as Location. The completed item is shown below.

Business Measur	e Details - Shipped Order Count	X
Business Measure	Details	
<ol> <li>Specify additional de</li> </ol>	tails to describe how the business measure is calculated.	
Online II.		
Template	un create a business measure by applying a predenned template to a process element.	
remplace		
Name	Shipped Order Count	
Туре	○ KPI ○ Instance metric ④ Aggregate metric ○ Unspecified	
Description	Count the number of orders shipped	
Dashboards		
_		
⊻ Specify h	ow this measure is aggregated across multiple runs of the process:	
This can be	sed for historical analysis in the Dimensional view.	
Function:		
Specify t	e categories that will be available in the dashboards for analysis of the metric	
For exampl	e categories char will be aranged in the ability of analysis of the metric	
Dime	nsion	
Locat	on	Add
		Remove
		/
Restore Template De	aults	OK Cancel

# Create the Declined Order Count Business Performance Indicator

Create the Declined Order Count Business Performance Indicator by completing the following steps:

- 1. Click Add to add a new Business Performance Indicator.
- 2. Enter the name as Declined Order Count.
- 3. Select **Type** as Aggregate metric.
- 4. Enter **Description** as Count the number of orders declined.
- 5. Check **Specify how this measure is aggregated across multiple runs of the process.** Select **Function** as Count.
- 6. Check **Specify the categories that will be available in the dashboards for analysis of the metric**. Keep the Dimension as Location. The completed item is shown below.

ecity additional de	tails to describe how the business measure is calculated.	
Optionally, you	can create a business measure by applying a predefined template to a process element.	
Template		
Name	Declined Order Count	
Туре	○ KPI ○ Instance metric ○ Aggregate metric ○ Unspecified	
Description	Count the number of orders declined	~
		~
Dashboards	5	
Specify h	ow this measure is aggregated across multiple runs of the process:	
This can be	used for historical analysis in the Dimensional view.	
This can be Function:	used for historical analysis in the Dimensional view.	
This can be Function:	used for historical analysis in the Dimensional view.	
This can be Function:	used for historical analysis in the Dimensional view. Count	
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This can be Function: ( Specify t For examp	used for historical analysis in the Dimensional view. Count	Add
This can be Function: Specify t For examp Loca	used for historical analysis in the Dimensional view. Count	Add Remove

# **Create the Order Price Total Business Performance Indicator**

Create the Order Price Total Business Performance Indicator by completing the following steps:

- 1. Click Add to add a new Business Performance Indicator.
- 2. Enter the name as Order Price Total.
- 3. Select **Type** as Aggregate metric.
- 4. Enter **Description** as Total value of the orders.
- 5. Check **Specify how this measure is aggregated across multiple runs of the process.** Select **Function** as Sum.
- 6. Check **Specify the categories that will be available in the dashboards for analysis of the metric**. Keep the Dimension as Location. The completed item is shown below.

ess Measure Du ecify additional detail Optionally, you can Template Ur Name [ Type (	tails to describe how the business measure create a business measure by applying specified	: is calculated.	to a process element.		
Optionally, you can Template U Name	to describe how the business measure create a business measure by applying specified	is calculated.	to a process element.		
Optionally, you can Template Ur Name [	rreate a business measure by applying	a predefined template	to a process element.		
Optionally, you can Template Ur Name [	create a business measure by applying specified	a predefined template	to a process element.		
Optionally, you can Template Ur Name [	create a business measure by applying	a predefined template	to a process element.		
Optionally, you can Template Ur Name [	reate a business measure by applying specified	a predefined template	to a process element.		
Template U	specified				
Name [					
Name					
Тупе	Order Price Total				
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	KPI 🔿 Instance metric 💿	Aggregate metric	○ Unspecified		
Description	tal value of the orders				~
					~
Dashboards					
This can be use Function: Sum	for historical analysis in the Dimension	al view.			
Specify the	ategories that will be availa	ble in the dashbo	ards for analysis o	of the metric	
For example, lo	cation, city, or sales representative.				
Dimensi	n				
Location					Add
					Remove
					]

# Create the Order Price Average Business Performance Indicator

Create the Order Price Average Business Performance Indicator by completing the following steps:

- 1. Click Add to add a new Business Performance Indicator.
- 2. Enter the name as Order Price Average.
- 3. Select **Type** as Aggregate metric.
- 4. Enter **Description** as Average value of orders.
- 5. Check **Specify how this measure is aggregated across multiple runs of the process.** Select **Function** as Average.
- 6. Check **Specify the categories** that will be available in the dashboards for analysis of the metric. Keep the Dimension as Location. The completed item is shown below.

	e Details	
ecify additional de	etails to describe how the business measure is calculated.	
Optionally, you	can create a business measure by applying a predefined template to a process element.	
Template	Unspecified	
Name	Order Price Average	
Туре	$\bigcirc$ KPI $\bigcirc$ Instance metric $\odot$ Aggregate metric $\bigcirc$ Unspecified	
Description	Average value of the orders	~
		~
Dashboards	s	
Specify h	now this measure is aggregated across multiple runs of the process:	
Specify h	now this measure is aggregated across multiple runs of the process:	
Specify h This can be Function:	now this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view.	
Specify h This can be Function:	now this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average	
Specify h This can be Function:	now this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average the categories that will be available in the dashboards for analysis of the metric	
Specify h This can be Function:	tow this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average the categories that will be available in the dashboards for analysis of the metric le, location, dty, or sales representative.	
Specify h This can be Function:  Specify t For examp Dime	the categories that will be available in the dashboards for analysis of the metric le, location, dty, or sales representative.	
Specify h This can be Function:  Specify t For examp Dime Loca	two this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average  the categories that will be available in the dashboards for analysis of the metric ke, location, city, or sales representative. ension tion	Add
Specify h This can be Function:  Specify t For examp Dime Loca	the categories that will be available in the dashboards for analysis of the metric ke, location, dty, or sales representative.	Add Remove
<ul> <li>✓ Specify In This can be Function: </li> <li>✓ Specify I For examp Loca</li> </ul>	two this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average  the categories that will be available in the dashboards for analysis of the metric ele, location, city, or sales representative. ension toon	Add Remove
<ul> <li>✓ Specify In This can be Function: </li> <li>✓ Specify I</li> <li>For examp</li> <li>Dime</li> <li>Loca</li> </ul>	two this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average  the categories that will be available in the dashboards for analysis of the metric ele, location, city, or sales representative. ension tion	Add Remove
Specify In This can be Function:  Specify I For examp Dime Loca	two this measure is aggregated across multiple runs of the process: used for historical analysis in the Dimensional view. Average  the categories that will be available in the dashboards for analysis of the metric lee, location, city, or sales representative. ension tion	Add Remove

The business performance indicators that you added should look like the indicators in the following image.

iness Performance Indicators M	onitored Values			
iness measures summary				
s section provides information about busines	s measures such as metrics and KPIs	0		
Name	Туре	Target	Time Period	Description
Average Process Duratiopn	KPI	3 Days 0 S		Measure average time of business process duration
Percentage of Orders Shipped	KPI	90	Rolling: 30 days	Percentage of orders that are shipped
Order Count	Aggregate metric			Count the number of orders processed
Shipped Order Count	Aggregate metric			Count the number of orders shipped
Declined Order Count	Aggregate metric			Count the number of orders declined
Order Price Total	Aggregate metric			Total value of the orders
Crder Price Average	Aggregate metric			Average value of the orders

# Export the model for use with WebSphere Integration Developer

You have completed modeling the Clips and Tacks business process. Next you will export this model from WebSphere Business Modeler and import it into WebSphere Integration Developer for further development.

Export the model by completing the following steps:

1. Ensure that there are no errors in the model, as listed the **Errors** tab. If there are errors, then correct them before proceeding to the next step.

Diagram Spec Scation Visual Attributes Page Layout Technical Specification

Attributes - OrderHandling (Future 1)	Technical Attributes View	Business Measure	s Static Analysis	崎 Errors (Filter m	atched 0 of 0 items) 🛛
Description	Elem	ent name 🕴 🕴	Element type	Parent project	Parent name

2. Right-click ClipsAndTacksF1 on the Project Tree and select Export.

WebSphere Business Modeler Export	
Select the format or product to which you want to export Export model elements for use with WebSphere Integration Developer in creating an implementation for WebSphere Process Server. Before you use this	0-0
Types	
<ul> <li>WebSphere Business Modeler project (.mar)</li> <li>WebSphere Integration Developer</li> <li>WebSphere MQ Workflow Buildtime (.fdl)</li> <li>WebSphere Business Monitor Development Toolkit (.mm)</li> <li>WebSphere Business Modeler XML (.xml)</li> <li>WebSphere Studio Application Developer Integration Edition</li> <li>FileNet Business Process Manager (.xpdl)</li> <li>Rational Data Architect</li> <li>UML Business Modeling Profile</li> <li>Delimited text (.csv, .txt)</li> </ul>	
< <u>B</u> ack <u>N</u> ext > Einish	Cancel

- 3. Select WebSphere Integration Developer and then click Next.
- 4. Select a target directory (for example, C:\ClipsAndTacks).

WebSphere Business Modeler Export	$\mathbf{X}$
Export options	
Ensure that the reference groups for the selected projects are correct and click Next to continue	100
Target directory	
C:\ClipsAndTacks	Browse
<ul> <li>Export entire project and related projects</li> <li>Export specific elements</li> </ul>	
ClipsAndTacksF1	
Enable default events	
Einish	Cancel

- 5. Select **Export entire project and related projects** and click **Next**.
- 6. Select the **Module** export option.
- 7. Clear **Append timestamp to project interchange name** (so that it is easier to define the name in this sample).

bSphere Integration I	Developer export details	
cify export details, then click iness Modeler and WebSphere	Finish to export. Use the recommended export option for interoperability between Websphere E Integration Developer.	
Select the export op Module This option creates a single for a proof of concept appl	ption emodule project. Choose this option only if you have a small model with simple processes, for example ication.	
Export using the solution of the solution o	standard project interchange format for other environments Ige Name	
ClipsAndTacksF1		
ClipsAndTacksF1	amp to project interchange name	
ClipsAndTacksF1	amp to project interchange name	
ClipsAndTacksF1 Append timest	amp to project interchange name	
ClipsAndTacksF1 Append timest arget Project Names Modeler Project Name [ClipsAndTacksF1	Module Name	
ClipsAndTacksF1 Append timest arget Project Names Modeler Project Name ClipsAndTacksF1	Amp to project interchange name         Module Name         ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name [ClipsAndTacksF1	Amp to project interchange name         Module Name         ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name [ClipsAndTacksF1	Amp to project interchange name         Module Name         ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name (ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name [ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name [ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Names Modeler Project Name [ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Name (ClipsAndTacksF1 ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	
ClipsAndTacksF1 Append timest Target Project Name (ClipsAndTacksF1 ClipsAndTacksF1	amp to project interchange name Module Name ClipsAndTacksF1	

8. Click Finish.

Verify that ClipsAndTacksF1.zip was exported to the directory you selected.

# Export the model for use with WebSphere Business Monitor development toolkit

Next you will export the ClipsAndTacks files to develop a monitor model that will monitor the business process that you created a model for:

1. In the project tree, right-click ClipsAndTacksF1 and select Export.

WebSphere Business Modeler Export	X
Select the format or product to which you want to export Export a preliminary monitor model to refine in the WebSphere Business Monitor Development Toolkit and then deploy to WebSphere Business Monitor.	
Types	
<ul> <li>WebSphere Business Modeler project (.mar)</li> <li>WebSphere Integration Developer</li> <li>WebSphere MQ Workflow Buildtime (.fdl)</li> <li>WebSphere Business Monitor Development Toolkit (.mm)</li> <li>WebSphere Business Modeler XML (.xml)</li> <li>WebSphere Studio Application Developer Integration Edition</li> <li>FileNet Business Process Manager (.xpdl)</li> <li>Rational Data Architect</li> <li>UML Business Modeling Profile</li> <li>Delimited text (.csv, .txt)</li> </ul>	
< <u>B</u> ack <u>N</u> ext > <u>F</u> inish	Cancel

2. Select WebSphere Business Monitor Development Toolkit (.mm) and click Next.

WebSphere Busines	ss Modeler Exp	ort		
Destination and Sour	rce			□
Choose a target directory.				
Target directory				
C:\ClipsAndTacks				Browse
Project				
ClipsAndTacksF1				✓
Export specific e     Control     Contro     Control     Control     Control     Con	lements ding (Future 1)			
Overwrite files				
	< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel

- 3. Select a target directory, for example c:\ClipsAndTacks.
- 4. Select Export specific elements.
- 5. Expand Processes and select OrderHandling (Future1).
- 6. Click Finish.

Close WebSphere Business Modeler after you verify that the following files were created in the target directory:

OrderHandling (Future1).mm OrderHandling\_x0028\_Future1\_x0029\_KM\_OrderHandling\_x0028\_ Future1\_x0029\_KC.svg OrderHandling\_x0028\_Future1\_x0029\_MDM\_OrderHandling\_x0028\_ Future1\_x0029\_MC.svg

### Integration development

During the integration development phase, you will use WebSphere Integration Developer to develop a business process and business rules, generate Java components, and create the user interface. Tasks to complete during this phase:

- · Import model files into WebSphere Integration Developer
- · Business process and business rules development

- Generate Java components
- Generate the user interface for the business process

# Import model files into WebSphere Integration Developer

Now you will import the exported file (from WebSphere Business Modeler) into WebSphere Integration Developer.

1. Start WebSphere Integration Developer Version 6.1. The Workspace Launcher opens.

🚯 Workspa	ace Launcher 🛛 🔀				
Select a workspace					
IBM WebSphe Choose a wor	ere Integration Developer 6.1 stores your projects in a folder called a workspace. rkspace folder to use for this session.				
Workspace:	C:\Documents and Settings\Administrator\IBM\wid6.1\ClipsAndTacks				
	a the default and do not ask again				
	OK Cancel				

2. Create a new workspace for this sample. For example, C:\Documents and Settings\Administrator\IBM\wid6.1\ClipsAndTacks.

**Note:** Do not select **Use this as the default and do not ask again** so that you will be prompted for a workspace location each time you open the application.

- **3.** Click **OK**. WebSphere Integration Developer opens. If the Welcome page is displayed, close it before proceeding.
- Import ClipsAndTacksF1.zip by selecting File → Import. You can use the ClipsAndTacksF1.zip file you have created with the previous tasks, or you can use the ClipsAndTacksF1.zip that is provided with this sample.

File	Edit	Navigate	Search	Project	Data
1	New		A	Alt+Shift+	N 🕨
	Open F	ile			
(	Close		C	Ctrl+W	
(	Close A		0	Ctrl+Shift+	⊦W
	Save		C	Ctrl+S	
E. s	Save As	S			
R s	Save Al	I	0	Ctrl+Shift+	нS
F	Revert				
1	Move				
F	Rename	2	F	2	
F	Refresh	1	F	5	
<u> </u>	Conver	t Line Delim	iters To		
۵,	Print		C	Ctrl +P	
5	Switch	Workspace.			
è 1	import.				
Ľ∆ <sup>E</sup>	Export.				
F	Propert	ies	A	Alt+Enter	
E	Exit				

The Import wizard opens.

5. Select **Other** → **Project Interchange** and click **Next**.



6. From the Import Project Interchange Contents page, click **Browse** and select the ClipsAndTacksF1.zip exported from WebSphere Business Modeler.

🚯 Import Project Interchange Contents 🛛 🔀							
Import Projects     Import Projects from a zip file.							
From zip file: Project location root:	C: \ClipsAndTacks\ClipsAndTacksF1.zip	Browse					
ClipsAndTack	sF1						
Select All Deselect	t All Select Referenced						
0	< <u>B</u> ack <u>N</u> ext > <u>Finish</u> C	Cancel					

7. Select ClipsAndTacksF1 and click Finish.

WebSphere Integration Developer should be displaying the Business Integration perspective:

· _ 🗆 🔀
😭 🐯 Business Inte
E Business Integration
🖽 Business Monitoring
Other

To change to the Business Integration perspective, click the Open Perspective icon and choose **Business Integration**.

Before continuing, wait for Building Workspace to complete. (The status is located in the bottom right-hand corner of the workspace.)

**Note:** The ClipsAndTacksF1 project will have some errors at this stage of the sample.

# Business process and business rules development

The artifacts from WebSphere Business Modeler must be converted into an artifact that you can deploy to the server by using WebSphere Integration Developer.

To define business rules, complete the following steps:

 In the project tree, expand ClipsAndTacksF1 and select Business Logic → Rule Logic → processes\orderhandlingfuture1.



- 2. Double-click AutomaticApprovalF1. The business rule set editor opens.
- 3. Click the Add Action Rule icon 🏶 under Rules.

▼Variables 🕂 🕌	
Name	Туре
•Rules 📑 🎇 🗐 🖑 🗶	
3 Add Action Rule	
▼Templates 📰 💥 🗶	

4. To copy the input variable to the output variable, click **Action** and select **Output:Order**. Then select = and then **Input:Order**.

■Rules		📰 🏶 🗐 🖑 🗙
Name Presentation Action  Templates Name  Build Activities Server  Server WebSpl WebSpl	Rule Act	1 Set var1 to var2 Call a method Call a method Input : Order Output : Order Create BO Copy BO Invoke ✓ return
	L	

5. Add a second rule by clicking the **Add Template rule** icon **and select AutoApprovalTemplate**.

▼Rules	AutoApprovalTemplate
Name	Rule1
Presentation	
Action	Output = Input

6. Click Enter value and type 750.00.

-	Rules	- 19 🕸 📮 🖑 🗙
	Name	Rule1
	Presentation	
	Action	Output = Input
	Name	Rule2
	Template	AutoApprovalTemplate
3	Presentation	If Check Order Handling Policy for Automatic Approval.Input.TotalPrice is less than or equal to <u>Enter Value</u> , then Check Order Handling Policy for Automatic Approval.Output.OrderProcessingPreference.automaticApproval is set to True

#### 7. Save your work.

All errors have been resolved. The following image shows the completed rule logic.

