

Raising and monitoring business events

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What this exercise is about

Because integration applications involve different technologies spread across the enterprise, it is important to monitor transactions that flow through the different systems and components. Messages or events can be generated when components are run or state changes occur. These events can then be collected and correlated for a complete view of the business transaction by monitoring applications. WebSphere Process Server V6.0 includes the Common Event Infrastructure (CEI) framework, which can capture generated events that use the Common Base Event format. WebSphere Integration Developer V6.0.2 provides the ability to enable event generation for SCA components and state changes.

Lab requirements

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

- WebSphere Integration Developer V6.0.2 installed
- WebSphere Process Server V6 test environment installed
- Sample code in the directory C:\Labfiles602 (Windows®) or /tmp/LabFiles602 (Linux®)

What you should be able to do

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

- Enable event generation on BPEL business process, human tasks, selectors, business rules and SCA components in general with WebSphere Integration Developer V6.0.2
- Enable WebSphere Process Server V6.0 to log events in for business processes and human tasks.
- View generated events using the Common Base Event Browser included with WebSphere Process Server V6.0
- Dynamically enable event generation in WebSphere Process Server V6.0

Introduction

With integration applications involving different technologies spread across the enterprise, it becomes important to monitor transactions which flow through the different systems and components. Messages or events can be generated when components are run or different state changes occur. These events can then be collected and correlated for a complete view of the business transaction by monitoring applications. WebSphere Process Server V6.0 includes the Common Event Infrastructure (CEI) as a framework which can capture generated events which use the Common Base Event format. WebSphere Integration Developer V6.0.2 provides the ability to enable event generation for different SCA components and state changes. With the combination of support from these two products, the core capabilities to monitor business transactions are provided.

Exercise instructions

Some instructions in this lab might be specific for Windows platforms. If you run the lab on a platform other than Windows, you will need to run the appropriate commands, and use appropriate files (for example .sh in place of .bat) for your operating system. The directory locations are specified in the lab instructions using symbolic references as follows:

Reference variable	Windows location	Linux location
<WID_HOME>	C:\Program Files\IBM\WebSphere\ID\6.0	/opt/IBM/WebSphere/ID/6.0
<WPS_HOME>	<WID_HOME>\runtimes\bi_v6	<WID_HOME>/runtimes/bi_v6
<LAB_FILES>	C:\Labfiles602	/tmp/Labfiles602
<WORKSPACE>	C:\Labfiles602\exchange\CEIMonitor\workspace	/tmp/Labfiles602/exchange/CEIMonitor/workspace
<TEMP>	C:\temp	/tmp
<SOLUTION>	C:\Labfiles602\exchange\CEIMonitor\Solution\	/tmp/Labfiles602/exchange/CEIMonitor/Solution

Windows users' note: When directory locations are passed as parameters to a Java™ program such as wsadmin, you must replace the backslashes with forward slashes to follow the Java convention. For example, C:\LabFiles602\ would be replaced by C:/LabFiles602/.

Note that the previous table is relative to where you are running WebSphere Integration Developer. The following table is related to where you are running **remote** test environment:

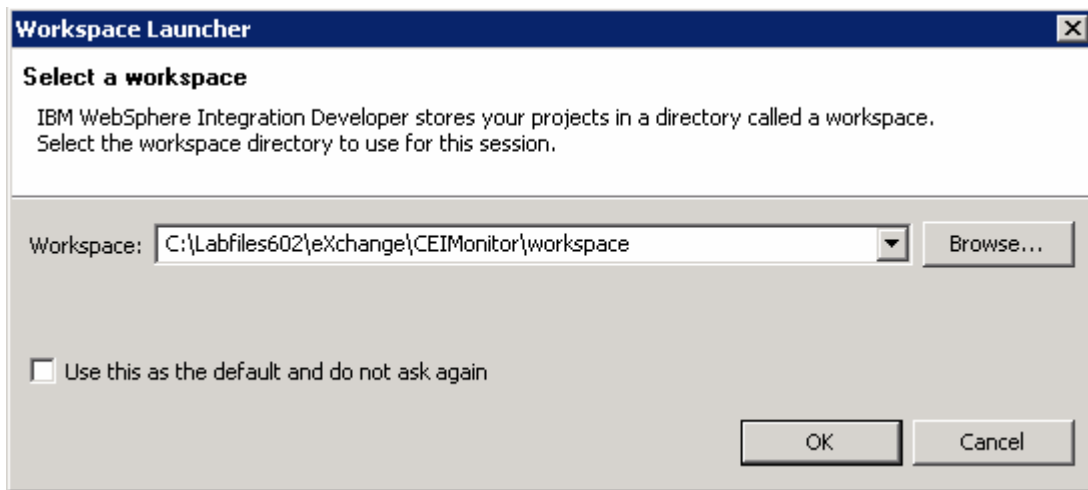
Reference Variable	Example: Remote Windows test server location	Example: Remote z/OS [®] test server location	Input your values for the remote location of the test server
<SERVER_NAME>	server1	cl1sr01	
<WAS_HOME>	C:\Program Files\IBM\WebSphere\AppServer	/etc/cl1cell/AppServerNode1	
<HOSTNAME>	localhost	mvsxxx.rtp.raleigh.ibm.com	
<BOOTSTRAP_PORT>	2809	2809	
<TELNET_PORT>	N/A	1023	
<PROFILE_NAME>	AppSrv01	default	
<USERID>	N/A	cl1admin	
<PASSWORD>	N/A	Fr1day	

Instructions for using a remote test environment, such as z/OS[®], AIX[®] or Solaris, can be found at the end of this document, in the section "[Task: Adding remote server to WebSphere Integration Developer test environment](#)".

Part 1: Initialize the workspace for this lab exercise

In this section of the lab, you will be importing four modules, CleansePublishLibrary, AutoClean, CleansePublishBPEL and ManualClean part of the CEIMonitorStart_PI.zip, project interchange file into your workspace.

- ___ 1. Start WebSphere Integration Developer V6.0.2 with a workspace location of **<WORKSPACE>** that is **<LAB_FILES>\eXchange\CEIMonitor\workspace**
- ___ 2. From Windows Explorer, navigate to the **<WID_HOME>** directory and double click on wid.exe
- ___ 3. When prompted for workspace name, enter the value provided by the **<WORKSPACE>** variable for this lab and click **OK**

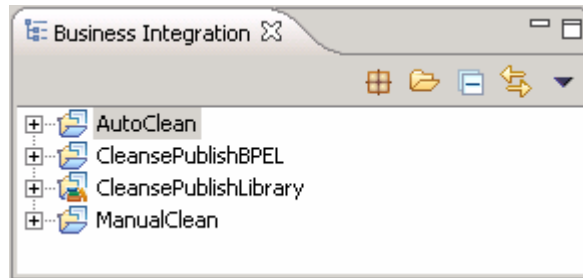


- ___ 4. When WebSphere Integration Developer V6.0.2 opens, click the curved arrow at top right to **go to Business Integration perspective**

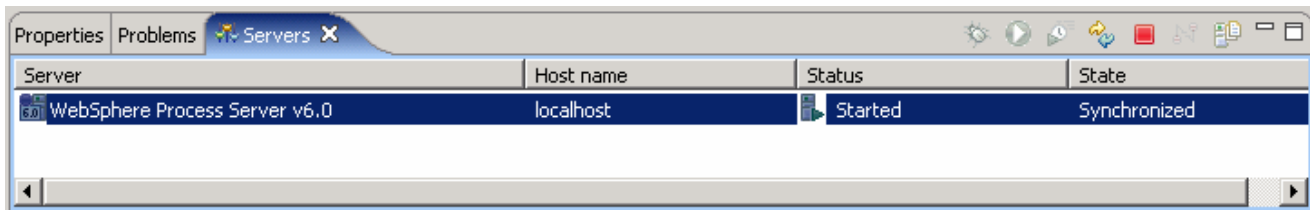


- ___ 5. Import Project Interchange file, **CEIMonitorStart_PI.zip** located at **<LAB_FILES>\eXchange\CEIMonitor\import**
- ___ 6. Right-click inside **Business Integration View** (top left view in the Business Integration Perspective) and select **Import** from the context menu
- ___ 7. Select **Project Interchange** listed in the import dialog
- ___ 8. Click **Next**

- ___ 9. Click the **Browse** button for “**From zip file**” and navigate to **<LAB_FILES>\eXchange\CEIMonitor\import\CEIMonitorStart_Pi.zip** and hit **Open**
- ___ 10. Click the **Select All** button and ensure all the projects are selected and click **Finish**
- ___ 11. Verify you have all the four modules CleansePublishLibrary, AutoClean, CleansePublishBPEL and ManualClean listed in the Business Integration view



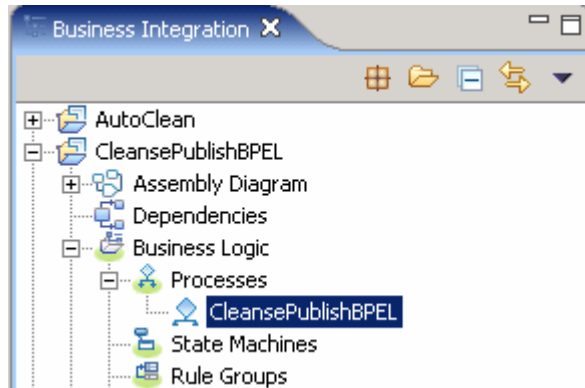
- ___ 12. Verify you have WebSphere Process Server V6.0 listed in your Servers view



Part 2: Enable event monitoring

In this part you will enable event generation in different components of the eXchange application. You will also enable the test server to allow for event generation from these components.

