

IBM BUSINESS MONITOR 8.0 – LAB EXERCISE

IBM Business Monitor V8.0

Global monitoring context lab

What this exercise is about	2
Lab requirements	2
What you should be able to do	2
Introduction	2
Part 1: Create the global monitoring context	4
Part 2: Publish the model to the server	9
Part 3: Run events to exercise the model	11
Part 4: View the dashboard	13
What you did in this exercise	15

What this exercise is about

The objective of this lab is to show you how to use the Global Monitoring Context wizard to build a monitor model which is a composite of monitor models from disparate event sources. In previous releases, this wizard required a common key on all inbound events, for example, loan ID for a loan processing scenario. In this release the wizard can handle different keys for different event sources. Each subsystem only needs to know the correlation key of the previous subsystem. IBM Business Monitor handles building and tracking the global key.

Lab requirements

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

- IBM Integration Designer V8.0 – Toolkit installation including the monitor model editor feature
- IBM Business Monitor V8.0 – A server installation with IBM Business Monitor on WebSphere Application Server

What you should be able to do

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

- Use the global monitoring context wizard to generate a new global context.
- Deploy the model and playback events that represent events from your process.
- Use the auto-generated dashboard to view monitored data.

Introduction

A global monitoring context incorporates metrics from separate monitoring contexts and creates a single monitoring context. Through the use of a global monitoring context, you can see the end-to-end execution of a process instance in a single view in the dashboard.

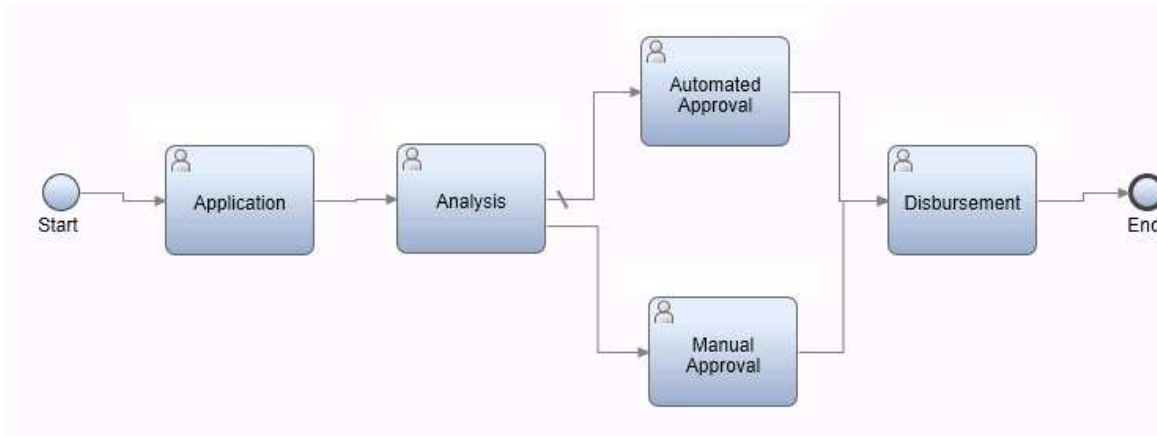
For example, suppose that you have a group of monitoring contexts for an order fulfillment system. The monitoring contexts provide information about the lower-level details of the order fulfillment system, such as initial order placed, customer acknowledgment sent, and order shipped. If you create a global monitoring context, you can monitor the end-to-end execution of an instance of the entire order fulfillment system instead of viewing each monitoring context instance as a discrete unit of information.

When you create a global monitoring context, you define intermediate *milestones* for the significant steps in the overall process. For example, you might want to create milestones for Ordering and Shipping. The Ordering

milestone represents multiple monitoring contexts in the ordering process, just as the Shipping milestone represents multiple monitoring contexts in the shipping process.

You use the Global Monitoring Context wizard to create the global monitoring context and the milestones, and to provide information about the source monitoring contexts. If the source monitoring contexts contain a metric common to all of them (for example, an order ID), you use that metric to link the monitoring contexts. But even if the source monitoring contexts do not have a common metric, you can still generate a global monitoring context and a set of milestones. You link the monitoring contexts by mapping a metric associated with the first monitoring context (the source) to a metric associated with the second monitoring context (the target).