AutoApproval	1 🛛							- 8	
▼Rule Set									
Name				Display Name		AutoApprovalF1			
▼Interface									
Interface	Interface CheckOrderHandlingPolicyforAutomaticApproval								
Operation	ration InputCriterion								
DI Input	Input Order								
🕼 Output		Output				Order			
	_								
▼Variables	<u> </u>	×							
Name					Туре				
<b>▼</b> Rules	200	24 🗋 🎜 🗶							
Name									
Presentation	Rule 1								
Action	Output = Input								
Mana	Dule 2								
Template	AutoAppro	walTemplate							
n emplored	If Check O	rder Handling Polic	/ for Automatic App	proval.Input.Tota	Price is less that	n or equal	to 750.0,		
Presentation	then Cheo	k Order Handling P	olicy for Automatic	Approval.Output	.OrderProcessin	gPreferen	ce.automaticApproval is set to True		
<b>T</b>		4-0 MZ							
* remplates		¥0 ~							
Name	AutoAppro	valTemplate			Defende la section		- (2003-200202)		
Presentation	then Check C	rder Handling Polic k Order Handling P	/ for Automatic App olicy for Automatic	Approval.Input. Fota	OrderProcessin	n or equal gPreferen	to :totalPriceMax ; ce.automaticApproval is set to True		
Description	<type td="" the<=""><td>description here.&gt;</td><td></td><td></td><td></td><td></td><th></th><td></td></type>	description here.>							
Baramatora	Name	Туре	Constraint	Description				÷	
Farameters	totalPriceN	1ax double	None	maximum purc	hase for automa	atic approv	al		
If	Input.Tota	IPrice <= totalPrice	Max						
Then	Output.Or	derProcessingPrefe	rence.automaticAp	proval = true					

#### Remove export from the assembly diagram

Because this process is intended to be launched through the Order form, not through a Web service call, remove the export element from the assembly diagram by completing the following steps:

- In the Business Integration view, expand the assembly diagram from the project tree and double-click processes/orderhandlingfuture1/OrderHandlingFuture1. The assembly diagram editor opens.
- 2. Every element in the assembly diagram is selected when the assembly diagram is launched. Click on the white space to deselect the elements. Export is the leftmost element in the diagram. Right-click the export element named OrderHandling (Future1), and, ensuring that you have selected only the export and not all of the elements in the diagram, select Delete. You do not need the export because you will add a human task to invoke the business process later.



**3**. Save your work.

#### Create the process invocation method

Create the process invocation method by completing the following steps:

 In Business Integration view, expand ClipsAndTacksF1 → Business Logic → Processes → processes \orderhandlingfuture1 and double-click OrderHandlingFuture1. The process OrderHandling (Future1) opens.



2. Click **OrderHandling (Future1)Receive**. Select the **Properties** tab and then select **Authorization**.

Build Activities 🔲 Properti	uild Activities 🔲 Properties 🗵 Problems Servers					
Description	Receive - OrderHandling (Future1)Receive					
Details	Potential starters of the process may be specified using a human task.					
Server	Human Task: None New Remove					
Authorization						
Correlation						
Environment						
Event Monitor						
· Global Event Settings						

3. Click **New**. The human task wizard opens. Click the + sign under **User Interface** and select **IBM Lotus Forms** client.

Name	OrderHandlin	gFuture1Task1	Display Name	<not applicable=""></not>
Service Interfac	e			
Pooplo Accient	ant (Oviginator)			
People Assignin	ent (Originator)	<u> </u>		
Potential Start	ers Everybody			
•User Interface		IBM Lotus F	orms client	
Guser Interface		Portal Clien	t	
-		Business Pr	ocess Choreographer Explore	r
Escalation				_
		T II		

4. In the **Properties** view, select the **Client Settings** tab and click **Browse**. The Select a Lotus Form wizard opens.

5. Expand ClipsAndTacksF1 → processes → order and select Order.xfdl. Click OK.



- 6. In the human task, click **Service Interface**, then the **OrderHandlingFuture1** interface. The OrderHandlingFuture1 interface opens in the interface editor.
- 7. Change the name of the input from Input to Order, which is required for the Lotus Forms client, and press Enter. It is important that you press Enter while in this field.



- 8. Save your work and close the Operations view.
- **9**. In the human task view, save your work. The following image shows the completed task.

😒 *OrderHandlingF	uture 1	🔠 OrderHandling	Future 1Task 1 🛛			-	- D
▼Invocation Ta	nsk						^
Name	Ord	derHandlingFuture 1	Task1	Display Name	<not applicable=""></not>		
▼Service Inter	face						
(I) Interface		OrderHandlingFut	ure1				
Operation		InputCriterion					
D Input		Order		Order			
▼People Assign	nment (Orig	jinator) 🚽	• ×				Ξ
Potential St	tarters Eve	erybody					
<b>▼</b> User Interfac	•User Interface 🕂 🐇						
🔓 User Interfa	ace						
IBM Lotus Form	is client						
▼Escalation							
<u></u>							~
Build Activities	Properties &	3 Problems Ser	vers				- 0
Client Settings	🔓 Clie	nt type: IBM Lo	otus Forms clien	ıt			
	Input: <u>/Cl</u>	ipsAndTacksF1/proc	esses/order/Order.)	cfdl New Brows	se		
	During e	execution time, save	form when task is c	reated.			
						$\mathbb{R}$	
						v	

- 10. Close the human task editor.
- Switch to the OrderHandlingFuture1 business process diagram by clicking the OrderHandlingFuture1 tab and then clicking OK on the following message:

🚯 Information 🛛 🔀				
(į)	The inputs or outputs of an operation used by this process have changed. Activities which reference the operation have been updated.			
	ОК			

- 12. In the process diagram, click **OrderHandling** (Future1)Receive.
- 13. In the Properties view, click the **Details** tab and then click near the input variable.

Receive - OrderHandling (Future1)Receive						
Partner:*	þrd	OrderHandlingFuture 1Partner Browse				
Interface:*	Ord	derHandlingFuture 1				
Operation:*	Inp	outCriterion				
🕑 Use Data T	ype Vari	riables				
	Name	Variable				
DI Input(s)	Order	(none)				

- 14. Select **OrderVariable** and then click **OK**. (*none*) will be replaced with *OrderVariable*.
- 15. Save your work. You should no longer have errors.

# Generate Java components

 Click the ClicksAndTacksF1 – Assembly diagram tab. Then right-click CheckCustomerAccountStatus and select Generate Implementation → Java.



- 2. Keep the defaults and click OK. CheckCustomerAccountStatusImpl.java opens.
- **3**. Replace the contents of the following method:

```
public DataObject InputCriterion(DataObject input) {
    //TODO Needs to be implemented.
    return null;
    with the following content:
    public DataObject InputCriterion(DataObject input) {
        System.out.println(
        "Check Customer Account Status Invoked");
        // create CreditRating bean
        com.clipstacks.credit.CreditRating creditRating =
        new com.clipstacks.credit.CreditRating();
        // call CreditRating bean to update the BO
        DataObject orderOut = creditRating.calculateCreditRating(input);
        return orderOut;
    }
```

4. Save your work. Ignore the errors at this time because they will be fixed after you create the Java components in the steps to follow.

- 5. To create the other two Java components, complete the previous steps to generate Java implementations for the following components and then replace the following methods.
  - a. For UpdateOrderDatabase, replace the contents of the following method:

```
public DataObject InputCriterion(DataObject input) {
    //TODO Needs to be implemented.
    return null;
  }
  with the following content:
```

```
public DataObject InputCriterion(DataObject input) {
    System.out.println("Update Order Database invoked");
    return input;
}
```

b. For **CancelOrderandSendNotification**, generating the Java component builds the text part of the Notification business object. Replace the contents of the Java file with this content and then save the changes:

package sca.component.java.impl;

```
import commonj.sdo.DataObject;
import com.ibm.websphere.sca.ServiceManager;
import java.math.BigDecimal;
import java.util.List;
public class CancelOrderandSendNotificationImpl {
/**
  * Default constructor.
 */
private com.ibm.websphere.sca.ServiceManager serviceManager = null;
private com.ibm.websphere.bo.BOFactory boFactory = null;
String namespace = "http://ClipsAndTacksF1/Businessitems";
 public CancelOrderandSendNotificationImpl() {
  super();
  serviceManager = new com.ibm.websphere.sca.ServiceManager();
  boFactory = (com.ibm.websphere.bo.BOFactory)serviceManager
  .locateService("com/ibm/websphere/bo/B0Factory");
 }
 /**
  * Return a reference to the component service instance for this implementation
  * class. This method should be used when passing this service to a partner
  reference
  * or if you want to invoke this component service asynchronously.
  *
  * @generated (com.ibm.wbit.java)
  */
 private Object getMyService() {
  return (Object) ServiceManager.INSTANCE.locateService("self");
 }
 /**
  * Method generated to support implemention of operation "InputCriterion" defined
  for WSDL port type
  * named "CancelOrderandSendNotification".
 * The presence of commonj.sdo.DataObject as the return type and/or as a parameter
  * type conveys that its a complex type.
  Please refer to the WSDL Definition for more information
  * on the type of input, output and fault(s).
  */
 public DataObject InputCriterion(DataObject Input) {
 System.out.println("Cancel order invoked");
  // retrieve customer e-mail address
  DataObject customer = Input.getDataObject("Customer");
  String emailAddress = customer.getString("Email");
```

Build it yourself 3-49

```
// create e-mail text
  String text1 = "Shipment for order: " + Input.getInt("OrderNumber") + "\n";
  String text2 = "Dear " + customer.getString("ContactFirstName") + " " + customer
  .getString("ContactLastName") + "\n";
  String text3 = "We are sorry that your order was cancelled.n;
  String text4 = "The amount of $" + Input.getDouble("TotalPrice") + " was too
  much at this time\n";
  String text5 = "We hope to serve you again in the future.\n";
  List orderitems = Input.getList("OrderItems");
  int nrofitems = orderitems.size();
  System.out.println("orderitems.size = " + nrofitems);
  String itemtext[] = new String[nrofitems];
  String text6 = "";
  String fortyBlanks = "
                                              "; //need this to ensure the product
   name has at least 40 chars
  for (int i=0; i<nrofitems; i++) {</pre>
   DataObject item = (DataObject)orderitems.get(i);
   String productName = (item.getString("ProductName") + fortyBlanks)
   .substring(0, 40);
   itemtext[i] = item.getInt("Quantity") + " " + item.
   getString("ProductNumber") + " " + productName + " $" + new
   BigDecimal(item.getDouble("Price"));
   text6 = text6 + itemtext[i] + "\n";
  String emailText = "\n" + text1 + text2 + text3 + text4 + text5 + text6;
  // build notification data object
  DataObject notification = boFactory.create(namespace, "Notification");
  notification.setString("email", emailAddress);
notification.setString("text", emailText);
  System.out.println("Cancel order email address: " + emailAddress);
  System.out.println("Cancel order email text: " + emailText);
  return notification;
 }
}
```

**Important:** If you cut and paste this content into the Java editor, ensure that the variable fortyBlanks does not get compressed down to a single blank. It must be 40 blanks (spaces) for the code to work correctly.

6. Save your work and close the window.

# Provide the implementation for calculating customer credit ratings

- Create a Java package by selecting File → New → Other and then Java → Package. Then click Next >.
- For the source folder, click Browse and select ClipsAndTacksF1 → gen/src. Click OK.
- 3. For the Java package name, enter com.clipstacks.credit and then click Finish.

🚯 New Java	Package 🛛 🔀
Java Packag Create a Java p	ye ackage.
Creates folders	corresponding to packages.
Source fol <u>d</u> er:	ClipsAndTacksF1/gen/src Browse
Na <u>m</u> e:	com.clipstacks.credit
0	< <u>B</u> ack <u>N</u> ext > <u>Finish</u> Cancel

- 4. Switch to the Physical Resources view by clicking the **Physical Resources** tab (where the Business Integration tab is).
- 5. Expand **ClipsAndTacksF1** → **com** → **clipstacks** → **credit** and copy the CreditRating.java file that you downloaded following the directions in the Download section. Then paste the file into the credit folder.



- 6. Switch back to the assembly diagram editor and save it.
- 7. Save any unsaved items. An open window with an asterisk (\*) on the tab indicates that it is not saved. You should not have errors now. If there are errors, fix them before generating the user interface.
- 8. Rebuild all projects by selecting **Project** → **Clean** and then **OK**.

Project	Data	Run	Window	Help	
0	pen Pro	ject			
C	lose Pro	ject			
Bi Bi	uild All				Ctrl+B
Bu	uild Proj	iect			
Bu	uild Wor	king S	et		•
C	lean				
✓ Bu	uild Aut	omatic	ally		
Bu	usiness	Integr	ation Proje	ects	+
C	onvert	to a Dy	ynamic We	b project	
Pr	ropertie	s			

**Important:** Ensure that the Building workspace action is completed before you generate the user interface. When building is complete, you will not see the following sign percent and status bar indicators. If the icon clears quickly, it is best to wait approximately one minute to be sure all build activity has completed.



# Generate the user interface for the business process

Because Lotus Forms is used in the business process, you will generate a Lotus Forms UI client for the process. It is possible to generate separate clients with different URLs for each human task in the process, however in this tutorial you will generate one client for all human tasks. In a production environment, access is typically based on roles and only authorized users can access specific tasks. For simplicity, all roles can access the human tasks in this tutorial.

Generate the Lotus Forms client for the process by completing the following steps:

- 1. Switch to the Business Integration view.
- 2. Right-click on ClipsAndTacksF1 and select Generate User Interfaces.
- 3. Select IBM Lotus Forms client as the Generator type and click Next.

🚯 User Interf	ace Wizard for Human Tasks					
Client Genera Select a generato	<b>Client Generator Selection</b> Select a generator type and human tasks to generate a user interface.					
Generator type	IBM Lotus Forms dient					
<u>H</u> uman Task(s)		<u>S</u> elect All Deselect <u>A</u> ll				
0	< Back Next > Einish	Cancel				

4. Name the dynamic Web project ClipsAndTacksUI. For Style, select **IBM Style** and click **Finish**.

🚯 User Interface Wizar	d for Human Tasks
IBM Lotus Forms client Specify destination project, co	configuration mpany logo, dient location and style for your dient.
Name of dynamic <u>w</u> eb project	: ClipsAndTacksUI
Company logo:	Browse
Client location © Generated client and rela O Generated client and rela Provider URL: liop://REMOT	ated processes / tasks reside on the same server.(Local client view) ated processes / tasks reside on different servers.(Remote client view) E_SERVER_IP:BOOTSTRAP_PORT
<u>S</u> tyle: IBM Style	× .
Preview:	Add Egit Remove
0	< <u>B</u> ack <u>N</u> ext > <u>Finish</u> Cancel

5. On the Client generation completed message, click OK.

O Client generation completed.	
The Lotus Form client has been generated "ClipsAndTacksUI".	d to a Web Project called
How to deploy and launch the client, sele	ct help icon below.
0	<u>K</u>

# Deploy the Clips and Tacks Order Handling business process

Export the sample to the WebSphere Business Monitor for deploying to the runtime.

1. Click the Servers tab and then right click WebSphere Business Monitor Server v6.1 on WebSphere Process Server and click Start.

Build Activities Properties Problems			参 🜔 🖉	¢.	0	- 0
Server	Status	State				
WebSphere Business Monitor Server v6.1 on WebSphere Process Server	Stopped	Republish				
WebSphere Process Server v6.1	🖥 Stopped	Republish				

2. It will take few minutes for the server to start. When the server is started (the server status will change from **Stopped** to **Started**), right-click the started server and select **Add and Remove Projects**.

Monitoring Flow Propert	ties Problems 해 Serv	ers 🛿 Console	
Server		Status	State
WebSphere Bus	iness Monitor Server v6	1 on WebSphe b Started	New
WebSphere Pro	cess Server v6.1	Stopped	Open
			Initialize Server Status
			Delete
			🐝 Debug
			Start
			Å <sup>™</sup> Profile
			Restart 🕨
			Stop
			Publish
			Monitoring
			Move to Workspace
			Add and Remove Projects

**3**. Add both projects by selecting **Add All** and click **Finish** (if you have other projects in the workspace, you can add ClipsAndTacksF1App and ClipsAndTacksUIEAR individually using **Add**).

🚯 Add and Remove Projects			
Add and Remove Projects Modify the projects that are configu			
Move projects to the right to config	ure them on the server		
Available projects:	1	Configured projects:	
⊕ ( ClipsAndTacksF1App ⊕ ( ClipsAndTacksUIEAR	Add > < Remove << Remove All		
0	< <u>B</u> ack <u>N</u> ext >	<u> </u>	Cancel

4. Wait for publication of the applications to the server to finish.

# Test the Clips and Tacks Order Handling business process

After deploying the application, test the process.

- In an internet browser, enter the URL http://localhost:9080/ClipsAndTacksUI. The port number, 9080 in this tutorial, depends on the number of server profiles that are created on your system. Your port number might be different. If 9080 doesn't work, open the SystemOut.log from C:\Program Files\IBM\WID61\pf\WBMonSrv\_wps\logs\server1 and search for default\_host. The port number next to default\_host is the port number you need to use. It is typical for 9080 to the be the first port number used; then the port numbers increment by 1 for each additional server profile.
- 2. Enter admin as user ID and admin as the password; then click **Login**. (If you used a different user ID and password combination during the installation, then you need to use that user ID and password here and throughout this tutorial wherever the user ID admin is used.)

Login to Business User Client					
Enter user name and password, then click Login.					
Name: admin					
Password:					
Login					

The following image shows the generated client interface.

