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# WebSphere® Business Monitor V6.2

*Integrated model debugger*



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This presentation should introduce you to the new features in the monitor model debugger which allows you to debug problems in your monitor models.

## Agenda

- Sending events
- Launching
- Instances view
- Event view



This is the agenda for this presentation. In version 6.2 there are several new features in the monitor model debugger, including new methods for sending events, new options for launching the debugger and new views for instances and events.

## Sending events

- Full support for sending and receiving events using common event infrastructure (CEI)
- You do not have to generate the Java™ EE projects, nor deploy the monitor model to the server
- These tools can be used
  - ▶ Integrated Test Client
  - ▶ BPC Explorer
  - ▶ Any other application that submits events to CEI
  - ▶ They can be used in combination



In the previous release you used the integrated test client to submit the events to the debugger. In this release, there is full support for sending and receiving events using the common event infrastructure (CEI). To use CEI it is not necessary to generate the Java EE projects nor deploy the monitor model to the server. So now you have many options for sending events including the integrated test client, the BPC explorer or any application that submits events to CEI.



## Launching

- **Launching**
  - ▶ New menu item 'Debug Monitor Model'
  - ▶ In addition to Debug As... > Monitor Model
- **Debug perspective**
  - ▶ Launched automatically
    - If you select 'Always switch to the debug perspective after launching the debugger' in preferences for Business Monitor > Monitor Model Debugger
    - Option to launch only when a breakpoint is reached in preferences for run/debug perspectives



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For launching the debugger you can use the new pop-up menu item called 'Debug monitor model'. This will open the debug perspective automatically by default. You can use the preferences to control this behavior, including only opening the debug perspective when a breakpoint is reached.

You can still use the pop-up menu item 'Debug As...' if you need more control over your debug configurations.

## Instances view

- Lists monitoring context instances including context that is being processed
- Metrics are listed for each instance, but you cannot update values here

Name	Value
WarehouseItem[5ae3b497-3351-4847-bf58-c6f2f1a81bcd]	
WarehouseItem[67ee6ddf-63d3-453d-aa21-39d7a3e79f39]	
WarehouseItem[e3aa3ad5-0c3c-4af4-901f-c8887e9b986f]	

Name	Value
WarehouseItem[5ae3b497-3351-4847-bf58-c6f2f1a81bcd]	
timeSinceLastWithdrawal	
numberOfWithdrawals	0
threshold	10
lowInventory_LastEvaluation	False
lowUsage_LastEvaluation	False
lowUsage_nextEvaluation	2008-09-04T03:29:57.39Z
itemDiscontinued_LastEvaluation	False
sku	aaa

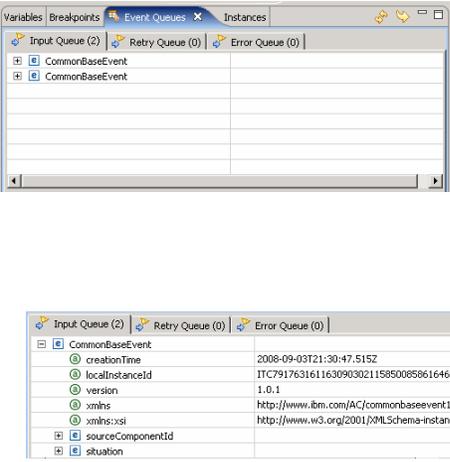
There is a new tab for viewing monitoring context instances. This view lists all instances that have been created during your debug session. For each instance the view also lists the metrics associated with that instance. The contents of the instances view are refreshed automatically when you are stepping through the processing of an inbound event. You can also refresh the Instances view by clicking **Refresh**. You can also view parent and child instances in the Instances view. Child instances are shown in a parent instance using the plus sign, which you can click to view the values.

Note that you cannot update the value of metrics in the instances tab.

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## Event queues

- Shows incoming events, retries and errors
- You can click the refresh icon in the upper right corner
  - ▶ It is refreshed only when an event is completed
- You can expand each event to see the payload



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The event queues view shows the input queue, retry queue, and error queue. The number of events in each queue is shown on the tab next to the queue name. You can open an event in any of the queues and inspect the content. You cannot change the content of an event in a queue, or the order of the events.

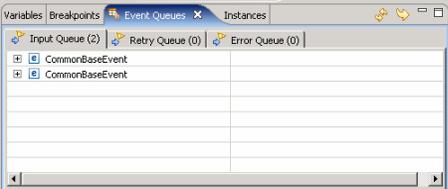
The Event Queues view refreshes each time the debugger finishes processing an event. Sometimes you might want to refresh the view manually, such as if you send more events while stepping through an event in the debugger.

