IBM WEBSPHERE BUSINESS MONITOR 6.0.2 – LAB EXERCISE

WebSphere Business Monitor V6.0.2 ClipsAndTacks business activity monitoring lab

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What this exercise is about

The objective of this lab is to show you how to build a monitoring model in WebSphere Integration Developer, deploy it to WebSphere Business Monitor, then view your monitoring data on the Monitor Dashboards.

This lab will show you business activity monitoring (BAM) which involves event based monitoring. With BAM, you can have your monitored application running anywhere, and submitting events to the Monitor server so that you can view monitored data. Normally, you identify the events that will be created by the application, and then create a monitoring model that represents the monitored data that you want to collect from the events.

Lab requirements

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

• WebSphere Integration Developer V6.0.2 and the monitoring model editor plug-in

- WebSphere Business Monitor V6.0.2 Basic Installation including the dashboard server and Monitor server
- Optionally, you will need an LDAP server (for example Tivoli Directory Server) if you would like to configure Action Manager to create Alerts based on business situation events.

What you should be able to do

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

- Use WebSphere Integration Developer to create the monitoring model, and then export the monitoring model as an EAR file.
- Use the WebSphere Process Server administrative console to install the EAR.
- Use the WebSphere Process Server administrative console to run Monitor life cycle steps for the model.
- Run Monitor scripts to create the Monitor Server tables, replication manager artifacts, and start replication manager daemons
- Import the cubes to Cube Views
- Use a sample program to create events that represent events from your process.
- Use Portal to define a Dashboard and to view monitored data

Introduction

In this lab you will learn how to deploy a model from end to end using WebSphere Integration Developer and WebSphere Business Monitor. This is a complex process, but note that you will be performing many different roles during this lab – user analyst, process architect, process developer, database administrator, dashboard architect and user. This lab will show you the basic procedure for creating and implementing a simple model.

The model used in this lab is the ClipsAndTacks model which is also used in IBM Redbook SG247148 – Business Process Management: Modeling through Monitoring Using WebSphere V6 Products. In this Redbook, there are several models that are referenced, but this exercise is using the Future 1 Process. In the Redbook, the process is implemented as a BPEL process running in WebSphere Process Server. This lab intends to demonstrate business activity monitoring which can monitor events from any source. So, you will simulate the running of the process, by creating events that could have been sourced from anywhere, a J2EE application or BPEL, or any other source. Note that Monitor only accepts events that are in the form of common base events, which is an OASIS standard for common event format, and these are used by the common event infrastructure (CEI) in WebSphere Process Server.

You are also building a monitoring model that has the same basic elements as the one that is defined in the Redbook. Namely you are creating monitoring constructs in support of two KPIs:

- Average order fulfillment is 3 days or less
- Percentage of shipped orders is greater than 90%

You also create an additional KPI to demonstrate the usage of a monetary KPI.

• Average Order Price KPI

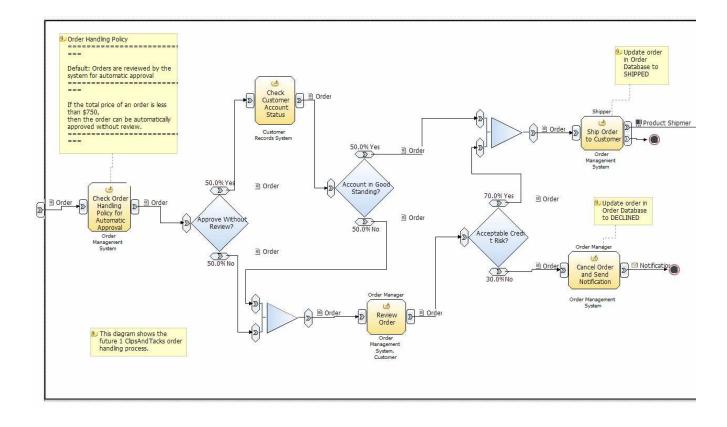
You also create situation events if Declined Orders is greater than or equal to 5, so in support of that there is an additional KPI:

• Declined order KPI

You also create situation events if the order fulfillment time is greater than 3 days.

For dimensional analysis, you will create a Location dimension which allows you to drill down on country and city. You also add Order Status, which shows orders are 'New', 'Cancelled' or 'Shipped'. And you add measures for average order price, sum of order price for all orders, and order count.

Here is a diagram of the ClipsAndTacks process model:



URL Cheat sheet

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.

• WebSphere Process Server administrative console (for deploying Monitoring models)

http://localhost:9062/ibm/console/

• DB2 Alphablox administrative pages (for deploying cubes)

http://localhost:9081/AlphabloxAdmin/home

• WebSphere Portal Server (for setting up and viewing Monitor dashboards)

http://localhost:9081/wps/portal

Note: WebSphere Business Monitor 6.0.2 has improved support for concurrent versions of monitoring models. In order to take advantage of the Monitor Server's version handling capabilities, each monitoring context must have a unique common base event definition that is the single Inbound Event that has the setting 'If no instances are found: Create new instance'. One can think of this as one Inbound Event carrying 'Create Monitor Context' semantics, and all others as 'Update Monitor Context' semantics. Clips And Tacks also follows this pattern.

All developers are encouraged to always have a unique Inbound Event to cause creation of the Monitoring Context.

Part 1: Create the monitoring model

To create the monitoring model, you will use the Monitoring Model Editor in WebSphere Integration Developer.

Note that there is a Problems tab that displays errors concerning the model. Periodically, you should check this view to see if you have any problems that need to be addressed.

If you would like to skip this section, then a solution has been provided. You can import the supplied monitoring model into WebSphere Integration Developer, then proceed to the next section. Refer to Appendix 1, then proceed to the next section.

- 1. Start WebSphere Integration Developer and setup the environment.
 - ____a. Start WebSphere Integration Developer V 6.0.2, and when prompted point to a new workspace such as c:\workspaces\ClipsAndTacks
 - ____b. Close the Welcome tab.
 - ____ c. Select Window > Close Perspective
 - _____d. By default, you are in the Business Integration perspective. You want to open the Business Monitoring perspective. Select Window > Open Perspective > Other > Show all > Business Monitoring.
 - 1) If it asks you to Confirm Enablement, then click OK.
 - ____e. You should see the following Business Monitoring perspective.

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- _____ 2. Create a new monitoring project.
 - ____a. Right click the Project Explorer, then select New > Business Monitoring Project...
 - ____b. For Project name, enter ClipsAndTacks

🚯 New Business Monitoring Project
Create a business monitoring project
Create a new project resource.
Project name: ClipsAndTacks Project contents ✓ Use <u>d</u> efault Directory; C:\aWorkspaces\newClipsAndTacks\ClipsAndTacks Browse,
< Back Next > Finish Cancel

____ c. Click Finish. You will see the new project in the Project Explorer view.

Business Monitoring - IBM WebSphere Integration Developer	_ 🗆 🗙
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_____3. There is already a common base event definition created for you that represents the event layout for events processed in this model. Import the supplied common base event for ActivityEvent.

- ____a. Right click in the Project Explorer view, select Import...
- ____b. Select File system, click Next
- ___ c. Browse to the location containing the ActivityEvent.cbe file, for example, c:\Labfiles602\ClipsAndTacks
- ____d. Select ActivityEvent.cbe as follows:

🕑 Import	×
File system Import resources from the local file system.	
From directory: C:\Labfiles602\ClipsAndTacks	Browse
Image: ClipsAndTacks Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mm Image: ClipsAndTacks.mn Image: ClipsAndTacks.mn Image: ClipsAndTacks.mn Image: ClipsAndTacks.mn	nt.cbe
Into folder: ClipsAndTacks	Browse
Options: Qverwrite existing resources without warning C Create complete folder structure Create selected folders only	
< <u>B</u> ack <u>Next</u> > <u>Finish</u>	Cancel

____e. Click Finish.

_____f. Expand the project in the Project Explorer view, then expand the Event Definitions and you will see the new event listed.

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<u>File Edit Navigate Search Project Run Window Help</u>		
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E 🔐 Event Definitions		
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- ____g. Double click **ActivityEvent** to open the event editor. Browse the extended data elements to familiarize yourself with the event data for this model.
 - ActivityEventData contains data elements that relate to the activities in the process. The businessUnit and processName are used to filter out unwanted events that do not relate to your particular model. The activityName is used to associate an event with a specific activity in the process. The eventType is used to identify the state of the activity, either starting or completing.
 - 2) OrderBOData contains data elements that relate to the specifics of a customer order, such as orderNumber, country, city, totalPrice, and so on.

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Event Definitions	Name Parent	Activity				
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		Exten E	ded Data ActivityEventData	Type		
			OrderBOData	noValue		
			orderNumber	string		
			customerNumber	string		
			orderState city	string string		
			country	string		
			productNumber	string		
			quantity	int		
			totalPrice	double		
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An outline is not available.						
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- h. WebSphere Business Monitor 6.0.2 has improved support for concurrent versions of monitoring models. In order to take advantage of the Monitor Server's version handling capabilities, each monitoring context must have a unique common base event definition that is the single Inbound Event that has the setting 'If no instances are found: Create new instance'. One can think of this as one Inbound Event carrying 'Create Monitor Context' semantics, and all others as 'Update Monitor Context' semantics. Clips And Tacks is a simple sample and could use a single event definition for the process. However, to satisfy the requirement of a unique common base event definition now.
 - 1) Right mouse on Event Definitions and select New > Event Definition...
 - 2) Enter NewOrderEvent for the Name

🚯 New Event	Definition		$\overline{\mathbf{X}}$
New Event Def Create a new e			P
Source Folder: Name:	/ClipsAndTacks NewOrderEvent		Browse
		Ein	iish Cancel

3) Click Finish.

4) The Event Definition Editor for NewOrderEvent opens.

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Name	NewOrderEvent		
Parent	Par event		
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5) Double click the hierarchical icon between the label **Parent** and **event**.

6) On the **Select Event Definition** Dialog double click on ActivityEvent.

Select Event Definition		×
Select Event Definition Select an event definition to be the parent event.		P
Select an event to open:		
Matching Events:		
ActivityEvent WBI.MonitoringEvent event		
Files: /ClipsAndTacks/ActivityEvent.cbe		_
	Einish	Cancel

7) ActivityEvent is now shown as the parent of NewOrderEvent

	: Monitoring - NewOrderEvent - IBM WebSphere Integr avigate Search <u>P</u> roject <u>R</u> un <u>W</u> indow <u>H</u> elp	ration Developer	
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vent Defi	100		
Name Parent	NewOrderEvent		
	Property	a 🔓	
	Extended Data	Туре	

8) Press Ctrl-S to save your work.

- 4. Create a new monitor model ClipsAndTacks.
 - ____a. Right click in the Project Explorer view, then select New > Monitor Model...

____b. For File name, enter ClipsAndTacks.

🕀 Monitor Model		×
Create a monitor model		
Create a new monitor model.		
Enter or select the parent folder:		
ClipsAndTacks		
ClipsAndTacks		
File name: ClipsAndTacks		
	<u>F</u> inish	Cancel

____ c. Click **Finish**. The model editor is opened as follows:

Note: When the model editor first opens you will have errors in the model. This is normal and is signaling that required elements are missing or incomplete. You will next complete these required elements.

File Edit Navigate Search	Project Run Window Help			
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E ∰ ClipsAndTacks		el .		
E Cent Definitions	ClipsAndTacks	 Monitor Details Edit the details of 	s the model. The timestamp is required to identify the	version of the mode
🖻 NewOrderEvent		ID:	ClipsAndTacks	Edit
ClipsAndTacks		Name:	ClipsAndTacks	
		Description:		
		Timostamp (UTC)	: 2006-12-14T10:38:25	Edit
		٢	ΤΨ	
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- 5. Notice in the Monitor Details Model navigator that a new model is created (ClipsAndTacks) along with a monitoring context (ClipsAndTacks MC). Now you need to specify the inbound events that will be processed by this model. You need to indicate which event will create a new monitoring context instance and which event will terminate the monitoring context instance. You also need to identify the correlation information for the monitoring context so that Monitor knows which monitoring context should receive the events. For the ClipsAndTacks model, you are using one event definition, ActivityEvent, to represent the layout of all of the events to be processed. NewOrderEvent, which is used for version handling, derives from ActivityEvent but does not add additional event elements. In ActivityEvent, ActivityName is a field used to identify specific activities in the ClipsAndTacks process. You use ActivityName to determine when to terminate the monitoring context. You will create correlation that is based on orderNumber which is another field defined in ActivityEvent.
 - ____ a. In the Monitor Details Model, expand ClipsAndTacks in the navigation view. Then expand ClipsAndTacks MC. You will see that a key has been created for you automatically when you created the model.

Business Monitoring - ClipsAnd	Tacks - IBM WebS	phere Integration Developer	
<u>File E</u> dit <u>N</u> avigate Se <u>a</u> rch <u>P</u> roject	<u>R</u> un <u>W</u> indow <u>H</u> el	þ	
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ElipsAndTacks 🔀			Ð
Monitor Details Model			
ClipsAndTacks ClipsAndTacks MC ClipsAndTacks Key Monitor Details Model Data Mart Model	ID: Name: Description: Timestamp (UT	of the model. The timestamp is required to identify the version ClipsAndTacks ClipsAndTacks TC): 2006-12-14T10:38:25	n of the model.

- ____b. In the model navigation view, right click on ClipsAndTacks MC, then select New > Inbound Event.
- ____ c. For the name, type **Activity Event**. Notice that the ID will automatically be set for you to the same name with underscores (**Activity_Event**).

Create New Inbound Event	×
Create a inbound event (i) Type the name and ID.	
Name: Activity Event ID: Activity_Event	
	OK Cancel

___ d. Click **OK**.

- ____e. For Type, navigate to ClipsAndTacks > ActivityEvent.cbe > ActivityEvent
- _____f. To enter the Filter Condition, you can use Content Assist using the keys Ctrl-Space, or you can type the expression directly into the expression window. When complete the expression should be as follows. Note the single quotes used for string handling.

Activity_Event/extendedData/ActivityEventData/businessUnit = 'Clips And Tacks' and Activity_Event/extendedData/ActivityEventData/processName = 'Order Handling'

____g. To enter the Correlation Expression, you can use Content Assist using the keys Ctrl-Space, or you can type the expression directly into the expression window. When complete the expression should be

ClipsAndTacks_Key = Activity_Event/extendedData/OrderBOData/orderNumber

- ___h. For If no instances are found, select Treat as error
- ____i. For If one instance is found, select Deliver to the instance
- ____j. For If multiple instances are found, select Treat as error
- ____k. Here is a sample:

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Monitor Details Model		1
ClipsAndTacks ClipsAndTacks MC ClipsAndTacks Key Activity Event	 Inbound Event Details Edit the details of the inbour application. The type must b ID: Activity_Event Name: Activity Event Description: 	
	Activity_Event/extendedDa	the event attributes to identify whether to accept an event of this type. ata/ActivityEventData/businessUnit = 'Clips And Tacks' and ata/ActivityEventData/processName = 'Order Handling'
	 Correlation Expression Define an expression to iden runtime. 	tify the monitoring context instance or instances that receive the event at
	If no instances are found	Ity_Event/extendedData/OrderBOData/orderNumber
	If one instance is found	Deliver to the instance
	If multiple instances are four	nd Treat as error

- ___I. Press **CtrI-S** to save your work.
- ___ m. In the model navigation view, right click on ClipsAndTacks MC, then select **New > Inbound Event.**
- ___ n. For the name, type **New Order Event**. Notice that the ID will automatically be set for you to the same name with underscores (**New_Order_Event**).

🚯 Create New Inbound Event	
Create a inbound event (1) Type the name and ID.	
Name: New Order Event ID: New_Order_Event	
	OK Cancel

- ___ o. Click **OK**.
- ____p. For Type, navigate to ClipsAndTacks > NewOrderEvent.cbe > NewOrderEvent
- ____ q. To enter the Filter Condition, you can use Content Assist using the keys Ctrl-Space, or you can type the expression directly into the expression window. When complete, the expression should be as follows. Note the single quotes used for string handling.