🔗 Setting - Windows Internet Explore	r		_ 🗆 🔀
COO - E http://localhost:9081/Clips/	IndTacksUI/faces/Setting.jsp	🕶 🐓 🗙 Google	P -
🚖 🏟 🌈 Setting		👌 • 🖻 •	🖶 🔹 🔂 Page 🔹 🎯 Tgols 🗸 🍟
IBM.			
+ HOME	Business User Client		
> Business Case			
→ New → Status	- Business Case		
<ul> <li>My ToDo's</li> <li>Open</li> <li>Claimed</li> <li>User: admin</li> <li>Logout</li> </ul>	New     Select this to view a list of all the tasks that you can use to create a business case. For search criteria, you can pri     information.     Status     Select this to view the current state of a process (for example, whether it is running, or finished). You can choose a     and then provide search criteria to find a specific instance.     Wy ToDo's	vide additional a process from a list,	
	Open Select this to claim a task from a list of those that have been started. Claimed Select this lose a list of the tasks that have already been started and claimed. You can then complete a task by e inserting the necessary output data.	choosing it and	
Done		S Local in	tranet 🔍 100% 🔹

- 3. Under **Business Case**, click **New** and then select
  - OrderHandlingFuture1\_InputCriterion. The Order Lotus form is displayed.
  - For this scenario, when you enter the data, the TotalPrice should be greater than \$750.00 to force the process to flow to the Review task. You may copy the data elements as they are in the image below.
  - Do not enter text below the red text that reads **Below this line is for Clips and Tacks office use only**.

- You can add a new row to the ordered products table by clicking the + sign; similarly, you can delete a row by clicking the sign. You can order multiple items, but ensure there is only one item per row.
- When you have completed the form, click **Create** at the top of the form to create a running instance of the process.

Setting - Windows Internet Exp	lorer				
	ClipsAndTacksUI/faces/Setting.jsp			Google 🖌 🖌	- 9
🚖 🏘 🏀 Setting				🗿 * 🖻 🔞	🖶 🔹 🔂 Page 🔹 🍈 T <u>o</u> ols 🔹
IBM.					
→ HOME	Business Cases > New	> OrderHandlingFutur	e1 > OrderHandlin	aFuture1 InputCriterion	
<ul> <li>Business Case</li> </ul>	Enter the values for the input data and/o	or provide additional information to	create your task	5 1	
→ New					
+ Status			9 🥹		
> My ToDo's	Create				
→ Open					
+ Claimed		s&Tacks			AR
> Usor admin		ORDER FORM		e stu	LL V
+ Logout					
· Logour	Customer Number 1				
	Company Name IBM				
	Contact First Name John	ı			
	Contact Last Name Doe				
	Street Address 100 I	Main Street			
	City New	York			
	Country USA				
	Postal Code 1000	4			
	Email john	Doe@ibm.com			
	Rating 100				
	Available Credit 500				
	Order Number 101				
	Product Name Product	Number Description	Price Quantit	y Item Price	
	pen ben-1	expensive pen	10 100	\$1,000.00 + -	~
	<				>
-				<b>6</b> 1	
Done				S Local intrar	iet 🔍 100% -

4. Under **My ToDo's**, click **Open**. The process instance is waiting for the ReviewOrder task to approve the order as shown in the following figure (see the note following the figure if you do not see the task)

6 Setting - Windows Inter	net Explorer			
GO - Attp://localhe	ost:9081/ClipsAndTacksUI/faces/Setting.jsp	v 47 ×	Google	<b>P</b> -
😭 🏟 🌈 Setting			• 🔊 • 🖶 • 🕞 🖻	ige → ۞ T <u>o</u> ols → »
IBM.				
HOME     Business Case     New	My ToDo's > Open Select a task to see more details and finally claim the	task.		
→ Status	Task Name	Description	First Activated 12/18/07 2:33:36 PM	Originator 🗘
<ul> <li>→ Open</li> <li>→ Claimed</li> </ul>	Items found: 1 << Page 1 of 1 >> Items p	er page: 20 💌		
> User: admin → Logout	Refresh			
	٤	1111		>
			🛃 Local intranet	🔍 100% 🔹

**Note:** If you do not see the task in the ToDo list, check the Console tab in WebSphere Integration Developer to see if there is a NullPointerException in the execution of the CreditRating.java file. If so, this is due to an infrequently

occurring bug in WebSphere Integration Developer. The easiest way to recover is to start over with a new WebSphere Integration Developer workspace. Below is the recovery procedure:

- a. Close the browser window showing the ToDo list.
- b. In WebSphere Integration Developer, select the Servers tab.
- c. Right mouse on WebSphere Business Monitor Server v6.1 on WebSphere Process Server and click Add and Remove Projects.
- d. Remove ClipsAndTacksF1App and ClipsAndTacksUIEAR from the server.
- e. Right mouse on WebSphere Business Monitor Server v6.1 on WebSphere process Server and click Stop
- f. Exit WebSphere Integration Developer, but before exiting, write down the workspace path displayed in the WebSphere Integration Developer title bar.
- g. Using Windows File Explorer, delete the workspace you noted above.
- h. Restart WebSphere Integration Developer with a new workspace. You may reuse the directory name used previously, but you must first have deleted it from the file systems so that WebSphere Integration Developer creates the workspace anew.
- i. Repeat the Build It Yourself steps above starting with the import into WebSphere Integration Developer.
- 5. Click the waiting task and then under the form click **Claim** to work on the task.

Setting - Windows Internet Explorer							
	I/faces/Setting.jsp					🕶 🔸 🗙 Google	٩
🚖 🏟 🎢 Setting						💁 • 🖾 · 🖶 • 🕞 9	sge 🔹 🎯 Tools 🔹
IBM.							
→ HOME	My ToDo's > Open >	OrderHandlingEuture1\$	OrderHand	lingFuture1	ReviewOrder		
> Business Case	Enter the values for the output data of	of your task.					
→ New → Status	🗃 🔒 😓 😂 🗷 II 1	II 🔣 🛃 😑 100% 💌 🕀 粉 🌘	9 🙃				
> My ToDo's	Release Save Complete						
→ Open	Contact Last Name De	00					~
+ Claimed	Street Address 10	00 Main Street					
User: admin	City Ne	ew York					
→ Logout	Country U	SA					
	Postal Code 10	0004					
	Email jo	hnDoe@ibm.com					
	Rating 10	00					-
	Available Credit 50	0.0					
	Order Number 10	01					
	Product Name Produ	ct Number Description	Price	Quantity	Item Price		
	pen pen-1	expensive pen	10.0	100	\$1,000.00 + -		
	pencil pencil	-1 mechanical pen	5.0	150	\$750.00		
		Tota	I Price		\$1,750.00		
	Below	this line is for Clips and Tacl	s office use o	nly			
	Order Status	APPROVED V		·			
	Packing Slip Number						
							~
ie						Scal intranet	100%

6. At the bottom of the form, select the **Order Status** drop-down list and select **APPROVED**. Complete this human task by clicking **Complete** (located at the top left corner of the form).

**Note:** Save does not complete the human task, but saves the task so that you can return to it. Click **Complete** so that the process will continue to the next task.

7. Click **Refresh** in the client (not the browser Refresh). Now the process is waiting for someone to claim and work on the ShipOrdertoCustomer human task.

Setting - Windows Internet E	İxplorer			_ 🗆 🔀
GO - 🙋 http://localhost:90	181/ClipsAndTacksUI/faces/Setting.jsp	¥ 47 🗙	Google	P -
🚖 🏘 🌈 Setting			• 🔊 • 🖶 • 🔂	Page 🔹 🎲 Tools 🔹 🎇
IEM.				
→ HOME     → Business Case     → New	My ToDo's > Open Select a task to see more details and finally claim the task.			
→ Status	Task Name 🗘	Description 🗘	First Activated 🗘	Originator 🗘
Yuy ToDo's      → Open      → Claimed	OrderHandlingFuture1SOrderHandlingFuture1_ShipOrdertoCustomer  Items found: 1		12/18/07 2:39:20 PM	admin
Vser: admin     → Logout	Refresh			
			C Landlahanat	@ 40004

- 8. Click the waiting task and then click on Claim to work on it.
- **9**. Enter a **Packaging Slip number** and click **Complete** to complete the business process.

Setting - Windows Internet Explorer								
COO - E http://localhost:9081/ClipsAn	dTacksUI/faces/Setting.jsp					🛩 🔸 🗙 Goi	ogle	<b>P</b>
SnagIt 🔠								
🚖 🏟 🌈 Setting						🚹 • 🖻 -	🖶 🔹 🔂 Bage 🔹 🍈 Too	ils • 🕢 • 👋
→ HOME	My ToDo's > On	en > OrderHa	ndlingEuture1\$	OrderHa	andlingFuture1	ShipOrdert	oCustomer	^
> Business Case	Enter the values for the out	out data of your task.						-
→ New			- 100% × - 100%					-
→ StatUS	Release Save Cor	nplete		v				1
> My Tobo's → Open		Dec		_				-
→ Claimed	Contact Last Na	ame Doe		_				
	Street Add	City New York		_				
> User: admin	Cour	ntry USA		_				
→ Logout	Postal C	ode 10004		-				
	Er	mail johnDoe@ibr	n.com					
	Rat	ting 100						
	Available Cro	edit 500.0						
	Order Num	iber 101						
	Product Name	Product Number	Description	Price	Quantity	Item Price		
	pen	pen-1	expensive pen	10.0	100	\$1,000.00	+ -	
	pencil	pencil-1	mechanical pen	5.0	150	\$750.00		
			Tota	I Price		\$1,750.00		
		Below this line is	for Clips and Tacl	s office u	se only			
	Order Sta	tus APPROVED	) 🔻		-			
	Packing Slip Nur	nber 10005						
	<	11	1				>	
Done						🧐 Lo	ocal intranet 🧧	100% <del>•</del> .

You have just executed one process instance of the Clips and Tacks OrderHandling (Future1) business process. Because the total price of the order was more than \$750.00 and the available credit was less than the total price, the order went to the ReviewOrder human task (either of the conditions would have sent it to review). The ReviewOrder human task approved the order and it went to the ShipOrdertoCustomer human task. The ShipOrdertoCustomer human task gave a packaging slip number and sent the order to the customer.

# Monitor the business process

Because the project is rebuilt and redeployed to the server every time that you save a change, which will slow down your monitor model creation, use **Add or Remove Projects** to remove both of the projects from the server.

- 1. In the Business Integration view, click the Servers tab.
- 2. Right click WebSphere Business Monitor v6.1 on WebSphere Process Server and select Add or Remove Projects.

Build Activities	Properties	Problems	ी Servers	X Console		
Server					Status	State
🗉 🔡 WebSp	ohere Busine	ss Monitor S	erver v6.1 on	WebSphere Prod	cess Server 🚡 Started	Synchronized
🔛 WebSp	ohere Proces	ss Server v6.	1		🖥 Stopped	Republish

**3**. Click **Remove All** (if you have other projects, use **Remove**) and click **Finish**. Wait for WebSphere Integration Developer to remove the projects.

🚯 Add and Remove Projects		X
Add and Remove Projects Modify the projects that are configure	ed on the server	
Move projects to the right to configur	e them on the server	
<u>A</u> vailable projects:		Configured projects:
	Add > < Remove	⊕ ( ClipsAndTacksF1App
0	<< Remove All < Back	<u>Finish</u> Cancel

4. From the Business Integration pane, select **ClipsAndTacksUI and ClipsAndTacksUIEAR**. Right-click and select **Delete**. this to work around a problem; when the base project changes, ClipsAndTacksF1 in this case, you have to regenerate the user interface and redeploy.

ClipsAndTacksF1		
ClipsAndTacksUI     GipsbpmApplicat	New	•
🗄 🞥 clipsbpmModelLo	Сору	Ctrl+C
🗄 🞥 clipsbpmModera	Paste	Ctrl+V
	💢 Delete	Delete
	Build Path	•
	Source	Alt+Shift+S 🕨

5. Select **Also delete contents in the file system**. You will regenerate the user interface later.

🕑 Confirm Multiple Project Delete 🛛 🛛 🔀
Are you sure you want to delete these 2 projects?
Also delete contents in the file system
O Do not delete contents
Yes No

# Update the business process to emit monitor events

Before you create the monitor model, you must select the events that WebSphere Process Server will generate. WebSphere Business Monitor will use the generated events to monitor the process. Events need to emitted for decisions and invocation actions in the process. The process representation in WebSphere Integration Developer is BPEL. WebSphere Business Modeler decisions become BPEL links in WebSphere Integration Developer. You need to configure to emit events for the parallel activity BPEL element (OrderHandlingFuture1\_Flow) to emit events for the links.

The business object date (order form data) can be accessed from several events including SCA ENTRY events, receive activity (EXIT) events, or invoke activity (ENTRY) events. You could use the SCA events, but then the auto-generated monitor model would not have a trigger to terminate monitoring that process instance; thus, this option requires you to add the termination trigger. You could also use the receive activity EXIT event. In this tutorial you will use the first invoke activity (ENTRY) in the process to access the order form data.

- In the Business Integration view, select ClipsAndTacksF1 → Business Logic → Processes → processes\orderhandlingfuture1 and then double-click OrderHandlingFuture1 to open the BPEL editor.
- 2. Click the white background of the process. Ensure that you click outside of the parallel activity (OrderHandlingFuture1\_Flow) element, which is the large rectangle that contains elements such as receive, human tasks, and invoke elements.
- **3**. Click the **Properties** tab under the BPEL diagram, and then click the **Event Monitor** tab (if you have to scroll down, you must scroll from the left side, not

the right side). For a production application, you would want to select the individual events to emit, but for simplicity in this tutorial, select **All**.

Description	🙎 Process - OrderHandling (Fu	ture1)					
Details	Destination	MOET	Audit Log				
Server	2	( CCI	Hour Log				
dministration	Monitor	E	Event Content	On	Transac	tion	Label
ava Imports	○ None						
oin Behavior	• All	Full			Evicting		
ports		1 Cill			Existing		
nvironment	O Selected						
vent Monitor	Compensated	Empty	~		Existing	*	
· Global Event Settin	gs	Courts.			The Advertise of the Ad		
	Compensating	Empty	Y		Existing	×	
	Compensation failed	Empty	~		Existing	V	

- 4. Click inside the **OrderHandlingFuture1\_Flow** parallel activity element, and then click **All** on the **Event Monitor** tab.
- 5. Similarly, select **All** events for each of the four invoke activities and the two human tasks. You will select each of these activities in the BPEL diagram and then update the **Event Monitor** tab. Update the following activities to emit **All** events:
  - Check Order Handling Policy for Automatic Approval
  - Check Customer Account Status
  - Review Order
  - Ship Order to Customer
  - Cancel Order and Send Notification
  - Update Order Database
- 6. Save your work. Review each of the four invoke activities, the two human tasks, the flow, and the process to ensure the Event Monitor is set to All. Events that are not being emitted can be difficult to detect and debug.

The following screen capture shows the yellow flag icons that indicate the events that are selected to be emitted for the components. There are flags on each of the six activities. The flag in the upper left is for the flow. The flag in the upper right is for the process. There are eight flags in total.



### Create the monitor model to monitor the business process

You use a wizard to auto-generate the monitor model from the process. You will then have two monitor models, the business measures model from the process in WebSphere Business Modeler (the high-level model) and the monitor model generated from the process in WebSphere Integration Developer (the low-level model). The high-level model contains the monitor elements that need to be implemented in the final monitor model. The low-level model contains the monitoring context instance creation, termination, and correlation information based on the events generated from WebSphere Process Server.

You have three options when using these two monitor models:

- Keep both models intact and create outbound events from the low-level model to feed metric information to the high-level model. This options supports product synchronization for both models to easily handle changes that are made to the process or changes that are made to the business measures model. However, this option also requires extra work to build the event definitions and the monitor elements that support it.
- Keep the high-level model intact and add inbound events to the high-level model using New -> Create from Application in WebSphere Integration Developer, and then copying the generated artifacts into the monitoring context for the high-level model. This option is easy and can be useful when the low-level application is stable, but the business measure requirements are churning. However, this option does not support synchronization with the process application.
- Keep the low-level model intact and then copying business measures information into the low-level model from the high-level model. This option is the easiest and can be useful when the low-level application is churning, but the business measure requirements are stable. However, this option does not support synchronization with business measures from WebSphere Business Modeler.

For this tutorial, you will use option three. Therefore, you need to merge the two models into one monitor model. Then you will add the implementation details for the KPIs and other monitor elements.

- 1. Generate the monitor model in WebSphere Integration Developer from the BPEL process by completing the following steps:
  - a. In the Business Integration view, right-click ClipsAndTacksF1 and select Monitor Tools → Generate Monitor Model.



- b. For the Target monitor project, enter clips.
- c. Click New Project, then click Finish.
- d. For the Target monitor model name, enter clipsbpm and click Next.

🚯 Generate Monitor Mo	del				
Generate monitor mode Specify the target location and	el I model name for the new monitor model.				
Target monitor project: Target monitor model name:	clips clipsbpm			<b>x</b>	New Project
0		< <u>B</u> ack	<u>N</u> ext >	Einish	Cancel

e. In the Generate Monitor Model dialog box, in the Choose what to monitor section, navigate the Event Source field to ClipsAndTacksF1 → ClipsAndTacksF1Module → Order Handling (Future 1) and select Order Handling (Future 1) as follows:



f. On the **Monitoring Templates** tab, click **Select All**. The generated monitor model will contain monitoring elements that track all of the listed process characteristics. One of these characteristics is the Average Elapsed Duration, which will satisfy the requirement in the business measures model to track the average processing time.

hoose what to monitor lick each of the application elements that you want to monitor. Choose the monito	ring templates or events to enable for that element.
Event Source         ClipSAndTacksF1         OrderHandling (Future1) <ul> <li>OrderHandling (Future1)</li> <li>OrderHandling Future1.InputCriterion</li> <li>Check Order Handling Policy for Automatic Approval</li> <li>Check Customer Account Status</li> <li>Update Order Databse</li> </ul> <li>Update Order Databse</li>	Monitoring Templates <u>Emitted Events</u> Select the monitoring templates to apply to the selected element. Monitoring Template Name With Engosed Duration State Working Duration State Time With State With Average Elapsed Duration - KPI With Average Elapsed Duration - Measure With Average Working Duration - Measure Select All Clear Description of selected template Select a template to see the description. Limit my selection of events and templates based on the events that have been turned on in the application

g. In Event Source, select ClipsAndTacksF1 → ClipsAndTacksF1Module → Order Handling (Future 1) → Order Handling (Future 1) → OrderHandlingFuture1\_Flow:



h. On the **Emitted Events** tab, click **Select All**. The generated monitor model will subscribe to these events. The events are for link traversals. These BPEL links represent the decision elements from WebSphere Business Modeler.
The events indicate whether a link was skipped or if it was traversed because the condition was true or false. Note the event name OrderHandlingFuture1\_FlowCONDTRUE. This will be used heavily in the monitor model.