Here is a diagram of the loan processing system that is used in this lab:



Suppose that you are monitoring several processes that are part of an overall loan processing scenario. Each process is from a different source (for example, a Business Process Manager application or a human task). Each step in the process has an associated monitoring context, and you can view the metrics for the monitoring context on the dashboard. But you might find it more valuable to group these disparate processes into one global monitoring context so that you can have a view of the overall loan processing scenario.

The loan processing scenario consists of five disparate processes. Each of these processes has a monitoring context and a set of metrics associated with it. These processes are monitored separately, but you now want to group them so that you can see the end-to-end flow of loan processing. To be able to monitor the entire loan processing scenario, you use the Global Monitoring Context wizard to create a global monitoring context. The existing monitoring contexts (Analysis and Disbursement, for example) are used as the source for building the global monitoring context.

Useful URLs

The following URLs may be helpful to you as you exercise this lab. Note that the port numbers in the URL of your installation may be different depending on your configuration.

- Server administrative console

<https://localhost:9044/ibm/console>

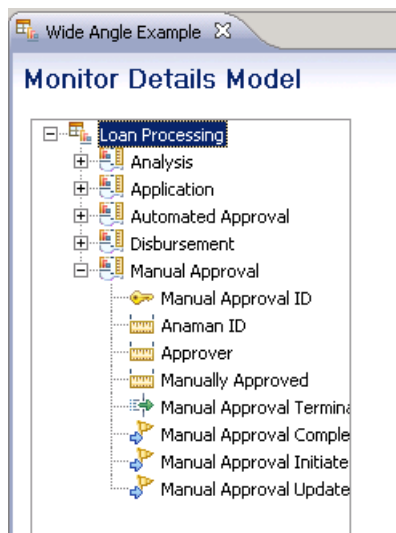
- Business space dashboard

<https://localhost:9444/BusinessSpace>

Part 1: Create the global monitoring context

In this section you import the monitor model containing the monitoring contexts for the loan processing system, and you generate the global monitoring context.

- ___ 1. Open IBM Integration Designer.
- ___ 2. Switch to the Business Monitoring perspective.
- ___ 3. Import the supplied monitor model.
 - ___ a. Right click in the Project Explorer > Import ... > Select Project Interchange in the Other category, then browse to the model, for example, c:\Labfiles80\ Loan-processing-PI.zip
- ___ 4. Open the monitor model
 - ___ a. In the Project Explorer navigate to Wide Angle example > Monitor Models > double click 'Wide Angle Example.mm'
- ___ 5. There is a monitoring context for each subsystem in the process. You can use the editor to view the keys and metrics for each of them.



- ___ 6. Start the global monitoring context wizard.
 - ___ a. In the editor > right click Loan Processing > New > Global Monitoring Context...
- ___ 7. On the first page of the wizard, give the new context a name, such as 'glob'. Leave unchecked the option 'All source monitoring contexts contain a common key'. In this lab each activity does not know the global key, but it does know the key of the previous activity. Also uncheck the option 'Do not display source monitoring contexts in dashboard'. Normally you might not want this detail, but for this lab, you might want to see how the underlying contexts are displayed in the dashboard.

New Global Monitoring Context

Create a Global Monitoring Context

Specify information for the new global monitoring context in the Loan Processing monitor model.

Name:

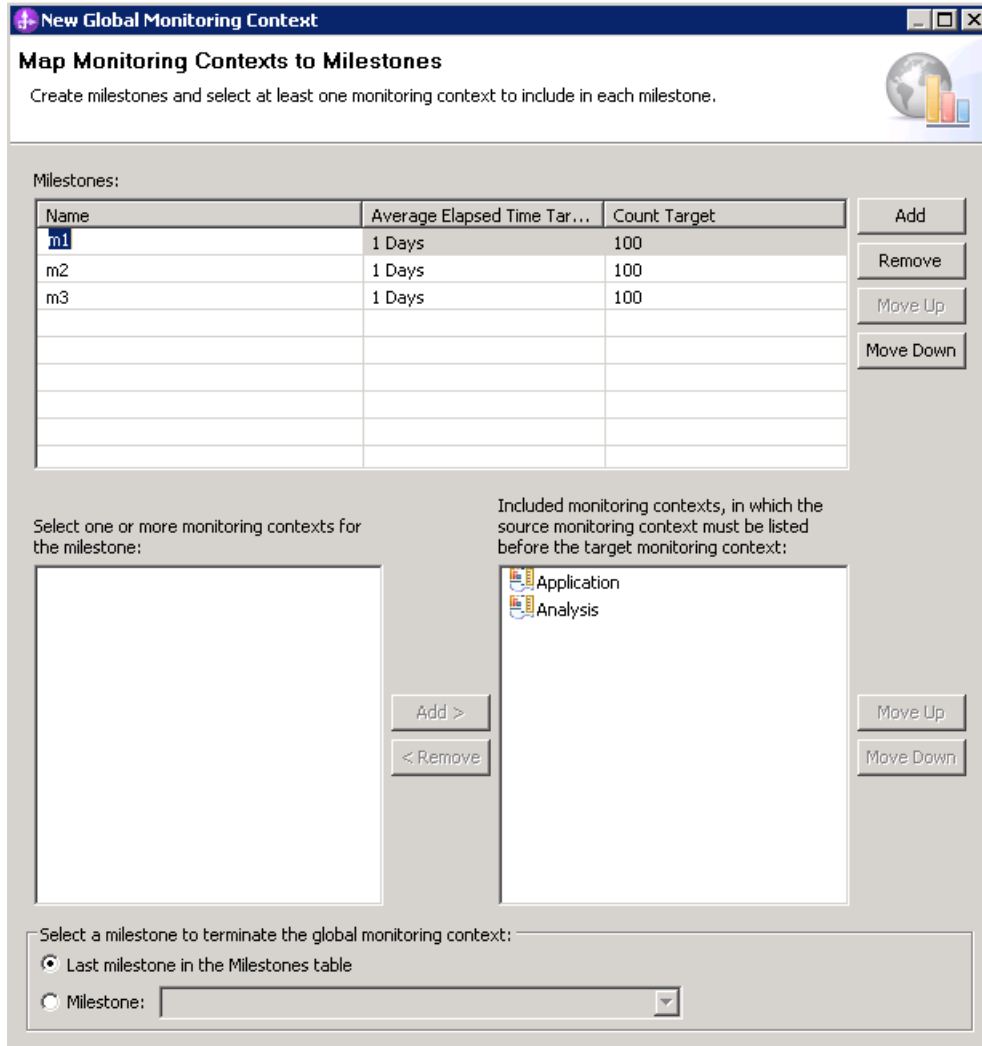
ID:

Description:

All source monitoring contexts contain a common key

Do not display source monitoring contexts in dashboard

- ___ 8. Click Next.
- ___ 9. On the next page of the wizard, create milestones to group the monitoring contexts. In this example there are three milestones:
 - ___ a. Milestone 'm1' containing Application and Analysis
 - ___ b. Milestone 'm2' containing Automated Approval and Manual Approval
 - ___ c. Milestone 'm3' containing Disbursement



___ 10. Click Next.

___ 11. On the next page of the wizard, map metrics for correlation. There are two flows through the process. The first contains Application, Analysis, Automated Approval and Disbursement. The second contains Application, Analysis, Manual Approval and Disbursement. Each activity needs to know the key of the previous activity in the flow. For each mapping, specify the source context, source metric, target context, target metric and mapping key. The mapping key is the metric in the target context which contains the correlation key for the source context. For example, in the first mapping from Application to Analysis, the mapping key metric in the Analysis context is called App ID, which will contain the application ID for correlation purposes. When you select a source context, the source metric defaults to the context key, and it works similarly for the target context. You can use the default source metrics and target metrics. For the mapping keys, use these values:

- ___ a. Application to Analysis, Mapping key: App ID
- ___ b. Analysis to Automated Approval, Mapping key: Ana ID
- ___ c. Analysis to Manual Approval, Mapping key: Anaman ID
- ___ d. Automated Approval to Disbursement, Mapping key: Aut ID
- ___ e. Manual Approval to Disbursement, Mapping key: Man ID

New Global Monitoring Context

Map Metrics in Monitoring Contexts for Correlation

Specify the metrics that you want to map in the source and target monitoring contexts.