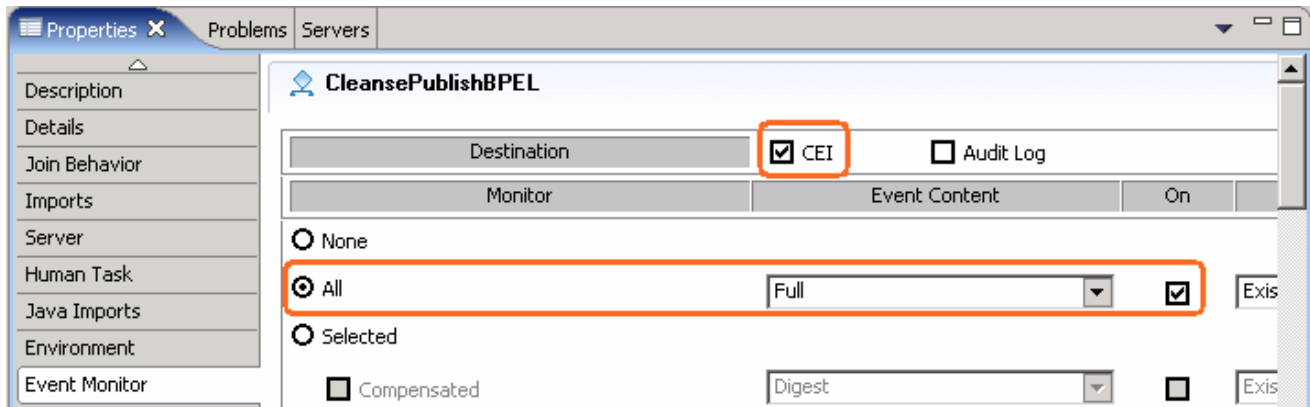
- ___ 1. Set Common Base Event generation for the CleansePublishBPEL process
 - ___ a. In the Business Integration view, expand **CleansePublishBPEL** → **Business Logic** → **Processes** and double click to open the **CleansePublishBPEL**. The process opens in a process editor



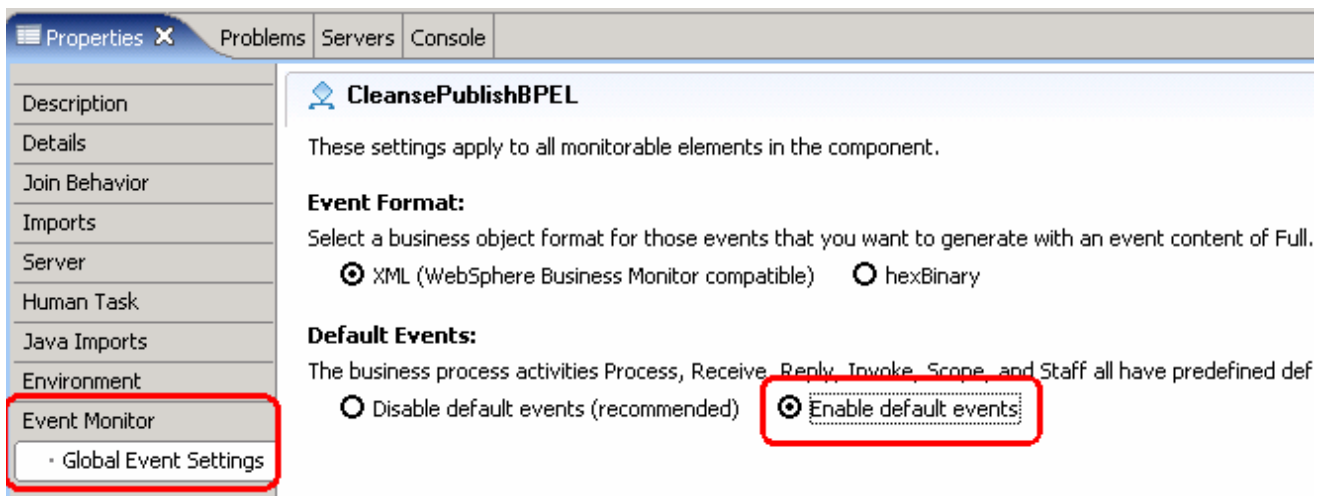
- ___ b. In the **CleansePublishBPEL** process editor, click on the white canvas to select the whole process. While the whole process selected, select the Properties view. This selects the properties available for the whole process
- ___ c. Now select the **Event Monitor** tab

Note: There are two destinations for events for business processes. CEI is an event framework which is a core component of WebSphere Process Server and available to capture Common Base Events generated throughout the different components running on the server. The Audit Log is a specific framework which also accepts events and audit information generated by business process components and human tasks only.

- ___ d. Ensure the check box next to **CEI** selected in the Destination section
- ___ e. Each different component has different possible events which can be generated. Within each component is a finer level of events which can be generated. For example the events which can be generated at the business process level are different from the events which can be generated from invoke activities. Setting all events to be generated will cause the largest amount of overhead and if the monitoring product does not utilize the information, you should consider enabling only certain events, such as the Entry, Exit, and Failure. A setting of Full places the largest amount of information in the event. While the CEI is selected as the destination, set the following values. To set event monitoring for the whole process follow the steps below:
 - 1) Select the radio button next to **All** to monitor all maps or transforms
 - 2) Select **Full** as the Monitoring Content from the drop down list
 - 3) Ensure the check box under the **On** column is selected to see that the event monitoring is switched on



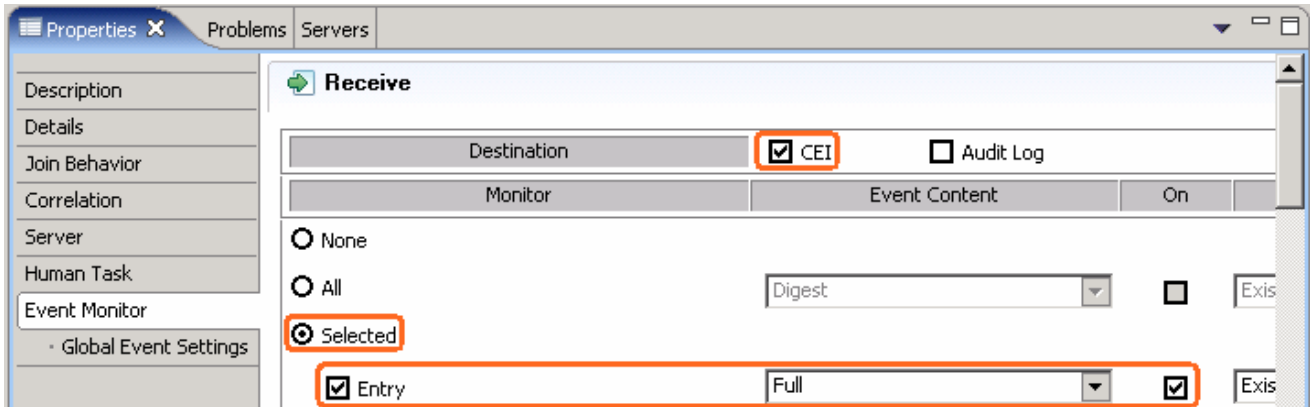
Note: You can also generate all the default events available for all the activities in a Business Process. Select the **Global Event Settings** tab under the Event Monitor tab while you are in the Properties view for the whole CleansePublishBPEL process and select the radio button next to **Enable Default Events**. Note that it is recommended to use the **Disable Default Events** option.



___ f. In the **CleansePublishBPEL** process editor, select the **Receive** activity and then the Event Monitor tab in the Properties view

___ g. To set event monitoring for the **Receive** activity follow the steps below:

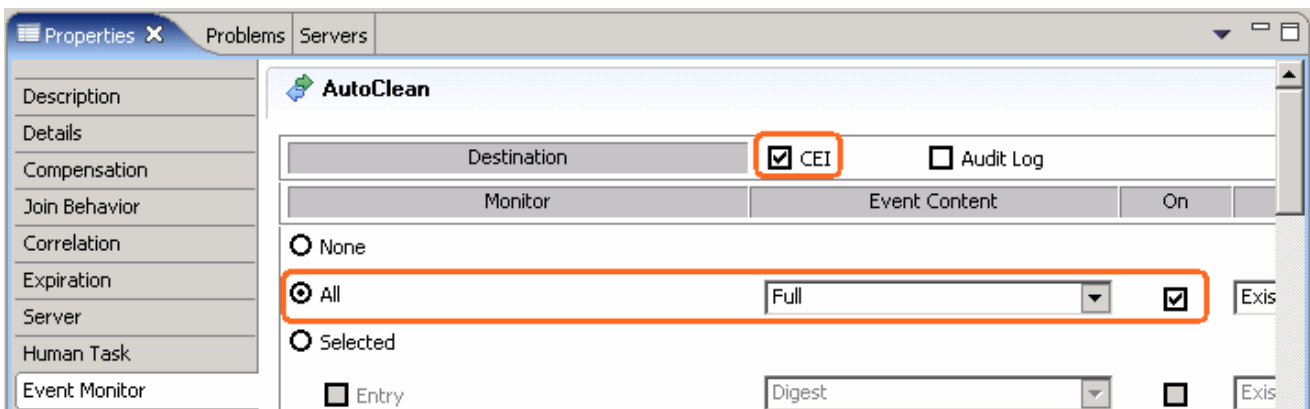
- 1) Ensure the check box next to **CEI** selected in the Destination section
- 2) Select the radio button next to **Selected** to monitor and add the choices for your monitoring purposes
 - Select the check box next to **Entry**
 - Select **Full** as the Monitoring Content from the drop down list
 - Ensure the check box under the **On** column is selected to see that the event monitoring is switched on



___ h. In the **CleansePublishBPEL** process editor, select the **AutoClean** activity and then the Event Monitor tab in the Properties view

___ i. To set event monitoring for the **AutoClean** activity follow the steps below:

- 1) Ensure the check box next to **CEI** selected in the Destination section
- 2) Select the radio button next to **All** to monitor all maps or transforms
- 3) Select **Full** as the Monitoring Content from the drop down list
- 4) Ensure the check box under the **On** column is selected to see that the event monitoring is switched on



___ j. **Repeat** the above steps implemented for the AutoClean activity for the **ManualClean** and **Publish** activities

___ k. In the **CleansePublishBPEL** process editor, select the **Reply** activity and then the Event Monitor tab in the Properties view