 In the business measures model, it was specified to track the processing time for each task. To implement that, click the Monitoring template for elapsed duration for each activity. To do this, select Cancel Order and Send Notification. Then on the Monitoring Templates tab, select Average Elapsed Duration – Measure.



- j. Repeat step 1h on page 3-64 for the remaining three invoke activities and the two human tasks. Do not repeat step 1h on page 3-64 for the receive element, **Order Handling (Future 1)Receive**. Click **Next**.
- 2. Simplify the monitor model so that there is only one monitoring context. A monitoring context represents the entity or thing that is to be monitored. Additionally, simplify the monitor model by creating event groups to organize the events and provide structure in the monitor model:
  - a. For each of the invoke activities and the human tasks, change the implementation to **Event group** by clicking in the Implementation column and selecting **Event Group** from the drop-down list.

Event Source	Implementation
😑 🔁 ClipsAndTacksF1	
🖃 🖏 ClipsAndTacksF1Module	None
🖃 👤 OrderHandling (Future 1)	None
🖃 📉 OrderHandling (Future 1)	Monitoring context
🖃 江 OrderHandlingFuture1_Flow	None
Cancel Order and Send Notificatio	Event group
💝 Check Customer Account Status	Event group
Check Order Handling for Automa	Event group
💝 Update Order Databse	Event group
🛍 Review Order	Event group
X Ship Order to Customer	Event group 🗸 🗸

- b. Click Next. You can preview the model here.
- c. Click **Finish**. When prompted, click yes to switch to the Business Monitoring perspective. When prompted, do not launch **Getting Started**. The monitor model opens in the monitor model editor.
- d. Check the **Problems** view. If you didn't emit events that the monitor model requires, then the **Problems** view will show warnings to indicate that the events are missing. If you see these messages, update the monitor event settings in the module and then synchronize the model with the application (in the project tree, right-click the model and select **Synchronize with Application**).

🖃 🔚 Warnings (17 items)



- **3**. Import the business measures model from WebSphere Business Modeler. Many errors will result from the following actions, but these will be fixed as you progress through the steps. To import the business measures model, complete the following steps:
  - a. In the project tree, right-click the clips project and select **Import** → **General** → **File System**. Then click **Next**.
  - b. Browse to the location that contains the business measures model (OrderHandling (Future1).mm) from WebSphere Business Modeler. Then select the two .svg files and the monitor model:

From directory: C:\temp	Browse
	Corder_Handling_x0028_Future_1_x0029_K Corder_Handling_x0028_Future_1_x0029_M Corder Handling (Future 1).mm
Filter Types Select All Deselect All	
Into folder: clips	Browse

c. Ensure that the **Into folder** is **clips** and then click **Finish**. There will be many errors in the Problems view because the metrics for the business measures model have not been implemented yet.

You now have the auto-generated model (clipsbpm.mm) and the business measures model (Order Handling (Future 1).mm) in your clips project:



- 4. Merge these two monitor models together. There are several options. You could use the menu options Combine Monitor Models or Compare With → Each Other. Because the names of the monitoring contexts, KPI contexts, and cubes are different in the two models, using the merge tools will result in a monitor model that is a union of the two monitoring contexts, two KPI contexts, and two cubes. The merge options work better if both models start from a common base so that these containers have the same name. In our example, it is easier to copy the monitor elements functions from one model to the other.
  - a. Open the editor for both monitor models, clipsbpm.mm and Order Handling (Future 1).mm, by double-clicking each of them in the project tree.
  - b. Start Copying elements from the Order Handling (Future1) to clipsbpm. Click the **Monitor Details Model** tab for Order Handling (Future1). Select the six percentage metrics (Acceptable Credit Risk? No Percentage, Acceptable Credit Risk? Yes Percentage, Account in Good Standing? No Percentage, Account in Good Standing? Yes Percentage, Approve Without Review? No Percentage, and Approve Without Review? Yes Percentage), right-click, and select **Copy**.

**Note:** There are several additional metrics in the details model for Order Handling. These are for processing time, but you will not need them because they were created automatically in clipsbpm when you selected the duration monitoring templates in the generation wizard.



- c. Click the Monitor Details Model tab in clipsbpm, and then right-click Order Handling (Future 1) and paste the metrics that you copied.
- d. Save your work. You will have errors for the pasted metrics.
- e. Click the **KPI Model** tab for Order Handling (Future1). Select all of the elements: the two KPIs and the two triggers. Right-click and select **Copy**.



- f. Click the **KPI Model** tab in clipsbpm, and then right-click **Template KPI Context** and paste the elements that you copied.
- g. Save your work.
- h. Click the Dimensional Model tab for Order Handling (Future1). Select all of the elements, except for the seven measures with names that end with \_Processing\_Time (these measures are already in the clipsbpm model). Right-click and select Copy.



- i. Click the **Dimensional Model** tab in clipsbpm and then right-click **Order Handling (Future 1) Cube** and paste the copied elements.
- j. Save your work.
- 5. For the seven processing time measures that you did not copy, you will need to copy the tracking keys from Order Handling (Future1) to clipsbpm. WebSphere Business Modeler needs the tracking keys when you export WebSphere Business Monitor data back to WebSphere Business Modeler.
  - a. In the dimensional model of Order Handling (Future1), click the measure **Average Cancel Order and Send Notification Processing Time**. You will see the tracking key in the editor as in the following screen capture.

Average Cancel Order and Send Notification Average Check Customer Account Status Pri Average Check Order Handling Policy for Au		
Average OrderHandling (Future 1) Processing     Average Review Order Processing Time	Source metric:	* Cancel Order and Send Notification Processing Time
	Aggregation function:	* Average
- 💼 Declined Order Count	Tracking key:	BLM-cb1be38c555a8999f1dfbee1f712219a/BLM-ad215ab1d25f5

- b. Select the text for the tracking key and then copy it to the corresponding measure of the dimensional model in clipsbpm: **Cancel Order and Send Notification Average Elapsed Duration**.
- c. Repeat step 5b for the following six processing time measures.
  - From Average Check Customer Account Status Processing Time to Check Customer Account Status Average Elapsed Duration
  - From Average Check Order Handling for Automatic Approval Processing Time to Check Order Handling for Automatic Approval Average Elapsed Duration
  - From Average Order Handling (Future 1) Processing Time to Order Handling (Future 1) Average Elapsed Duration
  - From Average Review Order Processing Time to Review Order Average Elapsed Duration
  - From Average Ship Order to Customer Processing Time to Ship Order to Customer Average Elapsed Duration
  - From Average Update Order Database Processing Time to Update Order Database Average Elapsed Duration

**Note:** For Order Handling in clipsbpm there is a working duration measure and an elapsed duration measure, so update the tracking key for the elapsed duration only.

- 6. The diagram view is based on SVG images and shape sets. To create shape sets in the SVG diagrams, complete the following steps:
  - a. Click the Visual Model tab in clipsbpm. For Selected Context equal Order Handling (Future 1), click Browse for SVG File. Navigate to clips and select Order\_Handling\_x0028\_
    Future\_1\_x0029\_\_MDM\_Order\_Handling\_x0028\_
    Future\_1\_x0029\_\_MC.svg and click OK. When prompted, choose to create shape sets.
  - b. Change the Selected Context to Template KPI Context and then click Browse to select an SVG file for this context. Navigate to clips and select Order\_Handling\_x0028\_ Future\_1\_x0029\_\_KM\_Order\_Handling\_x0028\_ Future\_1\_x0029\_\_KC.svg; click OK. When prompted, choose to create shape sets.
  - c. Save your work.

- d. Close the Order Handling monitor model because you have copied everything you needed from this model to clipsbpm.
- e. To remove the numerous errors that are associated with this model in the Problems view, right-click **OrderHandling (Future1)** in the project tree and select **Delete**.

The rest of the work will be done in the clipsbpm model. There are still many errors. These will be corrected as you specify more implementation details.

## Complete the clipsbpm monitor model

Now you will complete the expressions for the six decision percentage metrics in the monitor details model. There are three decisions in the process model, so there is a yes metric and a no metric in the monitor model for the result of each decision. There will be a measure in the dimensional model that averages each metric, so the measure will show the percentage of the time that the branch was taken.

If a decision has not been traversed, then you do not want to include it in the averaging calculation. For example, the **Approve Without Review?** task in the process model is the only decision point that is always traversed. **Account in Good Standing?** and the **Acceptable Credit Risk?** tasks are only traversed under specific conditions while the order is being handled.

If the value of a metric is null, then the averaging functions will not include that metric's value in the calculation. Therefore, you will set the default value to null for each metric as the starting condition. Its value will only be set if the decision point is reached. If it isn't reached, it will remain null and therefore be excluded from the averaging calculation.

You will also create a trigger for each decision that determines when the yes branch is taken, sets the value of the yes metric to 100, and also sets the value of the no metric to 0. Then you will create a trigger for each decision that determines when the no branch is taken, sets the value of the no metric to 100, and also sets the value of the yes metric to 0. Therefore, when the measure averages each metric for the instances, the values will be null, 0 or 100, and the average will represent the percentage of the time that the branch was taken.

From the process model, only the **Approve Without Review?** task is guaranteed to always be set to a non-null value at the completion of the process. Of the other two, at least one task will be set to non-null and possibly both, depending on the path the customer order takes through the process.

In the following expressions, the WebSphere Integration Developer BPEL editor contains the names of the links (for example,

"AcceptableCreditRiskOutput\_to\_Merge2Input2") for the process.

- 1. Create triggers to indicate flow on each of the decision links:
  - a. In the Monitor Details Model tab, expand clipsbpm and select
     OrderHandling (Future1). Right-click in the Monitor Details Model
     navigator, and select New → Trigger. (You can right-click OrderHandling
     (Future1) or anywhere in the Monitor Details Model as long as
     OrderHandling (Future1) or one of its components is selected.)
  - b. For the name, enter Acceptable Credit Risk Yes Trigger. Click **OK**. The **Monitor Details Model** tab view now displays the details for this trigger.

Note that selecting an element in the Monitor Details Model navigator updates the view with the details for the selected element.

- c. In Trigger Sources, click Add (or double-click in the first row). From the Select Trigger Source menu, select Other source type and navigate to Order Handling (Future 1) → OrderHandlingFuture1\_FlowCONDTRUE. Click OK. OrderHandlingFuture1\_FlowCONDTRUE is an event that is sent when a branch from the flow is taken in the process.
- d. To fire this trigger when the link from Acceptable Credit Risk to the Merge is traversed, in the Trigger Condition field, enter the following text: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/bpc:elementName eq 'AcceptableCreditRiskOutput\_to\_Merge2Input2'

**Note:** Pay close attention to the text in the trigger condition. It must match exactly. To ensure that the text matches exactly, copy it from this document.

Save your work.

<ul> <li>Trigger Sources</li> </ul>	
Specify the source of this trigger.	
Source Type	Source
Event	OrderHandlingFuture1_FlowCONDTRUE

Trigger Condition
Specify the condition that determines whether the trigger will fire.

OrderHandlingFuture1\_FlowCONDTRUE/BPELData/bpc:elementName eq 'AcceptableCreditRiskOutput\_to\_Merge2Input2'

e. Repeat the previous steps for the following triggers, adding the corresponding trigger conditions. The Trigger Source is Order Handling (Future 1) → OrderHandlingFuture1\_FlowCONDTRUE for all the triggers.

## Acceptable Credit Risk No Trigger

Condition: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/ bpc:elementName eq 'AcceptableCreditRiskOutput2\_to\_CancelOrderandSendNotificationInput'

## Account in Good Standing Yes Trigger

Condition: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/ bpc:elementName eq 'AccountinGoodStandingOutput to Merge2Input'

## Account in Good Standing No Trigger

Condition: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/ bpc:elementName eq 'AccountinGoodStandingOutput2 to MergeInput'

## **Approve Without Review Yes Trigger**

Condition: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/ bpc:elementName eq 'ApproveWithoutReviewOutput to CheckCustomerAccountStatusInput'

## Approve Without Review No Trigger

Condition: OrderHandlingFuture1\_FlowCONDTRUE/BPELData/ bpc:elementName eq 'ApproveWithoutReviewOutput2 to MergeInput2'

- f. Save your work.
- 2. Set flow metric values to denote that the decision was skipped (value of null) or that the flow path was taken (value of 100) or not taken (value of 0).
  - a. In the Monitor Details Model tab, select the Acceptable Credit Risk? No Percentage metric.
  - b. Remove the default value of 0 by backspacing over it. Deleting this value will give the default a value of null.
  - c. In the Metric Value Expressions table click Add.
  - d. In the **Trigger** column, select the first row, click ... in the field, and select Acceptable Credit Risk Yes Trigger from the dialog box. Click OK.
  - e. In the Expression column, select the first row and click ... in the field, and enter 0.
  - f. In the Metric Value Expressions table click Add. For the trigger, select Acceptable Credit Risk No Trigger. For the expression, specify 100.

Trigger	Ex	pression
🖙 Acceptable Credit Risk Yes Trigger	×+¥ =?	0
🖙 Acceptable Credit Risk No Trigger	×+¥ =?	100

Monitor Details			Metric Value
Model Metric	Default Value	Trigger	Expression
Acceptable Credit Risk? Yes Percentage	<empty></empty>	Acceptable Credit Risk Yes Trigger	100
		Acceptable Credit Risk No Trigger	0
Account in Good Standing? No	<empty></empty>	Account in Good Standing Yes Trigger	0
Percentage		Account in Good Standing No Trigger	100
Account in Good Standing? Yes Percentage	<empty></empty>	Account in Good Standing Yes Trigger	100
		Account in Good Standing No Trigger	0
Approve Without Review? No	<empty></empty>	Approve Without Review Yes Trigger	0
Percentage		Approve Without Review No Trigger	100
Approve Without Review? Yes	<empty></empty>	Approve Without Review Yes Trigger	100
Percentage		Approve Without Review No Trigger	0

g. Repeat the previous steps for the following metrics. Remember to remove the default value for each metric so it is treated as null.

h. Save your work.

- **3**. Alerts are initiated by situation events. Specify the trigger conditions that will generate situation events for the Alerts.
  - a. Select the **KPI Model** tab and expand **clipsbpm** → **Template KPI Context**. Select **Average Process Duration Trigger 1** so that you can update it. The Average Process Duration Trigger 1 trigger will be used to emit the situation event indicating that the process duration is too long. A situation event is used to initiate an alert.
  - b. In the **Trigger Source** table, click **Add** and select **Recurring wait time**. Click **OK**. The recurring wait time default is 1 minute. Adding the recurring wait time sets a timer that will check the trigger condition every minute.
  - c. For **Trigger condition**, enter the following expression:

Average\_Process\_Duration ge dayTimeDuration('P3DT1H')

Trigger Sources	
Specify the source of this trigger.	
Source Type	Source
Recurring wait time	🝈 0 days 0 hours 1 minutes

<ul> <li>Trigger Condition</li> </ul>	
Specify the condition that determines whether the trigger will fire.	

Average\_Process\_Duration ge dayTimeDuration('P3DT1H')

The trigger condition checks whether the Average Process Duration is greater than 3 days and 1 hour.

 d. Repeat the previous steps to update Percentage of Orders Shipped Trigger 1. The Percentage of Orders Shipped Trigger 1 trigger will be used to emit the situation event indicating that the percentage of shipped orders is too low. For the trigger condition, enter the following expression: Percentage\_of\_Orders\_Shipped < 85</li>

<ul> <li>Trigger Sources</li> <li>Specify the source of this trigger.</li> </ul>	
Source Type	Source
Recurring wait time	🚯 0 days 0 hours 1 minutes

#### Trigger Condition

Specify the condition that determines whether the trigger will fire.

Percentage\_of\_Orders\_Shipped < 85

- 4. The Average Process Duration KPI will now be implemented.
  - a. From the KPI Model tab, select Average Process Duration.
  - b. Because this was copied from another model, you need to update the Monitoring context. Scroll down to the KPI Details section. Click Browse for Monitoring context, and navigate to clipsbpm → Order Handling (Future 1). Then click OK. The metric value is blank.

**Note:** There is another KPI, Order Handling (Future 1) Average Elapsed Duration, which has the same function as Average Process Duration. Order Handling (Future 1) Average Elapsed Duration was auto-generated. You can review it to see which metric should be used. It will be filled in during the next step.

- c. While you are still in the KPI Details section, click **Browse** for Metric and then navigate to **Order Handling (Future 1)** → **Order Handling (Future 1) Elapsed Duration for KPI**. Click **OK**.
- d. Set the Aggregation function to Average from the drop-down list.

KPI Details		
Monitoring context:	* OrderHandling (Future 1)	Browse
Metric:	* OrderHandling (Future 1) Elapsed Duration for KPI	Browse
Aggregation function:	* Average	~
Use values from:	● All model versions ○ Only this version of the model	

- e. In the **KPI Model** tab, select **Order Handling (Future 1) Average Elapsed Duration**, right-click and select **Delete**. It is a duplicate of the Average Process Duration KPI.
- f. Save your work.
- 5. In the KPI model, implement the KPI **Percentage of Orders Shipped**. To calculate the percentage of orders that are shipped, you will create a KPI for the number of shipped orders, and you will create another KPI for the total number of orders. Then you can determine the percentage by dividing the shipped orders by the total orders:
  - a. Click the **Monitor Details Model** tab, right-click in the Monitor Details Model navigator, and select **New > Trigger**.
  - b. For the name, enter Shipped Order Trigger and click OK.
  - c. In Trigger Sources, click Add and then select Other source type. Navigate to Order Handling (Future 1) → Ship Order to CustomerEXIT and click OK.