You can expand each event to see the payload on the event.

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## Input queue

- The currently processing event is not listed here but is listed in Variables
- Processed top down in the queue



Variables Breakpoints Event Queues Instances

Input Queue (2) Retry Queue (0) Error Queue (0)

CommonBaseEvent

CommonBaseEvent

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The input queue shows the sequence of events that are waiting to be processed by the debugger. For example, imagine you create a script in the integrated test client that contains four events. If you run the script, you will see three events show up on the input queue. The first event is sent to the debugger immediately, and can be seen in the variables view.

Events are processing by the debugger from the top down in the list.

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## Retry queue

- Inbound event is specified as 'retry' if no instance is found
- Fix the missing instance, then resubmit to the input queue using menu item 'Retry event'
- Message shows the number of retries for the selected retry event

If no instances are found Retry

If one instance is found Deliver to the instance

If multiple instances are found Treat as error

Input Queue (1)   Retry Queue (4)   Error Queue (0)	
CommonBaseEvent	
creationTime	2008-09-03T23:53:29.093Z
localInstanceId	ITC1875162698289460902195237086391735
version	1.0.1
xmlns	http://www.ibm.com/AC/commonbaseevent1
xmlns:xsi	http://www.w3.org/2001/XMLSchema-instance
sourceComponentId	
situation	

Step: [1.2] WarehouseItem.withdrawItem->Evaluate correlation expression  
 Message: CWMDB30101 No matching instances were found. The event has been sent to the Retry queue.  
 Number of retries: 0

CommonBaseEvent	
CommonBaseEvent	Retry Event

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The retry queue shows the events that failed because an inbound event returned no matching instances and retry is the event delivery option. For a selected event, a message at the bottom of the view shows the number of times that the event has been retried, and the reason that the event was placed on the retry queue.

You should fix the problem by submitting appropriate events to create the missing instance, then you can resubmit the event by using the pop-up menu item to retry the event.

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## Error queue

- Error sources
  - ▶ Inbound event is specified as 'treat as error'
  - ▶ The event causes a failure for other reasons such as division by zero or other expression evaluation errors
- Error message is shown for the selected error event

If no instances are found	Treat as error
If one instance is found	Deliver to the instance
If multiple instances are found	Treat as error

Input Queue (0)	Retry Queue (0)	Error Queue (3)															
<div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> <ul style="list-style-type: none"> <li>CommonBaseEvent</li> <li>CommonBaseEvent</li> <li style="background-color: #4F81BD; color: white;">CommonBaseEvent</li> </ul> </div> <div style="width: 65%;"> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20px;">@</td> <td>creationTime</td> <td>2008-09-03T23:39:56.218Z</td> </tr> <tr> <td>@</td> <td>localInstanceId</td> <td>ITC1875162698289460902195237086391735</td> </tr> <tr> <td>@</td> <td>version</td> <td>1.0.1</td> </tr> <tr> <td>@</td> <td>xm:ns</td> <td>http://www.ibm.com/AC/commonbaseevent1</td> </tr> <tr> <td>@</td> <td>xm:ns:xsi</td> <td>http://www.w3.org/2001/XMLSchema-instanc</td> </tr> </table> </div> </div>			@	creationTime	2008-09-03T23:39:56.218Z	@	localInstanceId	ITC1875162698289460902195237086391735	@	version	1.0.1	@	xm:ns	http://www.ibm.com/AC/commonbaseevent1	@	xm:ns:xsi	http://www.w3.org/2001/XMLSchema-instanc
@	creationTime	2008-09-03T23:39:56.218Z															
@	localInstanceId	ITC1875162698289460902195237086391735															
@	version	1.0.1															
@	xm:ns	http://www.ibm.com/AC/commonbaseevent1															
@	xm:ns:xsi	http://www.w3.org/2001/XMLSchema-instanc															
<div style="border: 1px solid gray; padding: 5px; font-size: small;">           Step: [2:2] WarehouseItem.refillItem-&gt;Evaluate correlation expression            Message: CWMDB30301 One matching instance was found. The event has been sent to the Error queue.         </div>																	

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The error queue shows the events that failed because an inbound event was processed and the event delivery option specifies "Treat as error". The error queue also shows the events that failed because an unexpected error (such as division by zero) occurred during processing. When you click an event, a message at the bottom of the view shows the step that failed. The step information is followed by the error message.



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