New_Order_Event/extendedData/ActivityEventData/businessUnit='Clips And Tacks' and New_Order_Event/extendedData/ActivityEventData/processName='Order Handling'

____r. To enter the Correlation Expression, you can use Content Assist or type the expression directly into the expression window. When complete the expression should be

ClipsAndTacks_Key=New_Order_Event/extendedData/OrderBOData/orderNumber

- ____s. For If no instances are found, select Create new instance
- _____t. For If one instance is found, select Treat as error
- _____u. For If multiple instances are found, select Treat as error
- ____v. Here is a sample:

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Monitor Details Model			
ClipsAndTacks ClipsAndTacks MC ClipsAndTacks Key	 Inbound Event Details Edit the details of the inboun application. The type must b 	d event, which references an event that is generated by the e an event definition.	monitored
Activity Event New Order Event	ID: New_Order_Ev	rent	Edit
	Name: New Order Eve	nt	
	Description:		~
	Type: NewOrderEver	it	Browse
	New_Order_Event/extende	the event attributes to identify whether to accept an event of dData/ActivityEventData/businessUnit='Clips And Tacks' and dData/ActivityEventData/processName='Order Handling'	Verdebroot Steam Process.
	 Correlation Expression Define an expression to identify runtime. 	ify the monitoring context instance or instances that receive	e the event at
	ClipsAndTacks_Key=New_C	rder_Event/extendedData/OrderBOData/orderNumber	\$ P
	If no instances are found	Create new instance	•
	If one instance is found	Treat as error	
	If multiple instances are foun	d Treat as error	•

- ____w. Press Ctrl-S to save your work.
- ____x. In the model navigation view, double click ClipsAndTacks Key, to open the key in the editor.
- ____y. For Key Value Maps, click Add...
- _____ z. A row is added to the table and in the expression cell it shows << No expression specified >>. Click on this cell of the table, then a button is displayed. Click on this button and the expression editor is displayed. You can use Content Assist, or type this expression directly into the window:

New_Order_Event/extendedData/OrderBOData/orderNumber

___ aa. Here is a sample:

🕑 Expression Dialog	$\overline{\mathbf{X}}$
Edit the expression in the text field.	
New_Order_Event/extendedData/OrderBOData/orderNumber	Edit the expression i
ОК	Cancel

____bb. Click **OK**. Here is a sample of the key:

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*ClipsAndTacks 🖂		
Monitor Details Model		
ClipsAndTacks ClipsAndTacks MC ClipsAndTacks Key Activity Event New Order Event	Key Details Edit the details of the key. Each monitoring context requires at least one key. ID: ClipsAndTacks_Key Name: ClipsAndTacks Key Description: Type: String Maximum String Length: 256 Alocate additional space in database to accommodate Unicod	Edit.
	Default Value: This key can be used for sorting Key Value Maps Specify the expressions that set the value of the key.	Edita
	Expression New Order Event/extendedData/OrderBOData/orderNumber	
		Add Remov

____ cc. Press Ctrl-S to save your work.

Note: At this point there should not be any errors remaining in the model. The errors shown initially were the result of the monitoring context key not being complete.

- 6. Create triggers that indicate the end of the monitoring context.
 - ____a. In the model navigation view, right click on ClipsAndTacks MC, then select New > Trigger. Enter these values:
 - 1) Name Ship Order to Customer Trigger
 - 2) ID Ship_Order_to_Customer_Trigger
 - 3) Select the check box next to Terminate monitoring context
 - For Trigger Sources, click Add, then select Other source type > Activity Event, then click OK.
 - 5) For Trigger condition, enter Activity_Event/extendedData/ActivityEventData/activityName='Ship Order to Customer' and Activity_Event/extendedData/ActivityEventData/eventType='completed'
 - ____b. Press Ctrl-S to save your work.
 - ____ c. Here is a sample of this trigger:

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ClipsAndTacks 🛛			1		
Monitor Details Model					
⊡ 📲 ClipsAndTacks ⊟ 📲 ClipsAndTacks MC	 Trigger Deta Edit the details of 	ails of the trigger, which detects an occurrence and initiates an action in response.			
	rig ID: SI	hip_Order_to_Customer_Trigger	Edit		
Activity Event	Name: Sł	hip Order to Customer Trigger	2		
	Description:		~		
	<u>an 1</u> 24 - P 1		~		
	Trigger is re	epeatable			
	Terminate n	Terminate monitoring context			
	1 7 - 1 .005996398793764				
	✓ Trigger Sour				
	✓ Trigger Sour	rces			
	✓ Trigger Sour Specify the sour	rces Irce of this trigger.			
	 Trigger Sour Specify the sou Source Type 	rces Irce of this trigger.			
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	Trigger Sour Specify the sou Source Type Event	rces urce of this trigger. Source Activity Event Add	Remove		
		rces urce of this trigger. Source Activity Event Add	Remove		
	 Trigger Sour Specify the sou Source Type Event Trigger Cond Specify the con Activity_Event Activity_Event 	rces urce of this trigger. Source Activity Event Add Add dition ndition that determines whether the trigger will fire. t/extendedData/ActivityEventData/activityName='Ship Order to Customer' and	Remove		

- _____d. In the model navigation view, right click on ClipsAndTacks MC, then select **New > Trigger**. Enter these values:
 - 1) Name Cancel Trigger
 - 2) ID Cancel_Trigger
 - 3) Select the check box next to Terminate monitoring context
 - For Trigger Sources, click Add, then select Other source type > Activity Event, then click OK.
 - 5) For Trigger condition, enter Activity_Event/extendedData/ActivityEventData/activityName='Cancel Order and Send Notification' and Activity_Event/extendedData/ActivityEventData/eventType='completed'

- ____e. Press Ctrl-S to save your work.
- _____7. Create a KPI for Average fulfillment 3 days or less
 - ____a. In the model navigation view, right click on ClipsAndTacks MC, then select **New > Trigger**. Enter these values:
 - 1) Name New Order Trigger
 - 2) ID New_Order_Trigger
 - 3) For Trigger Sources, click Add, then select Other source type > New Order Event, then click OK.
 - 4) For Trigger condition, enter New_Order_Event/extendedData/ActivityEventData/activityName='Check Order Handling Policy for Automatic Approval' and New_Order_Event/extendedData/ActivityEventData/eventType='started'
 - 5) Press Ctrl-S to save your work.

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Monitor Details Model Data Mart Model KPI	Model Visual Mo	Iodel Event Model ClipsAndTacks.mm		

- ____b. In the model navigation view, right click on ClipsAndTacks MC, then select **New > Metric**. Enter these values:
 - 1) Name Order Start Time
 - 2) ID Order_Start_Time
 - 3) Type DateTime
 - 4) For Metric Value Maps, click Add

- 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK
- 6) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

New_Order_Event/extendedData/ActivityEventData/startTime

7) Click OK.

8) Press Ctrl-S to save your work.

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- ___ c. In the model navigation view, right click on ClipsAndTacks MC, then select New > Metric. Enter these values:
 - 1) Name Order End Time
 - 2) ID Order_End_Time

- 3) Type DateTime
- 4) For Metric Value Maps, click Add
- 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Ship Order to Customer Trigger, click OK
- 6) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

Activity_Event/extendedData/ActivityEventData/endTime

- 7) Click OK.
- 8) For Metric Value Maps, click Add
- 9) In the second row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Cancel Trigger, click OK
- 10) In the second row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

Activity_Event/extendedData/ActivityEventData/endTime

11) Click OK.

____ d. Press Ctrl-S to save your work.

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- ____e. In the model navigation view, right click on ClipsAndTacks MC, then select **New > Metric**. Enter these values:
 - 1) Name Order Fulfillment Duration
 - 2) ID Order_Fulfillment_Duration
 - 3) Type Duration
 - 4) For Default Value, click Edit...
 - 5) On the Select Duration dialog, click OK
 - 6) For Metric Value Maps, click Add
 - 7) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Ship Order to Customer Trigger, click OK

8) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

Order_End_Time - Order_Start_Time

9) Click OK.

- 10) For Metric Value Maps, click Add
- 11) In the second row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC
 > Cancel Trigger, click OK
- 12) In the second row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

Order_End_Time - Order_Start_Time

- 13) Click OK.
- ____ f. Press Ctrl-S to save your work.

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____ g. Click on the Data Mart Model tab.

- ____h. Add Start Time as a dimension to the Data Mart Model. This will be used later on when you create the definition of the KPI.
 - 1) In the Dimensions table, click on ClipsAndTacks MC Cube
 - 2) Click Add Dimension...
 - a) Name Start Time Dimension
 - b) ID Start_Time_Dimension
 - 3) Click Add Attribute...
 - a) Name Start Time
 - b) ID Start_Time

4) In the Dimension table, on the row containing Dimension Attribute Start Time, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC > Order Start Time. Then click OK.

5) Press	Ctrl-S to save your work.	
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_____i. In the Data Mart Model, add a measure for average order fulfillment.

1) In the Measures table, click on ClipsAndTacks MC Cube

- 2) Click Add Measure...
 - a) Name Average Order Fulfillment
 - b) ID Average_Order_Fulfillment
- 3) In the Measures table, on the row containing measure Average Order Fulfillment, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC Fact Table> Order Fulfillment Duration Fact. Then click OK.
- 4) Notice that the Aggregation Function for this measure defaults to Average, which is what you want.
- 5) Press Ctrl-S to save your work.

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____j. Ensure that the **KPI Model tab** is selected.

- ____k. Create a KPI context to store your KPIs.
 - 1) In the navigation view of the KPI Model, right click on ClipsAndTacks, then select **New > KPI Context**
 - a) Name My KPI Context
 - b) ID My_KPI_Context

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ClipsAndTacks	• KPI Context Details Edit the details of the KPI context, which contains KPIs. ID: My_KPI_Context Name: My KPI Context Description:	Edit
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___I. Create the average order fulfillment KPI.

Note that you will create the KPI based on events for August 2006. This will work for you no matter what month or year that you run this lab because the timestamps in the test data are based on August 2006, so your results will be the same as in these lab instructions.

1) Click the **KPI Model tab**.

- 2) In the navigation view of the KPI Model, right click on My KPI Context, then select **New > KPI**
 - a) Name Average Order Fulfillment KPI August 2006
 - b) ID Average_Order_Fulfillment_KPI_August_2006
- 3) Enter these values:
 - a) Type Duration
 - b) In KPI Target and Ranges, for Target click Details..., then change the value to 3 Days, then click OK
 - c) In KPI Target and Ranges, for Ranges select Actual values
 - d) In the Range table,
 - (1) Click Add
 - (2) Change the Name to Day 1, and the ID to Day_1

- (3) A row is created in the Range table with a range name Day 1.
- (4) For this row, select the cell in the Start value column and a button is displayed. Click this button, then change all values to 0, then click OK.
- (5) For this row, select the cell in the End value column and a button is displayed. Click this button, then change Days to 1 and the other values to 0, then click OK.
- e) Now you have created one range called Day 1. Repeat the above step to create four more ranges:
 - (1) Day 2 with start values 1 Days and end value 2 Days
 - (2) Day 3 with start values 2 Days and end value 3 Days
 - (3) Day 4 with start values 3 Days and end value 4 Days
 - (4) Day 5 with start values 4 Days and end value 5 Days
- f) Cube click Browse..., then select ClipsAndTacks DMM > ClipsAndTacks MC Cube, then click OK
- g) Measure click Browse..., then select ClipsAndTacks MC Cube > Average Order Fulfillment, then click OK
- h) Time dimension click Browse…, then select Referenced Dimension > Start Time Dimension, then click OK
- i) Specify time period Fixed
- j) Start date click Edit... then select 2006-08-01
- k) End date click Edit..., then select 2006-08-31

Note that the Start Time Dimension is based on the startTime from the common base event.

4) Press Ctrl-S to save your work.

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- ____m. Note that this KPI as it stands averages order fulfillment time for shipped orders and cancelled orders, but you are not interested in the cancelled orders. So update the average order fulfillment KPI to show the values for shipped orders only.
- ____n. Click the Monitor Details Model tab.
- ____ o. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select New > Metric. Enter these values:
 - 1) Name Order Status

- 2) ID Order_Status
- 3) Type String
- 4) Default Value (enter this text with single quotes) 'New'
- 5) For Metric Value Maps, click Add
- 6) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Cancel Trigger, click OK
- 7) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text with the quotes:

'Cancelled'

- 8) Click OK.
- 9) For Metric Value Maps, click Add
- 10) In the second row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC
 > Ship Order to Customer Trigger, click OK
- 11) In the second row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text with single quotes:

'Shipped'

12) Press Ctrl-S to save your work

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____ p. Click on the Data Mart Model tab.

____ q. Add order status as a dimension to the Data Mart Model.

1) In the Dimension table, click on ClipsAndTacks MC Cube

2) Click Add Dimension...

a) Name - Order Status Dimension

b) ID - Order_Status_Dimension

c) Click OK

3) Click Add Attribute...

a) Name - Order Status

IBM WebSphere Business Monitor 6.0.2 – Lab exercise

b) ID – Order_Status

- 4) In the Dimension table, on the row containing Dimension Attribute Order Status, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC > Order Status. Then click OK.
- 5) Press Ctrl-S to save your work.

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 Dimensions Add dimensions and their hierarchica 	l attributes. Each attribute level enable	es you to aggregate the levels that a	re underneath it.	
Cube / Dimension	Dimension Attribute	Source	Is Key	
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Order Status Dimension				
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- _____ r. Update the order fulfillment KPI to use the order status dimension as a filter.
 - 1) Click the **KPI Model tab**.
 - 2) In the KPI Model navigation view, navigate to ClipsAndTacks > My KPI Context > Average Order Fulfillment KPI August 2006
 - 3) In the KPI Definition section for this KPI, underneath the Dimensions table click Add
 - In the dialog, navigate to ClipsAndTacks MC Cube > Order Status Dimension > Order Status, then click OK
 - 5) In the Dimensions table, expand Order Status Dimension.
 - 6) In the row containing Attribute Order Status, click the cell in the column Value, then enter this text (without quotes):

Shipped

7) Press Ctrl-S to save your work.

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- _ 8. Create a KPI for number of approved orders greater than 90%. For KPIs, you cannot have user defined functions, for example, '(Shipped Orders / Total Orders) * 100', so you have to do it another way. You will create a metric that will have one of two values for each monitoring context. For shipped orders it will be 100, for cancels it will be 0. Then you will just average this metric across monitoring contexts. Note that you will set the value of the metric explicitly to 100 when you ship the order, but you do not have to set it explicitly when you cancel an order because you will set the default for the metric to 0.
 - ____a. Click the Monitor Details Model tab.
 - ____ b. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select New > Metric. Enter these values:
 - 1) Name Ship Percentage
 - 2) ID Ship_Percentage
 - 3) Type Integer
 - 4) Default value 0
 - 5) For Metric Value Maps, click Add
 - 6) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > Ship Order to Customer Trigger, click OK

7) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

a) 100

8) Click OK.

9) Press Ctrl-S to save your work

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Activity Event	Default Value: Default Value: Default Value: This metric can be used for sorting Metric Value Maps Specify the expressions that set the value of the metric. If a trigger is specified, the map is evaluated when the trigger fires.
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____ c. Click the Data Mart Model tab.

____d. In the Data Mart Model, add a measure for average ship percentage.

1) In the Measures table, click on ClipsAndTacks MC Cube

- 2) Click Add Measure...
 - a) Name Average Ship Percentage

- b) ID Average_Ship_Percentage
- 3) In the Measures table, on the row containing measure Average Ship Percentage, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC Fact Table> Ship Percentage Fact. Then click OK.
- 4) Notice that the Aggregation Function for this measure defaults to Average, which is what you want.

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	Average Ship Percentage	③ Ship Percentage Fact	Average	
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5) Press Ctrl-S to save your work.

____e. Click the KPI Model tab.

____f. In the navigation view of the KPI Model, right click on My KPI Context, then select New > KPI

- 1) Name Percent of Orders Approved KPI
- 2) ID Percent_of_Orders_Approved_KPI
- ____g. Enter these values:
 - 1) Type Decimal
 - 2) Target 90
 - 3) Ranges Actual value
 - 4) In the Range table
 - a) Click Add
 - b) Change the Name to 'High Range', and the ID to High_Range
 - c) A row is created in the Range table with a range name High Range.
 - d) For this row, select the cell in the Start value column and a button is displayed. Click this button, then change the value to 90, and then click OK.

- e) For this row, select the cell in the End value column and a button is displayed. Click this button, then change the value to 100, and then click OK.
- 5) Now you have created one range called High Range. Repeat the above step to create another range:
 - a) Low Range with start value 0 and end value 90
- 6) Cube click Browse..., then select ClipsAndTacks DMM > ClipsAndTacks MC Cube, then click OK
- 7) Measure click Browse..., then select ClipsAndTacks MC Cube > Average Ship Percentage, then click OK
- 8) Time dimension you could select a time dimension if you like to base the KPI on a specific period of time.

Note that the Start Time Dimension is based on the startTime from the common base event. If you want to add a time dimension, then you should check the values of startTime in the common base events to determine what range is appropriate for your testing.

9) Press Ctrl-S to save your work.

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- __ 9. You might like to see the total order price, the average order price and the total number of orders. And you might be interested in seeing this information by country and city. So now you will create dimensions and measures that allow you to see this information. In order to see the country and city information, you will create a multi-level location dimension containing country as the first level and city as the second level.
 - ____a. Click the Monitor Details Model tab.
 - ____ b. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select New > Metric. Enter these values:
 - 1) Name country
 - 2) ID country

- 3) Type String
- 4) For Metric Value Maps, click Add
- 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK
- 6) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

a) New_Order_Event/extendedData/OrderBOData/country

7) Click OK.