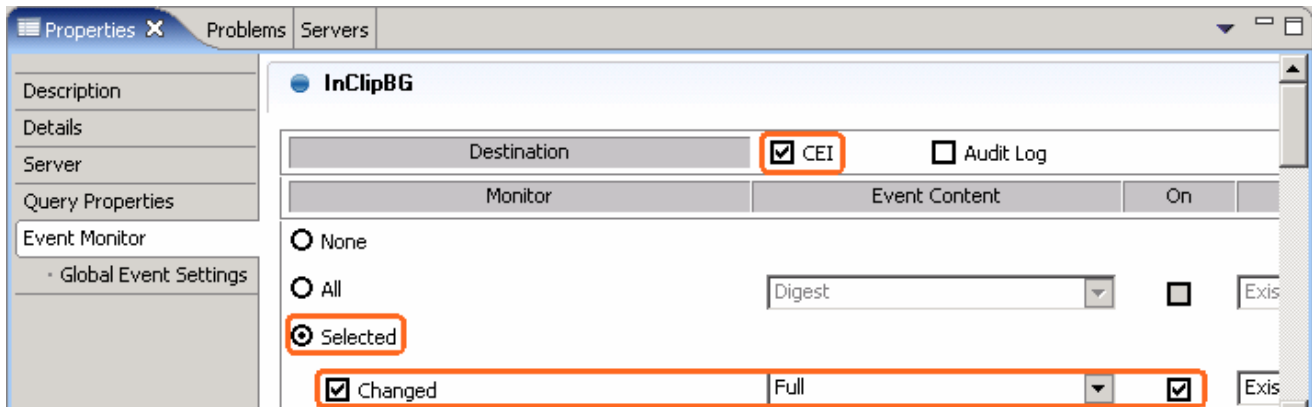
___ l. In the **CleansePublishBPEL** process editor, select the **inClipBG** variable located to the right to the process editor and then the Event Monitor tab in the Properties view. Events can also be checked on Variables.

___ m. To set event monitoring for the **inClipBG** variable follow the steps below:

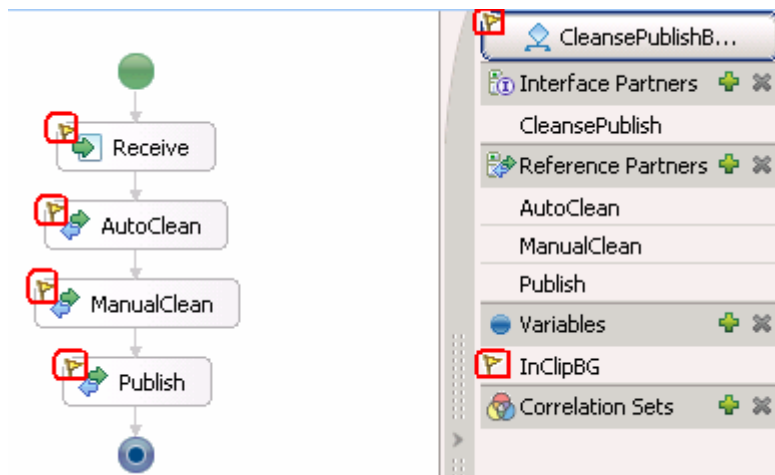
- 1) Ensure the check box next to **CEI** selected in the Destination section

2) Select the radio button next to **Selected** to monitor and add the choices for your monitoring purposes

- Select the check box next to **Changed**, the only event that can be generated on a variable is a change in value
- Select **Full** as the Monitoring Content from the drop down list
- Ensure the check box under the **On** column is selected to see that the event monitoring is switched on



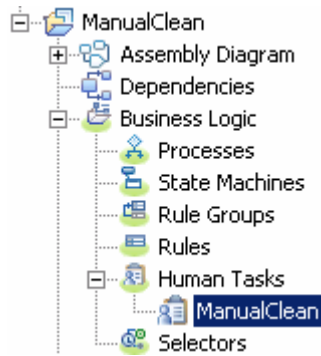
___ n. Save the Process editor (**Ctrl + S**). Notice the icon markers (flag) are displayed on the activities to indicate monitoring is enabled as shown below:



___ o. Close the **CleansePublishBPEL** process editor

___ 2. Events can also be generated from human tasks. Set the event monitoring for the ManualClean human task

___ a. In the Business Integration view, expand **ManualClean** → **Business Logic** → **Human Tasks** and double click to open the **ManualClean** human task. The manual Clean human task editor opens



___ b. In the human task editor, select the **ManualClean** button located under the Human task section. This selects the whole Manual Clean human task



___ c. While the ManualClean button is selected, select the Event Monitor tab in the Properties view. This selects the properties available for the whole human task

Note: For Human Tasks, there are different state changes associated with the task that can cause events to be created. Notice the different events that can be generated for the Human Task.

___ d. To set event monitoring for the **ManualClean** human task, follow the steps below:

- 1) Ensure the check box next to **CEI** selected in the Destination section
- 2) Select the radio button next to **Selected** to monitor and add the choices for your monitoring purposes
 - Select the check box next to **Entry**
 - Select the check box next to **Exit**
 - Accept the Monitoring Content as default
 - Ensure the check box under the **On** column is selected to see that the event monitoring is switched on

<input checked="" type="checkbox"/> Entry	<input type="text" value="Digest"/>	<input checked="" type="checkbox"/>	<input type="text" value="Existing"/>	<input type="text"/>
<input checked="" type="checkbox"/> Exit	<input type="text" value="Digest"/>	<input checked="" type="checkbox"/>	<input type="text" value="Existing"/>	<input type="text"/>

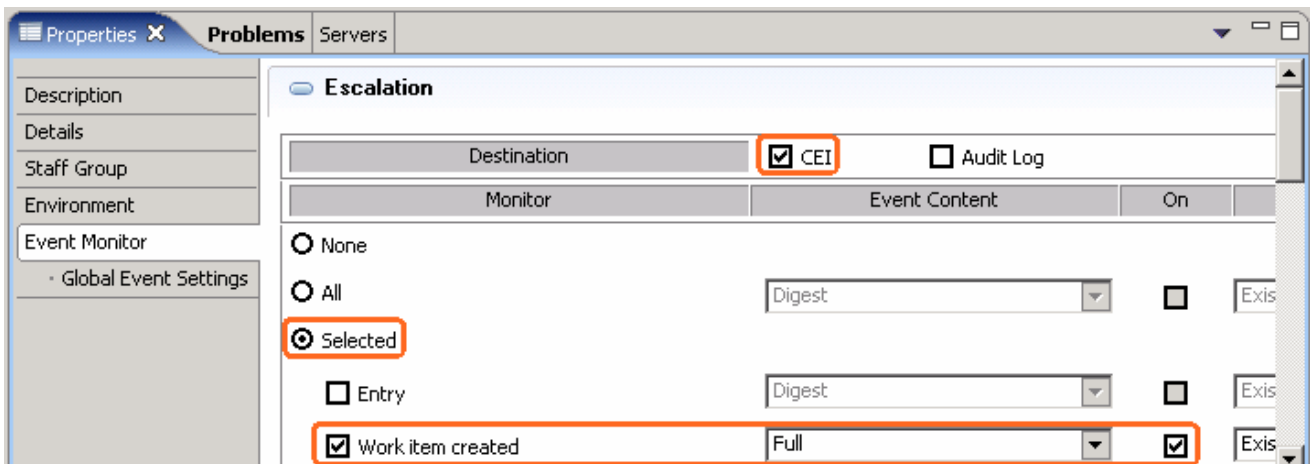
___ e. In the human task editor, select **Escalation1** under the Escalation settings section. Events can also be generated for Escalations. Notice the different events that can be generated for the escalation. These are different from the events for the task.

___ f. To set event monitoring for the **Escalation1** Escalation, follow the steps below:

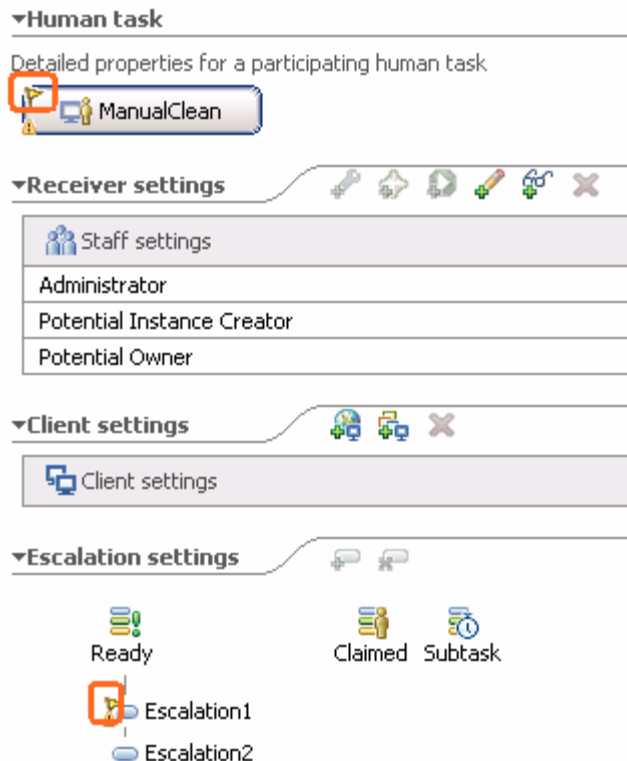
- 1) Ensure the check box next to **CEI** selected in the Destination section

2) Select the radio button next to **Selected** to monitor and add the choices for your monitoring purposes

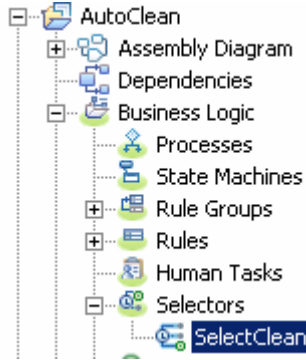
- Select the check box next to **Work item created**
- Select **Full** as the Monitoring Content from the drop down list
- Ensure the check box under the **On** column is selected to see that the event monitoring is switched on



___ g. Save the ManualClean human task editor (**Ctrl + S**). Notice the icon markers (flag) are displayed on the editor as shown below:



- ___ 3. Set event monitoring for the **AutoClean** selector and **CleanseRuleGroup** business rule group. Selectors and Business Rule Groups can also generate events.
 - ___ a. In the Business Integration view, expand **AutoClean** → **Business Logic** → **Selectors** and double click to open the **SelectClean** selector. The selector opens in a selector editor