Source monitoring context:

Source metric:

Target monitoring context:

Target metric:

Metric mapping key:

Mapped Source and Target Metrics:

Source Context	Source Metric	Target Context	Target Metric	Mapping Key
Application	Application ID	Analysis	Analysis ID	App ID
Analysis	Analysis ID	Automated Appr...	Automated Appr...	Ana ID
Analysis	Analysis ID	Manual Approval	Manual Approval...	Anaman ID
Automated Appro...	Automated Appr...	Disbursement	Disbursement ID	Aut ID
Manual Approval	Manual Approval...	Disbursement	Disbursement ID	Man ID

Mapped Milestones:

From	To	Mapping Type
m1	m2	One to One
m2	m3	One to One

- ___ 12. Click Next.
- ___ 13. On the next page of the wizard, you would normally select just the metrics that you are interested in viewing in the dashboard. For this lab, select all the metrics so you can see everything in the dashboard:

New Global Monitoring Context

Add Metrics

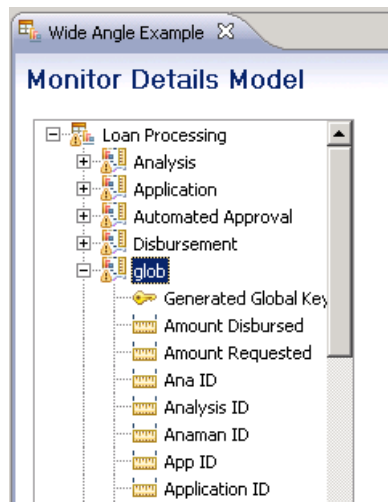
Select at least one metric to add to the new global monitoring context.

Select one or more metrics, counters, or stopwatches:

- Loan Processing
 - Application
 - Analysis
 - Automated Approval
 - Manual Approval
 - Disbursement

- ___ 14. Click Finish.

- ___ 15. You can view the generated global context 'glob' in the editor. There are metrics created based on the ones that you selected in the wizard. You can check the KPI and dimensional models to see the KPI's, dimensions and measures that you will be able to work with in the dashboard.

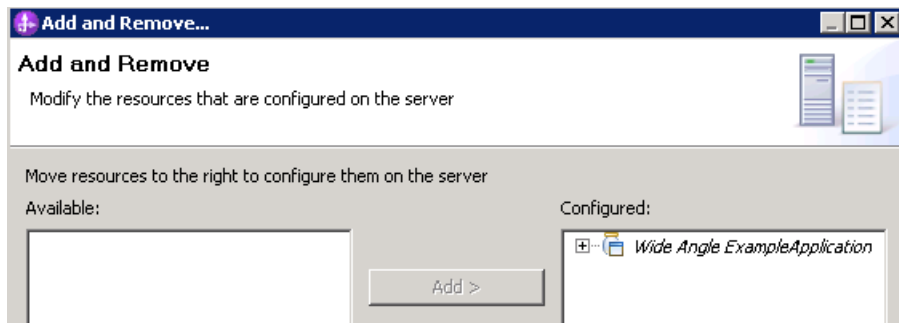


- ___ 16. Generate the Java code for the monitor model.
- ___ a. In Project Explorer, right click 'Wide Angle Example.mm' > Generate Monitor Java EE Projects > Finish
- ___ 17. Check for any errors in the Problems view. You should resolve any errors before continuing. . There may be warnings, but there should not be any errors. If you see errors, then try to perform a clean to see if the errors can be removed: Project > Clean... > select 'Clean all projects', then click OK.

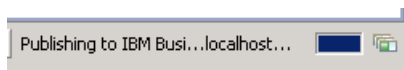
Part 2: Publish the model to the server

In this section you will publish the monitor model to the monitor server.