8) Press Ctrl-S to save your work

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- ____ c. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select New > Metric. Enter these values:
 - 1) Name city
 - 2) ID city
 - 3) Type String
 - 4) For Metric Value Maps, click Add
 - 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK
 - 6) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

a) New_Order_Event/extendedData/OrderBOData/city

- 7) Click OK.
- 8) Press Ctrl-S to save your work

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Order Fulfillment Duration Description: Order Start Time	String Length: 256
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	a for solding
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Specify the expressions the trigger fires.	at set the value of the metric. If a trigger is specified, the map is evaluated when
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New Order Trigger	New_Order_Event/extendedData/OrderBOData/city
-	
	Add Remove
	10.2
Monitor Details Model Data Mart Model KPI Model Visual Model Event Mod	

- ____d. In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select **New** > Metric. Enter these values:
 - 1) Name totalPrice
 - 2) ID totalPrice
 - 3) Type Decimal
 - 4) For Metric Value Maps, click Add
 - 5) In the first row of the Metric Value Maps table, select the cell under column Trigger, then a button is shown, then click the button and select Trigger type > ClipsAndTacks MC > New Order Trigger, click OK
 - 6) In the first row of the Metric Value Maps table, select the cell under column Expression, then a button is shown, then click the button and enter this text:

a) New_Order_Event/extendedData/OrderBOData/totalPrice

7) Click OK.

8) Press Ctrl-S to save your work

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		ions that set the value of the metric. If a trigger is specified, the map is evaluated when
	Trigger	Expression
	Trigger New Order Trigger	Expression New_Order_Event/extendedData/OrderBOData/totalPrice

____e. Click on the Data Mart Model tab.

____f. Add location as a dimension to the Data Mart Model.

1) In the Dimension table, click on ClipsAndTacks MC Cube

- 2) Click Add Dimension...
 - a) Name Location
 - b) ID Location
- 3) Click Add Attribute...

IBM WebSphere Business Monitor 6.0.2 - Lab exercise

- a) Name Country
- b) ID Country
- 4) In the Dimension table, on the row containing Dimension Attribute Country, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC > country. Then click OK.
- 5) Click Add Attribute...
 - a) Name City

b) ID – City

- 6) In the Dimension table, on the row containing Dimension Attribute City, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC > city. Then click OK.
- 7) Press Ctrl-S to save your work.

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Dimensions Add dimensions and their hierarchic	al attributes. Each attribute le	evel enables you to aggregat	e the level <mark>s that</mark> are	underneath it.	
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____g. Ensure that the **Data Mart Model tab** is selected.

____h. In the Data Mart Model, add a measure for average order price.

- 1) In the Measures table, click on ClipsAndTacks MC Cube
- 2) Click Add Measure...
  - a) Name Average Order Price
  - b) ID Average_Order_Price

- 3) In the Measures table, on the row containing measure Average Order Price, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC Fact Table> totalPrice Fact. Then click OK.
- 4) Notice that the Aggregation Function for this measure defaults to Average, which is what you want.
- ____ i. In the Data Mart Model, add a measure for sum of order price.
  - 1) In the Measures table, click on ClipsAndTacks MC Cube
  - 2) Click Add Measure...
    - a) Name Sum Order Price
    - b) ID Sum_Order_Price
  - 3) In the Measures table, on the row containing measure Sum Order Price, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC Fact Table> totalPrice Fact. Then click OK.
  - 4) In the Measures table, on the row containing measure Sum Order Price, click on the cell in the column Aggregation Function. Select Sum in the list.
- ____j. In the Data Mart Model, add a measure for order count.
  - 1) In the Measures table, click on ClipsAndTacks MC Cube
  - 2) Click Add Measure...
    - a) Name Order Count
    - b) ID Order_Count
  - 3) In the Measures table, on the row containing measure Order Count, click on the cell in the column Source. A button is displayed, then click on this button and select ClipsAndTacks MC Fact Table> ClipsAndTacks Key Fact. Then click OK.
  - 4) In the Measures table, on the row containing measure Order Count, click on the cell in the column Aggregation Function. Select Count in the list.

____k. Press **Ctrl-S** to save your work.

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	Average Ship Percentage	<ul> <li>Ship Percentage Fact</li> </ul>	Average	
	Average Order Price	③ totalPrice Fact	Average	
	Sum Order Price	③ totalPrice Fact	Sum	
	Order Count	ClipsAndTacks Key Fact	Count	
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- 10. Now that you have Average Order Price as a measure in the Data Mart Model, you can also create a KPI for it.
  - ____a. Click the KPI Model tab.
  - ___ b. In the navigation view of the KPI Model, right click on My KPI Context, then select New > KPI
    - 1) Name Average Order Price KPI (Dollars)
    - 2) ID Average_Order_Price_KPI__x0028_Dollars_x0029_
  - ____ c. Enter these values:
    - 1) Type Decimal
    - 2) Target 300
    - 3) Ranges Actual value
    - 4) In the Range table
      - a) Click Add
      - b) Change the Name to 'High Range', and the ID to High_Range
      - c) A row is created in the Range table with a range name High Range.
      - d) For this row, select the cell in the Start value column and a button is displayed. Click this button, then change the value to 300, and then click OK.
      - e) For this row, select the cell in the End value column and a button is displayed. Click this button, then change the value to 1000, and then click OK.
    - 5) Now you have created one range called High Range. Repeat the above step to create another range:
      - a) Low Range with start value 0 and end value 300

- 6) Cube click Browse..., then select ClipsAndTacks DMM > ClipsAndTacks MC Cube, then click OK
- 7) Measure click Browse..., then select ClipsAndTacks MC Cube > Average Order Price, then click OK
- 8) Time dimension you could select a time dimension if you like to base the KPI on a specific period of time.

Note that the Start Time Dimension is based on the startTime from the common base event. If you want to add a time dimension, then you should check the value of startTime in the common base events to determine what range is appropriate for your testing.

9) Press Ctrl-S to save your work.

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				Add Remove	Sort
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**(Optional)** To demonstrate the use of a counter, you can optionally use this section to create a counter which will be incremented if you ship the order (versus canceling the order). For every monitoring context, this counter will either be zero or one depending on whether the order is cancelled or shipped. Counters would be more useful in other scenarios – perhaps to count the number of times an iterated activity is run. This optional section shows a common technique for counting a subset of instances.

- 11. **(Optional)** In the Monitor Details Model navigation view, right click on ClipsAndTacks MC, then select **New > Counter**. Enter these values:
  - ___a. Name Ship Counter
  - ___ b. ID Ship_Counter

- ___ c. For Counter Controls, click Add, then select ClipsAndTacks MC > Ship Order to Customer Trigger, click OK
- _____d. Note that the Resulting Action defaults to Add One, which is correct.
- ___e. Click OK.
- ____f. Press Ctrl-S to save your work

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New Order Event Ship Counter	Trigger / Inbound Event	Resulting Action	
	Ship Order to Customer Trigger	Add One	
	Visual Model Event Model ClipsAndTacks.mm		Add Remove

**(Optional)** To demonstrate the use of a stopwatch, you can optionally use this section to create a timer which will measure the duration of the monitoring context. You might find this useful to quickly see which monitoring contexts have not been terminated.

- 12. (Optional) In the model navigation view, right click on ClipsAndTacks MC, then select New > Stopwatch. Enter these values:
  - ____a. Name Monitoring Context Timer
  - ____b. ID Monitoring_Context_Timer
  - ____ c. For Stopwatch Controls, click Add, then select ClipsAndTacks MC > New Order Trigger, then click OK.
  - ____ d. Note that the default Resulting Action is Start

- ____ e. For Stopwatch Controls, click Add, then select ClipsAndTacks MC > Ship Order to Customer Trigger, then click OK.
- ____ f. Note that the default Resulting Action is Start, but you need to change it to Stop for this trigger. So click on the second row in column Resulting Action. A drop down box is shown, so pick Stop in the list.
- ____g. For Stopwatch Controls, click Add, then select ClipsAndTacks MC > Cancel Trigger, then click OK.
- ____ h. Note that the default Resulting Action is Start, but you need to change it to Stop for this trigger. So click on the second row in column Resulting Action. A drop down box is shown, so pick Stop in the list.

____ i. Press Ctrl-S to save your work.

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ClipsAndTacks     ClipsAndTacks MC     ClipsAndTacks MC     ClipsAndTacks MC     ClipsAndTacks MC     ClipsAndTacks MC     ClipsAndTacks MC     Order Starks     Order End Time     Order End Time     Order Start Time     Order Starts     Ship Percentage     To Cancel Trigger     New Order Trigger     Ship Order to Customer Trigger     Activity Event     Activity Event     Ship Order Event     Ship Order Event     Ship Counter	Stopwatch Details Edit the details of the stopwatch, which keeps tr and stop times, the durations are added togethe ID: Monitoring_Context_Timer Name: Monitoring Context Timer Description: This stopwatch is an accumulating stopwatch This stopwatch can be used for sorting      Stopwatch Controls Specify what causes the stopwatch to change a	b b b b b b b b b b b b b b b b b b b
Monitoring Context Timer	Trigger / Inbound Event	Resulting Action
	New Order Trigger	Start
	🖙 Cancel Trigger 🖙 Ship Order to Customer Trigger	Stop Stop

- 13. Create a business situation event when the number of declined orders is greater than or equal to 3.
  - ____a. In Project Explorer, right click on ClipsAndTacks and select New > Event Definition...
  - ___b. For name, enter DeclinedOrderEvent
  - ___ c. Click Finish

- _____d. On the event definition, click the icon for Add Extended Data. This adds a row to the Extended Data table.
- ____e. For the new data element, change the Extended Data name to BusinessSituationName
- _____f. For the new element, change the type to string.
- ____ g. Press Ctrl-S to save your work.

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ClipsAndTa	cks 🛛 📴 DeclinedOrderEvent.cbe 🖂			6
Event Def	inition			
Name Parent	DeclinedOrderEvent			
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	BusinessSituationName	string		

- ____h. Click the **KPI Model tab** for the ClipsAndTacks model.
- ____i. In the navigation view of the KPI Model, right click on My KPI Context, then select New > KPI
  - 1) Name Declined Order KPI
  - 2) ID Declined_Order_KPI
- ____j. Enter these values:
  - 1) Type Decimal
  - 2) Target 3
  - 3) Ranges Actual value
  - 4) In the Range table
    - a) Click Add
    - b) Change the Name to High Range, and the ID to High_Range
    - c) A row is created in the Range table with a range name High Range.

IBM WebSphere Business Monitor 6.0.2 – Lab exercise

- d) For this row, select the cell in the Start value column and a button is displayed. Click this button, then change the value to 3, and then click OK.
- e) For this row, select the cell in the End value column and a button is displayed. Click this button, then change the value to 10, and then click OK.
- 5) Now you have created one range called High Range. Repeat the above step to create another range:
  - a) Low Range with start value 0 and end value 3
- Cube click Browse..., then select ClipsAndTacks DMM > ClipsAndTacks MC Cube, then click OK
- 7) Measure click Browse..., then select ClipsAndTacks MC Cube > Order Count, then click OK
- 8) Time dimension you could select a time dimension if you like to base the KPI on a specific period of time.

Note that the Start Time Dimension is based on the startTime from the common base event. If you want to add a time dimension, then you should check the value of startTime in the common base events to determine what range is appropriate for your testing.

- 9) In the Dimensions table click Add
- In the dialog, navigate to ClipsAndTacks MC Cube > Order Status Dimension > Order Status, then click OK
- 11) In the Dimensions table, expand Order Status Dimension.
- 12) In the row containing Attribute Order Status, click the cell in the column Value, then enter this text (without quotes):

Cancelled

13) Press Ctrl-S to save your work.

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	Measure:	Order Count			Browse	
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		Specify time period $\mathbf{O}$ F	epeating <b>O</b> Rolling <b>C</b>	) Fixed		
	Dimensions:	Name	Attribute	Туре	Value	î.
<		Order Status Di.	Order Status	String	Cancelled	
Monitor Details Model Data Mart Model KPI Mod	del Visual Model	Event Model ClipsAndTacks.r	nm			

___ k. In the navigation view of the KPI Model, right click on My KPI Context, then select New > Trigger

- 1) Name Declined Order Trigger
- 2) ID Declined_Order_Trigger
- ___I. Enter these values:
  - 1) Under Trigger Sources, click Add.

- 2) Select Recurring wait time, then click OK
- 3) In the Source column you see the default wait time is 1 minute.
- 4) In Trigger Condition, enter this text:
  - $Declined_Order_KPI >= 3$
- ____m. Press Ctrl-S to save your work.

Business Monitoring - ClipsAndTad	ks - IBM WebSphere	Integration Developer
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KPI Model		
ndTacks / KPI Context Average Order Fulfillment KPI August 20 Average Order Price KPI (Dollars) Declined Order KPI Percent of Orders Approved KPI Declined Order Trigger	ID: Decline	
	Source Type Recurring wait tim	e 🖏 0 days 0 hours 1 minutes
	← <b>Trigger Condition</b> Specify the condition Declined_Order_KPI	that determines whether the trigger will fire.
<		· · ·
Monitor Details Model Data Mart Model KPI N	10del Visual Model Even	Model ClipsAndTacks.mm

### ___ n. In the navigation view of the KPI Model, right click on My KPI Context, then select New > Outbound Event

- 1) Name Declined Order Outbound Event
- 2) ID Declined_Order_Outbound_Event

- ____o. Enter these values:
  - 1) Type: DeclinedOrderEvent
  - 2) Under Event Attributes Details, click Add
  - 3) Select My KPI Context > Declined Order Trigger, then click OK
  - In the table, on the same row as BusinessSituationName, set Expression to (include the quotes):

'Too many orders have been declined'

____p. Press Ctrl-S to save your work.

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KPI Model					
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Average Order Price KPI (Dollars)     Declined Order KPI	ID:	Declined_Order_Outbo	und_Event	Edit	•
Percent of Orders Approved KPI	Name:	Declined Order Outbou	nd Event		
Declined Order Trigger Declined Order Outbound Event	Description:			~	ā
2.42					
	Type:	DeclinedOrderEvent		Browse	
	for each ever	nggers that cause the events attribute when the events of the event of the ev	ent is sent.	Use the Expression column to specify the value	
	Name	Orderstreet	Туре	Expression	
	and a second sec	Order Trigger rty Data			-
	( CONTRACTOR OF	ded Data			
		sinessSituationName	string	'Too many orders have been declined'	
	<		.uu	Add Remove	-1
< · · · · · · · · · · · · · · · · · · ·	• Filter Cond	lition			

____14. Create a business situation event when the order fulfillment duration is greater than 3 days.

- ____a. In Project Explorer, right click New > Event Definition...
- ___b. For name, enter LateAverageOrderShippedEvent
- ___ c. Click Finish
- _____d. On the event definition, click the icon for Add Extended Data. This adds a row to the Extended Data table.
- ____e. For the new data element, change the Extended Data name to BusinessSituationName
- _____f. For the new element, change the type to string.
- ____g. On the event definition, click the icon for Add Extended Data. This adds a second row to the Extended Data table.
- ____h. For the second data element, change the Extended Data name to AverageOrderProcessingDays
- ____i. For the second element, change the type to string.
- ____j. Press **Ctrl-S** to save your work.

ClipsAndTa		be 🛛	1
Name Parent	LateAverageOrderShippedEvent		
	Property		
	Extended Data	Туре	
	BusinessSituationName AverageOrderProcessingDays	string string	

____k. In the navigation view of the KPI Model, right click on My KPI Context, then select New > Trigger

- 1) Name Order Fulfillment Timer Trigger
- 2) ID Order_Fulfillment_Timer_Trigger
- ___I. Enter these values:

- 1) Under Trigger Sources, click Add.
- 2) Select Recurring wait time, then click OK
- 3) In the Source column you see the default wait time is 1 minute.
- 4) In Trigger Condition, enter this text:

#### Average_Order_Fulfillment_KPI_August_2006 ge duration('P3DT1H')

#### ____m. Press Ctrl-S to save your work.

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PI Model		
ClipsAndTacks  My KPI Context  My KPI Context  Average Order Fulfillment KPI  Average Order Price KPI (Do  A Declined Order KPI  Declined Order Trigger  Crder Fulfillment Timer Trigger  Corder Fulfillment Timer Trigger  Corder Fulfillment Order Outbound Ev		
	Specify the source of this trigg	er.
	Source Type	Source
	Recurring wait time	0 days 0 hours 1 minutes
	Recurring wait time	🔞 0 days 0 hours 1 minutes
	<ul> <li>Trigger Condition</li> <li>Specify the condition that determined</li> </ul>	

#### ___ n. In the navigation view of the KPI Model, right click on My KPI Context, then select New > Outbound Event

- 1) Name Order Fulfillment Outbound Event
- 2) ID Order_Fulfillment_Outbound_Event

____o. Enter these values:

- 1) Type: LateAverageOrderShippedEvent
- 2) Under Event Attributes Details, click Add
- 3) Select My KPI Context > Order Fulfillment Timer Trigger, then click OK
- In the table, on the same row as BusinessSituationName, set Expression to (include the single quotes):

'Average shipment is too late'

5) In the table, on the same row as AverageOrderProcessingDays, set Expression to:

string(decimal(Average_Order_Fulfillment_KPI_August_2006) div 86400)

Note: Here the decimal function converts the duration to seconds, so then it can be divided by 86400 which will give you the number of days.