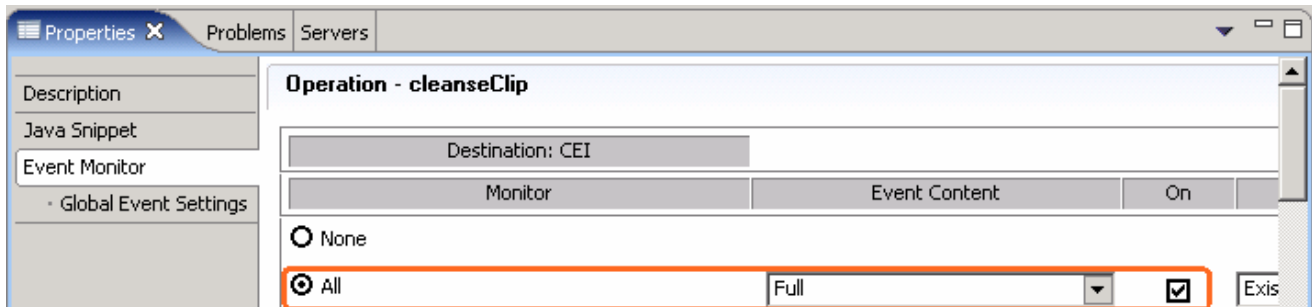
- ___ b. In the SelectClean editor, select the **cleanseClip** operation under the Clean Interface



- ___ c. While the **cleanseClip** operation is selected, select the Event Monitor tab in the Properties view

- ___ d. To set event monitoring for the **cleanseClip** operation, follow the steps below:

- 1) Select the radio button next to **All** to monitor all maps or transforms
- 2) Select **Full** as the Monitoring Content from the drop down list
- 3) Ensure the check box under the **On** column is selected to see that the event monitoring is switched on

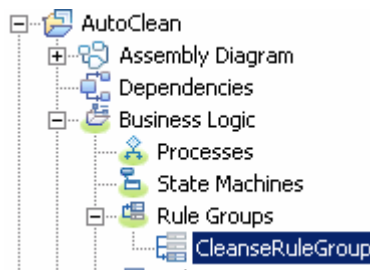


- ___ e. Save the **cleanseClip** editor (**Ctrl + S**). Notice the icon marker(flag) id displayed on the editor

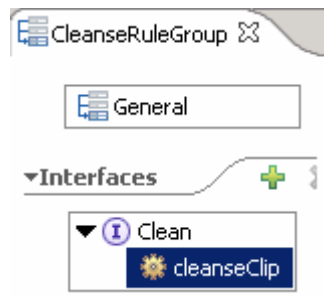


___ f. Close the editor

___ g. In the Business Integration view, expand **AutoClean** → **Business Logic** → **Rule Groups** and double click to open the Business Rule Group, **CleanseRuleGroup**. The Business Rule Group editor opens



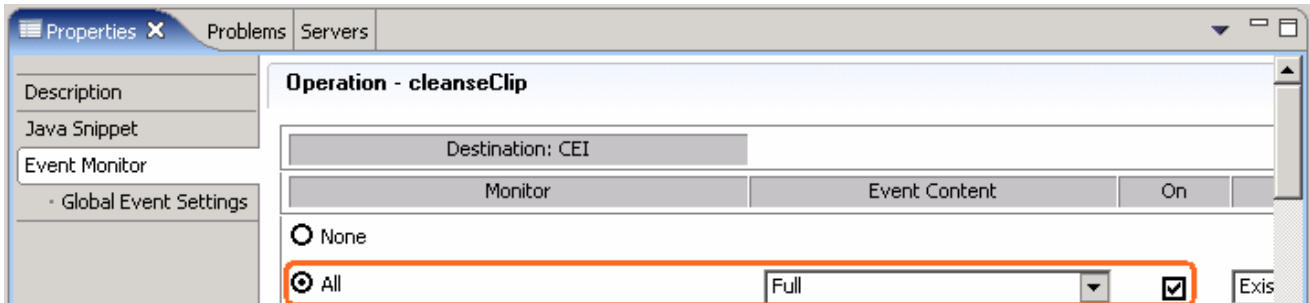
___ h. In the CleanseRuleGroup business rule group editor, select the **cleanseClip** operation under the Clean Interface



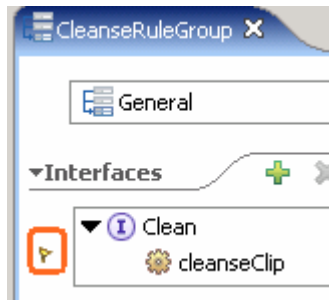
___ i. While the **cleanseClip** operation is selected, select the Event Monitor tab in the Properties view

___ j. To set event monitoring for the **cleanseClip** operation, follow the steps below:

- 1) Select the radio button next to **All** to monitor all maps or transforms
- 2) Select **Full** as the Monitoring Context from the drop down list
- 3) Ensure the check box under the **On** column is selected to see that the event monitoring is switched on




__ k. Save the editor (**Ctrl + S**). Notice the icon marker (flag) is displayed on the editor

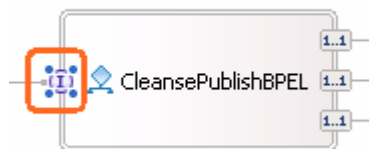


__ l. Close the editor

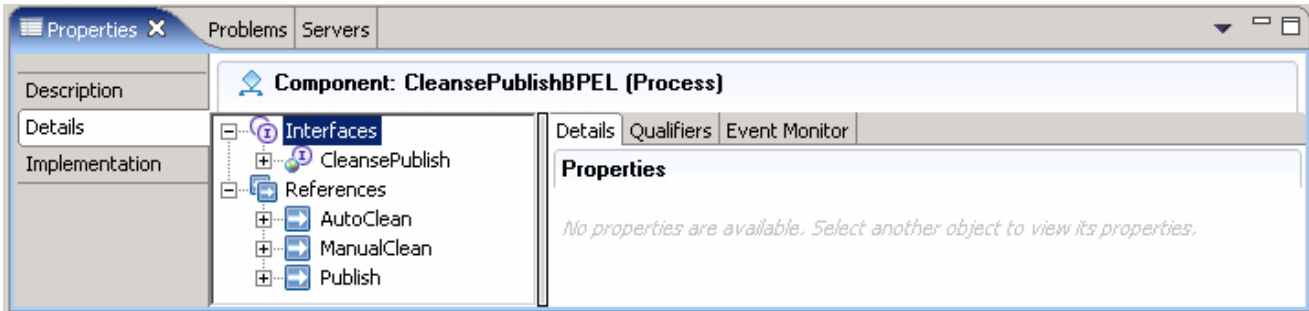
___ 4. Event generation has also been integrated at the SCA level. This instrumentation allows for any SCA component to generate events which can be monitored. SCA event generation can be enabled in the assembly editor on the interfaces for the different SCA components. Any SCA invocation can be monitored with the proper event enablement. Set basic monitoring for the SCA invocations

__ a. Expand CleansePublishBPEL in the Business Integration view and double click on **Assembly Diagram** ( **Assembly Diagram**) to open it in an Assembly Diagram editor

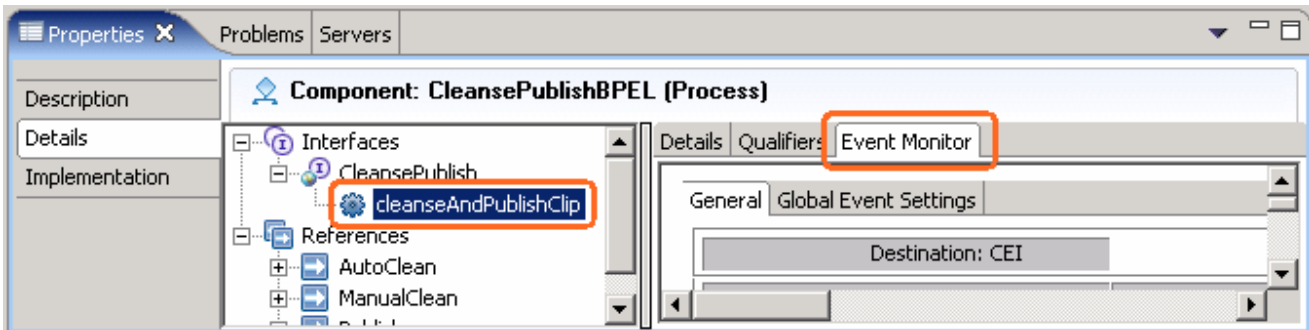
__ b. In the CleansePublishBPEL assembly diagram, select the interface of the CleansePublishBPEL component as shown below:



__ c. While the CleansePublishBPEL component's interface is selected, select the Details tab in the Properties view

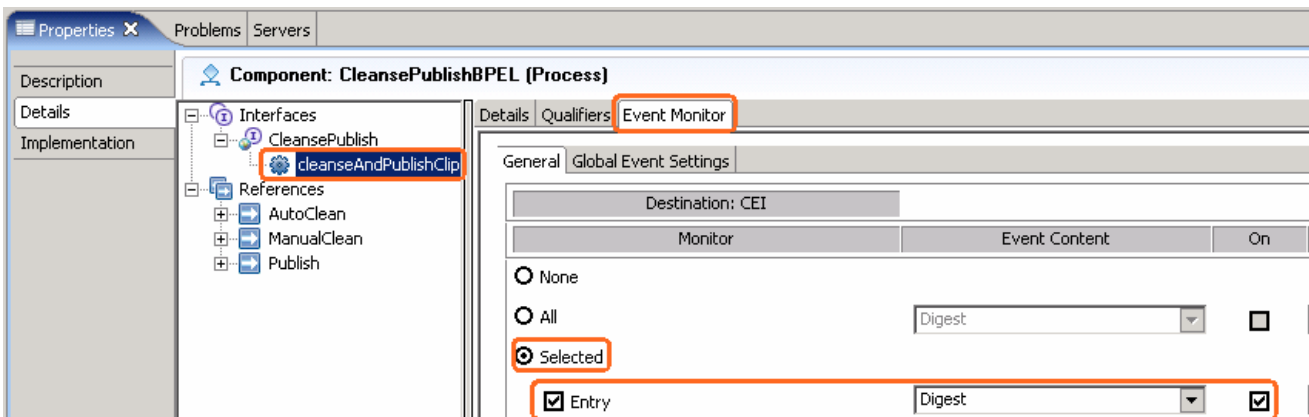


___ d. Expand **Interfaces** → **CleansePublish** and select **cleanseAndPublishClip** operation and then the Event Monitor tab as shown below:



___ e. To set event monitoring for the **cleanseAndPublishClip** operation, follow the steps below:

- 1) Select the radio button next to **Selected** to monitor and add the choices for your monitoring purposes
 - Select the check box next to **Entry**
 - Accept the default Monitoring Context
 - Ensure the check box under the **On** column is selected to see that the event monitoring is switched on

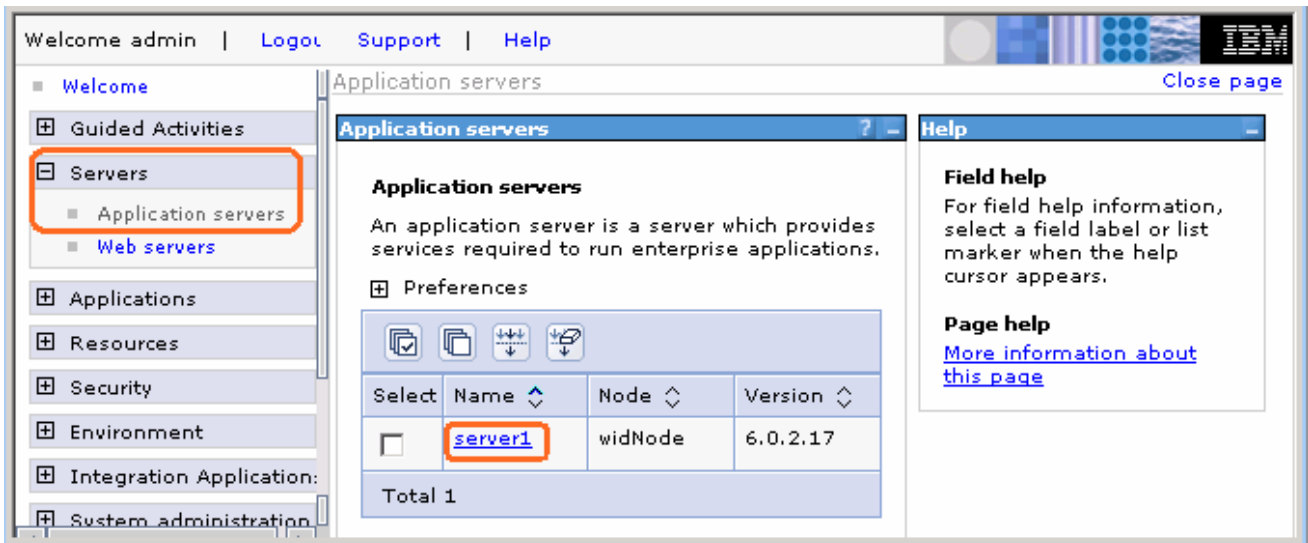


___ f. **Optional:** Select the Export or any of the Imports. On the Interfaces tab, expand the interfaces and select the Event Monitor tab. Events on SCA invocation can also be generated at these points

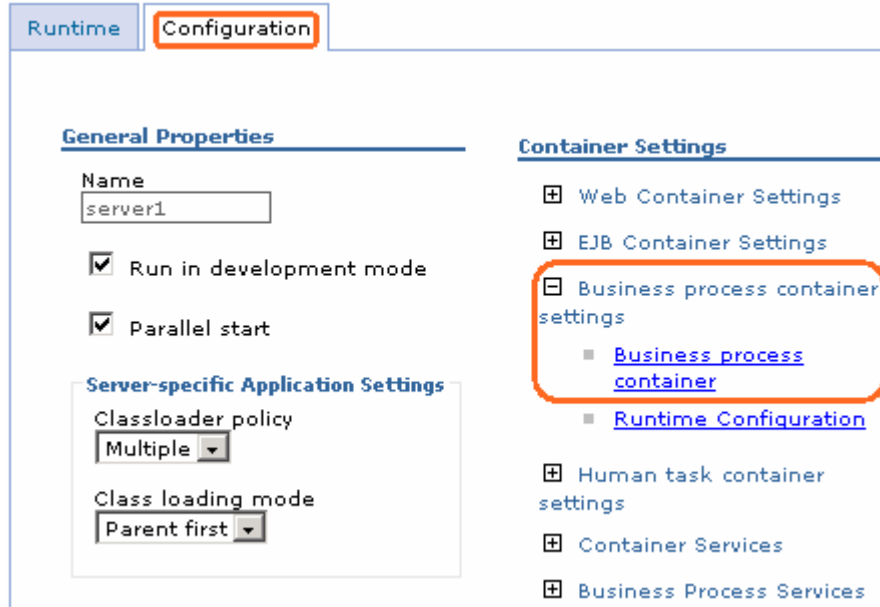
Note: For this situation, enabling event generation on the Export and the business process component is redundant because requests from SCA components to the business process will pass through the Export directly before the business process.

- ___ g. Close the assembly editor. In the other assembly editors for the other modules, event could also be enabled at the SCA interfaces
- ___ 5. Event generation for the different components will occur by default if event instrumentation is enabled. However, event logging must be enabled at the container level for business processes and human tasks components. For these components, this offers a single administrative point where the event logging can be controlled if it is enabled for individual artifacts. Enable event logging for business processes and human server.
 - ___ a. If using a remote test environment, follow the directions provided in [Task: Adding Remote Server to WebSphere Integration Developer Test Environment](#) (at the end of this document).
If you are using a local test environment, right-click on **WebSphere Process Server V6.0** in the Server view and select **Start**
 - ___ b. If using a local test environment, open the administrative console after the server starts by right-clicking on WebSphere Process Server V6.0 in the Servers view and select **Run administrative console** from the context menu. If using a remote test environment, open the administrative console in a browser by going to the following address:

<http://<HOSTNAME>:9080/ibm/console>
 - ___ c. Type an anonymous user name in the User ID field and click the **Log in** button
 - ___ d. In the left navigation menu, expand **Server → Applications servers** and click **<SERVER_NAME>** link listed in the right frame of the administrative console

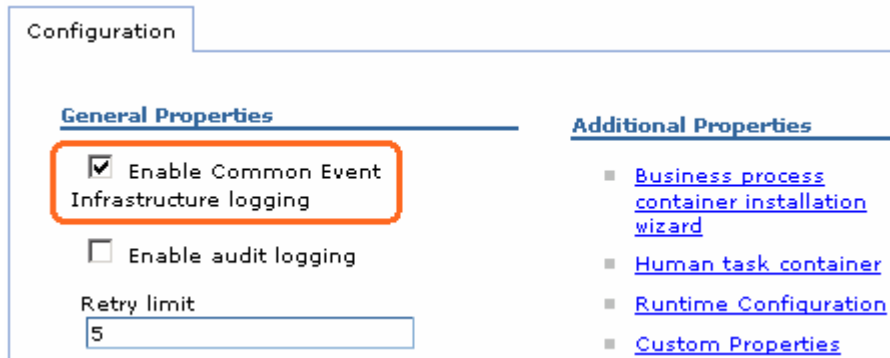


- ___ e. In the following page, ensure the **Configuration** tab is selected and expand **Business Process Container Settings** under the Containers Settings section



__ f. Click the **Business Process Container** link

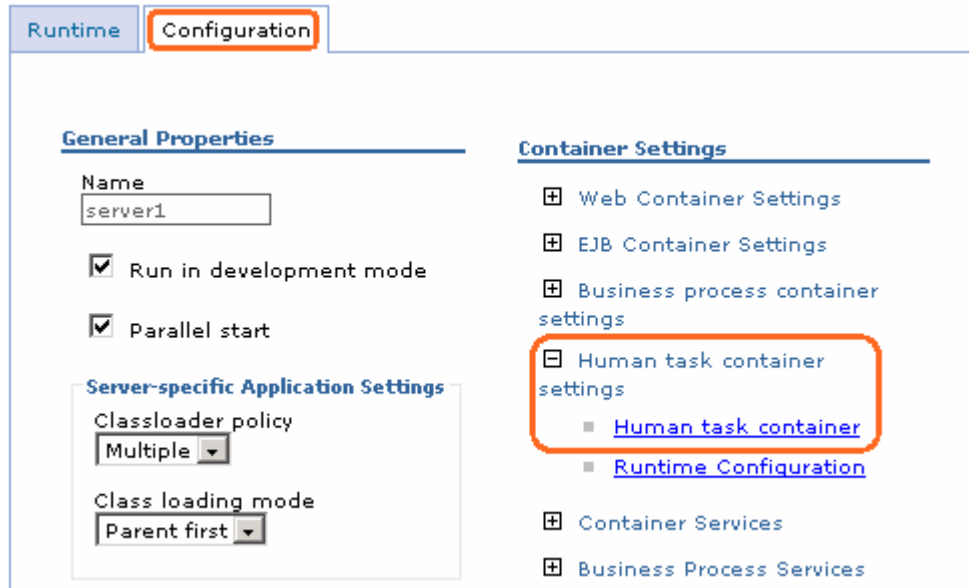
__ g. In the following page, select the check box next to **Enable Common Event Infrastructure Logging**