- ___ 1. Make sure that your server is defined in the servers view of IBM Integration Designer, and that it is started.
- ___ 2. Make sure that your server is marked as a development server, so that the dashboard will be generated automatically when you add the application to the server using menu option 'Add and Remove ...'. If you prefer not to mark the server as development type, you can export the monitor model EAR, install it using the administrative console, then you can select to have the dashboard generated in step 12 of the deployment. To verify the type of server:
 - ___ a. In the servers view, right click > **Administration > Run administrative console**. You should see it open in a separate tab.
 - ___ b. It will prompt you for user ID and password.
 - ___ c. Navigate to Servers > Server Types > WebSphere application servers > server1
 - ___ d. Look for the flag 'Run in development mode'.
- ___ 3. Right click the server, then select 'Add and Remove ...'
- ___ 4. You should see Wide Angle ExampleApplication listed, so move it from the Available box to the Configured box.



- ___ 5. Click Finish.
- ___ 6. A progress message is displayed in the lower right corner of the window.



- ___ 7. In the servers view, right click > **Administration > Run administrative console**. You should see it open in a separate tab.
- ___ 8. It will prompt you for user ID and password.
- ___ 9. Click **Applications > Monitor Models**. The application should show green status if it started successfully.

Select	Model	Version	Deployment	Application	Data Security	Status
<input type="checkbox"/>	Loan Processing	2011-12-09T15:58:15	OK	Wide Angle ExampleApplication	Members assigned	

- _____ 10. If the model shows red (stopped), then wait a moment, then refresh by clicking on the icon to the right of Status in the last column of the table. You should see green (started) for the model. If it does not show green, be patient and keep refreshing until it does show green.

- _____ 11. If you are using the integrated server within IBM Integration Designer, then you do not need to setup Monitor data security, since the administrative user is automatically authorized to all models. If you are using a different server, then you should open the administrative console, navigate to **Security > Monitor Data Security**, add the model, role and user information to a resource group.


Part 3: Run events to exercise the model

Rather than installing a process application to create the events that you want to monitor, you are going to use the monitor playback feature to playback events from a file.

- ___ 1. In the administrative console navigate to Applications > Monitor Services > Recorded Event Management > Event Management
- ___ 2. Import two supplied event files. One file contains events that simulate a complete instance flow through the automated approval activity. The other file contains events that simulate a complete instance flow through the manual approval activity.
 - ___ a. Click Import events > browse to c:\Labfiles80\Loan-processing-events-autoflow.xml > Click Import events
 - ___ b. Click Import events > browse to c:\Labfiles80\Loan-processing-events-manualflow.xml > Click Import events
- ___ 3. You should see eight events in the list.

Event Management

Use this page to manage recorded events.

 Preferences


Select	Event	Time Recorded
<input type="checkbox"/>	8	2012-01-16T15:43:46.230+00:00
<input type="checkbox"/>	7	2012-01-16T15:43:46.220+00:00
<input type="checkbox"/>	6	2012-01-16T15:43:46.210+00:00
<input type="checkbox"/>	5	2012-01-16T15:43:46.200+00:00
<input type="checkbox"/>	4	2012-01-16T15:43:46.130+00:00
<input type="checkbox"/>	3	2012-01-16T15:43:46.120+00:00
<input type="checkbox"/>	2	2012-01-16T15:43:46.110+00:00
<input type="checkbox"/>	1	2012-01-16T15:43:46.100+00:00
Total 8		


- ___ 4. Play back all eight events individually. To ensure event sequencing, do not use the button 'Playback All', instead, use the 'Playback' button for each of the events in order, starting with event ID 1.
 - ___ a. Select 'Event Playback' in the menu in the administrative console.
 - ___ b. Select the event labeled 1 (at the bottom of the list), select the Loan Processing model in the target model version list, then click 'Playback'
 - ___ c. Select the event labeled 2 (second from the bottom of the list), select the Loan Processing model in the target model version list, then click 'Playback'.




___ d. Continue in this manner until all eight events are processed.

Event Playback

Event Playback
Use this page to play back recorded events.