<ul> <li>Trigger Sources</li> <li>Specify the source of this trigger.</li> </ul>	
Source Type	Source
Event	Ship Order to CustomerEXIT

- d. In the Monitor Details Model tab, right-click in the Monitor Details Model navigator and select New → Trigger.
- e. For the name, enter Cancelled Order Trigger, click OK.
- f. In Trigger Sources, click **Add** and then select **Other source type**. Navigate to **Order Handling (Future 1)** → **Cancel Order and Send NotificationEXIT** and click **OK**.

<ul> <li>Trigger Sources</li> <li>Specify the source of this trigger.</li> </ul>	
Source Type	Source
Event	Cancel Order and Send NotificationEXIT

- 6. Create a new metric to contain the status of the Order.
  - a. Right-click in the Monitor Details Model navigator and select**New** → **Metric**.
  - b. For the name, enter Order Status. For the type, select String and click OK.
  - **c**. Because a dimension will use this metric, and dimensions require a value for dimensional analysis, select '**A value is required for this metric**'.
  - d. For the **Default value**, enter 'New' with the quotation marks.
  - e. In Metric value expressions, click Add. In the Trigger cell, select Cancelled Order Trigger for the trigger. In the Expression cell, enter 'Cancelled' with the quotation marks.

Note: You have to click the ... icon in the cell to enter the text.

f. Again, in Metric Value Expressions, click Add. In the Trigger cell, select Shipped Order Trigger for the trigger. In the Expression cell, enter 'Shipped' with the quotation marks.

<ul> <li>Metric Value Expressions</li> </ul>	
Specify the expressions that set trigger fires.	the value of the metric.
Trigger	Expression
🖙 Cancelled Order Trigger	Cancelled'
🖙 Shipped Order Trigger	<sup>×+Y</sup> 'Shipped'

- 7. Create a new KPI to count the number of shipped orders. You will use the Instance ID metric to count all incoming instances and then filtering the incoming instances by order status so only shipped orders are counted. You will also filter the instances by the process state so that only completed process instances are counted. In the KPI model, create a new KPI called Shipped Orders:
  - a. Select the KPI Model tab.
  - b. In the KPI model navigator, right-click and select **New** → **KPI**. For the name, enter Shipped Orders and click **OK**.
  - c. Set the Type to Decimal.
  - d. Scroll down to the KPI Definition section if it is not visible. For **KPI value**, select '**Base this KPI on a metric and an aggregation function**'.
  - e. For the Monitoring context, browse to Order Handling (Future 1).
  - f. For the Metric, browse to Order Handling (Future 1) Instance ID.
  - g. For the Aggregation function, select **Count**.
  - h. For the Data Filter, click Add and then browse to Order Handling (Future 1) → Order Status. Then click OK. In the Values cell, enter 'Shipped' with the quotation marks.
  - Again in the Data Filter, click Add and then browse to Order Handling (Future 1) → Order Handling (Future 1) State. Then click OK. In the values cell, enter '3 - STATE\_FINISHED' with the quotation marks.

Data Filter

Select the metrics that you want to use to determine what values to use in the calculation. For example, if you have a KPI called Average Price in London, you only want to use monitoring contexts where the value of the City metric is London.

Metric	Operator	Values	Case-sensitive	
A Order Status	equals	? 'Shipped'		
Porder Handling (Future 1) State	equals	2 '3 - STATE_FINISHED'		

- 8. Create a KPI to count the total number of orders. You will use the Instance ID metric to count all incoming instances. You will also filter the instances by the process state so that only completed process instances are counted. In the KPI model, create a new KPI called Total Orders:
  - a. In the KPI model navigator, right-click and select **New** → **KPI**. For the name, enter Total Orders click **OK**.
  - b. Set the Type to **Decimal**.
  - c. For the KPI value, select 'Base this KPI on a metric and an aggregation function'.
  - d. For the Monitoring context, browse to Order Handling (Future 1).
  - e. For the Metric, browse to Order Handling (Future 1) Instance ID.
  - f. For the Aggregation function, select **Count**.
  - g. For the Data Filter, click Add and then browse to Order Handling (Future 1) → Order Handling (Future 1) State. Then click OK. In the values cell, enter '3 STATE\_FINISHED' with the quotation marks.

D S Y	ata Filter elect the metrics that you want to use to dete ou only want to use monitoring contexts wher	rmine what values to e the value of the Cil	use in the calculation. For example, if you ty metric is London.	u have a KPI called A	verage Price in London,
	Metric	Operator	Values	Case-sensitive	
	Order Handling (Future 1) State	oquala	Y 'S STATE EINICHED'		

- 9. Now you will complete the Percentage of Orders Shipped KPI:
  - a. In the KPI model navigator, select KPI Percentage of Orders Shipped.
  - b. Set the Type to **Decimal**.
  - c. For the KPI Value, select 'Write an expression to calculate this KPI based on existing KPIs'.
  - d. For the KPI Calculation, enter (Shipped\_Orders div Total\_Orders) \* 100.
  - e. Save your work.

KPI Calculation
For example, you could have a Total Profit KPI that subtracts the Total Cost KPI from the Total Revenue KPI.
(Shipped_Orders div Total_Orders) * 100

- **10**. In the next procedure, you will create the ShippedPercentage.cbe event definition. This event is used to initiate an alert when there is a problem with the shipped orders percentage.
  - a. In the project tree, right-click **Event Definitions** and then select **New** → **Event Definition** ... (cbe). For file name, enter ShippedPercentage.cbe, and then click **Finish**. The event definition editor opens.
  - b. Double-click the hierarchical icon next to the label **Parent**
  - c. On the Select Event Definition dialog box, double-click ActionServicesEvent. ActionServicesEvent is now shown as the parent of ShippedPercentage.

Name*	ShippedPercentage		
Ngent*	🛃 ActionServicesEvent		
	Property	<b>a 1</b>	2
	Extended Data	Туре	

- d. Save your work.
- **11**. Use this event definition to create the Shipped Percentage Event outbound event definition in the monitor model:
  - a. In the clipsbpm model, click the **KPI Model** tab.
  - b. In the KPI Model navigator, right-click and select New > Outbound Event.
  - c. For the Name, enter Shipped Percentage Event.
  - d. Select the check box for 'Configure this event to generate an alert in the dashboards'.
  - e. For the Trigger, browse to **Template KPI Context** → **Percentage of Orders Shipped Trigger 1** and click **OK**.
  - f. Click OK.
  - g. In Event Type Details, for the extension name, browse to clips → ShippedPercentage.cbe → Shipped Percentage and then click OK.
  - h. In Event Attributes Details, navigate to **BusinessSituationName**. The value of the situation name is set to **'Shipped Percentage Event**'.

o be sent. Use the	Expression column to specify the
Туре	Expression
💦 string	*** 'Shipped Percentage Event'
	o be sent. Use the

- i. Save your work.
- **12**. Create the OrderFulfillmentTime.cbe outbound event for the order processing time situation:
  - a. In the project tree, right-click **Event Definitions** and select **New** → **Event Definition...** (cbe).
  - b. For the file name, enter OrderFulfillmentTime.cbe and then click Finish. The event definition editor opens.
  - **c.** Double-click the hierarchical icon a next to the label **Parent**. On the Select Event Definition dialog box, double-click **ActionServicesEvent**. ActionServicesEvent is now the parent of OrderFulfillmentTime.
  - d. In the Extended Data section, click the Add Extended Data icon  $\mathbb{S}$ .
  - e. Change the name of the extended data element to OrderDuration and change the type to **string**.

Nam	e*	OrderFulfillmentTime								
Pare	nt*	🚪 ActionServicesEvent								
		Property		ġ.	<b>.</b>	18				
		Extended Data	Туре			0- 4-	<b>.</b>	<b>○</b> ·	0- 編-	
		OrderDuration	string							

- f. Save your work.
- 13. Create the Order Fulfillment Event outbound event:
  - a. In the clipsbpm model, click the KPI Model tab.
  - b. Right-click in the navigator, select New > Outbound Event.
  - c. For the Name, enter Order Fulfillment Event.
  - d. Select the check box for 'Configure this event to generate an alert in the dashboards'.
  - e. For the **Trigger**, browse to **Template KPI Context** → **Average Process Duration Trigger 1** and click **OK**.
  - f. Click OK.
  - g. In **Event Type Details**, for the extension name, browse to **clips** → **OrderFulfillmentTime.cbe** → **OrderFulfillmentTime** and then click **OK**.
  - h. Again in Event Attributes Details, navigate to **BusinessSituationName**. The value of the situation name is set to 'Order Fulfillment Event'.
  - i. Set the expression for OrderDuration to xs:string(Average\_Process\_Duration).

	<ul> <li>Event Attributes Details</li> </ul>
) be sent. Use the Expression column to specify the value for t.	Specify the triggers that cause the event to be sent each event attribute when the event is sent.
Expression	Name Type
	🖃 📫 Average Process Duration Tr
	Property Data
	🖃 <del>扁</del> Extended Data
ring 时 xs:string(Average_Process_Duration)	🧮 OrderDuration 🛛 👷 string
ring X+Y 'Order Fulfillment Event'	😇 BusinessSituationNar 🟹 string
ing X+Y xs:string(Average_Process_Duration)	Name Type  Average Process Duration Tr  Property Data  Cype Extended Data  Cype String  BusinessSituationNar String  Type  ype

j. Save your work.

Note: Notice that in both of the events (CBEs) created above that the **Extended Data** element **BusinessSituationName** was not created. This is because it is inherited from the parent event ActionServicesEvent. Actually, the **ShippedPercentage.cbe** did not even need to be created. The outbound event **Shipped Percentage Event** in the monitor model could have been created with the default Extension name of **ActionServicesEvent.cbe** → **ActionServicesEvent**. Event definitions (CBEs) for situation events only need to be created if **Extended Data** other than **BusinessSituationName** is needed. This is frequently the case however as additional process or business data is typically needed in the Alert and thus must be carried in the event.

14. There are count measures in the monitor model that will now be removed, these counts can be derived from a provided measure named **Instances Count**.

a. Click the Dimension Model tab.

b. Delete **Declined Order Count**, **Order Count**, and **Shipped Order Count**. Instead, you can get this information using the provided measure **InstancesCount** and then creating a dimension on **Order Status** which will be used to aggregate order instances by the order status, e.g. new orders, shipped orders, and cancelled orders. In effect, this counts the order instances by their status.

- 15. Create the dimension **Order Status** so that orders can be aggregated by their status.
  - a. In the Dimensional Model navigator, right-click **Order Handling (Future 1) Cube**, then select **New** → **Dimension**.
  - b. For the Name, enter Order Status and then click OK.
  - c. In the Dimensional Model navigator, right-click **Order Status** and select **New** → **Dimension Level**.
  - d. Name the dimensional level 0rder Status. Then click **Browse** next to Source Metric and navigate to **Order Handling (Future 1)** → **Order Status**. Then click **OK**.

Source metric:	* Order Status
Level:	* 1

- e. To see the dimension level, click Order Status under Order Status.
- **16.** Create the **State** dimension so that orders can be aggregated by the process completion state.
  - a. In the Dimensional Model navigator, right-click **Order Handling (Future 1) Cube** and then select **New** → **Dimension**.
  - b. For the Name, enter State.
  - c. In the Dimensional Model navigator, right-click **State** and select **New** → **Dimension Level**.
  - d. Name the dimension level State. Then click **Browse** next to Source Metric, and navigate to **Order Handling (Future 1)** → **Order Handling (Future 1) State**. Then click **OK**.
  - e. Click OK. There is an error on this dimension because the Order Handling (Future 1) State metric is not initialized when the monitoring context is created. To solve this problem, in the Monitor Details Model tab, update the Order Handling (Future 1) State metric by selecting 'A value is required for this metric' and changing the default value to 'New', including the quotation marks.
- 17. There is a dimension called Location in the dimensional model, but there are errors associated with it. This dimension came from the business measures model, and it should contain two levels: the country and the city. Create metrics for country and city and then update the Location dimension to refer to the metrics.
  - a. Right-click in the Monitor Details Model navigator and select **New** → **Metric**.
  - b. For the name, enter Country. For the type, select String. Then click OK.
  - c. Because a dimension will use this metric and the metric requires a value for dimensional analysis, select 'A value is required for this metric'.
  - d. For the default value, enter an empty string, which is two single quotation marks.
  - e. In Metric value expressions, click **Add**. In the **Expression** cell, use content assist (Ctrl + Space bar) to navigate to the following inbound event field for country:

Check\_Order\_Handling\_Policy\_for\_Automatic\_ApprovalENTRY/Input/Customer/Country

<ul> <li>Metric Value Expr</li> </ul>	essions	
Specify the expression	s that set the value of the metric. If a trigger is specified, the map is evaluated when the trigger fire:	s.
Trigger	Expression	
<b>E\$</b>	Check_Order_Handling_Policy_for_Automatic_ApprovalENTRY/Input/Customer/Country	

f. Create a City metric, following the previous steps but selecting the following inbound event field for city:

Check\_Order\_Handling\_Policy\_for\_Automatic\_ApprovalENTRY/Input/Customer/City

Metric Value Exp	ressions	
Specify the expression	is that set the value of the metric. If a trigger is specified, the map is evaluated when the trigger f	ires.
Trigge	Expression	
Ш <b>ф</b>	Check_Order_Handling_Policy_for_Automatic_ApprovalENTRY/Input/Customer/City	

- **18**. In the Dimensional model, update the Location dimension with the two metrics:
  - a. In the Dimensional model, delete the **Location level** under the Location dimension.
  - b. In the Dimensional Model navigator, right-click **Location** and select **New** → **Dimension Level**.
  - c. Name it Country and then click **Browse** next to Source Metric and navigate to **Order Handling (Future 1)** → **Country**. Then click **OK**.
  - d. Click OK.
  - e. In the Dimensional Model navigator, right-click Location and select **New** → **Dimension Level**.
  - f. Name it City and then click Browse next to Source Metric and navigate to Order Handling (Future 1) → City. Then click OK.
  - g. Click **OK**. In the Dimensional Model navigator, Location is listed with two sublevels:



- **19**. In the Dimensional model, update the **Order Price Average** measure. You will create a price metric to use as a source for this measure.
  - a. Right-click in the Monitor Details Model navigator and select New → Metric.
  - b. For the name, enter Total Price. For the type, select Decimal. Click OK.
  - **c**. In Metric value expressions, click **Add**. In the Expression cell, navigate to the following inbound event field for total price:

Check\_Order\_Handling\_Policy\_for\_Automatic\_ApprovalENTRY/Input/TotalPrice

Metric Value Exp	ressions
Specify the expressio	ns that set the value of the metric. If a trigger is specified, the map is evaluated when the trigger fires
Trigger	Expression
Trigger	Expression

- **20**. In the dimensional model, update the Order Price Average measure with the new metric:
  - a. Select the **Dimensional Model** tab and then select the **Order Price Average** measure.

b. For the source metric, browse to**Order Handling (Future 1)** → **Total Price** and click **OK**.

Source metric:	J Total Price	
a wai so mostrat	*	

- **21**. In the dimensional model, update the Order Price Total measure with the new metric:
  - a. Select the **Dimensional Model** tab and then select the **Order Price Total** measure.
  - b. For source metric, browse to **Order Handling (Future 1)** → **Total Price** and click **OK**.

Source metric: \* Total Price

- c. Save your work.
- d. Select **Project**  $\rightarrow$  **Clean**, and then select **'Clean all projects'**. Click **OK**.
- e. Check for errors in the Problems view and resolve the errors before continuing. Warnings and informational messages might be present, but they will not be a problem. If the errors do not disappear, close WebSphere Integration Developer, reopen WebSphere Integration Developer, and then rebuild all the projects by clicking Project → Clean.

# Generate executable artifacts for the monitor model and deploy to the server

Now you will use WebSphere Integration Developer to deploy the monitor model to the WebSphere Business Monitor server.

- 1. Generate the model.
  - a. In the project tree, expand clips → Monitor models → clipsbpm.mm. Right-click clipsbpm.mm and select Generate Monitor J2EE Projects. When generation is complete, select Finish. A progress dialog box shows the status of the operation and it closes when the operation is complete. This will take a few minutes.
  - b. Check for errors in the Problems view. There might be warnings, but there should not be any errors. If you see errors, rebuild by selecting **Project** → **Clean**. Select **Clean all projects**, and then click **OK**.
- 2. Next regenerate the forms user interface for the Order Handling process.
  - a. Click the Business Integration tab in the left pane.
  - b. Right click on ClipsAndTacksF1 from the left pane and select **Generate User Interfaces**.
  - c. Select IBM Lotus Forms client as the Generator type, and click Next.

🚯 User Interf	ace Wizard for Human Tasks	
Client Genera Select a generato	or type and human tasks to generate a user interface.	
<u>G</u> enerator type	IBM Lotus Forms client	
<u>H</u> uman Task(s)	ClipsAndTacksF1	<u>S</u> elect All Deselect <u>A</u> ll
0	< Back Next > Finish	Cancel

d. Name the dynamic Web project ClipsAndTacksUI. For the style, select **IBM Style** and click **Finish**.

🚯 User Interface Wizard	for Human Tasks	×
IBM Lotus Forms client c Specify destination project, com	onfiguration pany logo, dient location and style for your dient.	
Name of dynamic web project:	ClipsAndTacksUI	
Company logo:		Browse
Client location           ③ generated dient and relat           ④ Generated dient and relat           □ Generated dient and relat           Provider URL:           iiop://REMOTE           Style selection           Style selection	d processes / tasks reside on the same server.(Local dient view) d processes / tasks reside on different servers.(Remote dient view) _SERVER_IP:BOOTSTRAP_PORT	
Style: IBM Style Preview:	Add) Edit	Remove
0	< Back Next > Finish	Cancel

e. When you see the Client generation completed message, click OK.