____p. Press Ctrl-S to save your work.

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KPI Model					-
ClipsAndTacks	<ul> <li>Outbound</li> <li>Edit the detail</li> <li>ID:</li> </ul>	nt by the monitoring context. The type must be an event definition.	~		
Hundreiche Average Order Price KPI (Dollars)     Declined Order KPI		Order_Fulfillment_Outboun		Low	
Percent of Orders Approved KPI	1000010000	Order Fulfilment Outbound	Event		
Pecined Order Trigger     Pripe Order Fulfilment Timer Trigger     Pripe Declined Order Outbound Event     Pripe Order Fulfilment Outbound Event	Description:			~	
	Type:	LateAverageOrderShippedE	vent	Browse	
	Specify the tr when the eve			nt. Use the Expression column to specify the value for each event attribute	
	Name		Туре	Expression	
		fillment Timer Trigger ty Data			
	E Extend				
		erageOrderProcessingDays inessSituationName		string(decimal(Average_Order_Fulfilment_KPI_August_2006) div 86400) 'Average shipment is too late'	
				Add	
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Monitor Details Model Data Mart Model KPI Model Visu	al Model Event	Model ClipsAndTacks.mm			
4 4					

_____15. Check for any errors in the Problems view. You should resolve any errors before continuing.

# Part 2: Generate the EAR for the monitoring model

In this section you will use WebSphere Integration Developer to create the EAR which will be deployed to the Monitor server.

- 1. In Project Explorer, right click ClipsAndTacks > Monitoring Models > ClipsAndTacks, then select Generate Monitor EAR
- _____2. Select Overwrite existing projects, then select Finish
- _____ 3. A progress dialog shows the status of the operation and it closes when the operation is complete:

Progress Information	
Generating Monitor EAR for ClipsAndTacks	
Generating application	
	Cancel

- 4. Select Window > Open Perspective > Other..., then select J2EE
- 5. In Project Explorer, right click EJB Projects > ClipsAndTacksEJB, then select Build Project (If Project > Build Automatically is selected, then Build Project is not shown in the context menu nor enabled in the Project menu. In this case, the project has already been built.)
  - ____6. A progress dialog shows the status of the operation and it closes when the operation is complete:

Build Project
Building project
Validation of ClipsAndTacksEJB by EJB Validator has started
Run in Background Cancel Details >>

__7. Check for errors in the Problems view. There may be warnings, but there should not be any errors:

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😫 Project Explorer 🛛 🛛 🔞 🖛 🖓 🗸 🖓	ClipsAndTacks 🛛				
1	Monitor Details Mo	Monitor Details     Edit the details of t     ID:     Name:     Description:           Model       KPI Model       Visu	the model. The time ClipsAndTacks ClipsAndTacks	stamp is required to identify the version of the second se	sio
🖥 Snippets 🕄 🔍 Outline 🛛 🔹 🖵 🗖	Description		Resource	In Folder	_ /
Web Service  WebSphere PMEs (Programming Model Extensions) SISP XSL EIB IJ2C	CWMMV0107W: When /Clip     CWMMV0107W: When /Clip     CWMMV0107W: When /Clip     CWMMV0305W: When /Clip     CWMMV0305W: When /Clip     The import java.util.Collectio     The import java.util.Collectio     The import java.util.ArrayList     C	sAndTacks/MDM/Cl sAndTacks/MDM/Cl sAndTacks/MDM/Cl n is never used es.logging.events.cb eger is never used	ClipsAndTacks ClipsAndTacks ClipsAndTacks ClipsAndTacks My_KPI_Conte My_KPI_Conte My_KPI_Conte	ClipsAndTacks ClipsAndTacks ClipsAndTacks ClipsAndTacks ClipsAndTacksEJB/ejbModule/com ClipsAndTacksEJB/ejbModule/com ClipsAndTacksEJB/ejbModule/com ClipsAndTacksEJB/ejbModule/com	/i /i /i

- 8. In Project Explorer, right click EJB Projects > ClipsAndTacksEJB, then select Deploy
- 9. A progress dialog shows the status of the operation and it closes when the operation is complete:

Deploying selected modules
Deploying ClipsAndTacksEJB Using
Deploying selected modules Processing session bean: McIIdBatchGetter
Run in <u>Background</u> Cancel <u>D</u> etails >>

- 10. In Project Explorer, right click Enterprise Applications > ClipsAndTacksEAR, then select Export... > EAR file
- _____ 11. Enter a destination folder, and then click **Finish. ClipsAndTacksEAR.ear** will be created in this folder.

## Part 3: Deploy the monitoring model

In this section you will use the WebSphere Process Server administrative console to run the life cycle steps to deploy the monitoring model.

- _____1. Start the Monitor server and bring up the administrative console
  - ____a. In Windows, select Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Start the server
  - ____ b. In Windows, select Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Administrative console
- ____ 2. Install the monitor model
  - ____a. In the administrative console menu, select Applications > Monitor Models

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Address 🛃 http://localhost:9062/ibm/co	nsole/secure/logon.do	👻 🋃 Go
Welcome   Logout   Support   H	telp	
= Welcome	Monitor Models	Close page
Guided Activities	Monitor Models ? -	Help -
<ul> <li>Servers</li> <li>Applications</li> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> <li>Resources</li> <li>Security</li> <li>Environment</li> <li>Integration Applications</li> <li>System administration</li> <li>Monitoring and Tuning</li> <li>Troubleshooting</li> <li>Service integration</li> <li>UDDI</li> </ul>	Monitor Models         Manage version of all Monitor Models.            Preferences          Start       Stop         Install       Update         Image: Start       Stop         Select       Model <>         Version       Startable         Application <>       Status <a>         None          Total 0</a>	Field help For field help information, select a field label or list marker when the help cursor appears. Page help More information about this page
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## ___ b. Click Install

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Address 🛃 http://localhost:9062/ibm/co	nsole/secure/logon.do	💌 🋃 GO
Welcome   Logout   Support   H	telp	TEM.
Welcome	Enterprise Applications	Close page
Guided Activities	Preparing for the application installation ?	- Help -
Servers	Preparing for the application instantion	
Applications	Specify the EAR, WAR or JAR module to upload and install.	Field help For field help
<ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul>	Path to the new application.     Local file system    Specify path  Browse  Remote file system	information, select a field label or list marker when the help cursor appears. Page help
Resources	Specify path	More information about this page
🗉 Security	Browse	
☑ Environment		
Integration Applications	Context root Used only for standalone Web modules (.war files)	
System administration		
■ Monitoring and Tuning	Next Cancel	
I Troubleshooting		
Service integration		
DDDI		
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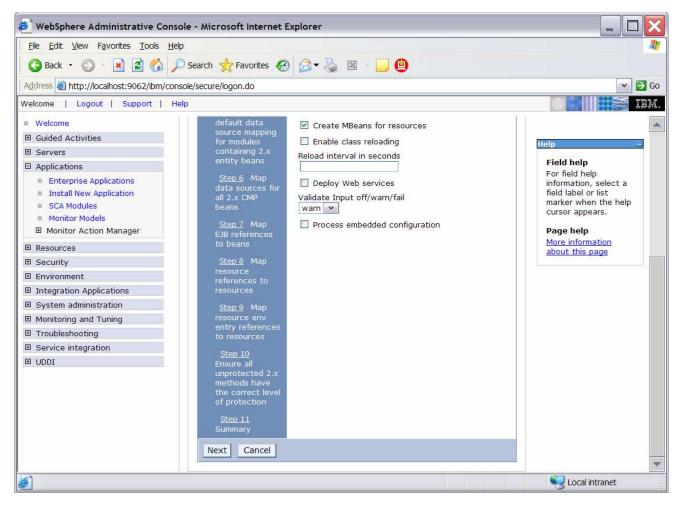
- ____ c. Browse to **ClipsAndTacksEAR.ear**. This is the EAR file that you created in WebSphere Integration Developer.
- ___ d. Click Next

WebSphere Administrative Con	sole - Microsoft Internet Explorer	
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Welcome	Enterprise Applications	Close page
Guided Activities		close page
Servers	Preparing for the application installation	
Applications	Choose to generate default bindings and mappings.	
<ul><li>Enterprise Applications</li><li>Install New Application</li></ul>	Generate Default Bindings	
SCA Modules	Prefixes:	
Monitor Models	O not specify unique prefix for beans	
Monitor Action Manager	O Specify Prefix:	
Resources	Prefix	
Security	ejb	
Environment	Override:	
Integration Applications	Do not override existing bindings	
	Override existing bindings	
Monitoring and Tuning		
I Troubleshooting	EJB 1.1 CMP bindings:	
Service integration	O not default bindings for EJB 1.1 CMPs	
	O Default bindings for EJB 1.1 CMPs:	
	JNDI name	
	password	
	verify password	
	Connection Factory Bindings	
	O not default connection factory bindings	
	O Default connection factory bindings:	
	JNDI name	
	Resource authorization: Per application	
	Specific bindings file Browse	
	Previous Next Cancel	
Done		Uocal intranet

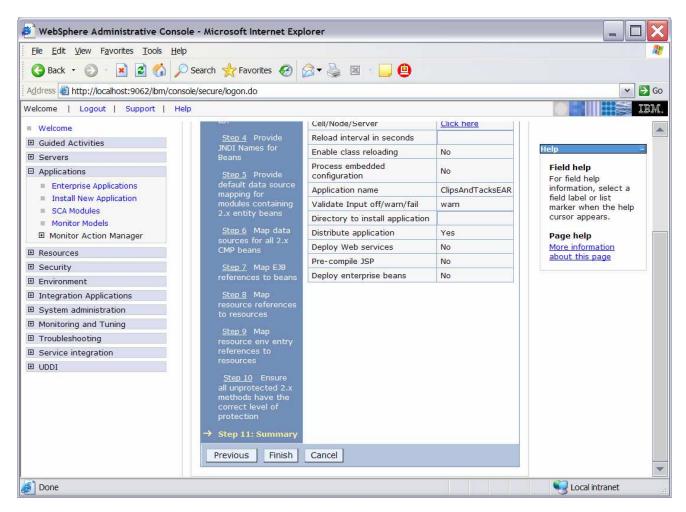
___e. Click Next

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Welcome   Logout   Support   Help	p					
Welcome						
Guided Activities	Enterprise Applications Clos	e page				
E Servers	Application Security Warnings	= 2				
Applications	Analysis of this application resulted in the following security warnings.					
<ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul>	ADMA0073W: Custom permissions are found in the [(com.ibm.websphere.security.WebSphereRuntimePermission AdminPermission), (com.ibm.websphere.security.WebSphereRuntimePermission accessRuntimeClasses)] policy file. Custom permissions can compromise the integrity of Java 2 Security. <b>Explanation:</b> The implementation of custom permissions can weaken the integrity of the Java 2 Security					
Resources     Security	permission check. User action: Review the application policy, which is located in the EAR/META-INF/was.policy file and the implementation of custom permissions.					
		1				
Integration Applications	The contents of the was.policy file -					
	/* AUTOMATICALLY GENERATED ON Monday, October 9, 2006 11:00:47 AM EDT */					
☑ Monitoring and Tuning	/* DO NOT EDIT */					
	grant codeBase "file:\${application}" {					
	permission com.ibm.websphere.security.WebSphereRuntimePermission "AdminPermission"; permission com.ibm.websphere.security.WebSphereRuntimePermission "accessRuntimeClasses";					
D UDDI	permission javax.management.MBeanPermission "*", "*"; };					
Done	Continue Cancel	et				

___ f. Click Continue



____g. Take the defaults for the installation, so just click Step 11



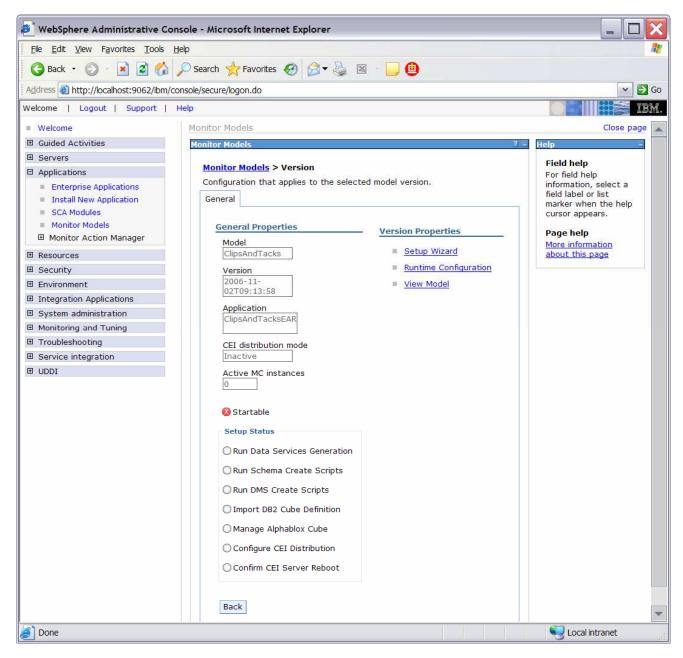
___h. Click Finish

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Address 🗃 http://localhost:9062/ibr	n/console/secure/logon.do
Velcome   Logout   Support	
Welcome	ADMA5053I: The library references for the installed optional package are created.
Guided Activities     Guided Activit	
Servers	ADMA5005I: The application ClipsAndTacksEAR is configured in the WebSphere Application Server repository.
Applications	
<ul> <li>Enterprise Applications</li> <li>Install New Application</li> </ul>	ADMA5001I: The application binaries are saved in C:\wps602\profiles\wbmonitor\wstemp\0\workspace\cells\IBM- 6161E0131C0N01C\applications\ClipsAndTacksEAR.ear\ClipsAndTacksEAR.ear
SCA Modules	ADMA5005I: The application ClipsAndTacksEAR is configured in the WebSphere Application Server repository.
Monitor Models	
Monitor Action Manager	CWSCA3013I: Resources for the SCA application ClipsAndTacksEAR are being configured.
Resources	CWSCA3023I: The EAR file ClipsAndTacksEAR ear is being loaded for the SCA module.
Environment	CWSCA3014I: Resources for the SCA application ClipsAndTacksEAR have been configured successfully.
Integration Applications	SECJ0400I: Successfuly updated the application ClipsAndTacksEAR with the appContextIDForSecurity information.
System administration	
Monitoring and Tuning	ADMA50111. The cleanup of the temp directory for application ClipsAndTacksEAR is complete.
Troubleshooting	
Service integration	ADMA5013I: Application ClipsAndTacksEAR installed successfully.
UDDI	Application ClipsAndTacksEAR installed successfully.
	To start the application, first save changes to the master configuration.
	Save to Master Configuration
	To work with installed applications, click the "Manage Applications" button.
	Manage Applications

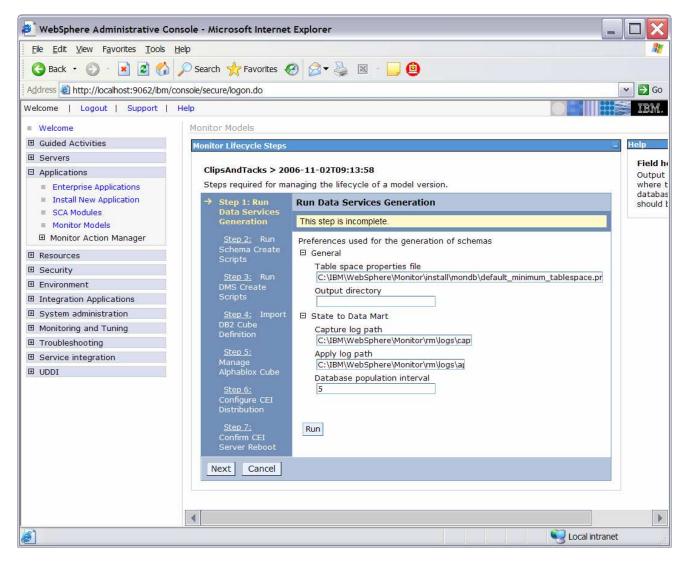
- ____i. Click Save to Master Configuration, then click Save
- _____ 3. Run Step 1 of the model life cycle
  - ____a. In the administrative console menu, select Applications > Monitor Models