__ h. Click **OK** and eventually save the changes to the master configuration.

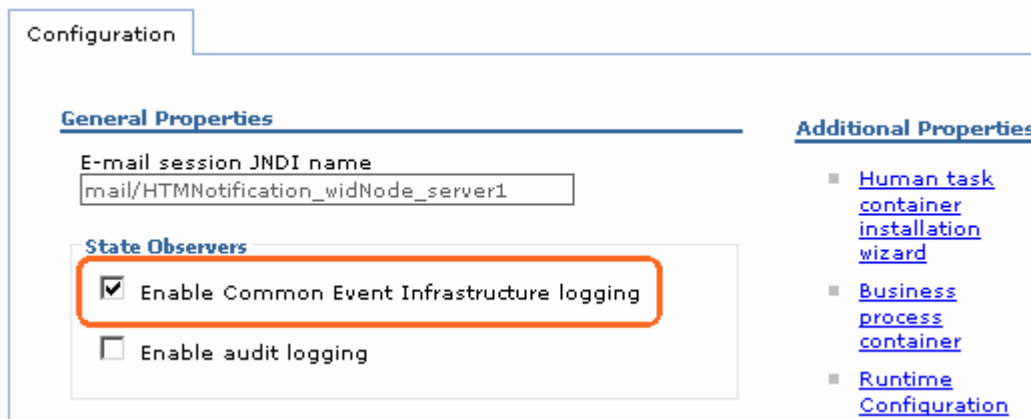
__ i. Click the **<SERVER_NAME>** again to return to the properties for the server

__ j. In the following page, ensure the **Configuration** tab is selected and expand **Human task container settings** under the Containers Settings section



__ k. Click on **Human task container** link

__ l. In the following page, select the check box next to **Enable Common Event Infrastructure Logging**



__ m. Click **OK** and eventually the save the changes to the master configuration

__ n. Click the Logout link on the top frame and close the administrative console

___ 6. To enable event generation from the Business Process Container and the Human Task manager, the server must be restarted. Before restarting the server, deploy the appropriate applications.

__ a. Right-click on WebSphere Process Server V6.0 in the Servers view and select **Add and remove projects**

__ b. Click the **Add All >>** button to move the CleansePublishBPELApp, AutoCleanApp, and ManualCleanApp applications to the **Configured** projects in the dialog

__ c. Click **Finish**

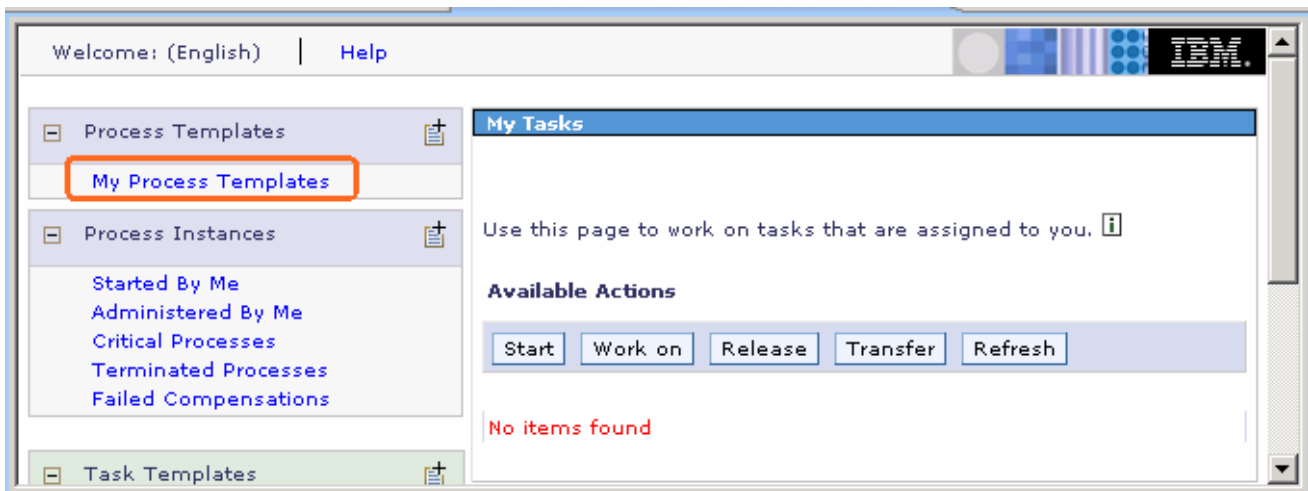
__ d. Once the applications have finished publishing, you will need to restart the server

- 1) If using a remote test environment, stop the server. Right click on WebSphere Process Server from the Servers menu and select Stop from the context menu. Then follow the directions provided in [Task: Adding Remote Server to WebSphere Integration Developer Test Environment](#) (at the end of this document) to restart a server
- 2) If using a local test environment, right-click on the server and select **Restart** → **Start** from the context menu

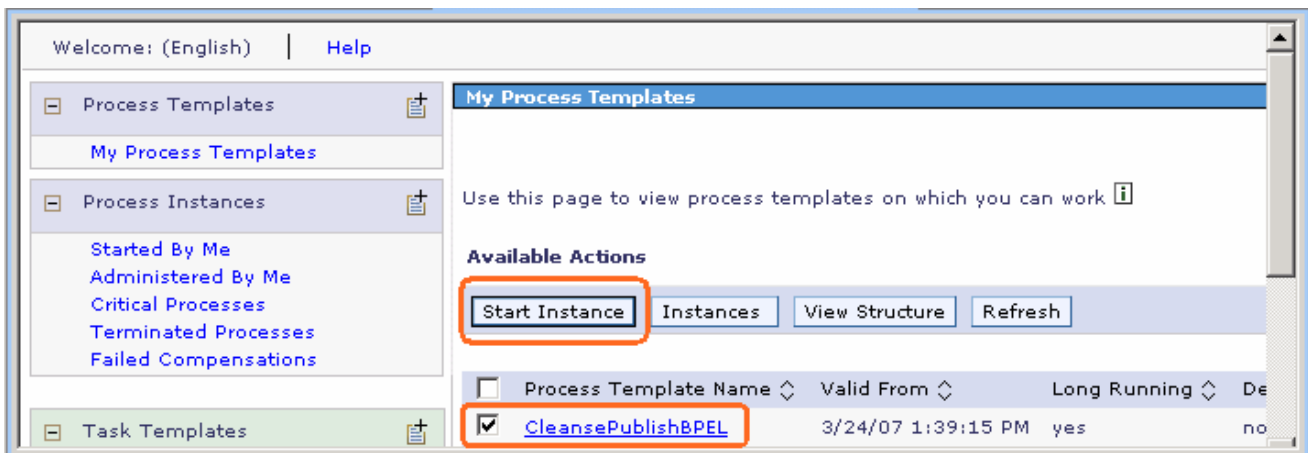
Part 3: Generate and view events

In this part you will view the different events generated after executing the CleansePublishBPEL business process.

1. Events will be generated in the application when the different areas are reached where event generation was enabled. Ensure all three applications CleansePublishBPELApp, AutoCleanApp, and ManualCleanApp are running.
 - a. Right-click on WebSphere Process Server V6.0 in the Servers view and select **Launch** → **Business Process Choreographer Explorer** from the context menu. You can also reach the BPC Explorer by opening a Web browser and navigating to <http://<HOSTNAME>:9080/bpc>. You will need to use a browser if testing with a remote test environment. The list of business process templates will be listed
 - b. In the left navigation menu click on the **My Process Templates** link. This action lists any tasks that can worked on



- c. In the My Process Templates page, select the check box next to **CleansePublishBPEL** and click the **Start Instance** button



- d. In the following page fill the Process Input Message form with some meaningful values and click the **Submit** button

Available Actions

Submit

Process Template Name Operation CleansePublishBPEL cleanseAndPublishClip

Process Name

Process Input Message

inClipBG	Clip	clipID	<input type="text" value="123"/>
		GLN	<input type="text" value="456"/>
		clip	<input type="text" value="testClip"/>
		size	<input type="text" value="500"/>
		color	<input type="text" value="red"/>
		brand	<input type="text" value="dull"/>
		retailItems	<input type="button" value="+"/>

___ e. On clicking the submit button the business process is started and activates that are part of the business process participate in the business. In the left navigation menu, click the **My Tasks** link. This lists all the available actions that can be worked on

The screenshot shows the 'Available Actions' section of the IBM WebSphere Process Integration interface. On the left, the navigation menu has 'My Tasks' highlighted. The main area displays a table of actions:

<input type="checkbox"/>	Task Name	State	Kind	Owner	Originator
<input checked="" type="checkbox"/>	ManualClean	Ready	Participating		UNAUTHENTICATED

Below the table, it shows 'Items found: 1' and 'Items selected: 1'. Above the table, there are buttons for 'Start', 'Work on', 'Release', 'Transfer', and 'Refresh'. The 'Work on' button is highlighted with a red box.

___ f. Select the check box next to **ManualClean** and click the **Work on** button. The Task Input Message will be displayed. Beneath that you will find the output message

Available Actions

Complete Save Release Cancel

Task Name ManualClean

Task Input Message

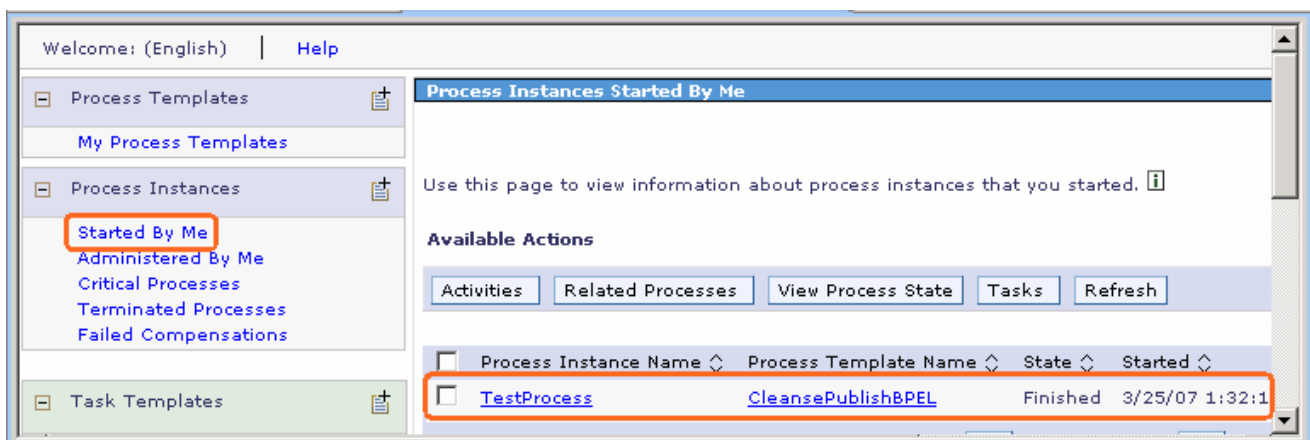
inClipBG	Clip	clipID	123
		GLN	456
		clip	testClip
		size	?500
		color	red
		brand	dull
		retailItems	