- **3**. Deploy the generated projects.
  - a. Click the Servers tab and then right-click WebSphere Business Monitor
     v6.1 on WebSphere Process Server and select the Start option to start the server. Starting the server might take a few minutes.

Monitoring Flow Properties Problems 🐼 Servers 🔉	S Progress	
Server	Status	State
🔀 WebSphere Business Monitor v6.1	🚡 Started	Republish
WebSphere Process Server v6.1	E Stopped	Republish

- b. After the server has started, right-click **WebSphere Business Monitor v6.1** on **WebSphere Process Server** again and select **Add and Remove Projects**.
- c. Move ClipsAndTacksF1App, ClipsAndTacksUIEAR, and clipsbpmApplication from the list of available projects to the list of configured projects (you can use Add All if there are no other projects in your workspace) and then click Finish. A progress message displays in the lower right-hand corner of the window. Deploying and starting the applications might take a few minutes.
- d. Check the messages in the Console view for errors. Note that because the application was just installed, there are no values for the KPIs and other metrics yet. The Console view will show warning and error messages to this effect. The messages will be from the kpi package and indicate a divide by zero exception. This is expected until Orders are processed. The messages will repeat every minute until an Order is processed. This is because earlier in the model it was specified to check the KPI based on a "recurring wait timer" set at 1 minute.
- e. In the Servers view, right-click and select **Run administrative console**. The administrative console will open in a new tab.
- f. The administrative console will prompt you for a user ID and password. For the user ID, enter admin. For the password, enter admin Click **Log in**.
- g. Select Applications Monitor Models.

Integrated Solutions Console	Welcome admi	in				Help   Logout	:::
View: All tasks	✓ Me	onitor Mo	odels				
Welcome		anitar Me	odels				?
+ Guided Activities		Monito	r Models				
+ Servers		Use thi	s page to manage	all versions of m	onitor models and	their associated applications. To start or stop a ve	ersion of a
Applications		monitor and ma	r model, you must y not be visible b	start or stop the its intended das	associated applic: hboard users. Use	ation. All models are initially added to the root reso the Monitor data security panel to assign permiss	ource group ion to the
Enterprise Applications     Install New Application     SCA modules		models ⊕ Pref	ferences	Ipūaie			
<ul> <li>Manitar Madels</li> <li>Data Maxement Service</li> <li>Manitar Action Services</li> </ul>		D	0#9	·]		1	I
E Resources		Select	Model 🗢	Version	Deployment 🗘	Application 🗇	Status 🔮
E Security			GlobalHTMM	2007-06- 18T09:54:38	ок	IBM WBM HUMAN TASK MONITOR MODEL	€
+ Environment			<u>clipsbpm</u>	2008-01-	ок	clipsbpmApplication	€
1 Integration Applications		Treels		30114:32:48			
+ System administration		I OTAL.	2				
± lisers and Groups							
Manilaring and Tuning							
+ Traubleshaating							
🛨 Service integration							
T NDDE							

If the application starts, it will show a green status. If the status of clipsbpm is red, then it is stopped. Wait a moment and then refresh the process by clicking the icon to the right of Status in the last column of the table. You should see green to indicate that the model has started. If the model does not reflect green, wait a few more minutes and refresh the display again.

- h. In the Console view, check the server log to ensure that there are no problems other than the KPI divide by zero exception mentioned earlier that is due to no orders having been processed yet.
- i. By using the integrated WebSphere Business Monitor server in WebSphere Integration Developer, you do not need to set up WebSphere Business Monitor data security because the administrator is automatically authorized to access all models. When using an external server in future projects, open the administrative console, navigate to **Security** → **Monitor Data Security**, and then add the model, role, and user information to a resource group.

# **Configure Action Services for business situation events**

Next configure WebSphere Business Monitor's Action Services to create alerts when business situation events are received. The situation events are sent from the monitor model as outbound events. The alerts will be visible in the Alert view on your dashboard. You do not need an LDAP server to test the situation events as was necessary in previous releases.

- 1. Add an alert template for when the percentage of shipped orders needs attention.
  - a. In the administrative console, select **Applications** → **Monitor Action Services** → **Template Definitions** → **Notifications** and click **New**.
  - b. For the template name, enter AlertShip, and then enter any description.
  - c. Select **Dashboard Alert**. This indicates that the an alert (defined below) will be sent to the business dashboard's alert view.
  - d. Select User id.
  - e. For the **To** field, enter admin. This user ID is the user logged into the business dashboard that will receive the alert. You must log into the business dashboard with this user ID.

f. For **Subject**, enter Percentage of shipped orders. This will be the title of the alert in the dashboard. Enter the Body as Percentage of shipped orders is less than 85. Click **OK**.

То	
admin	
Query base	
Subject	
Percentage of shipped orders	
Body	
Percentage of shipped orders less than 85.	is

- 2. Add an alert template for when order processing time needs attention.
  - a. In the administrative console, select **Applications** → **Monitor Action Services** → **Template Definitions** → **Notifications** and click **New**.
  - b. For the template name, enter AlertTime, and then enter any description.
  - c. Select **Dashboard Alert**. This indicates that the an alert (defined below) will be sent to the business dashboard's alert view.
  - d. Select User id.
  - e. For the **To** field, enter admin. This user ID is the user logged into the business dashboard that will receive the alert. You must log into the business dashboard with this user ID.
  - f. For Subject, enter Order processing time.
  - g. For the Body enter The average order processing time is %OrderDuration% days.

%OrderDuration% is a substitution variable in the alert. In the alert that will be sent, the situation event's Extended Data Element, OrderDuration, will be substituted for %OrderDuration% in the body of the alert.

- h. Click OK.
- **3**. Now add the binding from the situation event to the action type of the alert template for shipped percentage situations.
  - a. In the administrative console, select **Applications** → **Monitor Action Services** → **Installed Situation Event Bindings** and click **New**.
  - b. Enter the situation event name that you defined in the model. You named the business situation event Shipped Percentage Event. The name must match the value in the BusinessSituationName field in the outbound event. You might want to copy the name from the monitor model to ensure an exact match (do not include the quotation marks). The following screen capture from the monitor model shows the Shipped Percentage Event attributes:

<ul> <li>Event Attributes Details</li> </ul>		
Specify the triggers that cause the event to when the event is sent.	be sent. Use the E	xpression column to specify the value for each event attribute
Name	Туре	Expression
Percentage of Orders Shipped Trigg		
Property Data		
🖂 🔂 Extended Data		
🧮 BusinessSituationName	💦 string	*** 'Shipped Percentage Event'

c. Enter any description and then click **Apply**.

- d. In the table under Preferences, click Add.
- e. Enter a binding name, for example Shipped Percentage Event, and then select the template **AlertShip**.
- f. Click **OK**. Notice that you now have one action defined for this situation event. If you had other action templates defined, then you could add more actions to this event and you could send a notification for this situation event to multiple destinations using e-mail, alerts, and Web services.

New Situ	ation Event Binding			
Genera	Properties			
* Situa Shipp	tion event name ped Percentage Event			
Descri Shipp	ption ed percentage event			
Apply ⊕ Pret	OK Reset Cance			
Add	Remove			
	D ## #			
Select	Binding Name 🗘	Category Name 🗘	Template Name 🗘	Action Service Type ᅌ
	Shipped Percentage Event		AlertShip	AlertHandler
Total	1			

g. Click OK.

- 4. Add the binding from the situation event to the alert template for the action type for order processing time situations:
  - a. In the administrative console, select **Applications** → **Monitor Action Services** → **Installed Situation Event Bindings** and click **New**.
  - b. Enter the situation event name that you defined in the model. You named the business situation Order Fulfillment Event. The name must match the value in the BusinessSituationName field in the outbound event. You might want to copy the name from the monitor model (without the quotation marks).
  - c. Enter any description and then click **Apply**.
  - d. In the table under Preferences, click Add.
  - e. Enter a binding name such as Order Fulfilment Event, select the template **AlertTime**, and then click **OK**.

Seneral Properties         * Situation event name         Order Fulfillment Event         Description         Order fulfillment event         Image: Cancel         Preferences         Add         Remove         Image: Category Name ()         Template Name ()         AdertHandler         Total 1	New Situation Event Binding			
<ul> <li>Situation event name Order Fulfillment Event</li> <li>Description Order fulfillment event</li> <li>Apply OK Reset Cancel</li> <li>Preferences</li> <li>Add Remove</li> <li>Add Remove</li> <li>Select Binding Name  Category Name  Template Name  Action Service Type  AlertHandler</li> <li>Order Fulfillment Event</li> <li>AlertTime</li> <li>AlertHandler</li> <li>Total 1</li> </ul>	General Properties			
Description Order fulfillment event  Apply OK Reset Cancel  Preferences  Add Remove  Add Remove  Select Binding Name  Category Name  Template Name  Action Service Type  AlertHandler  Total 1	* Situation event name Order Fulfillment Event			
Order fulfillment event         Apply         OK         Reset         Cancel         Preferences         Add         Remove         Select         Binding Name          Category Name          Template Name          Action Service Type          Order Fulfillment Event         AlertTime         AlertHandler         Total 1	Description			
Apply       OK       Reset       Cancel         Image: Concel	Order fulfillment event			
Add       Remove         Add       Remove         Image: Select       Binding Name          Select       Binding Name          Order Fulfillment Event       Category Name          Total 1	Apply OK Reset Cance	1		
Add       Remove         Image: Constraint of the state	Preferences			
Select       Binding Name        Category Name        Template Name        Action Service Type          Order Fulfillment Event       AlertTime       AlertHandler         Total 1	Add Remove			
Select     Binding Name ()     Category Name ()     Template Name ()     Action Service Type ()       Image: Display the service of the servi				
Order Fulfillment Event     AlertTime     AlertHandler       Total 1	Select Binding Name 🗘	Category Name 🗘	Template Name 🗘	Action Service Type 💲
Total 1	Order Fulfillment Event		AlertTime	AlertHandler
	Total 1			

- f. Click OK again.
- g. In the administrative console, select **Applications** → **Monitor Action Services** → **Installed Situation Event Bindings**. You will see the two bindings that you created.

installed	Situation Event Bindings	? =
Instal	led Situation Event Bindings	
Use th	is page to manage situation event b	bindings.
🕂 Pre	ferences	
New	Delete	
	6 # \$	
Select	Situation Event Name 🗘	Situation Event Description
	Order Fulfillment Event	Order fulfillment event
	Shipped Percentage Event	Shipped percentage event
Total	2	

# Exercise the model by running events

Now you will use the Lotus Forms client to run process instances. You access it by entering the URL http://localhost:9080/ClipsAndTacksUI in an internet browser. For more information, refer to the Running and testing the application section.

There are five paths through the process model. The following form data invokes each path. The form values not specified can be any value:

- Path taken: Approve without review, Account in good standing, Ship
  - 1. Form data to start an instance of the process.
    - a. Rating: 800
    - b. Available Credit: 800
    - **c**. Total Price: 20
  - 2. Ship task

- a. Packing Slip Number: Any value
- Path taken: Approve without review, Account not in good standing, Approve the order, Ship
  - 1. Form data to start an instance of the process.
    - **a**. Rating: 800
    - b. Available Credit: 100
    - c. Total Price: 200
  - 2. Review task:
    - a. Order Status: APPROVED
  - 3. Ship task:
    - a. Packing Slip Number: Any value
- Path taken: Approve without review, Account not in good standing, Decline the order
  - 1. Form data to start an instance of the process.
    - a. Rating: 800
    - b. Available Credit: 100
    - c. Total Price: 200
  - 2. Review task:
    - a. Order Status: REJECTED
- Path taken: Do not approve without review, Approve the order, Ship
  - 1. Form data to start an instance of the process.
    - a. Rating: 10
    - b. Available Credit: 10
    - c. Total Price: 900
  - 2. Review task:
    - a. Order Status: APPROVED
- 3. Ship task:
- a. Packing Slip Number: Any value
- Path taken: Do not approve without review, Decline the order
  - 1. Form data to start an instance of the process.
    - a. Rating: 10
    - b. Available Credit: 10
    - c. Total Price: 900
  - 2. Review task:
    - a. Order Status: REJECTED

One way to see an alert in the Alerts view of the business dashboard is to have the number of shipped orders less than 85 percent of the total number of orders. To achieve this, process one rejected order before you add another process instance. Then go to the Create a dashboard section of this tutorial and create a dashboard to view the alerts.

## Create the business dashboard

Now you will create a business dashboard. You will add views to the dashboard and configure them.

- 1. Open the WebSphere Integration Developer dashboard manager.
  - a. In WebSphere Integration Developer, select **Window** → **Web Browser**. Select **Default system Web browser** or another listed browser other than the internal browser.
  - In the Servers view, right-click WebSphere Business Monitor Server v6.1 on WebSphere Process Server and select WebSphere Business Monitor Dashboard.
  - c. When prompted, enter admin for the user ID and admin for the password. You must log in with admin so that you can view the alerts that were set

up in Action Services to be viewed by this particular user ID. Also, in the WebSphere Business Monitor toolkit, this is the user that is automatically defined on the secured server.

d. Select the **Dashboards** tab and then the **Manage** tab.

WebSphere Bu	isiness Monitor		
Welcome wid			
Getting Started	Dashboards	Utilities	
Manage			
New Copy Re	ename Share	Delete Import	Export
Select		Dashboard 🗘	
💌 💽 Page 1 d	of 0 🕨 🕨 Go to	page:	🛃 Results 1 to 0 of 0

e. Click **New** and then enter a name for the new dashboard, for example MyDashboard. Click **OK**.

**Note:** The contents in the views in the dashboards will depend on the actual data that was entered into the forms for the orders.

WebSphere B	ısiness Monitor	
Welcome wid		
Getting Started	Dashboards	Utilities
Manage	MyDashboard	×

Add to Dashboard

- 2. Add the instances view to the business dashboard so that you can view the process instances:
  - a. Click **Add to Dashboard**, select **Instances**, and then click **OK**. You can also add a view by dragging the view from the palette onto the dashboard.
  - b. In the Instances view, click **Personalize**.
  - c. Click the Advanced tab and select model clipsbpm (All Versions).

iscanoos					
Show/Hide	Filter	Sort	Formatting	Advanced	Cooperative
o change o	ut the tab	ole's dat	a set (and tab	le setting) se	lect a new Model and Monitoring cont
o change o	ut the tab	ole's dat	a set (and tab	le setting) se	lect a new Model and Monitoring cont
o change o	ut the tab	ole's dat	a set (and tab	le setting) se	lect a new Model and Monitoring cont
Γo change o Model:	ut the tab	ole's dat	a set (and tab	le setting) se Monitori	lect a new Model and Monitoring cont ng Context
Fo change o Model:	ut the tab	ole's dat	a set (and tab	le setting) se Monitori	lect a new Model and Monitoring cont

d. Click the **Show/Hide** tab and then click >> to copy all of the metrics from the available list to the selected list.

Show/Hide	Filter	Sort	Formatting	Advanced	Cooperative
et the colur	nns to sh	ow and (	optionally arra	nge the colu	mn order
Available:				Ac Ac Ac Ac Ac Ac Ac Ac Ac Ac Ac Ac Ac A	acted: cceptable Credit Risk? No Percentag▲ cceptable Credit Risk? Yes Percenta ccount in Good Standing? No Percenta ccount in Good Standing? Yes Perce pprove Without Review? Yes Percenta pprove Without Review? Yes Percenta ancel Order and Send Notification Ele

e. Click **OK**. You will see a list of monitoring context instances for the orders entered.

iodel: dipsb	els dipsbpm Version: All Versions Monitoring Context: Order Handling (Future 1)    Search for														
Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage	Approve Without Review? Yes Percentage	Cancel Order and Send Notification Elapsed Duration for Measure	Check Customer Account Status Elapsed Duration for Measure	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure	City	COMPLETED	Country	Order Handling (Future 1) Elapsed Duration	Order Handling (Future 1) Elapsed Duration for KPI	Order Handling (Future 1) Elapsed Duration for Measure	Order Handl (Futu 1) Ene Time
		0	100	0	100	15.14 s	1.859 s	2.875 s	j	*	j	25.297 s	25.297 s	25.297 s	Decer 6, 20 2:27:

- **3**. Add the Human Tasks view so that you can monitor human activity in the process instances.
  - a. Click Add to Dashboard and then select Human Tasks. Click OK. Note that you can also add a view by dragging the view from the palette onto the dashboard.
  - b. In the newly added Human Tasks view, click Personalize.
  - **c**. Select the **Show/Hide** tab and then click >> to copy all of the metrics from the available list to the selected list.

			SUFC	Filter	show/ nice
				s to display.	Set the column
	* Selected:				vailable:
<b>_</b>	Completed Completion Time	<u> </u>			
	Creation Time Description				
	Lifetime Escalated				
	Escalation Counter Expired				
	Follow-on ID				
	Escalation Counter Expired Follow-on ID Human Task Instance ID Owner				

d. Click **OK**. The Human Tasks view is shown in the following figure.

Act	Actions 🔻												
	Completed	Completion Time	Creation Time	Description	Lifetime	Escalated	Escalation Counter	Expired	Follow-on ID	Human Task Instance ID			
	*	December 6, 2007 2:27:27 PM	December 6, 2007 2:27:14 PM		13.515 s	false	0	false		_AI:90040116.b123d4f4.7f02			
	*	December 6, 2007 4:09:22 PM	December 6, 2007 4:07:22 PM		1 m, 59.734 s	false	0	false		_AI:90040116.b17f978e.7f02			
			December 6, 2007 4:12:25 PM		12 m, 56 s	false	0	false		_AI:90040116.b1843a72.7f0			
			December 6, 2007 4:18:18 PM		7 m, 3 s	false	0	false		_AI:90040116.b1899f6d.7f02			
	*	December 6, 2007 4:21:14 PM	December 6, 2007 4:18:53 PM		2 m, 20.61 s	false	0	false		_AI:90040116.b18a2dc3.7f02			

- 4. Add the dimensions view and configure it to show human task information in aggregate form:
  - a. Click Add to Dashboard, select Dimensions, and then click OK.
  - b. Click Personalize.
  - c. In the personalization screen, select the following values:
    - Monitoring Model: Global HT MM (All Versions) .