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Address 🕘 http://localhost:9062/ibm/col	nsole/secure/	logon.do					👻 🏓 Go
Welcome   Logout   Support   H	elp						IEM.
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Guided Activities	Monitor M	odels				2 🖆	Help 🔤
⊞ Servers							Field help
Applications	Monitor Models Field help						For field help
<ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul>	Lists all versions of monitor models and their associated applications. To start or stop a version of a monitor model, you must start or stop the associated application. Additional options are available by clicking the Model, Version, or Application links. Preferences Start Stop Install Update					information, select a field label or list marker when the help cursor appears. Page help More information	
Resources						about this page	
		Model \$	Version	Startable	Application 🗘	Status 🗘	
Environment     Envir	100	ClipsAndTacks	2006-11-		ClipsAndTacksEAR		
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	Total 1						
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Troubleshooting							
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____b. Click the **timestamp** that is listed in the Version column



____ c. Click Setup Wizard



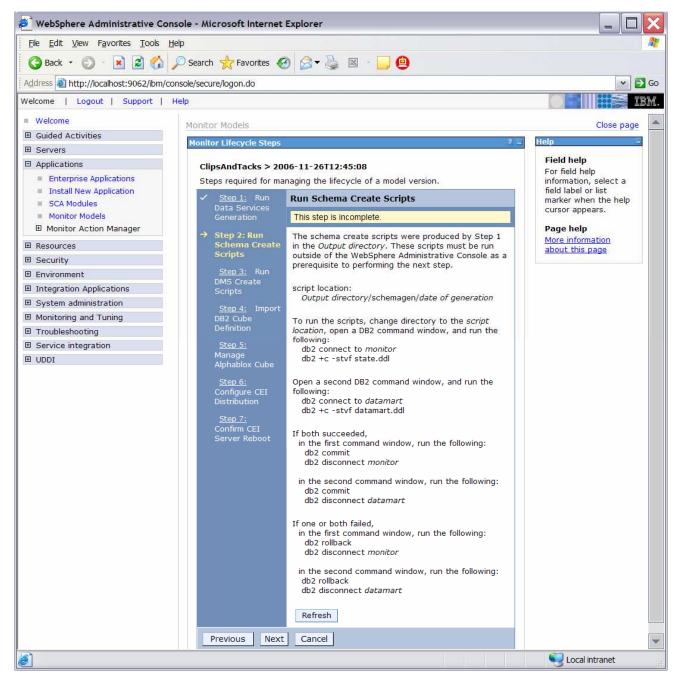
- _____d. Enter the output directory, such as C:\ClipsAndTacks. The result of running the data services generation is a folder called schemagen which will be created in the specified output directory.
- _____e. Change the Database population interval to 2. For development purposes you want replication to run often so that you don't have to wait to see the updates in the DATAMART database. Note that this interval number represents minutes.

___f. Click Run

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Welcome	Monitor Models		channes 💧
Guided Activities			Close page
E Servers	Monitor Lifecycle Steps		- Help -
<ul> <li>Applications</li> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul>	step co II-CWM generat II-CWM detecte	AX40001: The Run Data Services Generation mpleted successfully. SC00571: Database DDLs have been ted without error. SC30021: The Dataservices Generator has ed no errors or warnings during the cube views ta generation.	Field help For field help information, select a field label or list marker when the help cursor appears.
Resources		SC3102I: The Dataservices Generator has	
Security	detecte		
Environment	Views D		
Integration Applications	has finis		
System administration	artifact: CWM:		
Monitoring and Tuning	Generat	tor have reported success.	
Troubleshooting		LC0111I: Model [ClipsAndTacks] version L1-02T09:13:58] step [runDSG] by []	
	complet		
	ClipsAndTacks > 200 Steps required for mai	06-11-02T09:13:58 naging the lifecycle of a model version.	
	→ Step 1: Run	Run Data Services Generation	
	Data Services Generation <u>Step 2:</u> Run Schema Create Scripts <u>Step 3:</u> Run	This step is complete.       Performed by log in user ID, anonymous, on 2006/11/14(Tue) AM 08:17.         Preferences used for the generation of schemas	
	DMS Create Scripts <u>Step 4:</u> Import DP2 Cubo	Run	
ک			Second Intranet

### ___ g. Click Next

____h. Here you see a panel indicating the commands used to run the schema scripts.



4. Run Step 2 and Step 3 of the model life cycle.

____a. In Windows File Explorer, browse to C:\ClipsAndTacks\schemagen\<timestamp>

NameSizeTypeDate ModifiedImage: Constraint of the state of th	<u>View Favorites</u> <u>T</u> ools	Help	4
NameSizeTypeDate ModifiedIdatamart.ddl5 KBDDL File11/14/2006 8:IdatamartDrop.ddl1 KBDDL File11/14/2006 8:IdatamartMapping.html3 KBHTML Document11/14/2006 8:Idorp_model_cv.xml10 KBXML Document11/14/2006 8:DS_DMS_setup.zip172 KBWinZip File11/14/2006 8:Import_model.xml1 KBXML Document11/14/2006 8:Import_model.xml28 KBXML Document11/14/2006 8:	🝷 🔘 🕘 🏂 🔎 Sean	ch 🔀 Folders	🗟 🌶 🗙 🍤 🛄 🔹
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DS_DMS_setup.zip         172 KB         WinZip File         11/14/2006 8:           1         1 KB         XML Document         11/14/2006 8:           1         1 KB         XML Document         11/14/2006 8:           1         28 KB         XML Document         11/14/2006 8:	Mapping.html 3	KB HTML Docum	nent 11/14/2006 8:
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StateMapping.html 3 KB HTML Document 11/14/2006 8:	ping.html 3	KB HTML Docum	nent 11/14/2006 8:

____b. Extract DS_DMS_setup.zip into this same folder

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🕘 datamartMapping.html	3 KB	HTML Document	11/14/2006 8:
drop_model_cv.xml	10 KB	XML Document	11/14/2006 8:
DS_DMS_setup.zip	172 KB	WinZip File	11/14/2006 8:
import_model.xml	1 KB	XML Document	11/14/2006 8:
model_cv.xml	28 KB	XML Document	11/14/2006 8:
🕑 state.ddl	3 KB	DDL File	11/14/2006 8:
🕑 stateDrop.ddl	1 KB	DDL File	11/14/2006 8:
stateMapping.html	3 KB	HTML Document	11/14/2006 8:
State_to_Datamart		File Folder	11/14/2006 8:
🔄 enableasnclp.bat	7 KB	MS-DOS Batch	11/14/2006 8:
monWBIDSDeploymen	90 KB	JAR File	11/14/2006 8:
State_to_Datamart_se	28 KB	MS-DOS Batch	11/14/2006 8:
State_to_Datamart_se	67 KB	MS-DOS Batch	11/14/2006 8:
🔊 Win32GetPassword.dll	48 KB	Application Ext	11/14/2006 8:

- _____ c. Create the tables for the monitoring model. In the DB2 command window, enter the following commands. Note that monitor and state are used interchangeably. The database is defined as MONITOR, but you will see references to state such as state.ddl, state.log, state_to_datamart_setup_source.bat, and so on.
  - 1) Open a DB2 command window
    - a) Select Start > Run...
    - b) Enter this command: db2cmd
  - 2) Enter these commands into the DB2 command window:
    - a) cd \ClipsAndTacks\schemagen\<timestamp>
    - b) db2 connect to MONITOR
    - c) db2 +c -stvf state.ddl > state.log
  - 3) Open a second DB2 command window
    - a) Select Start > Run...

- b) Enter this command: db2cmd
- 4) Enter these commands into the second DB2 command window:
  - a) cd \ClipsAndTacks\schemagen\<timestamp>
  - b) db2 connect to DATAMART
  - c) db2 +c -stvf datamart.ddl > datamart.log
- 5) If the all the commands succeeded,
  - a) Enter these commands into the first DB2 command window:
    - (1) db2 commit
    - (2) db2 disconnect MONITOR
  - b) Enter these commands into the second DB2 command window:
    - (1) db2 commit
    - (2) db2 disconnect DATAMART
- 6) If any of the commands failed,
  - a) Enter these commands into the first DB2 command window:
    - (1) db2 rollback
    - (2) db2 disconnect MONITOR
  - b) Enter these commands into the second DB2 command window:
    - (1) db2 rollback
    - (2) db2 disconnect DATAMART
- 7) Close the second DB2 command window
- _____ d. This will create state.log and datamart.log. You should browse these files to verify that they worked successfully.
- ____e. Run the replication setup scripts.
  - 1) In the same DB2 command window, you should still be in folder \ClipsAndTacks\schemagen\<timestamp>, so type this command
    - State_to_Datamart_setup_source.bat
  - 2) It will ask for a user ID several times. Click the enter key when it asks for a user ID.
  - This will create a file State_to_datamart_setup_source.log. Browse this file to check for errors.
  - 4) In the same DB2 command window, you should still be in folder \ClipsAndTacks\schemagen\<timestamp>, so type this command

State_to_Datamart_setup_target.bat

- 5) It will ask for a user ID several times. Click the enter key when it asks for a user ID.
- 6) This will create a file **State_to_datamart_setup_target.log**. Browse this file to check for errors.
- ____f. Start the replication daemons.
  - 1) In the same DB2 command window, you should still be in folder \ClipsAndTacks\schemagen\<timestamp>, so type this command
    - a) cd State_to_Datamart\source
  - 2) Find all scripts with prefix 'StartCapture', and run them. For this scenario there will be one. For example type command
    - a) StartCapture_5.bat
  - 3) This opens a new window as follows. You must leave this window running. Do not type anything into this window.

DB2 CLP - db2setcp.bat asncap CAPTURE_SERVER=MONITOR CAPTURE_SCHEMA=CAPTURE 2006-11-14-08.36.12.140000 ASN0600I Program "Capture' "Initial capti re 8.2.5" is starting. 2006-11-14-08.36.16.171000 ASN0102W CAPTURE "CAPTURE_2" : "WorkerThread". The C apture program switches to cold start because the warm start information is insu ficient. 2006-11-14-08.36.16.203000 ASN0100I CAPTURE "CAPTURE_2" : "WorkerThread". The C apture program initialization is successful. 2006-11-14-08.36.16.203000 ASN0109I CAPTURE "CAPTURE_2" : "WorkerThread". The C apture program has successfully initialized and is capturing data changes for registrations. "O" registrations are in a stopped state. "1" registrations are in an inactive state.

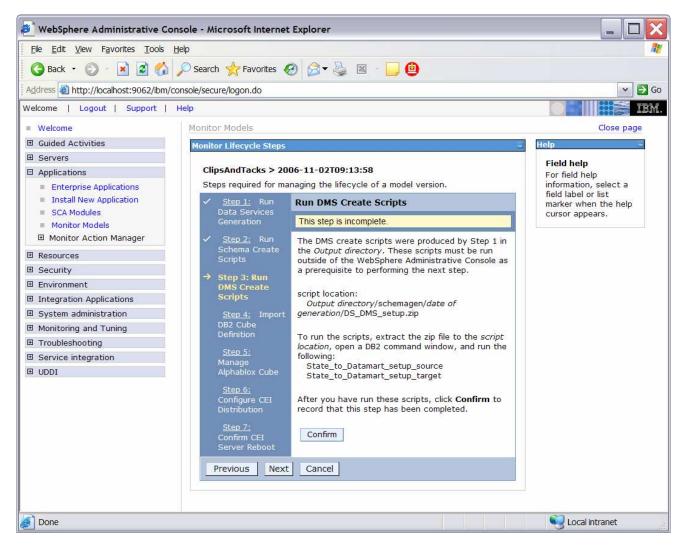
4) Type this command

a) cd ..\target

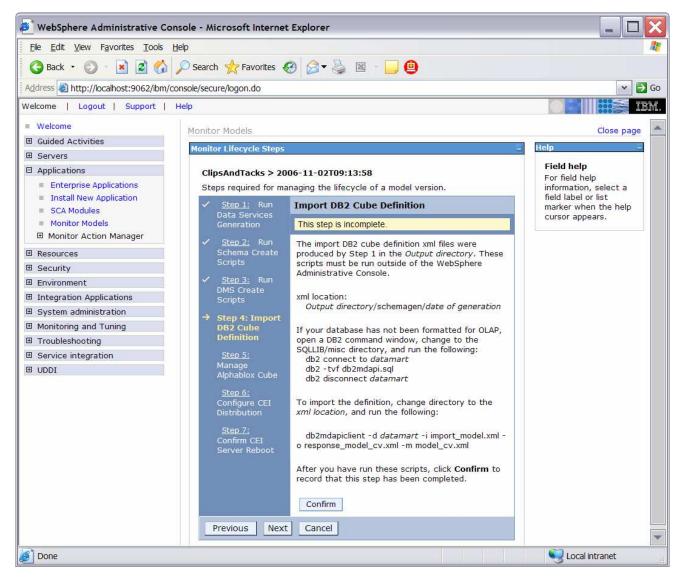
- 5) Find all scripts with prefix 'StartApply', and run them. For this scenario there will be one. For example type command
  - a) StartApply_10.bat
- 6) This opens a new window as follows. You must leave this window running. Do not type anything into this window.

DB2 CLP - db2setcp.bat asnapply APPLY_QUAL=APPLY_4 CONTROL_SERVER=DATAMART AP 🔲 🗙
2006-11-14-08.36.17.218000 ASN0600I "Apply" : "" : "Initial" : Program "apply 8 🔺 .2.5" is starting.
2006-11-14-08.36.19.703000 ASN1045I APPLY "APPLY_4" : "Initial". The Apply prog ram was started using database "DATAMART".
- -

- ____g. You should now have three command windows open. You can close the original DB2 command window where you have been typing the commands.
- ___h. In the administrative console menu, select Applications > Monitor Models
- ____i. Click the timestamp in the version column
- __ j. Click Setup Wizard
- ____k. It should detect that Step 2 is complete and automatically move to step 3 as follows



- __ I. Click Confirm
- __ 5. Run Step 4 of the model life cycle
  - ___a. Click Step 4

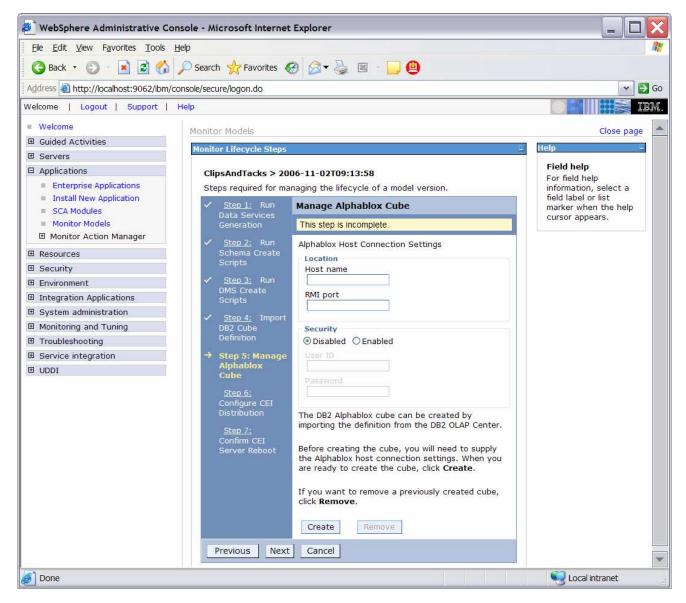


___ b. Import the cubes to DB2 Cube Views.

#### 1) Open a DB2 command window

- a) Select Start > Run...
- b) Enter this command: db2cmd
- 2) Enter these commands in the DB2 command window:
  - a) cd \IBM\DB2\SQLLIB\MISC
  - b) db2 connect to DATAMART
  - c) db2 --tvf db2mdapi.sql
  - d) db2 disconnect DATAMART
  - e) cd \ClipsAndTacks\schemagen\<timestamp>

- f) db2mdapiclient -d DATAMART -i import_model.xml -o response_model_cv.xml -m model_cv.xml
- 3) Close the command window
- ____ c. Back in the administrative console you should be in Step 4 of the Life cycle of the model.
- ____ d. Click Confirm
- _____6. Run step 5 of the model life cycle
  - ___a. Click Step 5

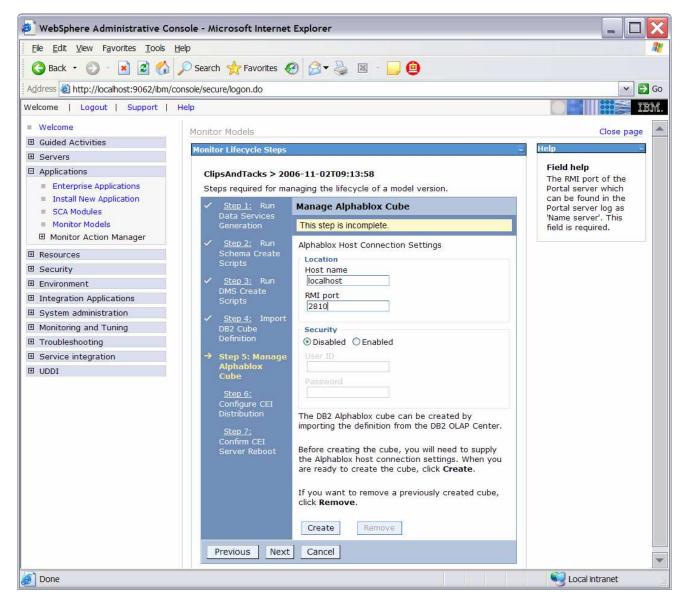


- ____b. Start Portal Server
  - 1) In Windows, select Start > All Programs > IBM WebSphere > Portal Server V5.1 > Start the server

- ____ c. Find the Portal RMI port in the Portal log
  - 1) Browse the Portal log, for example, C:\IBM\PortalServer\log\SystemOut.log
  - 2) Search for 'RMI Connector', for example, in the following screen capture you see that Portal RMI is port 2810.