 Preferences

* Target Model Version
Loan_Processing (2011-12-09T15:58:15) 

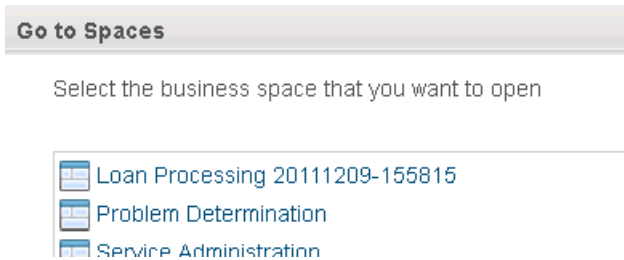
  

Select	Event	Time Recorded
<input type="checkbox"/>	8	2012-01-16T15:43:46.230+00:00
<input type="checkbox"/>	7	2012-01-16T15:43:46.220+00:00
<input type="checkbox"/>	6	2012-01-16T15:43:46.210+00:00
<input type="checkbox"/>	5	2012-01-16T15:43:46.200+00:00
<input type="checkbox"/>	4	2012-01-16T15:43:46.130+00:00
<input type="checkbox"/>	3	2012-01-16T15:43:46.120+00:00
<input type="checkbox"/>	2	2012-01-16T15:43:46.110+00:00
<input checked="" type="checkbox"/>	1	2012-01-16T15:43:46.100+00:00
Total 8		

Part 4: View the dashboard

In this section you will look at the auto-generated dashboard in business space.

- ___ 1. Start Firefox and login to business space.
 - ___ a. For example: <https://localhost:9444/BusinessSpace>
 - ___ b. Enter your user and password.
- ___ 2. Click 'Go To Spaces', then click the auto generated dashboard. It should be named 'Loan Processing <timestamp>'.



- ___ 3. If you see unusual issues in the dashboard, for example all widgets show as unavailable or you see a message such as 'Callback failed to execute...', try clearing the browser cache, then logout of business space, close and reopen the browser. To clear cache:
 - ___ a. In Firefox, depending on the version:
 - 1) Tools > Clear recent history > select Cookies and select Cache > Clear now
 - 2) Or, History > Clear recent history
 - ___ b. In Internet Explorer, depending on the browser version:
 - 1) Tools > Delete browsing history
 - 2) Or, Tools > Internet options > Browsing history
- ___ 4. In the dashboard, there are many tabs including tabs for each of the child monitoring contexts, one for the global monitoring context, and tabs for KPI's and diagrams. Since you ran two complete process instances, you see two instances listed. Click each of the tabs to familiarize yourself with the dashboard.



- ___ 5. Click the tab for the global monitoring context 'glob Instances'. There is a link between the instances widget and the diagrams widget on this page. Click one of the instances in the list and

you can see a customized diagram for this process instance. In the diagram it shows the elapsed time for each milestone for this instance, and the keys associated with each milestone.

Analysis Instances Application Instances Automated Approval Instances Disbursement Instances **glob Instances** Manual Approval Instances KPIs KPIs >>2 Edit Page

glob Instances

Generated Global Key	Street	Amount Requested	When Applied	City	Name	Application ID	State	App ID	Collateral	Date Analysis Compl...	An:
bab7ea8e-164f-47cf-962a...	4205 S. Miami Blvd	123.45	December 20, 2011	Durham	John	100	NC	100		December 20, 2011	110
ddf72eb-8eb1-4da8-91f2...	First Street	67.89	January 1, 2012	Atlanta	Sue	200	GA	200		January 1, 2012	210

Diagram

Restore Original Content

- Click the tab for the global context KPI's 'glob KPIs KPIs'. Here you can see the average elapsed time and current open instance count for each of the three milestones. The counts will show zero for this test since all the instances have been completed.

Application Instances Automated Approval Instances Disbursement Instances glob Instances Manual Approval Instances KPIs KPIs **glob KPIs KPIs** >>2

glob KPIs KPIs

Average m1 Elapsed Time m1 Count Average m2 Elapsed Time m2 Count

Average m3 Elapsed Time m3 Count

What you did in this exercise

In the lab, you created a global monitoring context, and you published the model to the monitor server.

You used the supplied events and played them back for the model. Then you viewed the monitored data in the auto-generated dashboards.