**Note:** This is the global human task monitor model that is automatically installed when you install the toolkit.

- Monitoring Context: Global Human Task.
- d. From the Available Dimensions list, select Task Name Dimension and

e. Select Task Owner Dimension and click the right directional arrow (

) next to the Column Dimensions selected list.

f. Select **Measures** and click the right direction arrow (>>>>) next to the Page Dimensions text box.

Dimensions		
*Monitoring Model:		*Monitoring context:
Global HT MM (All Versi	ions) 🗾	Global HumanTask 🔹
Available dimensions	$\rightarrow$	Row dimensions
Task Expiry Dimension Task Suspended Dim Task Escalated Dime		
Task Parent ID Dimer Task Waiting For Sub CreationTime		*Column dimensions
i ermination i ime		
		Page dimensions
	>	Measures 🔺 🛆
<ul> <li>Hide menu bar</li> <li>Hide toolbar</li> </ul>		

g. Click **OK**. The Dimensions view displays the instances count by task name and task owner.



h. Optional. You can double-click **All Task Name Dimension** and **All Task Owner Dimension** and drill down to more detailed data. This is performed in the vast majority of cases.



- 5. Add the Alerts view. There are two situation events (outbound events) defined in the model that will generate alerts based on the configuration set in Action Services: one situation event for shipped percentage and one for order processing time. The latter is based on a processing time being greater than 3 days, so it will be difficult to test now. However, you can test the former alert by ensuring that the percentage of shipped orders is less than 85 percent of the total orders. To test the Shipped Orders < 85% alert, click Add to Dashboard, select Alerts, and then click OK.
- 6. Add the KPI view to the business dashboard to monitor the KPIs defined in the monitor model.
  - a. Click **Add to Dashboard**, select **KPIs**, and then click **OK**. You can also add a view by dragging the view from the palette to the dashboard.
  - b. Click Personalize.
  - c. Expand clipsbpm, and select the KPIs you want to view. You can select all of them if you wish. Click **OK**.
- 7. Next you will export the monitored values to WebSphere Business Modeler to improve simulation results and assumptions made in the process model such as path percentages. Only completed process instances are exported, therefore, ensure that you have completed some process instances before you export the values.
  - a. Select the Utilities tab.
  - b. Select the Export Values tab.
  - c. Select the clipsbpm model and then click Export.

Getting Sta	rted Dashbo	oards	Utilities						
KPI Manager	Export Values	Alert S	ubscription						
Select a model:									
clinshpm 2007-11-12 11:17:05									
1		-							
Evnort data from									
~									
All version	is of the selected m	odel							
O Only the s	elected model								
Time range (filt	ers the data to expo	ort by the	time range you	ı specify):					
<li>None</li>									
O Specify tim	ne range								
	-								
Preview Data	a								
Export									

The data exported as XML opens in a browser window.

- d. Click **File** → **Save** page as or **File** → **Save as** (depending on your browser) and then select your destination folder and click **Save**. By default, the file is stored as exportvalues.xml. If your browser window does not have a File menu, then copy and paste the content into a file.
- e. Open **WebSphere Business Modeler** with the workspace that contains your process model.
- f. In the project tree, navigate to ClipsAndTacksF1 → Processes → Order Handling (Future 1).
- g. Right-click Order Handling (Future 1) and select Import.
- h. Select Monitoring result (.xml) and then click Next.
- i. Browse to the folder that contains the exportvalues.xml file and select the file. Click **Next** and then click **Finish**.
- 8. In the project tree, double-click the process to open the process diagram. Examine the process diagram to see the updated decision percentages for the six simple decisions.



**9**. Examine the updated process duration time by clicking the background of the process diagram. Click the **Attributes** tab and then the **Duration** tab.



10. Examine the updated task duration times by clicking one of the tasks in the process diagram. Click the **Attributes** tab and then the **Duration** tab. Next click the icon for **'Processing time'**.

🔁 Attributes - Rev	view Order 🔉	3 Busir	ness Measures	Errors (Filter	matched 2 of 2 it	ems) Technical A	ttributes Viev	N			
General	Cost and F	Revenue	Duration	Inputs	Outputs	Input Logic	Outp	ut Logic	Resources	Organizations	$\overline{\ }$
Processing time	e										
The length of time	e required to f	finish this t	ask.								
Specific valu	Je 🔻										
		Days		Hours		Minutes		Seconds		Milliseconds	
		0	×	0	▲ ▼	0	×	28	* *	465	▲ ▼

- 11. Add a dynamic KPI to the dashboard.
  - a. In the business dashboard, click Utilities and then KPI Manager tab.
  - b. In the Model field, select clipsbpm. In the Version field, select Latest.

We	ebSphere B	WebSphere Business Monitor									
Welco	me admin										
Get	tting Star	ted Dashboa	ards	Utilities							
KPI Manager Export Values Alert Subscription											
Ac	Actions   Model: clipsbpm  Version: Latest  V										
	KPI Name	\$			Created	Owner \$	Туре	Access			
0	Average P	rocess Duration			Modeled	-	Aggregate	Shared			
0	OrderHan	dling (Future1) Ave	erage Wo	rking Duration	Modeled	-	Aggregate	Shared			
0	Percentag	e of Orders Shippe	<u>ed</u>		Modeled	-	Expression	Shared			
0	Shipped C	orders			Modeled	-	Aggregate	Shared			
0	Total Orde	ers			Modeled	-	Aggregate	Shared			

- c. Click Actions and select New Expression KPI.
- d. For the name of the KPI, enter Declined Orders.
- e. For the model associated with the KPI, select clipsbpm.
- f. For Access, select Shared so that other users can see the new KPI.

New Expression KPI Properties									
Name	Definition	Range	Other	Preview					
* KPI nar	ne:								
Declined Orders									
Description:									
Model as	sociated with K	(PI:							
clipsbpm	1			~					
Access:									
O Perso	onal								
Share	ed								

- 12. Create the expression for the new Declined Orders KPI.
  - a. Select the **Definition** tab.
  - b. Use the KPI drop down list to select Total Orders and click Insert.
  - c. Use the Operator drop down list to select (minus) and click Insert.
  - d. Use the KPI drop down list again to select **Shipped Orders** and click **Insert**.

New Expression KPI Properties									
Name Definition Range Other Preview									
Specify the expression that will define the KPI value:									
KPI:									
Shipped Orders 🔽 Insert									
User-defined functions:									
Operator: - V Insert									
specify the expression that will define your kpri									
Total_Orders - Shipped_Orders									

- e. Click Apply.
- f. Select the Range tab.
- g. For Range definition, select Numerical.
- h. Add two rows as shown below by clicking **Add row** and entering the following values and selecting the following colors. Click **OK**.

Range Name	Start Value	End Value	Color	Icon	Delete
low declined orders	= 0	< 2		✓	Û
high declined orders	= 2	< 5		0	Û

- i. Select the **Dashboards** tab.
- j. On the KPI View, click **Personalize**, expand clipsbpm and select **Declined Orders** (the newly created KPI). Click **OK**. The new KPI view includes the dynamic KPI that just built.

KPIs				
Select KPIs	Layout			
Model version:				
O All Version	s 💿 Latest Versions			
😑 🗖 clipsb	pm 2007-12-18 20:36:14			
🗹 Av	erage Process Duratiopn			
Declined Orders				
OrderHandling (Future1) Average Working Duration				
🗹 Pe	rcentage of Orders Shipped			
Sh	ipped Orders			
Пто	tal Orders			

The new KPI view includes the dynamic KPI that just built.

KPIs				
KPI Name	Status	Value	Target	Value in Range
Average Process Duratiopn			3 d, 0 h, 0 m, 0 s	
Declined Orders		0		
Percentage of Orders Shipped			90	

## **Debug information**

This section contains the debug information you can use for this sample.

#### Symptom:

ExceptionUtil E CNTR0020E: EClassifier "http://ClipsAndTacksF1/ Businessitems#Notification" not found in ClassLoaderScope: com.ibm.ws.classloader.CompoundClassLoader@20b220b2

### **Explanation:**

This runtime error might occur after you set the status as REJECTED. If so, it is likely that the project name you created in WebSphere Business Modeler is not ClipsAndTacksF1, causing a namespace mismatch in CancelOrderandSendNotificationImpl.java.

## User response:

Change the namespace definition in CancelOrderandSendNotificationImpl.java to ClipsAndTacksF1.

## Symptom:

ExceptionUtil E CNTR0020E: EJB threw an unexpected (non-declared) exception during invocation of method "transactionNotSupportedActivitySessionSupports" on bean "BeanId(ClipsAndTracksF1App#ClipsAndTracksF1EJB.jar#Module, null)". Exception data: java.lang.NullPointerException at com.clipstacks.credit.CreditRating.calculateCreditRating(CreditRating.java:47) at sca.component.java.impl.CheckCustomerAccountStatusImpl. InputCriterion(CheckCustomerAccountStatusImpl.java:38)

## **Explanation:**

This runtime error might occur after you add input data into OrderHandlingFuture1.

## User response:

Regenerate the user interfaces for the forms, ensuring that the building workspace is completed and the server is starting before you regenerate the user interfaces.

To import the completed projects, complete the following steps:

- 1. Start WebSphere Integration Developer with a clean workspace.
- 2. Click File → Import → Other → Project Interchange and click Next.
- **3**. For **From zip file**, click **Browse** and to select the directory where the ClipsAndTacksF1All.zip is saved.
- 4. Click Select All and then Finish to import everything.
  - a. ClipsAndTacksF1 is the completed business process .
  - b. clips is the monitoring model.

# Run the sample

You can run the sample from the provided artifacts if you did not build the sample from the tutorial. This section will guide you through the steps to use the provided solutions and then to run the sample.

- 1. If you are using the sample from this Web site, you must import the Clips and Tacks project interchange file. If you are accessing the sample from within WebSphere Integration Developer, you can skip this step. To import the Clips and Tacks project interchange file, complete the following steps:
  - a. Start WebSphere Integration Developer Version 6.1 and create a new workspace name for this sample, for example C:\Documents and Settings\Administrator\IBM\wid6.1\ClipsAndTacks. Do not select Use this as the default and do not ask again check box because it is easier to come back to this dialog box if it is not selected. Click OK.
  - b. Close the Welcome page.
  - c. Import ClipsAndTacksF1Completed.zip (see "Download the sample" on page 5-1 ) into WebSphere Integration Developer by selecting File → Import.
  - d. Select Other > Project Interchange and then click Next.

🕑 Import	
Select Import a project and its dependent projects from a Zip file.	Ľ
Select an import source:	
type filter text	
<ul> <li>General</li> <li>General</li> <li>CVS</li> <li>CVS</li> <li>EJB</li> <li>Plug-in Development</li> <li>Profiling and Logging</li> <li>Profiling and Logging</li> <li>Team</li> <li>Test</li> <li>Web</li> <li>Web</li> <li>Web services</li> <li>Other</li> <li>HTTP</li> <li>HTTP</li> <li>Project Interchange</li> </ul>	
? < <u>Back</u> <u>Next</u> > <u>Finish</u>	Cancel

- e. Click Browse and select ClipsAndTacksF1Completed.zip.
- f. Click **Select All**. The generated files are not included in the downloaded ClipsAndTacksF1Completed.zip file to save downloading time. Instructions on how to generate them are also in this section. Click **Finish**
| 🚯 Import Project         | Interchange Contents 🛛 🔀                                   |
|--------------------------|--|
| Import Projects          |  |
| Import Projects from a   | zip nie.   |
| From zin file:           | C:\WIDSamples\EndToEnd\ClinsAndTarksNew1217\C V Browse     |
| Desire the seties see to | CilDepumper and Catting Maniput Administration (2017)      |
| Project location root:   | C: pocuments and Settings (Administrator (EPM)(VIG6, 11)22 |
| ClipsAndTack             | sF1  |
|                          |  |
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|                          |  |
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|                          |  |
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|                          |  |
| Select All Deselect      | t All Select Referenced                                    |
|                          |  |
|                          |  |
| (?)                      | < Back Next > Finish Cancel                                |
|                          |  |

- 2. Generate the process's User Interface.
  - a. When Building Workspace is completed from the import, right-click on **ClipsAndTacksF1** and select **Generate User Interfaces**.
  - b. In the **Client Generator Selection** window, change **Generator type to IBM Lotus Forms client** and click **Next**.
  - c. For the name of the dynamic Web project, enter ClipsAndTacksUI. For the style, select **IBM Style**. Click **Finish**.

🕑 User Inter	face Wizard	for Human Task	s			
IBM Lotus Fo Specify destinati	orms client c	onfiguration pany logo, client loc	ation and style f	or your client.		
Name of dynami	c <u>w</u> eb project:	ClipsAndTacksUI				
Company logo:						Browse
Client location           ③ Generated           ③ Generated           Provider URL:           Style selection           §tyle:	client and relate client and relate liop://REMOTE IBM Style	ed processes / tasks ed processes / tasks _SERVER_IP:BOOTS	reside on the sa reside on differo STRAP_PORT	ime server. (Local die ent servers. (Remote	nt view) dient view)	
Preview:					Add) Edit	Remove
?			< <u>B</u> ack	Next >	<u>F</u> inish	Cancel

- d. A client Generation Completed message appears. Click OK.
- 3. Generate the monitor model J2EE projects.
  - a. Switch to the **Business Monitoring** perspective.
  - b. Expand **clips**  $\rightarrow$  **Monitor Models**.
  - c. Right-click clipsbpm.mm and select Generate Monitor J2EE Projects.
  - d. Click Finish.



e. Click Finish again.

🚯 Generate Monitor J2EE F	Projects 🛛 🔀
Target project names for the gene	erated code
J2EE Projects	
Model Logic Project Name	;zipsbpmModelLogic
Moderator Project Name	clipsbpmModerator
J2EE Application Project Name	clipsbpmApplication
overwrite existing projects	
	<u>Finish</u> Cancel

- 4. Deploy the executable projects to the server.
  - a. Select the **Servers** tab.
  - b. If the WebSphere Business Monitor Server v6.1 on WebSphere Process Server is not started, then start it by right-clicking on it and selecting Start. Then right-click and select Add and Remove Projects.
  - c. Click Add All.

Add and Remove Projects			
Add and Remove Projects Modify the projects that are configu	red on the server		
Move projects to the right to config	ure them on the server		
ClipsAndTacksF1App ClipsAndTacksUIEAR ClipsbpmApplication	Add > < Remove Add All >> << Remove All		
0	< Back Next >	<u> </u>	Cancel

- 5. To exercise the model, complete the following steps:
  - a. Open a browser page and type http://localhost:9080/ClipsAndTacksUI. Depending on the number of server profiles on your system, your port number might be different. To determine your port number, open the SystemOut.log from C:\Program Files\IBM\WID61\pf\WBMonSrv\_wps\ logs\server1 and search for default host. The port number next to the default host is the port number that you need to use.
  - b. Enter admin as user ID and admin as the password and click **Login**. If you used a different user ID and password during the installation, then you need to use that user ID and password.

Login to B	Business User Client
Enter user name	and password, then click Login.
Name:	admin
Password:	••••
Login	

The client interface appears as shown below.

Setting - Windows Internet Explore	r
COO - Attp://ocalhost:9081/Clips	AndTacksUI/faces/Setting.jsp 🛛 🖌 🖓 🗶 Google
😭 🏘 🏀 Setting	🟠 🔹 🔝 👘 👻 🔂 Tools 🕶
IBM.	
→ HOME	Business User Client
> Business Case	
→ New → Status	✓ Business Case
> My ToDo's	→ New Select this to view a list of all the tasks that you can use to create a business case. For search criteria, you can provide additional
+ Claimed	information.
> User: admin	Select this to view the current state of a process (for example, whether it is running, or finished). You can choose a process from a list and then provide search criteria to find a specific instance.
+ Logout	→ My ToDo's
	→ Open Select this to claim a task from a list of those that have been started.
	→ claimed Select this to see a list of the tasks that have already been started and claimed. You can then complete a task by choosing it and inserting the necessary output data.
Done	€ Local intranet 🔍 100% 🔹

- c. Under Business Case, click New and then select OrderHandlingFuture1\_InputCriterion. The Lotus Form is displayed.
  - For this scenario, when you enter the data, the TotalPrice should be greater than \$750.00 to force the process to flow to the Review task.
  - Do not enter text below the red text that reads **Below this line is for Clips and Tacks office use only**.
  - You can add a new row by clicking the + sign; similarly, you can delete a row by clicking the sign. You can order multiple items, but ensure there is only one item per row.
  - When you have completed the form, click **Create** to create a new instance of the process.



d. Under **My ToDo's**, click **Open**. The order is waiting for the ReviewOrder task to be approved as shown in the following image.

Setting - Windows Interne	et Explorer			_ 🗆 🔀
G v le http://localhost	:9081/ClipsAndTacksUI/faces/Setting.jsp	✓ <sup>4</sup> 7 ×	Google	<b>P</b> -
🚖 🕸 🌈 Setting		🟠 ·	• 🗟 - 🖶 • 🔂 Ba	ge - 🍈 T <u>o</u> ols - 🂙
IBM.		-		
→ HOME  → Business Case  → New	My ToDo's > Open Select a task to see more details and finally claim the task.			
→ Status	Task Name 🗘	Description 0	First Activated	Originator 🗘
> My ToDo's	OrderHandlingFuture1\$OrderHandlingFuture1_ReviewOrder		12/18/07 2:33:36 PM	admin
→ Open → Claimed	Items found: 1 << Page 1 of 1 >> Items per page: 20	~		
> User: admin	Refresh			
→ Logout	[ < ]			
			Local intranet	€ 100% · ;;

e. Click the waiting task and then under the form click **Claim** to work on the task.