Task Output Message

outClipBG Clip

	clipID	<input type="text" value="009"/>
	GLN	<input type="text" value="007"/>
	clip	<input type="text" value="testClip2"/>
	size	<input type="text" value="600"/>
	color	<input type="text" value="very red"/>
	brand	<input type="text" value="very dull"/>
	retailItems	<input type="button" value="+"/>

- ___ g. Enter some meaningful values of your choice and click the **'Complete'** button to complete the task. With this action, the task will be marked as **Finished**
- ___ h. In the left navigation menu, click on the **Started By Me** link and you can see the process named, **TestProcess** listed with the status as **Finished** as shown below:

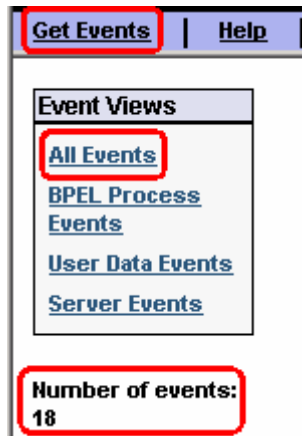


- ___ i. Close the **Business Process Choreographer Explorer**

- ___ 2. View the generated events using the default Common Base Event Browser application which is included as part of WebSphere Process Server V6.0
 - ___ a. Right-click on WebSphere Process Server V6.0 in the Servers view and select **Launch → Common Base Event Browser** from the context menu. You can also open a browser and navigate to <http://<HOSTNAME>:9080/ibm/console/cbebrowser> or reach it from within the Administrative Console under Integration Applications. You will need to use a browser if testing with a remote test environment.
 - ___ b. In the top frame of the Common base Event Browser, click on the **Get Events** link and eventually accept the defaults in the right frame and click the **Get Events** button. This action updates the events generated for display in the Common Base Event Browser



- ___ c. Accept the defaults and click the **Get Events** at the bottom of the right frame. You can filter the search for specific events. Accept The **Number of events** should be updated



- ___ d. In the left navigation menu, click the **All Events** link. This action lists all the generated events. In the Name column, the kind of event that was generated is listed and in the far right Situation column, the state of the event is listed.

Select ^	Creation Time ^	Name ^	Pri
<input type="radio"/>	2007-03-26T14:56:10.219Z	WBI.SCA.MethodInvocation.ENTRY#pOaygeUFXLiRWqrO92VR9g	
<input type="radio"/>	2007-03-26T14:56:22.000Z	BPC.BFM.PROCESS.START	
<input type="radio"/>	2007-03-26T14:56:22.047Z	BPC.BFM.ACTIVITY.STATUS	
<input type="radio"/>	2007-03-26T14:56:22.125Z	BPC.BFM.VARIABLE.STATUS#rpYidkT6JSIRq4JR0ODD0g	
<input type="radio"/>	2007-03-26T14:56:22.688Z	WBI.SCA.MethodInvocation.EXIT#pOaygeUFXLiRWqrO92VR9g	
<input type="radio"/>	2007-03-26T14:56:24.469Z	BPC.BFM.ACTIVITY.MESSAGE#EbjCqyWWRPONYRFCwMjYtA	
<input type="radio"/>	2007-03-26T14:56:26.703Z	WBI.SEL.ENTRY#{http://AutoClean}SelectClean./cleanseClip	
<input type="radio"/>	2007-03-26T14:56:26.750Z	WBI.SEL.SelectionKeyExtracted#s4+IKC2EbYoCmlsZ4IKHtA	
<input type="radio"/>	2007-03-26T14:56:26.812Z	WBI.SEL.TargetFound	
<input type="radio"/>	2007-03-26T14:56:26.844Z	WBI.BR.ENTRY#{http://AutoClean}CleanseRuleGroup./cleanseClip	

Page 1 of 2 1 Total: 18 Filtered: 18

Note: Notice that the different components (WBI.JService=SCA, BPC.BFM=business process choreography, WBI.SEL=selectors, WBI.BR=business rule, BPC.HTM=human task) generate different named messages.

- ___ e. Click the Creation Time link for the first activity event (WBI.JService.MethodInvocation.ENTRY). The first activity listed is the event fired with the SCA interface when the CleansePublishBPEL component is called by the receive activity that started the business process
- ___ f. The event data will be shown in the lower window. Scroll down and view the information. Notice the event has an ID (**contextDataElement / ECSCurrentID / contextValue**) and there is a parent ID (**contextDataElement / ECSParentID / contextValue**). Take note of the parent ID that uniquely identifies the session from which the event was generated

elapsedTime	
contextDataElement / WBISESSION_ID / contextValue	9.3.47.150;CleansePublishBPEL;cleanseAndPublishClip;1174920969891;1012017372
contextDataElement / ECSCurrentID / contextValue	9.3.47.150;CleansePublishBPEL;sca/dynamic/reference;cleanseAndPublishClip;1174920969891;1012017372
contextDataElement / ECSParentID / contextValue	9.3.47.150;CleansePublishBPEL;cleanseAndPublishClip;1174920969891;1012017372
extendedDataElement / EventNature	ENTRY
extendedDataElement / PayloadType	digest
extendedDataElement / SOURCE COMPONENT	sca.default
extendedDataElement / SOURCE INTERFACE	CleansePublish
extendedDataElement / SOURCE METHOD	cleanseAndPublishClip
extendedDataElement / SOURCE MODULE	CleansePublishBPEL

- ___ g. In the **extendedDataElement / EventNature**, you can also see the type of event is ENTRY
- ___ h. Click the next event from the list, **BPC.BFM.PROCESS.START**. Find the parent ID (**contextDataElement / ECSParentID / contextValue**) for the event. You will notice the parent ID is the same as the Parent ID of the ENTRY. The parent ID value can be used to correlate different events together in order to monitor the overall business transaction. For other events you might notice a different parent ID value. The parent ID value will change as different SCA components are called from other SCA components. However, the parent ID is traceable back to the original parent ID as it is hierarchical

- ___ i. Continue to look through the different events. You should see events generated from the selector, business rule, and human task in addition to those created from the business process.

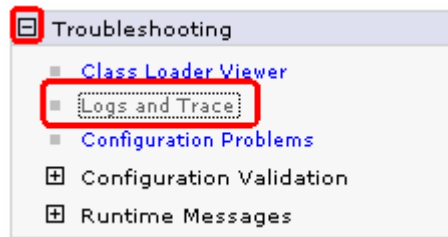
Part 4: Generate events dynamically and view results

Event generation can also be enabled dynamically for situations where additional event information could help in determining the cause of a problem or in obtaining more information for a short time period. Dynamic events would be in addition to the statically declared events that are declared with the components. The dynamic events can only enable new events and are not able to disable statically defined events. These dynamically generated events can be generated and caught by the CEI infrastructure or recorded in the log files. Enabling the events dynamically is done in the same manner as enabling trace.

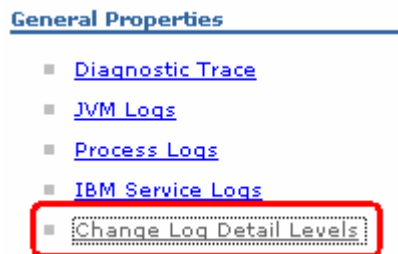
- ___ 1. Enable event generation for all of the activities in the CleansePublishBPEL process.
 - ___ a. Right-click on WebSphere Process Server V6.0 in the Servers view and select **Run Administrative Console** from the context menu. If using a remote test environment, open the administrative console in a browser by going to the following address:

<http://<HOSTNAME>:9080/ibm/console>

- ___ b. Type an anonymous user name in the User ID field and click the **Log in** button
- ___ c. In the left navigation menu, expand **Troubleshooting** and click on the **Logs and Trace** link



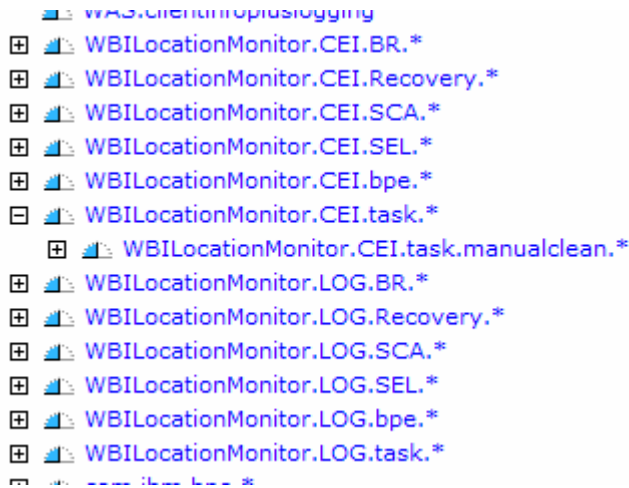
- ___ d. Click on the **<SERVER_NAME>** link listed on the right frame of the Administrative console
- ___ e. In the following screen, click the **Change Log Detail Levels** link listed under General Properties. The list of Components that can be enabled for trace will be listed. The ability to generate events can also be enabled here.



- ___ f. In the following screen, select the **Runtime** tab to enable event generation dynamically



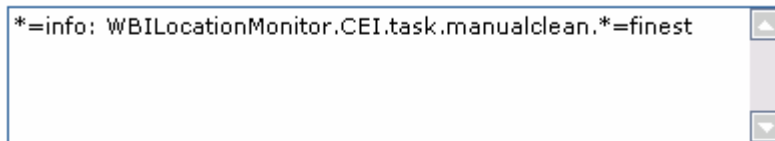
- ___ g. The SCA component types that have been loaded by the server will be shown in the Component list. Human task is one of these types and is listed as **WBILocationMonitor.CEI.task.***. This component will generate the events to the CEI infrastructure (WBILocationMonitor.LOG.task component generates events to the log files). Expand **WBILocationMonitor.CEI.task**. If the "Please Wait" box is shown, you can still expand the components.