🕞 SystemOut.log - Notepad	
<u>File Edit Format View Help</u>	
[10/8/06 20:28:12:438 EDT] 0000000a WSChanne]Fram A [10/8/06 20:28:12:438 EDT] 0000000a WSChanne]Fram A [10/8/06 20:28:12:453 EDT] 0000000a WSChanne]Fram A [10/8/06 20:28:12:453 EDT] 0000000a WSChanne]Fram A [10/8/06 20:28:12:453 EDT] 000000023 SchedulerServ I [10/8/06 20:28:12:469 EDT] 000000023 SchedulerServ I [10/8/06 20:28:12:469 EDT] 00000023 SchedulerDaem I	CHFW0019I: The Transport Channel Service has started chain CHFW0019I: The Transport Channel Service has started chain CHFW0019I: The Transport Channel Service has started chain CHFW0019I: The Transport Channel Service has started chain SCHD0077I: The Scheduler Service is starting the Scheduler ADMC0026I: The RMI Connector is available at port 2810 SCHD0038I: The Scheduler Daemon for instance wps/Scheduler

- ____ d. Back in the administrative console, in Step 5 of the model Life cycle, enter 'localhost' for Host name
- ____e. Enter your RMI Port that you found in the Portal log, for example:



#### _ f. Click Create

If you get an error here, indicating a connection problem, there may be an issue with the Portal configuration. Refer to Appendix 2 now and run the steps there as a workaround for this problem. After completing the workaround, return here and proceed with the next step. Here is a sample of the error:

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Address 🛃 http://localhost:9062/	/ibm/co	sole/secure/logon.do		💌 🋃 Go	0
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Servers		onitor Lifecycle Steps			
Applications		🛛 Messages		Field help For field help	
<ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul>		<ul> <li>CWMAX4204E: The Manage Alpha</li> <li>CWMLC0160E: Unable to establish connection. Cause:</li> <li>[com.ibm.websphere.management.e</li> <li>ADMC0017E: Could not create an Rh host localhost at port 2810].</li> <li>CWMAX4200E: An error has occur</li> </ul>	h Alphablox server exception.ConnectorException: MI connector to connect to	information, select a field label or list marker when the help cursor appears.	
⊞ Resources		com.ibm.websphere.management.ex	ception.ConnectorException:		
I Security		ADMC0017E: Could not create an RM host localhost at port 2810	VI connector to connect to		
Environment					
Integration Applications			283		
		ClipsAndTacks > 2006-11-02T09:13:			
Monitoring and Tuning		Steps required for managing the lifecycle	e of a model version.		
		Step 1: Run Manage Alpha	olox Cube	1	•
☑ Service integration	•				
🥖 Done				Second Intranet	3

- _____7. Run step 6 of the model life cycle
  - ___a. Click Step 6

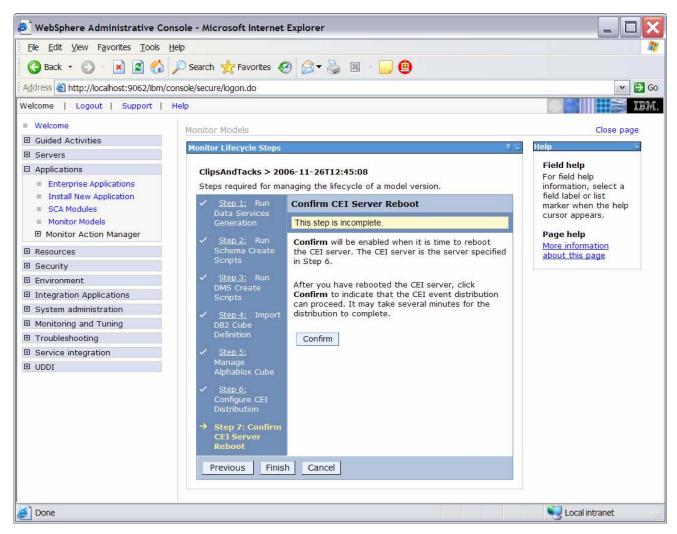
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Velcome   Logout   Support	Help		
<ul> <li>Welcome</li> <li>Guided Activities</li> <li>Servers</li> <li>Applications <ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> </ul> </li> <li>Resources</li> <li>Security</li> <li>Environment</li> <li>Integration Applications</li> <li>System administration</li> <li>System administration</li> <li>Service integration</li> <li>UDDI</li> </ul>	DMS Create Scripts ✓ <u>Step 4:</u> Import DB2 Cube Definition ✓ <u>Step 5:</u> Manage Alphablox Cube → Step 6: Configure CEI Distribution <u>Step 7:</u> Confirm CEI Server Reboot	help for more information on changing the mode.   □ CEI Server Configuration   Event groups list   Location   • Local    RMI port   Cell   IBM-6161E0131CONG   Node   Browse Nodes    Server   Browse Servers    Disabled    Enabled   User ID   Password   Distribution Mode   Current   Inactive   Target   Active	Field help For field help information, select a field label or list marker when the help cursor appears.
	Previous Next	Apply Cancel	

- ___ b. Click Apply
- ____8. Run step 7 of the model life cycle
  - ____a. Click Step 7
  - ____b. The Confirm button on the screen for Step 7 should be enabled. If it is not, wait a few minutes, then refresh the screen. When the Confirm button is enabled, continue with the following steps.
  - ____ c. In the administrative console navigation pane, select System administration > Save Changes to Master Repository, then click Save
  - ____ d. Recycle the Process Server
    - 1) In Windows, select Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Stop the server
    - 2) In Windows, select Start > All Programs > IBM WebSphere > Process Server 6.0 > Profiles > wbmonitor > Start the server

- ____e. Re-open the administrative console for Process Server.
- ____f. In the administrative console menu, click Applications > Monitor Models
- ____g. Click the timestamp in the version column

### ___h. Click Setup Wizard

____i. It should detect that Step 6 is complete and automatically move to step 7 as follows



#### ___ j. Click Confirm

____k. Click **Finish** and you will return to the Monitor Models screen.

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<ul> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> </ul>		stop a applica	version of a mor tion. Additional o tion links.	itor model, you	must start	ciated applications. T or stop the associate king the Model, Versi	ed	information, select a field label or list marker when the help cursor appears.
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Monitoring and Tuning			88					
Troubleshooting	-							
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_ 9. 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.

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System administration		Total	1					
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	-							

10. Check the Process Server log to ensure there are no problems. For example, check C:\IBM\WebSphere\ProcServer\profiles\wbmonitor\logs\server1\SystemOut.log

# Part 4: Configure the action manager for business situation events

If you have an LDAP server, then this section shows you how to configure the action manager to create alerts based on business situation events defined in the monitoring model. The alerts will be visible in the Alert view on your dashboard.

If you do not have an LDAP server, then you can skip this section. The outgoing events will be created for the business situations, but they will not result in entries in the Alert view on your dashboard.

- _____1. Configure the LDAP Server in the action manager.
  - ____a. In the Monitor administrative console, navigate to **Applications > Monitor Action Manager > Configuration.**
  - ___ b. Click tab LDAP.
  - ____ c. Add your LDAP information as in this sample:

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Address 🙆 http://localhost:9062/ibm	/console/secure/logon.do	🗸 🗸 🖌 🕞 GO
Welcome   Logout   Support	Help	
Welcome	Configuration	Close page
Guided Activities	Configuration 7 -	Help -
<ul> <li>Applications</li> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> <li>Configuration</li> <li>Template Definitions</li> <li>Installed Situation Event Bindings</li> <li>Resources</li> <li>Security</li> <li>Environment</li> </ul>	Configuration Global configuration values that persist for each template of the given type. General LDAP General Properties LDAP URL Idap://your.server.com:389 LDAP user ID cn=root LDAP password •••••••• LDAP alert Juid	URL to the LDAP server. Page help More information about this page
<ul> <li>Integration Applications</li> <li>System administration</li> <li>Monitoring and Tuning</li> <li>Troubleshooting</li> <li>Service integration</li> <li>UDDI</li> </ul>	LDAP cell phone mobile LDAP email mail LDAP pager pager Apply OK Reset Cancel	
6		Succal intranet

- _____ d. You are going to setup an Alert in this lab, so make sure the LDAP Alert field is set to the identifier for the user ID that you want to use from your directory server. You also need a user defined in Portal on the Dashboard Server which matches this user ID. For this example, uid = wpsadmin has been defined in the directory server, then you will login to Portal with this same user ID to see the alerts. Click OK.
- ____e. Here is a sample of your user in the directory server:

🔹 LDAP Browser\Editor v2.8.2 - [ldap://wsbeta057.austin.ibm.com/dc=ibm,dc=com] 📃 🗖 🖻						
<u>File Edit View LDIF H</u> elp						
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∲- 🗂 ou=people	a cn	Barbara Jensen	<b></b>			
uid=wpsadmin	departmentNumber	2604	333			
	displayName	Babs Jensen	3998			
	employeeNumber	5234				
	employeeType	full time				
	facsimileTelephoneNumber	+1 999 555 1992				
	givenName	Barbara				
	homephone	+1 999 111 2225				
	initials	BJJ	-			
		3888 ·				
Ready. No entries returned.			U			

- __2. Restart the Action Manager application for the configuration changes to take effect.
  - ____a. In the administrative console, navigate to **Applications > Enterprise Applications**.
  - ____ b. Click to check **IBM WB ACTIONMANAGER**. Click **Stop**.
  - ____ c. Click to check IBM WB ACTIONMANAGER. Click Start.
- ____ 3. Add a template for declined order alerts.
  - ____a. In the administrative console, navigate to Applications > Monitor Action Manager > Template Definitions > Notifications.
  - ___ b. Click New.
  - ____ c. Enter a name for the template and a description.
  - ___ d. Select Alert.
  - _____e. Enter an LDAP Query that will bring up the user that you want to alert. This query can match one or more users, and then each of the users will be alerted. To bring up all the users in the directory, you could enter this: (&(objectclass=top)(objectClass=inetOrgPerson)).
  - ___ f. Enter a subject.
  - ____g. Enter the body.

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Monitor Action Manager	AlertDeclined	
<ul> <li>Configuration</li> <li>Template Definitions</li> </ul>	Description	
Notifications	Notification of declined orders	
Web Services	Action service type	
Installed Situation	<ul> <li>Alert</li> </ul>	
Event Bindings	Cell phone	
E Resources	O Email	
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■ Integration Applications	To (LDAP query) )(objectClass=inetOrgPerson))	
System administration	Subject	
<ul> <li>Monitoring and Tuning</li> </ul>	Declined orders	
	Body	
Service integration	Too many orders have been	
	declined.	
	LDAP root	
	Apply OK Reset Cancel	
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___ h. Click **OK**.

- 4. Add a template for order processing time alerts.
  - ____a. In the administrative console, navigate to Applications > Monitor Action Manager > Template Definitions > Notifications.
  - ___ b. Click New.
  - ____ c. Enter a name for the template and a description.
  - ___ d. Select Alert.
  - ____e. Enter an LDAP Query that will bring up the user that you want to alert. This query can match one or more users, and then each of the users will be alerted. To bring up all the users in the directory, you could enter this: (&(objectclass=top)(objectClass=inetOrgPerson)).
  - ___f. Enter a subject.

____g. Enter the body, and you can optionally enter a substitution variable as shown above. For the actual alert that is sent, the average order processing time from the event payload will be substituted for %AverageOrderProcessingDays% in the body.

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___ h. Click **OK**.

- _____5. Add the binding from the situation event to the action type for declined orders.
  - ____a. In the administrative console, navigate to Applications > Monitor Action Manager > Installed Situation Event Bindings.
  - ___ b. Click New.
  - ____ c. Enter the situation event name that you defined in the model. In this lab, there is a business situation named **Too many orders have been declined**.

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B Servers			
Applications	Installed Situation Event Bindings > N		
Enterprise Applications	Bind one or more templates and their res	pective action services to a situation event.	
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<ul> <li>Monitor Action Manager</li> <li>Configuration</li> </ul>	* Situation event name Too many orders have been de		
Template Definitions			
Notifications	Description Declined Orders		
Web Services			
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____d. This must match exactly the value in the BusinessSituationName field in the outbound event. You may want to copy/paste from the model. Here is a screen capture from the model showing the Declined Order Outbound Event:

Business Monitoring - ClipsAndTac	ks - IBM WebSphere Integ	gration Developer	_			
<u>Eile E</u> dit <u>N</u> avigate Se <u>a</u> rch <u>P</u> roject <u>R</u> ui	n <u>W</u> indow <u>H</u> elp					
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KPI Model						
ClipsAndTacks My KPI Context Average Order Fulfilment KPI Aug Average Order Price KPI (Dollars) Declined Order KPI Declined Order SAproved KPI	event definition.	Edit the details of the outbound event, which is sent by the monitoring context. The type must event definition.				
		r Outbound Event				
<ul> <li>Declined Order Trigger</li> <li>Declined Order Outbound Event</li> </ul>	Description:			~		
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	Name	Туре	Expression			
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	BusinessSituation	lame string	'Too many orders have been declined'			
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<	✓ Filter Condition		Add Rem	ove		
Monitor Details Model Data Mart Model KPI M	lodel Visual Model Event Mode	I ClipsAndTacks.mm				

- ____e. Enter a description, then click **Apply**.
- ___ f. Click Add.
- ____g. Select the template AlertDeclined.

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Welcome	Installed Situation Event Bindings	Close page
Guided Activities	Installed Situation Event Bindings 2	- Help -
<ul> <li>Servers</li> <li>Applications</li> <li>Enterprise Applications</li> <li>Install New Application</li> <li>SCA Modules</li> <li>Monitor Models</li> <li>Monitor Action Manager</li> <li>Configuration</li> <li>Template Definitions</li> <li>Notifications</li> <li>Web Services</li> <li>Installed Situation Event Bindings</li> </ul>	Installed Situation Event Bindings       > Add Template to Situation Event Binding.         Add a template definition to a situation event binding.         Add Template to Situation Event Binding         General Properties         Template name         AlertDeclined ▼         Apply       OK         Reset       Cancel	Field help For field help information, select a field label or list marker when the help cursor appears. Page help More information about this page
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- ___h. Click OK.
- _____i. 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. So then you could send a notification for this situation to multiple destinations including e-mail, alerts and Web services.

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- ___6. Add the binding from the situation event to the action type for order processing time.
  - ____a. In the administrative console, navigate to Applications > Monitor Action Manager > Installed Situation Event Bindings.
  - ___ b. Click New.
  - _____c. Enter the situation event name that you defined in the model. In this lab, you created a business situation name **Average shipment is too late**. This must match exactly the value in the BusinessSituationName field in the outbound event. You may want to copy/paste from the model. Here is a screen capture from the model showing the Order Fulfillment Outbound Event:

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KPI Model			
ClipsAndTacks	Outbound Event Details Edit the details of the outbound e ID: Order_Fulfillment_O		ent by the monitoring context. The type must be an event definition.
Declined Order KPI	Name: Order Fulfillment Ou	tbound Event	
Lip Percent of Orders Approved KPI     Declined Order Trigger     Order Fulfilment Timer Trigger     Kologe Order Outbound Event	Description:		~ ~
R Order Fulfillment Outbound Event	Type: LateAverageOrderS	hippedEvent	Browse
	when the event is sent.		nt. Use the Expression column to specify the value for each event attribute
	Name		Expression
	Order Fulfilment Timer Trigger Property Data		
	E Extended Data		
	AverageOrderProcessing BusinessSituationName		string(decimal(Average_Order_Fulfilment_KPI_August_2006) div 86400) 'Average shipment is too late'
<			Add Remove
	al Medal Press Medal Observed Tool		
Monitor Details Model Data Mart Model KPI Model Visu	Jai Model   Event Model   ClipsAndTack	s.mm	

- ____d. Enter a description, then click **Apply**.
- ___e. Click Add.
- ____f. Select the template AlertLate, then click OK.
- 7. In the administrative console, navigate to **Applications > Monitor Action Manager > Installed Situation Event Bindings.** You should see two bindings as follows:

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<ul> <li>Configuration</li> <li>Template Definitions</li> <li>Notifications</li> </ul>			Too many orders have been declined	Situation Event Description Declined Orders	about this page
Web Services			Average shipment is too late	Average shipment is too late	-
<ul> <li>Installed Situation Event Bindings</li> </ul>		Total	2		
E Resources					
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8. Make sure that your LDAP Server is started before continuing.