Setting - Windows Internet Explorer		
Co > E http://ocahost.908.1/GpuAndTadosU/faces/Setting.jop	🕶 👍 🗙 Google	• 9
🚖 🋠 💋 Setting	🛅 • 🖾 ·	🖶 🔹 🔂 Page 🗸 🎯 Tools 🔹 🎽
IBM.		
+ HOME My ToDo's > Open > OrderHandlingFuture1\$OrderHandlingFuture1 ReviewOrder		
Business Case     Enter the values for the output date of your task		
New Chief as a copy of a copy o		
My ToDo's Release Save Complete		
- Open Contact Last Name Doe		^
Claimed     Street Address 100 Main Street		
City New York		
Logout Country USA		
Postal Code 10004		
Email johnDoe@ibm.com		
Rating 100		=
Available Credit 500.0		
Order Number 101		
Product Name Product Number Description Price Quantity Item Price		
pen pen-1 expensive pen 10.0 100 \$1,000.00 * -		
pencil pencil-1 mechanical pen 5.0 150 \$750.00		
Total Price \$1,750.00		
Below this line is for Clips and Tacks office use only		
Order Status APPROVED V		
Packing Slip Number		
		_
		×
Done	Succel intr	anet 🔍 100% •

f. At the bottom of the form, select the **Order Status** drop-down list and select **APPROVED**. To complete this human task, click **Complete** (located at the top left corner of the form).

**Note:** Save does not complete the human task, but saves the task so that you can return to it. Click **Complete** so that the process will continue to the next task.

g. Click **Refresh** in the client (not the browser Refresh). Now the task is waiting for someone to claim and work on the ShipOrdertoCustomer human task.

Setting - Windows Internet Ex	plorer			_ 🗆 🔀
COO - @ http://localhost:908	1/ClipsAndTacksUI/faces/Setting.jsp	¥ 4 ×	Google	• ٩
😭 🏘 🎉 Setting			• 🖻 • 🖶 • 🕞	Page 🔹 🍈 Tools 🔹 👋
IBM.		- /		
→ HOME     → Business Case     → New	My ToDo's > Open Select a task to see more details and finally claim the task.			
→ Status  My ToDo's	Task Name   Task N	Description \$	First Activated 12/18/07 2:39:20 PM	Originator 🗘
→ Open → Claimed	Items found: 1 << Page 1 of 1 >> Items per page: 20 v			
> User: admin → Logout	Refresh			
Done			😔 Local intranet	🔍 100% 💌

- h. Click the waiting task and then click on Claim to work on it.
- i. Enter a **Packaging Slip** number and click **Complete** to complete the business process.

Setting - Windows Internet Explorer								_ 🗆 🛛
Http://localhost:9081/ClipsAndTac     Additional ClipsAndTac     Additite     Additional Clips	cksUI/faces/Setting.jsp					► + × G	ogle	P •
SnagIt 🛃								
🚖 🍄 🎉 Setting						💁 • 🔊 ·	🖶 - 🔂 Bage - 🌀	) Tools + 🔞 - 🦈
→ HOME	/v ToDo's > On	en > OrderHar	ndlingEuture1\$	OrderHandl	ingEuture1	ShipOrdert	oCustomer	^
> Business Case	for the values for the outr	ut data of your task	laningi ataro re	oraonnana	ingrataro1_	omportaon	oodotoinioi	_
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> My ToDo's	Release Save Cor	nplete						-
→ Open	Contact Last Na	me Doe						<u>^</u>
- Claimed	Street Addr	ess 100 Main Stre	et					
> User: admin	•	City New York						
+ Logout	Cour	ntry USA						
	Postal Co	ode 10004						
	Er	nail johnDoe@ibn	1.com					=
	Rat	ing 100		_				
	Available Cro	edit  500.0						
	Order Num	ber  101						
	Product Name	Product Number	Description	Price	Quantity	Item Price		
	pen	pen-1	expensive pen	10.0	100	\$1,000.00	+ -	
	pencil	pencil-1	mechanical pen	5.0	150	\$750.00		
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	Order Sta							
	Packing Slip Nur	ber 10005						
<	1	11						>
Done						🥹 L	ocal intranet	<ul> <li>100%</li> </ul>

You have just processed one instance of the **Clips and Tacks OrderHandling** (Future1) business process. Because the total price of the order was more than \$750.00 and the available credit was less than the total price, the order went to the ReviewOrder human task (either of the conditions would have sent it to review). The ReviewOrder human task approved the order and it went to the ShipOrdertoCustomer human task. The ShipOrdertoCustomer human task gave it a packaging slip number and sent the order to the customer.

- 6. To create the dashboard, complete the following steps:
  - a. In WebSphere Integration Developer, click Window → Web Browser. The default browser is 'Internal Web Browser', but you should not use this one since some standard functions that you may need are not provided. Select 'Default system Web browser' or any other listed browser other than the internal browser.

- b. In WebSphere Integration Developer, in the Servers view, right click on the server WebSphere Business Monitor Server v6.1 on WebSphere Process Server and select WebSphere Business Monitor Dashboard from the context menu.
- c. When prompted, enter admin for the user ID and enter admin for the password. You must log in with 'admin' so that you can view the alerts which were setup in Action Services to be viewed by this particular user ID. Also, in the toolkit environment, this is the user that is automatically defined on the secured server.

WebSphere	Business Monitor	
	User ID :	
	admin Password :	
	••••	
	Login	

- d. Click on the **Dashboards** tab and then the **Manage** tab.
- e. Click Import.
- f. Click **Browse** and select **dashboard.data** from the unzipped downloaded file and click **OK**.

Import
Please select the local file to be imported.
d\ClipsAndTacksNew1217\dashboard.data
OK Cancel

g. Click MyDashboard. The dashboard opens.

Image: Proving Business Monitor Dashboard       Account in Good Sufficient Proving Context: OrderHandling (Future1)       Cancel Dolder and Sead Sead Sead Sead Sead Sead Sead Sea			or Dashboar	d - Windows	Internet Exp	olorer							
Snight IIII       Image: Singht IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	U 🖌 🛃	https://localhost	:9444/Business	Dashboard/bann	er.jsp?ute=true				v 49	K Google			
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Acceptable Review Ry Percentage       Account in Percentage       Account in Review RV Status       Account in Review RV Status       Approve Status       Cancel Order and Send Notification Season       Check Order Season       Check Order Season       Check Order Season       Check Order Season       Check Order Season       Check Order Season       Complex Season       Season       Season       Complex Season	web	Sphere Business	Monitor Dashbo	bard					- m -	M . 🖷	• Eage •	(gr 100is	• 🕐
Account in Good         Approve Standing         Approve Without Review Percentage         Case I Dider and Soud Notification Percentage         Check Custamer And Soud Notification Percentage         Check Custamer Review Percentage         Check Custamer Res													
Account in Standing?       Account in Standing? <th< td=""><td>VebSphere B</td><td>usiness Monito</td><td>Dr</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>181</td></th<>	VebSphere B	usiness Monito	Dr										181
Acceptable Recentage       Account is Percentage       Account is percentage       Check Customer And Send Measure       Check Customer Account is latus Account is latus	come admin							Layout assist	tance 🗹	Dashboard	Layout	Help	Logou
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Acceptable Credit Risk/ No         Account in Good Standing?         Account in Good Standing?         Account in Good Standing?         Account in Good Standing?         Approve Without Standing?         Carcel Order Without Standing?         Carcel Order Standing?	Model: clipst	opm Version	: All Versions	Monitoring	Context: Ord	erHandling (Fi	uture1)						
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interpretation         interpr	Acceptable Credit Risk? No	Acceptable Credit Risk? Yes	Account in Good Standing? No	Account in Good Standing? Yes	Approve Without Review? No	Approve Without Review? Yes	Cancel Order and Send Notification Elapsed Duration for	Check Customer Account Status Elapsed Duration	Check Order Handling Policy for Automatic Approval	City	COMPLETED	Country	
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0 0         100         0         5.343 x         2m, 58.405 x         0.105 x         New York *         SA           0         0         100         1m, 51.703 x         0.094 x         0.187 x         Cary         A         USA           0         100         1m, 51.703 x         0.094 x         0.197 x         New York *         USA           0         100         0         55.047 x         1m, 54.751 x         0.198 x         New York *         USA           0         100         0         1m, 64.75 x         10.198 x         New York *         USA           0         100         100 x         100 x         1m, 64.75 x         10.198 x         New York *         USA           0         100         100 x         10.753 x         0.653 x         0.654 x         New York *         USA           0         100 x         0 x         0 x         8.42 h, 49 m, 54 x         0.438 x         New York *         USA	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage	Approve Without Review? Yes Percentage	Cancel Order and Send Notification Elapsed Duration for Measure	Check Customer Account Status Elapsed Duration for Measure	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure 0.219 s	<b>City</b> New York	COMPLETED	Country	
n         n	Acceptable Credit Risk? No Percentage 0	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage	Approve Without Review? Yes Percentage	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s	Check Order Handling Policy for Automatic Elapsed Duration for Measure 0.219 s 0.156 s	<b>City</b> New York New York	COMPLETED	Country USA USA	
0         100         100         100         55.047 s         1 m, 54.781 s         0.109 s         New York ★         USA           0         100         0         0         1 m, 64.75 s         10 h, 9 m, 32.25 s         0.11 s         New York ★         USA           0         0         0         1 m, 54.75 s         10 h, 9 m, 32.25 s         0.11 s         New York ★         USA           0         0         0.09 s         8.04 s         New York ★         USA           100         0         0 s         8.4 s h 9 m, 54 s         0.48 s         New York ★         USA	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage	Approve Without Review? Yes Percentage	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s 55.343 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s 2 m, 58.406 s	Check Order Handling Policy for Automatic Elapsed Duration for Measure 0.219 s 0.156 s 0.109 s	City New York New York New York	COMPLETED * * * *	Country USA USA USA	
0         100         100         0         1 m, 6.87 s         10 h, 9 m, 32.12 s         0.11 s         New York *         USA           0         0         100         19.73 s         0.66 s         0.46 s         New York *         USA           100         0         0 s         8 d, 2 h, 49 m, 54 s         0.43 s         New York *         USA	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage	Approve Without Review? Yes Percentage	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s 55.343 s 1 m, 51.703 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s	Check Order Handling Policy for Automatic Elapsed Duration for Measure 0.219 s 0.156 s 0.109 s 0.187 s	City New York New York New York Cary	COMPLETED * * * * * *	Country USA USA USA USA	
O         100         19.735 s         0.063 s         0.468 s         New York         X           100         0         0 s         8 d, 2 h, 49 m, 54 s         0.438 s         New York         USA	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage 0 100 100 0 100	Approve Without Review? Yes Percentage 100 0 0 100 0	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s 55.343 s 1 m, 51.703 s 55.047 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s 1 m, 54.781 s	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure 0.219 s 0.156 s 0.109 s 0.187 s 0.109 s	City New York New York New York Cary New York	COMPLETED * * * * *	Country USA USA USA USA	
100 0 0 s 8 d, 2 h, 49 m, 54 s 0.438 s New York USA	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage 0 100 100 0 100 100	Approve without Review? Yes Percentage 100 0 0 100 0 0 0	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s 55.343 s 1 m, 51.703 s 55.047 s 1 m, 6.875 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s 1 m, 54.781 s 1 0 h, 9 m, 32.125 s	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure 0.219 s 0.136 s 0.109 s 0.187 s 0.109 s 0.111 s	City New York New York New York Cary New York New York	COMPLETED * * * * * * *	Country USA USA USA USA USA USA	
	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve without Review? No Percentage 0 100 100 100 100 100 100 0	Approve Without Review? Yes Percentage 100 0 100 0 100 0 100	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 59.172 s 55.343 s 1 m, 51.703 s 55.047 s 1 m, 6.875 s 19.735 s	Check Customer Account Status Elapsed Duration for Measure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s 1 m, 54.781 s 10 h, 9 m, 32.125 s 0.683 s	Check Order Handling Policy for Automatic Approval Elapsed Duration tor Measure 0.219 s 0.156 s 0.109 s 0.109 s 0.109 s 0.115 s 0.111 s	City New York New York New York Cary New York New York New York	COMPLETED * * * * * * * * *	Country USA USA USA USA USA	
	Acceptable Credit Risk? No Percentage	Acceptable Credit Risk? Yes Percentage	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage 0 100 100 100 100 100 100 100	Approve Without Review? Yes Percentage 100 0 100 0 0 100 0 0	Cancel Order and Send Notification Elapsed Duration for Measure 13.891 s 55.172 s 55.343 s 1 m, 51.703 s 55.047 s 1 m, 6.875 s 0 s	Check Customer Account Status Elegaed Duration for Heasure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s 1 m, 54.781 s 10 h, 9 m, 32.125 s 0.063 s 8 d, 2 h, 49 m, 54 s	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure 0.219 s 0.156 s 0.109 s 0.109 s 0.109 s 0.115 0.468 s 0.438 s	City New York New York New York Cary New York New York New York	COMPLETED  * * * * * * * * * * * * * * * * * *	Country USA USA USA USA USA USA	
	Acceptable Credit Risk? 0 0 0 0 0	Acceptable Credit Risk? Yes Percentage 100 100 100	Account in Good Standing? No Percentage	Account in Good Standing? Yes Percentage	Approve Without Review? No Percentage 0 100 100 100 100 100 100	Approve Without Review? Percentage 100 0 0 100 0 0 100 0 0 0	Cancel Order and Send Elapsed Duration for Measure 59.172 s 55.343 s 1 m, 51.703 s 55.047 s 1 m, 6.875 s 19.735 s 0 s	Check Customer Account Status Elapsed Duration for Heasure 0.094 s 10 m, 49.422 s 2 m, 58.406 s 0.094 s 1 m, 54.781 s 10 h, 9 m, 32.125 s 0.063 s 8 d, 2 h, 49 m, 54 s	Check Order Handling Policy for Automatic Approval Elapsed Duration for Measure 0.129 s 0.129 s 0.129 s 0.129 s 0.129 s 0.129 s 0.129 s 0.129 s 0.121 s 0.468 s	City New York New York New York New York New York New York New York	COMPLETED * * * * * * * * * * * * *	Country USA USA USA USA USA USA	×

h. Optional: To see more data on the dashboard, run more events as described in Run events to exercise the model from the Build It Yourself section.

## Download the sample

Completed samples are available so that you can start at any stage of this tutorial. This section shows you how to import the solutions. After you import the model, you can proceed to the relevant section in the Build It Yourself section to continue development.

- ClipsAndTacks.pdf the documentation for running the sample in a book format that you can print.
- ClipsAndTacksForModeler.zip the completed process model to be imported into WebSphere Business Modeler
- ClipsAndTacksF1.zip the completed process model to be imported into WebSphere Integration Developer for further development.
- ClipsAndTacksF1Completed.zip the completed process model and monitor projects, without generated files, to be imported into WebSphere Integration Developer, ready to deploy.
- Order.xfdl the Lotus form used in this tutorial
- CreditRating.java the Java file used in this tutorial to check the customer account status.
- Dashboard.data a pre-built dashboard for ClipsAndTacks
- OrderHandling (Future1).mm the monitor model exported from WebSphere Business Modeler
- OrderHandling\_x0028\_Future1\_x0029\_KM\_OrderHandling\_x0028\_Future1 \_x0029\_KC.svg – an SVG image of the business process to be used with the KPIs in the monitor model. This file is exported from WebSphere Business Modeler
- OrderHandling\_x0028\_Future1\_x0029\_MDM\_OrderHandling\_x0028\_Future1 \_x0029\_MC.svg – an SVG image of the business process to be used with the metrics (monitoring context) in the monitor model. This file is exported from WebSphere Business Modeler

Use the following sections to import the model using either WebSphere Business Modeler or WebSphere Integration Developer.

- "Importing the completed model into WebSphere Business Modeler"
- "Importing the completed model into WebSphere Integration Developer" on page 5-2
- "Importing the completed WebSphere Integration Developer project into WebSphere Integration Developer" on page 5-2

## Importing the completed model into WebSphere Business Modeler

The completed process model is ClipsAndTacksForModeler.zip.

To import ClipsAndTacksForModeler.zip, complete the following steps:

- 1. Start WebSphere Business Modeler with a new workspace.
- 2. Click File → Import → WebSphere Business Modeler → WebSphere Business Modeler Import and click Next.
- 3. Select WebSphere Business Modeler project (.mar, .zip) and click Next.

- 4. Click **Browse** and select the directory where the ClipsAndTacksForModeler.zip is saved.
- 5. Select ClipsAndTacksForModeler.zip and click Finish.

## Importing the completed model into WebSphere Integration Developer

The completed process model for importing into WebSphere Integration Developer is ClipsAndTacksF1.zip.

To import ClipsAndTacksF1.zip, complete the following steps:

- 1. Start WebSphere Integration Developer with a new workspace.
- 2. Click File > Other > Project Interchange and click Next.
- **3**. For **From zip file**, click **Browse** and select the directory where the ClipsAndTacksF1.zip is saved.
- 4. Select ClipsAndTacksF1 and click Finish.

## Importing the completed WebSphere Integration Developer project into WebSphere Integration Developer

The completed process model and monitor model for importing into WebSphere Integration Developer is ClipsAndTacksF1Completed.zip.

To import the completed projects, complete the following steps:

- 1. Start WebSphere Integration Developer with a clean workspace.
- 2. Click File > Import > Other > Project Interchange and click Next.
- **3**. For From zip file, click Browse and to select the directory where the ClipsAndTacksF1All.zip is saved.
- 4. Click Select All and then Finish to import everything.
  - ClipsAndTacksF1 is the completed business process .
  - clips is the monitoring model.