- ___ h. The various tasks will be listed for tracing. Expand the manualclean item. Individual events can be enabled even if they were not marked to generate events in WebSphere Integration Developer

```
I.task.manualclean.*
.CEI.task.manualclean.com.clipsandtacks.task.ManualClean.Task._ManualClean.ASSIGNED
.CEI.task.manualclean.com.clipsandtacks.task.ManualClean.Task._ManualClean.ENTRY
.CEI.task.manualclean.com.clipsandtacks.task.ManualClean.Task._ManualClean.EXIT
.CEI.task.manualclean.com.clipsandtacks.task.ManualClean.Task._ManualClean.WI_CREATED
- -
```

- ___ i. Left-click on **WBILocationMonitor.CEI.task.manualclean.*** and select **finest** from the context menu. This will enable event generation for all possible event generators in the process. If the menu of log levels is not shown, enter the string **WBILocationMonitor.CEI.task.manualclean.*=finest** into the trace box. Check the entry to ensure there are no spelling mistakes or capitalization inconsistencies



- ___ j. Click **OK** to set the trace
- ___ 2. Generate dynamic events along with the statically defined events
 - ___ a. Return to the Business Process Choreographer Explorer and start another CleansePublishBPEL business process
 - ___ b. Complete the ManualClean task
 - ___ 3. View the Events
 - ___ a. Return to the Common Business Event Browser
 - ___ b. Click the **Get Events** link
 - ___ c. Click the **Get Events** button. The number of events will have increased by more than double

___ d. Click the **All Events** link



___ e. Read through the new human tasks events which were generated. You should notice two new types of events (BPC.HTM.TASK.WISTATUS and BPC.HTM.TASK.INTERACT). Look at the different fields to see the events for each of the activities.

___ 4. Clean the WebSphere Process Server test environment

___ b. Right-click on the WebSphere Process Server V6.0 in the Servers view and select '**Add and remove projects...**' from the context menu

___ c. Click **<< Remove All**

___ d. Click Finish

___ 5. Stop the Server

___ e. Right click on WebSphere Process Server V6.0 server from the Servers view and select Stop from the context menu

What you did in this exercise

In this chapter you enabled Common Base Events generation for a business process, human task, selector and business rule using WebSphere Integration Developer. These events were caught by the CEI framework which is included in WebSphere Process Server. You viewed the events using the Common Base Event Browser. You also enabled event generation dynamically and viewed the additional generated events using the Common Base Event Browser.

Solution instructions

- ___ 1. Follow the directions in the task [Initialize the Workspace for a Lab Exercise](#), using the following values:

<WORKSPACE>

C:\Labfiles602\exchange\CEIMonitor\Solution\workspace

<PROJECT_INTERCHANGE>

C:\Labfiles602\exchange\CEIMonitor\Solution\CEIMonitorSolution_P1.zip

<MODULE>

n/a

<DEPENDENT_LIBRARIES>

n/a

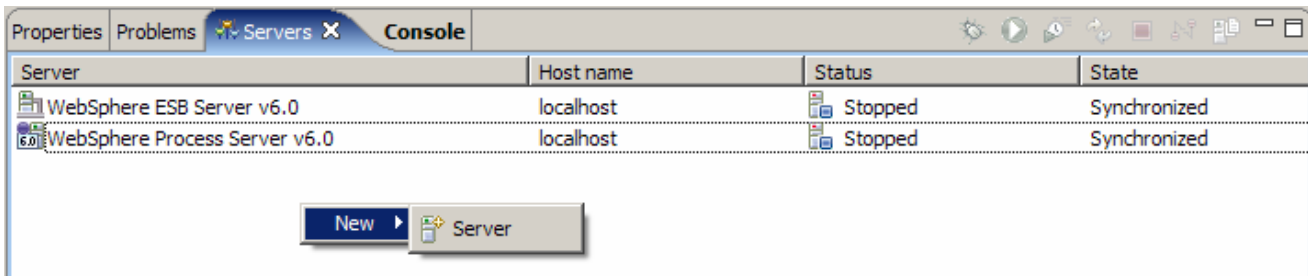
- ___ 2. Continue with **Part 2, step 5**.

Task: Adding remote server to WebSphere Integration Developer test environment

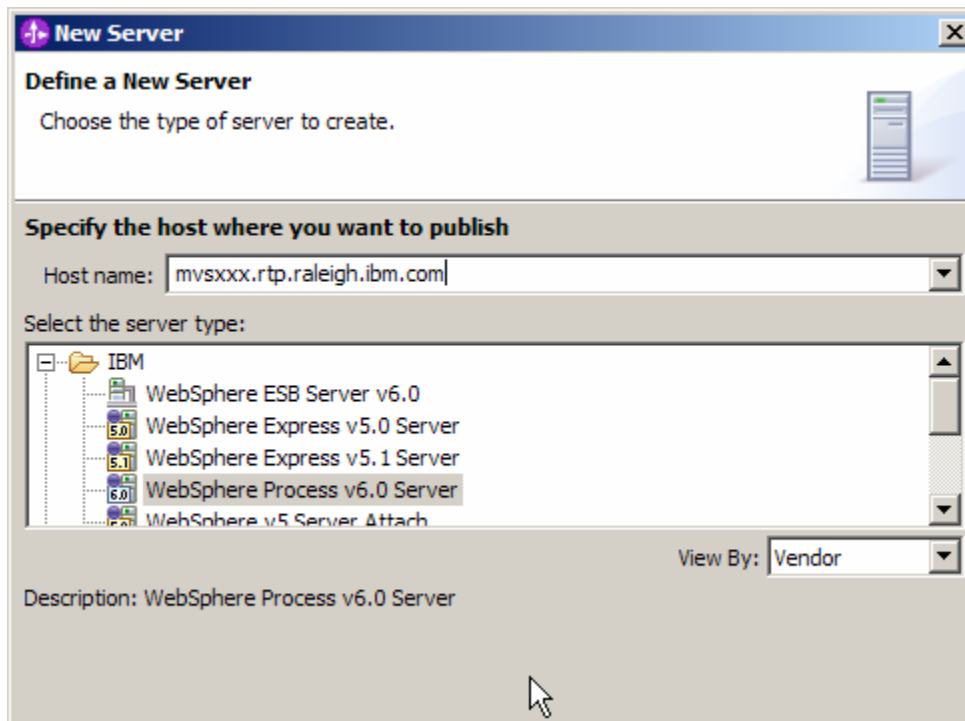
This task describes how to add a remote server to the WebSphere Integration Developer Test environment. This example will use a z/OS machine.

Create a new remote server.

- ___ 1. Right click on the background of the Servers view to access the pop-up menu.
- ___ 2. Select New → Server



- ___ 3. Specify host name to the remote server, <HOSTNAME>.
- ___ 4. Ensure that 'WebSphere Process V6.0 Server' is highlighted in the server type list.



- ___ 5. Click **Next**.

- ___ 6. On the WebSphere Server Settings page, select the radio button for **RMI** and change the ORB bootstrap port to the correct setting (<BOOTSTRAP_PORT>).

New Server

WebSphere Server Settings

Input settings for the new WebSphere server

WebSphere profile name: []

Server connection type and admin port

RMI (Better performance)

ORB bootstrap port: [9131]

SOAP (More firewall compatible)

SOAP connector port: [8880]

Run server with resources within the workspace

Security is enabled on this server

Current active authentication settings:

User ID: []

Password: []

Server name: [server1]

Server type

BASE, Express or unmanaged Network Deployment server

Network Deployment server

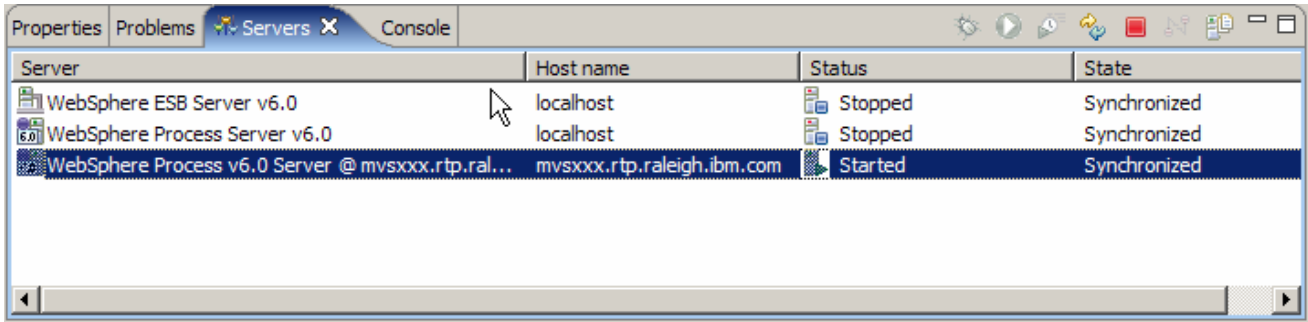
Network Deployment server name: []

The server name is in the form of:
<cell name>/<node name>/<server name>
For example, localhost/localhost/server1.

[Detect] Click this button to detect the server type.

< Back Next > Finish Cancel

- ___ 7. Click **Finish**.
- ___ 8. The new server should be seen in the Server view.



___ 9. Start the remote server if it is not already started. WebSphere Integration Developer does not support starting remote servers from the Server View.

___ 10. From a command prompt, telnet to the remote system if needed:

'telnet <HOSTNAME> <TELNET_PORT>'

userid : **<USERID>**

pw : **<PASSWORD>**

___ 11. Navigate to the bin directory for the profile being used:

cd <WAS_HOME>/profiles/<PROFILE_NAME>/bin

___ 12. Run the command file to start the server: **./startServer.sh <SERVER_NAME>**

___ 13. Wait for status message indicating server has started:

```
ADMU3200I: Server launched. Waiting for initialization status
ADMU3000I: Server c11sr01 open for e-business; process id is 0000012000000002
```