## Part 5: Run events to exercise the model

Rather than installing a J2EE application to actually create the events that you would like to monitor, you are going to use a program to simulate the submission of events from the application.

The supplied program is 'BatchCBEWriter' and it will submit the events to the Common Event Infrastructure. Look for the program in \Labfiles602\ClipsAndTacks\BatchCBEWriter. This program reads XML files which represent the common base events for the model.

- 1. Update BatchCBEWriter.bat to point PROCSERV_HOME to the Process Server home, for example 'set PROCSERV_HOME=C:\IBM\WebSphere\ProcServer'
- 2. Update config.properties, setting the serverName and portNumber. You can find the port number by browsing the Process Server log and finding 'bootstrap port'. For example, check for the log at C:\IBM\WebSphere\ProcServer\profiles\wbmonitor\logs\server1\SystemOut.log. Here is an example of the config.properties settings:

___a.connect.serverName = localhost

___b.connect.portNumber = 2811

_____3. Open a command window, then change directory to the folder containing BatchCBEWriter, for example, type this command

____a. cd \Labfiles602\ClipsAndTacks\BatchCBEWriter

- ____4. Run commands to load the common base events to Process Server. In the following example replace <x_y> with the actual value on the file names:
  - ___a. BatchCBEeWriter –Dsource.filename=c:\Labfiles602\ClipsAndTacks\cbe\flow<x_y>.xml

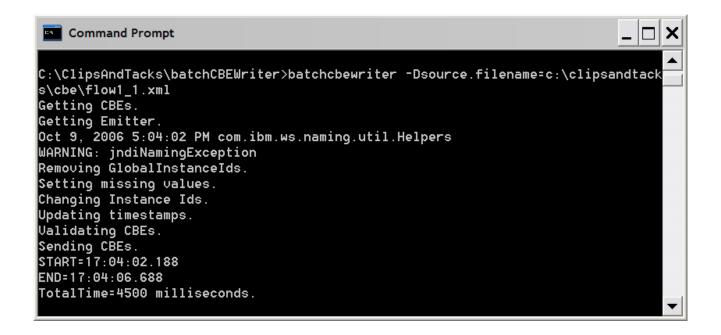
Note: There are 20 common base event files, so this can become tedious because you need to submit this 20 times. If you have a separate folder that contains all of the files, then you can invoke the BatchCBEWriter just one time as follows and it will process all the files in the folder:

BatchCBEWriter –Dsource.filename=<path to folder>

Substitute your folder name for <path to folder>, for example:

BatchCBEWriter – Dsource.filename=c:\Labfiles602\ClipsAndTacks\cbe

__ 5. When you run BatchCBEWriter, you should see results such as:



- __6. To verify that Monitor is processing these properly, open the DB2 Control Center. In Windows, select Start > All Programs > IBM DB2 > General Administrative Tools > Control Center
  - _____a. In the MONITOR database, open table CTX_CLIPSANDTACKS_MC. You may see records as in this example. Note however, that the replication daemons are running, so do not be alarmed if you do not see records, since they may have already been deleted and moved to the DATAMART database. In this case proceed to the next step to check the DATAMART database.

Po Open Table	Copen Table - CTX_CLIPSANDTACKS_MC						
IBM-6161E0131C0	- DB2 - MONITOR - \	WBI.CTX_CLIPSANDTACKS	S_MC				
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2		Oct 9, 2006 5:04:19 PM				03	
3	1159868127	Oct 9, 2006 5:04:24 PM				04	
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7	1159868127	10 of 9 2006 5:15:32 PM		1		ln8	
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_____b. In the DATAMART database, open table FCT_CLIPSANDTACKS_MC. You should see records as in this example. You may have to wait a few minutes for the Replication Manager daemons to run. If so, wait a few minutes, then click View > Refresh in the Control Center.

Copen Table - FCT_CLIPSANDTACKS_MC							
IBM-6161E0131C0 -	IBM-6161E0131C0 - DB2 - DATAMART - WBI.FCT_CLIPSANDTACKS_MC						
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5		1159868127 1159868127		4252	Aug 22, 2 Aug 22, 2		
10		1159868127	o11	4253	Aug 23, 2		
15		1159868127 1159868127		4254	Aug 23, 2 Aug 24, 2		
16		1159868127	in17	4254	Aun 24 2		
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____ c. Close the DB2 Control Center.

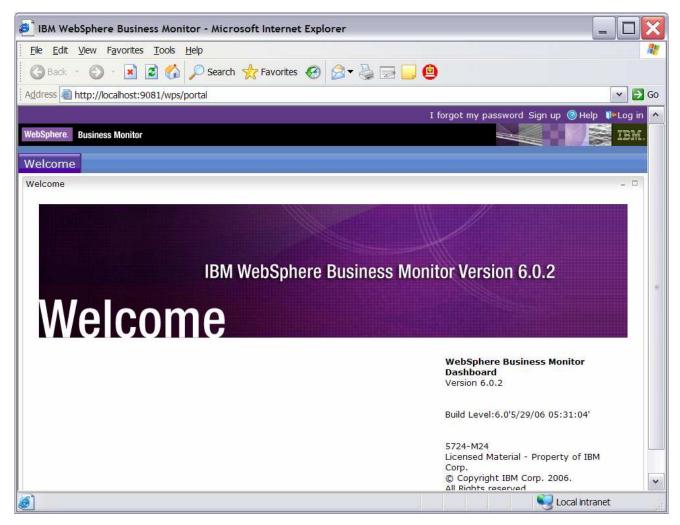
### Part 6: Create a dashboard

In this section you will build a dashboard in WebSphere Portal Server. You will add portlets to the dashboard and configure them.

_ 1. Make copies of the portlets that you want to use: Instances, Dimensional View and KPI View.

You should not configure the original portlets, since the configuration cannot be removed once it is applied. So you will make copies of the portlets, then you will configure the copies.

___a. Open the Portal page, http://localhost:9081/wps/portal



- b. Click Log in, then enter your Portal administrative user ID and password (commonly wpsadmin/wpsadmin).
- ___ 2. Create copies of the Monitor portlets.
  - ____a. Click on Administration at the top of the page, and then click Portlet Management > Portlets.

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WebSphere. Business Monitor	Administration			
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Web Modules Applications <b>Portlets</b> Web Services	<b>Portlets</b> Click Copy to create a duplicate parameters. Click Delete to remove the po with the portlet.			
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2	Title Provi	led Remote portlet	Status	
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Virtual Portals	Themes and Skins			* • 2 • 2
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		Page	1 of 11 🕨 💓 Jump to	page: 1
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- ____b. Browse to page 10 by clicking on the arrow icons or entering the page number in the 'Jump to page' navigation box and then clicking the arrow icon . This page should show the portlets for Dimensional View and Instances.
- ____ c. On the row containing **Dimensional**, click the icon for **Copy portlet (**) You should see this window:

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	My Portal Administration Edit my profile Actions 👻 🎯 Help 🚺 Log out 🔿
WebSphere. Business Monitor	Administration
Vortal User Interface	Manage Portlets
Portlet Management Web Modules Applications Portlets Web Services Web Clipping	Copy portlet         Image: A new portlet application will be created when you make a copy of a portlet. The copied portlet will be associated with the new portlet application that gets created. Please provide a name for the new portlet application and a name for the portlet that is being copied.         Please provide the new name for the portlet application WebSphere Business Monitor v6.0.2 - Dashboard Concrete Application:         Copy of WebSphere Business Monitor v6.0.2 - Dashboard Concret
Access	Please provide the new name for portlet Dimensional: Copy of Dimensional
Portal Analysis Virtual Portals	OK Cancel
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- ___ d. Click **OK**.
- ____e. On the row containing **Instances**, click the icon for **Copy portlet** (^D). On the next window, click **OK**.
- _____f. Now **Browse to page 11** by clicking on the arrow icons. This page should show the portlet Key Performance Indicator (KPI) plus the copies of the portlets for Dimensional and Instances.
- _____g. On the row containing **Key Performance Indicator (KPI)**, click the icon for **Copy portlet (**). On the next window, click **OK**.
- ____h. Now Browse to page 10 by clicking on the arrow icons. This page should show the portlet Alert.
- _____i. On the row containing **Alerts**, click the icon for **Copy portlet** (^[]]). On the next window, click **OK**.
- ____j. Now **Browse to page 11** by clicking on the arrow icons. This page should show the four portlets that you copied.

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Portal User Interface	Manage Portlets + 2 ? = □	
Portlet Management Web Modules Applications Portlets	Search by:       Title starts with       Search:       Search         Portlets       Click Copy to create a duplicate of the portlet. Click Configure to set titles, descriptions and parameters. Click Delete to remove the portlet from your portal. Click Assign Access to allow others to work with the portlet.	in .
Web Services	Page 11 of 11 Jump to page: 11	
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	Copy of Instances 🛞 🖸 🖉 🛍 🔎	
Portal Settings	Copy of Key Performance Indicator (KPI)	
Portal Analysis	Copy of Alerts	
Portal Analysis	📕 🖪 Page 11 of 11 Jump to page: 11 🕐	
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- ____ 3. Create a page containing four views: Instances, Dimensional, Key Performance Indicator (KPI), Alerts.
  - ____a. Click on Administration at the top of the page, and then click Portal User Interface > Manage Pages.

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____b. Click **My Portal**, then click the button '**New Page**'. Enter a page title 'Dashboard'. For Type of Page, it defaults to a two column layout, but click the radio button on the far left to select the one column layout. Click **OK**, click **OK**. Now you should see the new page in the list as follows:

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____ c. Click on the 'Edit Page Layout' icon for Dashboard. You will find it to the right side of the row for Dashboard: 🖉 . This will open the editor for this page.

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+ Add portiets
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_____ d. Click button 'Add portlets'. You will see a list of portlets. There are multiple pages of these and you can use the navigation at the bottom of the list to look at them. Find 'Copy of Dimensional', 'Copy of Instances', 'Copy of Key Performance Indicator (KPI)', 'Copy of Alerts' (they are on the last page), and check all of them.

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	/	Copy of Instances	WebSphere Business Monitor v6.0.2 - Instances The Instances view displays the
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	/	Copy of Alerts	WebSphere Business Monitor v6.0.2 - Alert The Alerts view displays notifications
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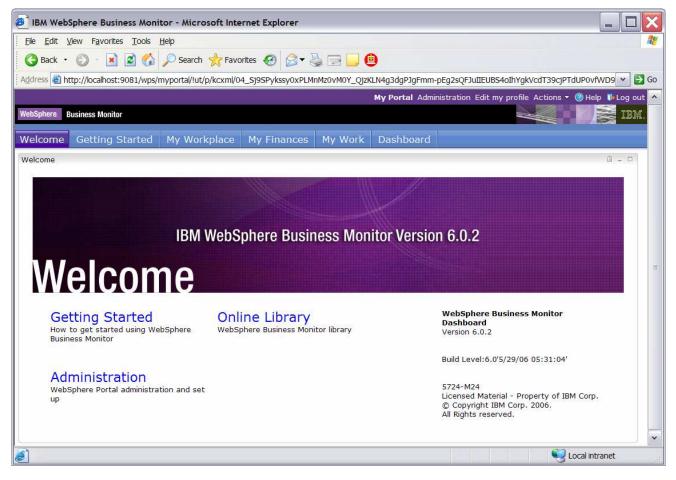
___e. Click OK.

____f. This shows that the views have been added to the page:

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___ g. Click Done.

____h. Click **My Portal** at the top of the page. This window opens and you see that there is now a tab for **Dashboard**.



- 4. Configure the views on your new page.
  - __ a. Click on the tab for **Dashboard**. You can use the Alert view immediately, but the other views need to be configured:

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This view is not configured yet. Click the Configure icon on the portlet toolbar to start the configuration.			iii
Copy of Key Performance Indicator (KPI)	17	-	
No KPIs have been selected. Click the Edit icon on the portlet navigation bar to select the KPIs you want to display.			
Copy of Alerts	07	-	57
Mark Read Mark Unread Remove			
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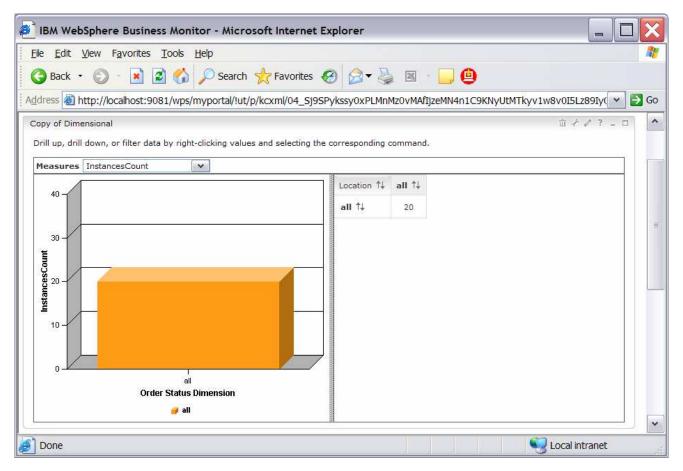
____b. Click the **Configure** icon on the **Copy of Dimensional** portlet.

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Select a monitor model and cube in order to modify dimensions. If a cube begins with an asterisk, the associated cube is not available to Alphablox.	
Monitor model:	
No model selected 💌	
Cube:	
No subject area selected	
Available dimensions: Row dimensions:	
Add >	Ш
< Remove	
Column dimensions:	
Add >	
Page dimensions:	
Add >	
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Back Next OK Cancel	
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http://www.ibm.com/	

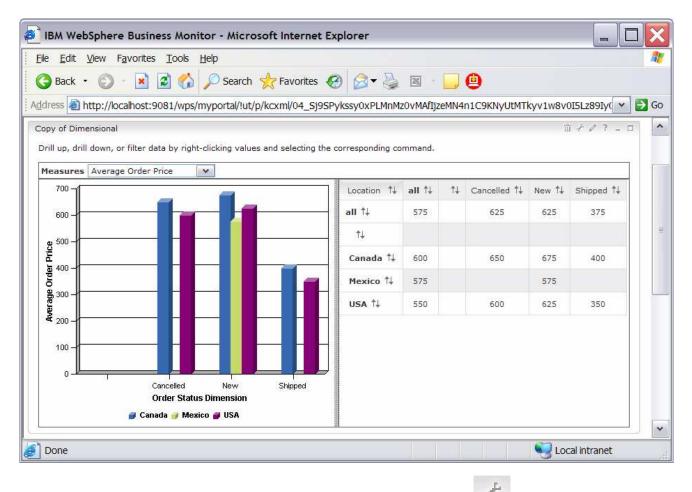
- ____ c. For Monitor model, select **ClipsAndTacks**.
- ____d. For Cube, select CLIPSANDTACKS MC CUBE <timestamp>
- ____e. In Available dimensions, select **Measures**, then next to Page dimensions, click **Add**.
- ____f. In Available dimensions, select **Location**, then next to Row dimensions, click **Add**.
- ____g. In Available dimensions, select **Order Status Dimension**, then next to Column dimensions, click **Add**.
- ____h. The screen should look like this:

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Welcome Getting Started My Workplace	My Finances My Work Dashboard	
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is not available to Alphablox. Monitor model: ClipsAndTacks Cube: CLIPSANDTACKS MC CUBE 2006_11_02T09_ Available dimensions: Start Time Dimension TerminationTime CreationTime Add > < Remove Add > < Remove	13_58  Row dimensions: Location Column dimensions: Order Status Dimension Page dimensions: Measures	
Back Next OK Cancel		~
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- ___ i. Click Next.
- __ j. Click **OK**.
- ____k. This shows the configured portlet:



- ____I. You are currently looking at the instances count. To see other measures, click on the **Measures** drop down list. Select **Average Order Price**.
- ____ m. Currently you are seeing data at the top level. In the tabular view on the right, double click on all in the column to drill down on Order Status. Double click on all in the row to drill down on Location. Here is a sample:



____n. Click on the **Configure** icon for the **Copy of Instances** portlet.

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WebSphere. Business Monitor
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Select a monitor model, a monitoring context, and one or more metrics to be shown in the View mode.  Monitor model:
Monitoring context:
Metrics:
Metrics for administration:
Back Next Finish Cancel
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- ____ o. For model, select ClipsAndTacks.
- ____p. For monitoring context, choose ClipsAndTacks MC.
- ___ q. For metrics, check Select All.

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ClipsAndTacks Key Order Start Time	Order End Time country	Order Fulfillment Duration city
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#### ___ r. Click Next.

____s. On the next screen, select the check box for Monetary Metric for totalPrice, and select USD for the Currency, as you see in this screen capture:

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- ____t. Click Next, Next, Finish.
- ____ u. By taking the defaults, you configured the view to show both active instances and completed instances.

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# ____v. Click on the Edit icon for the Copy of Key Performance Indicator (KPI) portlet.

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KPI Name ↑↓	Monitor Model 1+	Show in View	Personalize				
Average Order Fulfillment KPI August 2006	ClipsAndTacks						III
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Percent of Orders Approved KPI	ClipsAndTacks		<u>E</u>				
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____w. In column **Show in View**, check all four check boxes.

____ x. Click OK.

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Declined Order KPI		4	3			
Percent of Orders Approved KPI		20	90			
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____y. For the **Alerts** portlet, no configuration is needed. Click on one of the alerts in the Subject column and you can see the details for the alert.

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opy of Alerts Details:	© 2 ?	
Date and time: Nov 13, 2006 5:13:38 PM	<ul> <li>□ (D) CommonBaseEvents</li> <li>⇒ xmlns: http://www.ibm.com/AC/commonbaseevent1_0_1</li> <li>⇒ xmlns:xsi: http://www.w3.org/2001/XMLSchema- instance</li> <li>⇒ xsi:schemaLocation: http://www.ibm.com/AC/commonbaseevent1_0_1 commonbaseevent1_0_1.xsd</li> <li>□ (D) CommonBaseEvent</li> </ul>	-
Back	<ul> <li>creationTime: 2006-11-13T22:13:34.109Z</li> <li>extensionName: DeclinedOrderEvent</li> <li>globalInstanceId: CEBB69F60FDD12E6D5A1DB736435871290</li> <li>priority: 50</li> <li>sequenceNumber: 1</li> </ul>	×

IBM WebSphere Business Monitor 6.0.2 - Lab exercise

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### What you did in this exercise

In the lab, you created a monitoring model using WebSphere Integration Developer.

Then you deployed the model to WebSphere Business Monitor.

You ran model life cycle steps, created Monitor database and replication manager artifacts. You started the replication manager daemons.

You imported the cubes to Cube Views.

If you had an LDAP server, then you also configured Action Manager to create alerts based on business situation events.

You used the supplied program to simulate the submission of events from the monitored application.

You configured Dashboards and viewed monitored data in several different types of views.

# Appendix 1 – Import the solution into the monitoring model editor

A solution has been provided so that you do not have to build the model from scratch. This section shows you how to import the monitoring model into WebSphere Integration Developer. After importing the model then you can proceed to generate the EAR and deploy the model.

- 1. Start WebSphere Integration Developer and setup the environment.
  - ____a. Start WebSphere Integration Developer V 6.0.2, and when prompted point to a new workspace such as c:\workspaces\ClipsAndTacks
  - ____b. Close the Welcome tab.
  - ____ c. Select Window > Preferences > Workbench > Capabilities. Make sure that 'Advanced J2EE' is selected.
  - _____ d. By default, you are in the Business Integration perspective. You want to open the Business Monitoring perspective. Select Window > Open Perspective > Other > Show all > Business Monitoring.
  - ____e. If it asks you to Confirm Enablement, then click **OK**.
- 2. Create a new monitoring project.
  - ____a. Right click the Project Explorer, then select New > Business Monitoring Project...
  - ____b. For Project name, enter ClipsAndTacks
  - ____ c. Click Finish. You will see the new project in the Project Explorer view.
- _____ 3. Import the supplied mm and cbe files.
  - ____a. Right click in the Project Explorer view, and then select Import...
  - ____b. Select **File system**, and then click **Next**.
  - ____ c. Browse to the location containing the files, for example, c:\Labfiles602\ClipsAndTacks
  - ____d. Select ActivityEvent.cbe
  - ____e. Select ClipsAndTacks.mm
  - ____f. Select DeclinedOrderEvent.cbe
  - ___g. Select LateAverageOrderShippedEvent.cbe
  - ___h. Select NewOrderEvent.cbe
  - ___ i. Click Finish.
- 4. Expand the project in the Project Explorer view, then expand the Event Definitions and you will see the new events listed. Expand Monitor Models and you will see the new ClipsAndTacks model listed.
- ____5. Now you can proceed to the section to generate the EAR for the monitoring model.

## Appendix 2 – Workaround for step 5: Manage Alphablox cube

If you receive a connection error running Step 5 of the life cycle steps, then you can use this appendix to complete a workaround. In this section you will manually import the cube in Alphablox, then you will mark this step complete in the life cycle table.

- _____1. Copy the cube name from OLAP Center
  - ___ a. In Windows, select Start > All Programs > IBM DB2 > Business Intelligence Tools > OLAP Center
  - ____b. Enter your DB2 user ID and password
  - ____ c. You should see the cube model listed as follows:

OLAP Center	_ 🗆 🗙
OLAP Center Selected View Tools Help	
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DATAMART Cube Models CLIPSANDTACKS MC CUBE 2006_11_02T09_13_58 CLIPSANDTACKS MC CUBE 2006_11_02T09_13_58	CREATIONTIME 20.

____ d. Right click on the cube model, and then select Properties...

____e. Use the mouse to select the text in the Name field as you see here:

Gube Mode	l Properties
General	
Name	CLIPSANDTACKS MC CUBE 2006_11_02T09_13_58
Business name	CLIPSANDTACKS MC CUBE 2006_11_02T09_13_58
Schema	WBI
Comments	
Creator	DB2ADMIN
Create time	11/4/06 8:18 AM
Modifier	DB2ADMIN
Modify time	11/4/06 8:18 AM
	OK Cancel Help

- ____f. Then press Ctrl-C keys to copy the text to the clipboard.
- ____ g. Click Cancel, then close the OLAP Center.
- ____ 2. Define the cube to Alphablox.
  - ____a. If the WebSphere Portal server is not running, start it using Start > All Programs > IBM WebSphere > WebSphere Portal V5.1 > Start the Server.
  - ____ b. Start Alphablox in a browser Start > All Programs > IBM DB2 Alphablox 8.4 > AlphabloxAnalytics > DB2 Alphablox Administrative Pages.

Note: You may find that Windows will block your attempt to access the page and you should see this in the Internet Explorer window in a yellow information bar at the top. Click on this bar and select Allow Blocked Content... to continue:

Eile       Edit       View       Favorites       Iools       Help         Image: Second
🕞 Back 👻 🕤 👻 🗷 🔗 Search 💠 Favorites 🥝 🔗 🛪 🎭 🧮
Address 🖉 C:\IBM\DB2Alphablox\system\AdministrativePages.html
😥 To help protect your security, Internet Explorer has restricted this file from showing active content that could access your computer. Click bere for options
Allow Blocked Content
What's the Risk?
Information Bar <u>H</u> elp

____ c. When it prompts for it, enter user ID: admin, password: password. You should see a window like this:

View Favorites	a car i de	ch 🔥 Envoritor	Ø 🖉 🎍 🛚	a . 🗖 🚯	
http://localhost:90			· • • • • • • •	4 · 🖵 🤩	
DB2. Alphablo				My Pr	ofile   Help <del>-</del>
				•	iceans & color.
APPLICATION	And Different				4.0 Build 134 [GA]
General	Groups	Users	Applications	Data Sources	Cubes
General Propertie	es				
System Telnet Console Repository Manag	nor				
DB2 Alphablox Cube Manager	Jer				
Cluster Options					
Custom Properti	es				
User Definitions Application					
Definitions					
Runtime					
Management Comments	- m				
DB2 Alphablox Cubes					
Application Sessions					
PDF Reports (DHTML)					
Console					
Start Console					
Session Bostal					
Portal Portal Theme Utili	tv				

____d. Click on tab '**Cubes**' at the top of the Alphablox window. Click **Create**. You should see a window like this:

DD2 Alabablay Cuba		
DB2 Alphablox Cube	DB2 Alphablox Cube Name	
🛛 🇊 New Cube	New Cube	
🖽 🧰 Measures	Status: the cube is currently stopped.	
🖽 🗀 Dimensions	* <u>R</u> elational Data Source	
🖽 🗀 Calculated Members	Select a data source 💌	
🕅 Schedule	Security Role	
🗊 Tuning	► Enabled	
	Enable DB2 Cube Views Settings	
	Enable Obz Gube views Settings	
	DB2 Cube Views Settings	
	Cube Model	
	Cube	
	*	
	Use Business Names	
	Cise Business Names	
	o use object names	
	Import Cube Definition Show Import Log	
	Import cube definition on start, rebuild, and edit.	
	* required field	
Delete Selected		
Delete Selected		

- ____e. Click the check box 'Enabled' next to the DB2 Alphablox Cube Name.
- ____f. Use keys Ctrl-V to replace New Cube with the correct cube name.
- ____ g. Select **DATAMART** for the Relational Data Source.
- ____h. Click the check box 'Enable DB2 Cube Views Settings'.
- ____i. Select the model in the Cube Model dropdown, then click button 'Import Cube Definition'.
- ____j. You should have a screen like this:

DB2 Alphablox Cube CLIPSANDTACKS MC CUBE 2006_11_26T Measures InstancesCount Order Count Order Count Average Order Fulfillment Average Order Price Sum Order Price Average Order Price Average Order Price TerminationTime InstancesTrue Dimension Ins	Status: the cube is currently stopped.
Celete Selected	Import cube definition on start, rebuild, and edit. ★ required field          OK       Cancel       Apply       Help

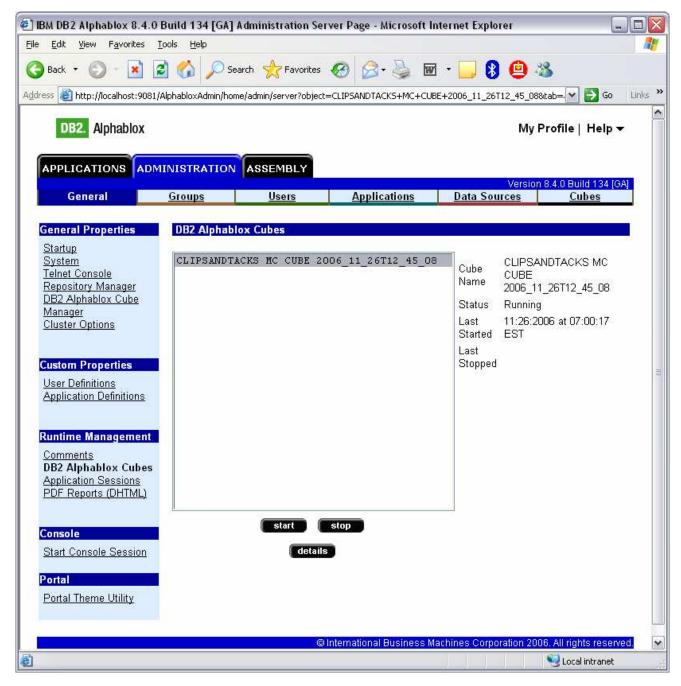
- ____k. Note that the DB2 Alphablox Cube Name must match exactly the Cube Model name, except the 'WBI.' prefix is removed from the DB2 Alphablox Cube Name.
- ___I. Click **OK** to save the definition. Then you will see it added to the list as follows:

🕙 IBM DB2 Alphablox 8.4.0 Build 134 [GA] A	dministration Cu	ibe Page - Microsoft I	Internet Explorer	
<u>Eile E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools <u>H</u> elp				
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Address 🕘 http://localhost:9081/AlphabloxAdmin/hom	e/admin/cube/?init=tri	e		🖌 🎦 Go 🛛 Links 🎽
DB2. Alphablox				My Profile   Help 🛨
APPLICATIONS ADMINISTRATION	ASSEMBLY			Version 8.4.0 Build 134 [GA]
<u>General</u> <u>Groups</u>	<u>Users</u>	<u>Applications</u>	Data Sour	ces Cubes
DB2 Alphablox Cubes filter: CLIPSANDTACKS MC CUBE 2006_11_26 filter: f		International Business	Machines Corpora	atión 2006. All rights reserved.
Done				Succal intranet

___ m. Click on the **General** tab at the top of the Alphablox window. Then click **Runtime Management** > DB2 Alphablox Cubes.

街 IBM DB2 Alphablox 8.4	.0 Build 134 [GA] A	dministration Se	rver Page - Microsoft Iı	nternet Explorer		
<u>File E</u> dit <u>V</u> iew F <u>a</u> vorites	<u>T</u> ools <u>H</u> elp					
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Address 🕘 http://localhost:90	81/Alphablo×Admin/hom	e/admin/server/?tab=-	aascube		Go Lin	iks »
				292		^
DB2. Alphablox				My	Profile   Help 🔻	
APPLICATIONS A	MINISTRATION					
APPEIGATIONS A		ASSEMBLT			on 8.4.0 Build 134 [GA]	
General	<u>Groups</u>	<u>Users</u>	<u>Applications</u>	Data Sources	<u>Cubes</u>	
General Properties	DB2 Alphabl	ox Cubes				
Startup	ODE AIPHON	OA GUDGS		74)	28	
System Telnet Console	CLIPSANDTA	CKS MC CUBE 2	006_11_26T12_45_08	3		
Repository Manager						
DB2 Alphablox Cube Manager						
Cluster Options						
44 						
Custom Properties	1					=
User Definitions						100
Application Definitions						
Runtime Managemen Comments						
DB2 Alphablox Cube	s					
Application Sessions PDF Reports (DHTML)						
			·			
Console		start	stop			
Start Console Session		detail	5			
Portal Dortal Thoma Utility	-					
Portal Theme Utility						
(A)		0	International Business M	achines Corporation 2		~
e					Secol intranet	- 41

____n. Select the cube in the list, then click the **Start** button. The status should show as 'Running' for the cube. Here is an example:



- 3. Update the life cycle table for step 5.
  - ____a. Open the DB2 Control Center. In Windows, select Start > All Programs > IBM DB2 > General Administrative Tools > Control Center
  - ____b. In the **MONITOR** database, open table LC_STEP. For the row containing STEPNAME 'createAbxCube', place a 1 in the column ISCOMPLETE. Here is an example:

Copen Table - LC_STEP							
IBM-6161E0131C0	) - DB2 - MONITOR - F	REPOS.LC_STEP					
MODELID (	VERSIONDATE 🖨	STEPNAME 🔶	LASTSUCCESSRUNTIME	LASTFAILRUNTIME≑	ISCOMPLETE \$	USER	<u>A</u> dd Row
ClipsAndTacks	1162458838		Nov 4, 2006 8:12:45 AM 06			anony	Delete Row
ClipsAndTacks	1162458838		Nov 4, 2006 8:12:51 AM 28			anony	
ClipsAndTacks	1162458838	runDSG 3createSchema	Nov 4, 2006 8:13:50 AM 71		2 2		
ClipsAndTacks ClipsAndTacks		BicreateDMS	Nov 4, 2006 8:16:56 AM 10		1 1	<u></u>	
ClipsAndTacks		importDB2Cube	Nov 4, 2006 8:25:14 AM 43		-		
ClipsAndTacks		BicreateAbxCube	1407 4, 2000 0.23.14 AlVI 43	Nov 4, 2006 9:58:22	N	1 million (1997)	
ClipsAndTacks		BupdateCEIConfig		1407 4, 2000 5.30.22	. <u> </u>		
ClipsAndTacks		configCEIDist				<u> </u>	
ClipsAndTacks		BenableDashboards		-	1		
ClipsAndTacks	1162458838						
ClipsAndTacks		disableDashboards			1		
ClipsAndTacks	1162458838	Bupdate					
ClipsAndTacks	1162458838	updateModelProps					
ClipsAndTacks	1162458838	updateVersionPro					
ClipsAndTacks	1162458838	removeAbxCube					
ClipsAndTacks	1162458838	Juninstall					
ClipsAndTacks	1162458838					1	
ClipsAndTacks	1162458838	purge				. D	
4							
Co <u>m</u> mit <u>R</u>	oll Back			Eilter	Eetch More F	OW6	
C Automatically c	ommit updates				19 row(s) in mer	nory	
						Close	e Help

- ____ c. Make sure that you click **Commit** to save your changes.
- ___ d. Click Close
- ____e. Close the DB2 Control Center.
- ____f. Back in the Process Server administrative console, if you are still displaying Step 5 of the life cycle, then reload the page in the browser and you should see that Step 5 is now marked complete.
- _____g. Return to the instructions for the life cycle steps starting at Step 6.

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